A PRACTICAL GUIDE TO IMPLEMENTING

COMMUNITY-BASED HIV-PREVENTION SERVICES

Experiences shared and lessons learned from South Africa

"It always seems impossible until it's done."

Nelson Mandela (First democratically elected President of South Africa, 1994)

PEPFAR

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

UNIVERSITEIT STELLENBOSCH UNIVERSITY

DESMOND TUTU TB CENTRE
Every breath counts

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral therapy
ARV	Antiretroviral
BMI	Body mass index
CAB	Community advisory board
CB HTS	Community-based HIV-testing services
CAG	Community advisory group
CDC	Centers for Disease Control and Prevention
CICT	Client-initiated counseling and testing
CCT HD	City of Cape Town Health Department
COMAPP	Community HIV/AIDS Prevention Project
CXR	Chest X-ray
DTTC	Desmond Tutu TB Centre
EDC	Electronic data capture
ELISA	Enzyme-linked immunosorbent assay
EQA	External quality assurance
FMP	Family Matters! Program
GIS	Geographic Information System
GPS	Global Positioning System
HBV	Hepatitis B virus
HIV	Human Immunodeficiency Virus
HIVST	HIV self-testing
HPTN	HIV Prevention Trials Network
HTS	HIV-testing services
IEC	Information, education and communication
IQC	Independent Quality Control
LTC	Linkage to HIV Care and treatment
LTFU	Lost to follow up
M&E	Monitoring and Evaluation
MSM	Men who have sex with men
NAS	Network attached storage
NCD	Non-communicable disease
NDOH	National Department of Health
NHLS	National Health Laboratory Services
NPO	Not-for-profit organization
PDA	Personal digital assistant
PEP	Post-HIV exposure prophylaxis
PEPFAR	United States President's Emergency Plan for AIDS Relief
PICT	Provider-initiated counseling and testing
PLWHA	People living with HIV and AIDS
POC	Point-of-care
PopART	Population effect of Antiretroviral therapy to reduce HIV transmission
PMTCT	Prevention of mother-to-child transmission
QA	Quality assurance
QC	Quality control
SRH	Sexual and reproductive health
SOP	Standard Operating Procedures
STI	Sexually transmitted infection
SU	Stellenbosch University
TB	Tuberculosis
TMC	Traditional Male Circumcision
TST	Mantoux tuberculin skin test
UNAIDS	Joint United Nations Programme on HIV/AIDS
UTT	Universal test and treat
VMMC	Voluntary Medical Male Circumcision
WCG DoH	Western Cape Government Department of Health
WHO	World Health Organization

FOREWORD FROM THE CENTERS FOR DISEASE CONTROL AND PREVENTION

From the desk of Nancy Hedemark Nay
Acting Country Director, US Centers for Disease Control and Prevention, South Africa office

In alignment with the United States Centers for Disease Control and Prevention (CDC) and President's Emergency Plan for AIDS Relief (PEPFAR) goal to help reach control of the HIV epidemic in South Africa, I am honored to join the Stellenbosch University's Desmond Tutu TB Centre (DTTC), to present *A practical guide to implementing community-based HIV prevention services. Experiences shared and lessons learned from South Africa*. South Africa is home to nearly 20% of the 36.7 million people living with HIV around the world, as well as the largest national ART program, with 3.3 million people on treatment. Because of this staggering reality, CDC/PEPFAR enthusiastically provided funding and technical assistance to this groundbreaking Guide, to help make the implementation of prevention programs easy to understand and follow.

Both existing and new HIV infections remain unacceptably high in many parts of Southern Africa, and there is an urgent need for more effective prevention measures. The Guide can be used in the South African context and in other locations, as many of its lessons learnt are universal. Mathematical models have shown that better access to and uptake of HIV-testing services and the early initiation of Antiretroviral Therapy (ART) for those who are HIV-infected, has the potential to greatly reduce new HIV infections at the population level. CDC South Africa hopes that the Guide will assist organizations to set up HIV-prevention programs in community settings, to make a very real impact in decreasing HIV infections and illness.

The Guide was produced using knowledge gained from three independent community-based HIV-prevention projects, implemented by the DTTC between 2008 and 2017. All were funded through the CDC. One such project was the Community HIV/AIDS Prevention Project (COMAPP). The aim of COMAPP was to prevent new HIV and TB infections through delivery of community-based, integrated HIV services in the Western Cape province of South Africa. COMAPP worked with community organizations to provide counseling, testing and referral services through mobile vehicles and stand-alone centers, by integrating HIV and other health services in a 'one-stop shop' approach in accessible locations. The project contributed significantly to increasing the number of people who know their HIV status, diagnosing people with tuberculosis (TB), providing additional health and nutrition services, and linking clients to appropriate care.

COMAPP's success was largely due to the continued close collaboration with South African government partners and not-for-profit community organizations. Realizing the success of the project, CDC South Africa requested the compilation of this comprehensive, practical HIV-prevention program guide to serve as a best-practice tool, so that others can emulate this successful model.

CDC South Africa would like to thank the DTTC for compiling this practical guidance document, as well as all of the implementers, scholars, field workers and clients who participated in its development. We believe that community-based organizations will not only find this important resource tool useful, but use it as it is intended to save lives.

Nancy Hedemark Nay

FOREWORD FROM STELLENBOSCH UNIVERSITY

From the desk of Professor Jimmy Volmink
Dean: Faculty of Medicine and Health Sciences, Stellenbosch University

Stellenbosch University (SU) is internationally recognised as an academic institution of excellence. The university, highly cognizant of the role it plays within society, has shifted its strategy from mere engagement with communities, towards making a tangible difference in people's lives and being relevant within South Africa society. This transition from community engagement to social impact is guided by our *Social Impact Strategic Plan: 2017-2022*. SU aims to 'enhance societal impact' by facilitating mutually beneficial interactions between SU and 'societal partners' to create collaborative knowledge that is future-focused. At the same time, SU acknowledges and embraces society's impact on the University and its activities.

One of our undertakings at the Faculty of Medicine and Health Sciences (FMHS), is to contribute to producing, sharing and translating knowledge that will promote health and development, in order 'to advance health and equality in South Africa and beyond'. This guidance document aligns with the Faculty's vision and mission and Strategic Plan. It is the result of a collaborative effort by a number of stakeholders with co-ordination and authorship by individuals from the Desmond Tutu TB Centre (Department of Paediatrics), who impart practical information and share their personal experiences and knowledge on how to deliver community-based HIV-prevention services at a time in South Africa, when HIV/AIDS remains a health challenge. Targeted at program implementers, this guidance aims to deliver information that will assist those wishing to implement community-based services and ultimately hopes to make a positive impact in bringing the HIV/AIDS epidemic in South Africa under control.

South Africa is currently at a tipping point with regards to HIV/AIDS. The actions taken today will determine whether the country continues on the path of gaining epidemic control or reverts back to earlier days of increasing numbers of new infections and deaths due to HIV/AIDS. Observing the history of South Africa's response to the HIV/AIDS epidemic, one realises that successes were best achieved when there was collaboration and co-operation between the many stakeholders, working together for the same purpose. Collaboration is a key principle of SU's social impact strategy.

The Faculty is highly supportive of this guidance; the subject matter addresses one of the Faculty's focus areas, HIV and TB. The guidance is a culmination of knowledge, experience and skills from those with experience in all facets of community-based HIV-prevention services and those who fully understand the community. The guidance strongly portrays the role that civil society can play in bringing the HIV epidemic under control, which re-emphasizes the importance of a multi-sectorial approach to public health. Chapter 3 (Collaborating with not-for-profit Organizations) describes a partnership between Stellenbosch University and a not-for-profit Organization (NPO), which resulted in improved capacity within the NPO, and ultimately in sustained community-based HIV-testing services. This is one example of the desired societal impact that Stellenbosch University is committed to achieving.

I recognize and thank all the stakeholders who came together to produce this publication, as well as the Centers for Disease Control and Prevention, who funded it. The FMHS at Stellenbosch University is honoured to be able to share this publication with you.

Prof. Jimmy Volmink

ENDORSEMENT FROM ARCHBISHOP EMERITUS DESMOND TUTU

ARCHBISHOP EMERITUS DESMOND M TUTU
O.M.S.G C.H D.D F.K.C

23 May 2017

South Africa has an HIV and AIDS epidemic with an estimated 7 million people living with HIV and 380 000 new HIV infections annually, of which 25% are among adolescent and young girls. An estimated 2.3 million children have been orphaned because of HIV and AIDS. It is vital that we bring this epidemic under control.

Although great accomplishments have been made in the public health sector, government cannot fight HIV and AIDS alone and civil society has a critical role to play especially in prevention activities and in ensuring all people know their HIV status.

Healthcare workers from the Desmond Tutu TB Centre at Stellenbosch University in collaboration with many not-for-profit organizations have provided community-based HIV testing services in HIV-affected communities around Cape Town since 2008. Having tested more than 168 000 individuals at their stand-alone centers and mobile HIV testing services and having offered door-to-door HIV testing to more than 60 000 households, they have gained vast experience in all aspects of community-based HIV testing.

I am proud to be associated with the Desmond Tutu TB Centre and excited to be able to endorse this practical and stimulating guidance document, filled with written text and photographs, best practices, case studies, tips, tools (which can be downloaded) and wonderful audiovisual material highlighting the key messages within each chapter. I trust that it will assist program implementers with the practical knowledge required to make a difference in their communities.

"My humanity is bound up in yours, for we can only be human together".

Archbishop Emeritus Desmond Tutu
Hermanus, South Africa

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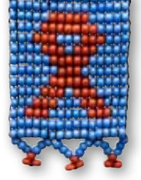
INTRODUCTION

Sue-Ann Meehan

> Do your little bit of good where you are; it's those little bits of good put together that overwhelm the world.
>
> *- Archbishop Emeritus Desmond Tutu (South African social rights advocate, anti-apartheid activist and Nobel Laureate)*



CHAPTER 1
INTRODUCTION

Why is this guidance document important?

HIV (Human Immunodeficiency Virus) and AIDS (Acquired Immune Deficiency Syndrome) is a global epidemic. Preventing the transmission of HIV is essential in combatting AIDS. It is widely acknowledged that HIV prevention and treatment cannot be realized in government healthcare facilities only. Tackling the HIV epidemic requires a joint response by government in partnership with civil society. Community-based HIV-prevention services can play an important role in the fight against HIV. This guidance document will be an important resource for those wanting to set up community-based HIV-prevention services, as part of an integrated public-health approach.

Scientific evidence tells us which interventions we should implement if we want to reduce HIV transmission, but limited information exists on how to implement these interventions in a community-based setting. For example, we know that we need to increase access to HIV testing so that we can diagnose those with HIV and link them to treatment. However, practically, how do you go into a community and start offering HIV-testing services (HTS)? How do you get those diagnosed with HIV to link into HIV care and treatment services? This guidance document addresses these and many other questions, as it provides practical and relevant information, drawing on the expertise and proficiencies of the authors, who have direct experience in the implementation of community-based HIV-prevention programs.

The guide encompasses pertinent aspects for the implementation and management of community-based HIV-prevention services. Although predominantly based on experiences of HIV counseling and testing programs, many of the key principles can be applied across other types of community-based HIV-prevention programs that happen outside of health facilities.

" ….. implementing a community HIV-prevention program allows for face-to-face consultation in a setting where individuals feel more comfortable and open to receiving health education and services, on subjects and diseases still somewhat stigmatized. These programs present opportunities for collaboration of health services with community leaders, faith-based and other organizations established in the community. As we move towards a whole society approach for health, community HIV-prevention programs are a good touching base to raise awareness for individuals and communities with regards to their responsibilities in the fight against AIDS." - *Neshaan Peton (Deputy Director HIV Treatment & PMTCT programme, Western Cape Government Department of Health)*

What will you learn from this chapter?

1. How did this guidance document come about?
2. What makes this guidance document different?
3. Who will benefit from this guidance document?
4. Why are community-based HIV-prevention strategies important?
5. Why is it important to learn from South African experiences?
6. What is the geographical context?
7. How do you use this guidance document?
8. What will you learn from this guidance document?

1. How did this guidance document come about?

The Desmond Tutu TB Centre (DTTC), situated in the Department of Paediatrics, Faculty of Medicine and Health Sciences at Stellenbosch University, has been implementing community-based HIV and tuberculosis (TB) programs since 2008 to improve access to HIV testing and linkage to care, as well as strengthen the integration of HIV and TB services. Funding was received from PEPFAR (the President's Emergency Plan for AIDS Relief), through the Centers for Disease Control and Prevention (CDC) to implement these programs. Working in collaboration with the health services, not-for-profit organizations (NPOs) and directly with communities, DTTC has gained experience in stakeholder engagement and learned best practices for collaborating with local organizations. Providing HIV-testing services, using alternative modalities, has provided a wealth of learning around integration of services and linkage to care for improved HIV and TB outcomes. In addition, we have learnt how to manage quality assurance (QA) for community-based HIV testing and gained practice in collecting relevant, high-quality data to monitor and evaluate these programs. In 2016, CDC South Africa approached the DTTC and requested that we consolidate our learnings and best practices into a guidance document to share with others involved in implementing community-based HIV-prevention programs. This guidance document is the result of this request. It is a huge privilege to be able to share our experiences.

2. What makes this guidance document different?

This guidance document is different because it provides a practical perspective to implementing community-based HIV-prevention services. All the contributors have had direct experience in implementation at grassroots level and share practical lessons learned on the ground. Although based on specific experiences in a particular setting, the reader can easily adapt the information contained herein and apply it to their specific setting.

This guidance document is not prescriptive nor exhaustive. It aims to stimulate thinking and inspire the reader with practical and creative ways to address many of the challenges that exist when providing community-based HIV-prevention services.

3. Who will benefit from this guidance document?

Anyone can benefit from this guidance document, even though it is aimed at persons planning to implement community-based HIV-prevention services or wanting to carry out related community-based activities. There are many categories of personnel involved in the implementation of different aspects of community-based HIV-prevention programs and activities, including; program managers or co-ordinators, nurses, HIV counselors, community mobilizers, monitoring and evaluation officers, regulatory officers, quality assurance personnel, community liaison officers, managers and personnel at NPOs, data managers, data developers, human resource managers and trainers. All of these categories of personnel should derive direct benefit from this guidance document.

Communities in and around Cape Town.

4. Why are community-based HIV-prevention services important?

Many countries, including South Africa, have adopted the Joint United Nations Programme on HIV and AIDS (UNAIDS) '90-90-90' target, to end the AIDS epidemic (1). In terms of this target by 2020; 90% of all people living with HIV will know their HIV status, 90% of all people with diagnosed HIV infection will receive antiretroviral therapy (ART) and 90% of these people will be virally suppressed (2). The vision is that everyone should have access to HIV-testing services (HTS) and each person living with HIV must be on treatment and reach viral suppression, so that no-one is born with or dies because of HIV (1). See Figure 1.1.

Governments cannot fight the AIDS epidemic alone. Government healthcare facilities cannot test everyone for HIV. They also do not have the resources necessary to test and treat all HIV-infected people. In addition, not all populations access healthcare facilities optimally (3). Many factors like long waiting times, unfriendly staff and stigma (4 - 7) have been cited as reasons why people do not access healthcare facilities, especially if they do not feel ill and do not recognize signs or symptoms of disease. Some populations typically do not go to healthcare facilities, this includes men (8) because they regard these as female spaces and adolescents because they feel that health facilities are not youth friendly (9). However, much of the progress around increasing the number of people who know their HIV status has been achieved inside healthcare facilities. This has been done using a provider-initiated approach (10).

Limited resources and the fact that not everyone feels comfortable when visiting a healthcare facility, provides opportunities for civil society to work with governments and other organizations, for example academic institutions, to bring the HIV epidemic under control. This highlights the important role that community-based HIV-prevention programs play in preventing HIV transmission using both provider- and client-initiated approaches to find HIV-infected individuals and link them to care.

To learn more about the UNAIDS target, visit the following website, http://www.unaids.org/en/resources/documents/2014/90-90-90

Did you know?
What is the difference between provider- and client-initiated counseling and testing in South Africa?

Provider-initiated counseling and testing (PICT): Healthcare providers routinely offer an HIV test to all people attending healthcare facilities as a standard component of medical care, regardless of whether they show signs or symptoms of HIV infection. This increases the number of people who have ever had an HIV test and the early identification of HIV-infected persons who may not otherwise know their HIV status (11).

Client-initiated counseling and testing (CICT): Persons present at a health service specifically for an HIV test. They voluntarily decide to learn their HIV status as an individual, couple or family (11).

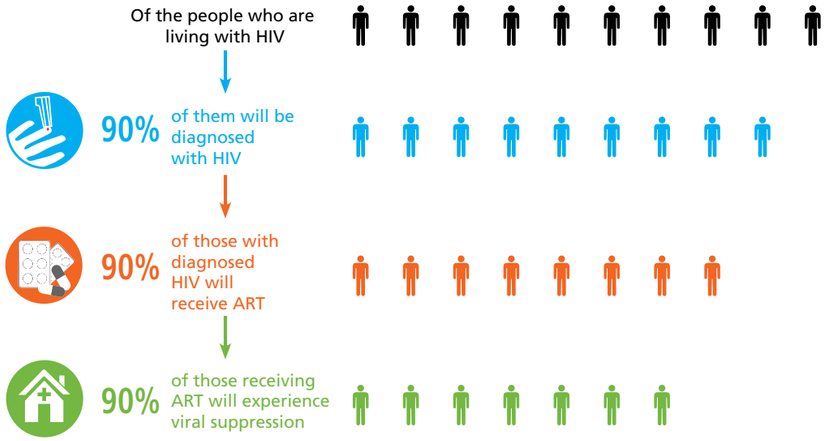


Figure 1.1: Inspired by the UNAIDS '90-90-90' target

5. Why is it important to learn from South African experiences?

Globally, 36.7 million people were living with HIV in 2015 (12), of which 25.6 million were in sub-Saharan Africa (13), arguably the epicentre of the global epidemic. South Africa has the largest HIV burden, with 7 million people living with HIV in 2015, and the largest government antiretroviral program, with 3.3 million South Africans on treatment (14). South Africa has a generalized HIV epidemic because transmission mostly occurs between heterosexual couples (15). Estimated HIV prevalence is 18% among the adult population aged 15-49 years (16). HIV prevalence is higher among females compared to males and among those who live along the periphery of the cities in informal dwellings compared to those who live in rural areas (17). Much of the HIV burden is among the poorest populations (18).

South Africa's response to the HIV epidemic has evolved dramatically. Initially, in the 1990s, the South African government denied that HIV caused AIDS. The only way to prevent HIV transmission was to use condoms (19). In the early 2000s, scientific evidence showed that ART could prevent HIV-infected pregnant women from transferring HIV to their unborn babies (20). The health department reacted cautiously, stating that the drugs were toxic and that the health system did not have the resources to roll out a national prevention of mother-to-child transmission (PMTCT) program across South Africa (20). Civil society responded by taking the government to the Constitutional Court, which ruled that withholding the provision of PMTCT was a human rights violation (20). PMTCT was slowly rolled out from 2002 onwards (21). Transmission of HIV from mother to child subsequently dropped from 8.5% in 2008 (22) to 2.4% in 2012 (23).

With the appointment of a new President and Health Minister in 2009 (24), the government's response to the HIV epidemic became more urgent. South Africans were advised to test for HIV and "know their status". After a national HIV-testing campaign (2010/2011), the proportion of adults ever tested for HIV increased from 43.7% in 2010/11 to 65.2% in 2012 (25), with many adults tested at community-based HIV-testing services.

Between 2006 and 2011, ART provision was expanded, largely due to increased funding from international donors. This funding was largely distributed through non-governmental organizations (26), highlighting civil society's role in the expansion of ART coverage in South Africa. The Department of Health also played a role in expanding the ART program, by constantly increasing the eligibility criteria for HIV treatment, making ART available to more and more HIV-infected individuals. The CD4 threshold was continually increased to allow for those with higher CD4 counts to be eligible for treatment (22, 27, 28). In September 2016, South Africa started offering ART to all people living with HIV, regardless of CD4 count (16).

South Africa's response to the HIV epidemic, initially slow, but becoming progressively more determined, with constant changes in policy and substantial progress made in the prevention and treatment of HIV, together with the continual interactions between government and civil society (29), makes South Africa a unique case study. Experiences shared and lessons learned from the South African experience will be valuable as the global village works toward ending the HIV epidemic by 2020 (30). Civil society needs to continue their role in fighting this epidemic, and to continue to assess the needs of communities and implement programs that make a difference in the lives of individuals infected and affected by HIV.

6. What is the geographical context?

This guidance document uses the experiences gained and lessons learnt during the past nine years, working in community-based HIV-prevention. Most of the contributions come from valuable experience gained in implementing three independent community-based HIV-prevention projects funded through the CDC namely a community-based TB-HIV Integration project (2008-2012); the Community HIV/AIDS Prevention Project (COMAPP) (2011-2017) and the intervention component of the HIV Prevention Trials Network (HPTN) 071 Population Effects of Antiretroviral Therapy to Reduce HIV Transmission Trial (PopART), which is a combination HIV-prevention package (2014-current). The community-based HIV-testing services referred to in this guidance document were implemented in the Cape Town Metro District and the Cape Winelands District of the Western Cape Province of South Africa.

The Cape Town Metro District, is a PEPFAR priority district because of the estimated 177 285 people living with HIV in the district (16). HIV prevalence amongst women attending antenatal clinics in this district has increased from 18.2% in 2009 to 20.4% in 2014. Across the eight health sub-districts, HIV antenatal prevalence ranges from 8.8% to 34.7% (31). ART coverage is approximately 79% (16). The Cape Winelands is a semi-rural district outside Cape Town. It consists of five health sub-districts, where HIV antenatal prevalence ranges between 5.4% and 19.8% (31).

HIV burden is unequally distributed within health districts. The highest burden is found in urban informal communities, which are densely populated with both formal and informal (shack) dwellings. These communities are characterized by many social injustices including high levels of poverty, crime, unemployment and substance abuse. It is within these communities that these projects were implemented and where many of the valuable lessons were learned and the many successes realized. The experiences, practices and skills learned within these settings form the basis of the information contained within this guidance document.

Community-based HIV-prevention services have a role to play in fighting the HIV epidemic to make a difference in the lives of individuals both infected and affected by HIV.

7. How do you use this guidance document?

This guidance document is designed to provide the reader with thought-provoking information in a format that is stimulating, inspiring and motivating.

Each chapter contains:

- An **Introductory passage** that provides an understanding of why the chapter is important within the context of community-based HIV-prevention services.
- **Contents** that show what is included in the chapter.
- **Text** written from multiple perspectives; including the implementer, the health services, the NPO and the end-user (the client).
- **Photographs** that illustrate many of the actual activities and interventions discussed.
- **Case studies** that illustrate actual examples from our experiences.
- **Tips** that provide useful, practical information.
- **Did you know** boxes that explain related concepts.
- **Links** to websites that provide additional reading.
- **Cross-referencing** between chapters that allows the reader to obtain a complete understanding of a specific topic from various perspectives.

What else does this document contain?

- **Tools & training materials** form part of the appendices. Users of this guide are welcome to use these tools and adapt them within their own programs.
- **Audiovisual** representation of the key aspects of each chapter.

8. What will you learn from this guidance document?

The successful implementation of any community-based service is usually dependant on what we do prior to program implementation, including the way in which we engage with various relevant stakeholders. **Chapter 2: Stakeholder Engagement** aims to ensure that the reader understands how to engage with stakeholders, both before and during program implementation, providing important guidance and many tools to ensure successful stakeholder collaboration. Community-based approaches, often led by local NPOs, provide services outside of healthcare facilities, closer to where people live, work and go to school. **Chapter 3: Collaborating with not-for-profit organizations** provides valuable information around how to collaborate with NPOs to provide HIV-prevention services, in a manner that also builds capacity within the NPO for program sustainability. No program can be successful without well-trained, highly motivated and healthy staff. **Chapter 4: Creating, Equipping and Sustaining a Team** aims to give the reader insight into how to recruit, train, motivate and support staff to build and sustain an effective team that can implement a successful HIV-prevention program.

Community-based HIV services can reduce the cost and time expended on travelling to health services as well as long waiting times in facilities for the client (5). Community-based modalities potentially overcome some of the barriers that prevent people from accessing a healthcare facility. **Chapter 5: Delivering Holistic Client-Centered Services** will explore different community-based service delivery modalities, highlighting the advantages and the challenges posed by each modality, in terms of populations reached, HIV yield and linkage to care. Sharing best practices and providing the reader with useful tips, this chapter also discusses how to integrate related health services into community-based HIV-testing services (CB HTS). **Chapter 6: Linkage to HIV Care and Treatment** addresses the important aspect of linking people diagnosed with HIV in a community setting to HIV care and treatment provided within a healthcare facility. This chapter addresses why linkage to care is a crucial step within the HIV-testing process, it details many of the reasons why people do not link to care and then describes practical ways to improve linkage to HIV care from a community-based HIV-testing service.

In addition to service delivery, many other programmatic aspects form part of a successfully implemented community-based HIV-prevention program. Quality Assurance (QA) for any HIV-testing program is extremely important and **Chapter 7: Quality Assurance for HIV rapid testing** provides important strategies and practical activities to enable community-based programs to deliver HIV-testing services that are of high quality and consistently deliver accurate HIV-test results. Data management is also a key aspect of any HIV-prevention program. **Chapter 8: Managing Data** provides the reader with all the necessary information to make informed decisions to set up a data-management system that is appropriate and to ensure data collection that is relevant, of high quality and timely. Using case studies, this chapter describes how geographical mapping can be used as an alternative way to represent the data visually. **Chapter 9: Monitoring and Evaluation** is dedicated to monitoring and evaluation (M&E), which forms an integral part of any program. This chapter provides guidance to how to collect data to monitor HIV-prevention services and evaluate the outcomes.

We trust that this guidance document will provide inspiration and motivation as you successfully implement and manage your community-based HIV-prevention program and therefore "Do your little bit of good where you are".

STAKEHOLDER ENGAGEMENT

Blia Yang, Nozizwe Makola, Jody Boffa, Zamikhaya Ndiki and Lario Viljoen

> This work is not for yourselves – do not live above your people, but live with them. If you can rise, bring someone with you.
>
> - *Charlotte Mannya Maxeke (One of South Africa's first black female university graduates; 1871 – 1939)*

CHAPTER 2
STAKEHOLDER ENGAGEMENT

Why is this chapter important?

Engaging with stakeholders, both before and during program implementation, is imperative for the success of any community-based program. It is important to move away from interventions that perpetuate passive involvement of beneficiaries, participation should be active. How do you conduct a situation analysis? How do you set up a Community Advisory Board (CAB)? How do you collaborate with multiple stakeholders and build authentic partnerships for mutual respect and benefit? This chapter will answer these questions discussing stakeholder engagement in terms of consultation, co-creation, buy-in, partnerships, collaboration, and demand creation for community-based HIV-testing services.

What will you learn from this chapter?

1. How do you learn about a community prior to implementing HIV-prevention services?
    - 1.1 Learning from a situation analysis
    - 1.2 Learning from formative research
2. Who are the various stakeholders in a community?
    - 2.1 Social service stakeholders
    - 2.2 Health service stakeholders
    - 2.3 Community service stakeholders
    - 2.4 Research stakeholders
3. How can we successfully create demand for community-based HIV-prevention services?
    - 3.1 Street mobilization using loudhailers
    - 3.2 Door-to-door mobilization
    - 3.3 Large community engagement events
    - 3.4 Media
4. Does community engagement differ in urban, peri-urban, and rural communities?

1. How do you learn about a community prior to implementing HIV-prevention services?

Once you have decided in which community you would like to implement your HIV-prevention program, it is vital that you get to know that community; the people, the politics, the existing resources, and the services available. You cannot arrive in a community, set up your services and hope that people will access your services. You need to understand the context, so that your services are in line with the needs of the community.

Did you know?
Why is community engagement so important?

- To provide the community with information in advance about the health services to be delivered into the community.
- To build trust between your organization and the community, mitigating doubts and suspicions that community members may have.
- To ensure transparency, so that the community understands the benefits and possible risks involved.
- To listen to the needs of the community to ensure that your organization is delivering services that are a priority in that area.
- To give the community an opportunity to contribute to the implementation of the health services. If the intervention is not considered a priority to the community, but a health emergency to the state, community engagement can assist in adapting services contextually for optimal uptake.
- To gain support and buy-in from the community for the health services your organization will be delivering.
- To enable the community to take ownership of the services that will be offered.

Two ways in which you can learn about the community is through a situation analysis or by conducting formative research.

Did you know?
What are the similarities and differences between a situation analysis and formative research?

- Both collect data to make informed decisions.
- Both can assist in delivering community-based HIV-prevention services that meet the needs of the community.
- A situation analysis forms part of the stakeholder-engagement process, while formative research only identifies the stakeholders (is not part of the engagement process).
- A situation analysis is done prior to implementation, while formative research can be done prior to or during program implementation.

It is vital to get to know your community, the people, the politics, the existing resources, and the available services.

1.1 Learning from a situation analysis

Prior to the implementation of any community-based HIV-prevention program, program implementers should consider conducting a situation analysis. (Refer to Appendix 1 for a Situation Analysis Tool.) This is an assessment of the existing health situation in addition to the social and environmental influences in the area, providing an overview of what health services are already being offered (32, 33). It is based on an analytical causal framework of how inputs, processes and outputs interact, and is a collection of quantitative and qualitative data, and evidence of the current state of the health system (33). A situation analysis begins with setting up a steering committee, deciding on what tools are needed to collect the information, the planning and organization of collection, interpreting the information collected, and disseminating the information to different target audiences (33).

The information gained from a situation analysis can assist in the implementation of health services or the development of new health interventions (32) by ensuring that service offerings complement one another, rather than saturating services that are not utilized by clients. Situation analysis also helps program implementers to identify community-based organizations and research projects that are currently in the area for collaboration and partnership. The World Health Organization (WHO) states that it is a participatory, inclusive, analytical, relevant, comprehensive, evidence-based methodology (33). Program implementers can link up with government health services, local leaders, and community-based organizations to assist in the collection of the information.

Based on experience over the past several years, the Desmond Tutu TB Centre has developed a Situation Analysis Tool (See Appendix 1), which has provided a useful guide to getting to know the communities in which we have worked. This tool is not exhaustive, but serves as a guide and can be adapted for different contexts and settings.

Based on this tool, we provide examples of the kinds of information that can be collected during a situational analysis:

- **Demographics** (including population size, gender, age, religion, language, sexual orientation etc.). Based on demographic data, you can make decisions around how many people may require your services and which populations to target, for example men, adolescents or key populations. Understanding the major religions and culture, will allow you to provide appropriate services that are sensitive to the community and in line with their values and belief systems. The important principle is to use the demographic information collected to guide the program appropriately, and to target the appropriate populations so that your program can enjoy a good uptake of services.
- **Burden of disease** (including mortality rates, HIV prevalence, the number of clients in HIV care, the number of clients on antiretroviral therapy (ART), TB incidence etc.). This information can guide you in prioritizing which health services should be integrated into community-based HIV-testing services (HTS) and what additional interventions should be implemented to improve health in the area.
- **Social services** (including home-based care, support groups, feeding schemes, schools, community centers etc.). By having a resource list of the available social services in the community, you will be able to provide a client-centered service within the HIV-prevention program, where you are able to refer clients to other relevant social services as required. See Chapter 5: Delivering Holistic Client-Centered Services for a discussion on the referral process.
- **Health services** (including number of primary healthcare facilities, hospitals, traditional healers, not-for-profit organizations providing health services etc.). This information is vital so that clients can be referred to other relevant health services from your community-based HIV-prevention program.
- **Community services** (information on community stakeholders including community advisory boards, community forums, local politicians, cultural and religious leaders). Any community-based program implementer must start by identifying key players from the community for stakeholder engagement. This is vital. Then try to meet directly with these key players to begin the process of setting up a

partnership. These key players typically have a large influence on the community's decisions or perceptions and are often called the community 'gate keepers'. Community Advisory Boards (CAB) are important because they usually form

Did you know?
How is a community defined?

A community can be defined as "a group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or settings" (35).

A community in which HIV-prevention services were delivered.

the link between the community and the primary healthcare center (34).

- **Research projects** (including the current or planned research projects in the area). These research projects may conflict with the health services that program implementers want to deliver into the community. For example, clinical trial procedures may already offer services program implementers plan to provide, and will thus affect uptake of the services, or services that program implementers may plan to offer may interfere with and compromise the study intervention. The collection of all this information for the situation analysis is to help program implementers assess the current situation in the area, and help them make evidence-based decisions on which health services or interventions should be prioritized (36).

1.2 Learning from formative research

Formative research is a set of research activities that are used to inform and optimize planned health interventions and offers a way to enhance planning activities parallel to initial stakeholder engagement and implementation. Trained social scientists carry out these research activities, consisting mostly of qualitative methods, although quantitative methods can also be utilized. The overall purpose of formative research is to provide information to help program implementers tailor an intervention to the local setting (37). By informing a focused intervention, formative research can lead to savings in both time and intervention costs (38).

Although formative research can be done either prior to implementation of community-based HIV-prevention services or during the process of

Did you know?
What are the benefits of formative research?

- Informs and optimizes implementation by taking into account the relevant role players as well as place-specific context (geographic layout, health beliefs, current available healthcare, community history, etc.). An example would be identifying that there is a large sex worker population in the community because it is situated on a major highway into the city.
- Informs potential cost-saving measures. An example would be identifying that the majority of the male population practices Traditional Male Circumcision (TMC), which could be a challenge if program managers want to implement Voluntary Medical Male circumcision (VMMC) in the area.
- Identifies potential barriers to HIV-testing interventions, such as structural (including infrastructure) or systemic barriers (such as community attitudes). An example would be identifying that there is a large proportion of community members who believe that the extraction of blood is related to practicing 'black magic'. Program implementers would need to consider this when developing community messaging for finger-prick HIV rapid-testing services.
- Identifies potential catalysts, including identifying key stakeholders and organizations, health interventions already in place and taking advantage of positive community attitudes towards HIV testing.

implementation, it is advised that it be conducted prior to the delivery of large interventions where additional or alternative services will be provided that are not usually delivered as standard of care. The role of social science and formative research is not to implement community engagement or community sensitization, but rather to identify key stakeholders, gatekeepers and organizations active in the community.

2. Who are the various stakeholders in a community?

Once you have conducted a situation analysis or completed formative research, you should be informed of who the 'gate keepers' are in the area and should have initiated contact with them. These 'gate keepers' are also known as 'stakeholders'. Stakeholder engagement is often a complex process due to the large number of organizations with different interests. This section describes different stakeholders and highlights why it is important to engage these groups.

2.1 Social service stakeholders

These organizations deliver various social services within a community, including home-based services for people living with disabilities; support for people who are affected by substance abuse; or economic enhancement projects for single mothers or families in need. It is important to engage with these stakeholders, as program implementers need to collaborate with local organizations to be able to refer clients to social services if the need arises.

Did you know?
What is a stakeholder from the perspective of a health program?

A stakeholder is a person or a group with an interest, involvement, or investment in the health services that program implementers will be delivering or, alternatively, a group of people who will be affected by the health services (39).

Who are the various stakeholders?

1. Social service stakeholders (Faith-based organisations, civil-society organisations, NPOs).
2. Health service stakeholders (government health services at the local level, sub-district level, provincial level, and national level; private health services, NPO health services).
3. Community service stakeholders (CABs, community forums, community leaders, NPOs).
4. Research stakeholders (academic institutions, pharmaceutical companies, and/or NPOs conducting research).

Individuals and households affected by HIV and/or TB carry additional social burdens (40), and program implementers should collaborate with local organisations to be able to provide the enhanced holistic healthcare services clients need.

2.2 Health service stakeholders

Health service stakeholders involve government health services and private organizations. Each is responsible for providing healthcare services in the community. It is particularly important to build a strong relationship with government health services, from the personnel at the local healthcare facility to the central government health policy makers. Any intervention affecting the health system will require approval and/or support from various levels of authority. The guidelines that program implementers follow in delivering health services are mandated by the government health services. It is suggested that implementers take the time to learn about what health services are provided in the community.

Case study: A strong collaboration with government health services results in the integration of sexual and reproductive health services into mobile HIV-testing services

The Desmond Tutu TB Centre (DTTC) at Stellenbosch University has been delivering HIV-testing services since 2008 in the Western Cape Province of South Africa. DTTC has worked in partnership with the City of Cape Town Health Department (CCT HD) and the Western Cape Government Department of Health (WCG DoH). DTTC conducted mobile HIV-testing services using caravans and tents set up at high-traffic areas within communities with different HIV burdens. They also engaged with government health services to share lessons learned and best practices. A strong relationship was built in which program outputs were shared with government health services on a regular basis. DTTC approached the relevant government health services and asked them to provide the necessary consumables, so that they could integrate sexual and reproductive health services into mobile HTS. At the time, pregnancy testing and family planning services were only provided within primary healthcare facilities. The additional services allowed DTTC to provide an integrated service, specifically to women and young girls. The introduction of these new services resulted in an increased number of young girls accessing HIV-testing services. See Chapter 5: Delivering Holistic Client-Centered HIV-testing Services.

2.3 Community service stakeholders

Community service stakeholders are crucial stakeholders. They include CABs/Health Committees, community forums and individual leaders (including cultural, political and religious). These stakeholders will differ depending on the community context (41).

2.3.1 Community Advisory Boards

A CAB is sometimes referred to as a Community Advisory Group, Health Committee or Health Community Forum. Check if there is an existing CAB in the community in which you plan to work. If not, be aware that it takes a considerable amount of time and effort to set up a representative and engaged CAB. However, a well-functioning CAB is advantageous and worth the effort.

A CAB:

- is composed of members from different stakeholder groups involved in health and community development programs in their respective communities;
- must be large enough to reflect diverse stakeholder interests and needs (42, 43); and,
- provides an independent advisory voice and functions as a formal stakeholder advisory system to facilitate community stakeholder participation (43).

The role of the CAB is to:

- act as the link between the communities and the researchers or health implementers;
- inform community stakeholders about proposed and on-going research, and provide feedback to research teams about local norms and beliefs, as well as local views and concerns that arise during program implementation (43);
- help to promote HIV-testing services, take part in awareness campaigns and dialogues about HTS;
- assist in adapting mobilization strategies that are contextually appropriate; and,
- review materials distributed by the program implementers to ensure they are culturally sensitive and easy to understand.

"CAB members understand the cultural norms of a community, in other words what is acceptable to the community. You cannot learn cultural norms from reading the literature. So, CABs play a vital role because they can advise researchers and program implementers how to access a community."
- Reverend David Galetta (co-Chair of the DTTC CAB).

If there is no existing CAB in the area, there is an ethical obligation on the program implementers to establish a functioning CAB to ensure that community interests are apparent to implementers (44).

"I found it beneficial to receive training from DTTC on basic counseling practices, effective minute taking and good clinical practice (GCP) because I did not know anything about GCP before. It is nice that they also built capacity within us as CAB members."
- Thembalethu Nyandeni (CAB member)

See the WHO best practices for CABs, at www.who.int/hiv/pub/imai/om_4_community.pdf

Best practices for setting up a CAB – based on our experiences

1. The functioning and make-up of a CAB will be different for different communities and settings. Setting up a CAB is a complex process and should be responsive to community needs. For instance, in one of our research areas, the government health services contacted local stakeholders including social services, local clinics and community service stakeholders to create Health Committees. CAB members were nominated and selected from the Health Committees.

2. Program implementers should explain the role of CABs to community forums in a transparent manner, so that community members understand the responsibilities of a CAB member. We shared the positive and potentially challenging aspects of being part of a CAB with community members who were interested in joining the CAB. This allowed them to make an informed decision before joining the CAB.

3. The CAB should be representative of the community at large. For instance, it is recommended that both the youth and older people are represented on the CAB. Individuals who speak the local language(s), and individuals with a range of educational levels should also be included.

4. The CAB should represent community members who will be directly affected by the program. For instance, for a program focused on HIV or TB, people living with HIV or TB should be included in the CAB.

5. Typically, CAB members give their time voluntarily. To reciprocate, CAB members are given training in areas such as minute taking, and management and leadership. For CABs in research studies, training such as Good Clinical Practice, introduction to clinical research, basic HIV information, introduction to public health issues and basic HIV counseling should also be included. This is so that the CAB understands the importance of their role and is equipped with the skills to function independently.

6. The CAB should have all the required formal structures in place. This includes a nominated and selected chair, an executive committee, a constitution, by-laws and minutes taken at every meeting. They should meet regularly.

Members from the community were nominated to form a Community Advisory Board for the implementation of a combination HIV-prevention package delivered door-to-door within the communities in the Western Cape of South Africa.

Case study: Setting up a CAB in a community where a Health Committee used to exist

The DTTC was setting up a CAB as an ethical obligation for a research trial. In South Africa, CABs are used more often in the context of research, while Health Committees function in the context of general health services (45). While the aim of the CAB is to function as the link between the community and the researchers, Health Committees act as the interface between the government health services and the community (46). In the process of stakeholder engagement to establish a CAB, the government health services and community members informed the DTTC team that this process would be very challenging, because Health Committees had recently been set up by the community and the government health services in the area, and these committee members were being paid a stipend. It is against the rules of the Stellenbosch University Ethics Committee for CAB members to be paid a stipend. This posed several challenges for DTTC in setting up the CAB:

1. Who would want to volunteer to be a member of the CAB if serving as a Health Committee member gave them a stipend?
2. What if a candidate was elected to be a CAB member who wasn't on the existing Health Committee?
3. Who would the community recognize as the body that represents them – the CAB or the Health Committee?

Through the stakeholder engagement process DTTC had several meetings with local government health services, community forums, community leaders, former Health Committee members concerning the best way to set up a CAB for the research trial. Within this consultation process several points were identified:

1. the need for a very transparent way of setting of the CAB by involving community leaders who could help guide the process;
2. that the CAB should be set up using a candidacy nomination process from local government health services, community forums, and community leaders;
3. that former Health Committee members would not be excluded from this process of nomination and can nominate themselves;
4. that CAB selection would be through the submission of a formal application for review; and,
5. a CAB selection committee consisting of a diverse group of individuals from the community and the researchers was selected to review the applications and interview candidates to be a part of the CAB.

This process of stakeholder engagement, consultation, and a transparent procedure in setting up the CAB established a trusting relationship with the community and various stakeholders involved.

Ensure that CAB members come from the communities in which you will be delivering HIV-testing services.

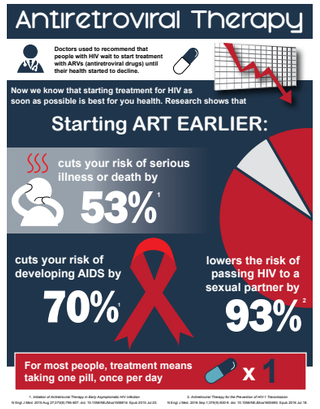
Case study: Valuable input from a CAB improves IEC material

HPTN 071 (PopART) delivers a combination HIV prevention package door-to-door in the community by Community HIV-Care Providers (CHiPs), which includes home-based HIV testing and referral for linkage to HIV care and Antiretroviral (ARV) treatment. PopART has developed information, education and communication (IEC) materials with the assistance of CABs, so that these materials are culturally sensitive and easily understood contextually. The process of developing and testing the materials took six months. Here is an example of a pamphlet before and after CAB input. The CAB members were first presented with the draft pamphlet on the left. Their responses were incorporated into the revised draft on the right.

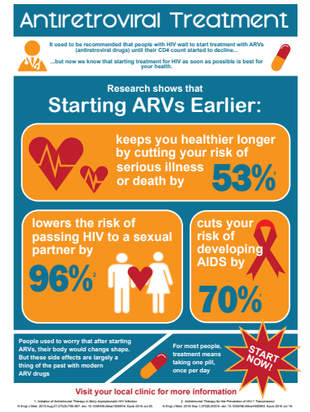
Changes were made to the original flyer based on what the CAB members said:

1. "Change the word 'therapy' to 'treatment', as this term is more widely used in the community."
2. "We do not understand the graph with the arrow going down in the draft."
3. "We would like to address the myth that ARVs change your body shape."
4. "Take out the image of the sick individual, as this looks like people will become sicker with side effects when taking ARVs."
5. "Include an image of a couple to visualize the lower risk of passing HIV to a sexual partner."
6. "Brighten up the colours in the flyer and put a 'START NOW' dialogue box for a more eye-catching pamphlet."

FIRST DRAFT



FINAL DRAFT



2.3.2 Community forums

Community forums are:

- groups within the community that may have been set up by social, political or religious organizations to serve a specific goal within that particular organization (46);
- one of the best ways to engage with community members directly;
- different to CABs because they usually serve a particular interest established by community members themselves; and,
- organized by and led directly by community members.

Tip

Get to know the concerns of the community you will be working in

Be aware that health may not be the top priority for community forums. Numerous social challenges will exist in the community and may be of a greater concern to the forum, for example high unemployment rates or lack of opportunities for youth. It may be challenging to highlight your agenda, which may not be their priority. Take the time to build up a trusting relationship with community forum leaders; and take the time out to listen to community members and find out what the concerns are in the community.

2.3.3 Community leaders

Depending on the context, a community leader could include political, cultural or religious leaders. These leaders are essentially the 'gate keepers' to particular areas within the community.

Points to consider:

- Find out from the community about the best way to be introduced to relevant community leaders.
- In communities where there are chiefs or tribal leaders, respecting hierarchy will be vital to successful communication, therefore find out through government health services who these individuals are and the proper protocol for approaching them.
- Be aware that in a traditional society, program implementers may be viewed as 'outsiders' and not trusted.
- Make a concerted effort to build trusting relationships with community leaders to aid health promotion.
- Be aware that not all community leaders will be well liked in an area.

2.4 Research stakeholders

Research stakeholders can include academic institutions, NPOs, or pharmaceutical companies. Research stakeholders collect and analyse data that may be beneficial for your program, so it is a good idea to build a relationship with the relevant research stakeholders.

Program implementers should:

- engage with health researchers to ensure that there is not an oversaturation of certain health services delivered in the area;
- get to know the community platforms where health researchers are disseminating their study results and ask to attend the dissemination meetings; the data disseminated can be very beneficial to understand the epidemiology of diseases in the area; and,
- work closely with researchers and explore the possibilities of sharing resources.

Walking through the community to learn about the community.

3. How can we successfully create demand for community-based HIV-prevention services?

Setting up community-based HIV-prevention program requires creating demand for the services you will be providing. There are many ways to create demand and this section will discuss some of these strategies.

In South Africa, the national HTS program recommends a focus on demand creation for populations where the uptake of HIV testing is suboptimal, such as key populations and adolescents (11). The approach you take for demand creation depends on the setting and which populations you are targeting. CABs can assist with identifying the best strategies to use in a specific area or community. A different strategy would be used if you are targeting a key population (for example, sex workers, men who have sex with men, people who inject drugs) compared to targeting young girls or the general population. Your messaging would be different, and where, when and how you mobilize will be different. Many key populations are hard to reach, as they are not easily identifiable. They may need to be mobilized through existing networks, so that their privacy is upheld. Young girls may respond well to the use of social media. If you want to target men, you may want to hold your mobilization activities outside of working hours.

Some demand-creation strategies for consideration:

3.1 Street mobilization using loudhailers

- Street mobilization means raising awareness of your program's services by going through the streets of the community in a large group, attracting attention and sharing service information.
- It is best suited to peri-urban communities, where there are a larger number of people in close proximity. This method would not be as successful in rural communities, although it may be possible at weekend markets or other events where large numbers of people congregate.
- Create a visually striking performance in the street to draw people from their houses, and then use that opportunity to promote the services you are offering.
- To grab people's attention, personnel conducting the mobilization should be dressed uniformly to stand out.
- Colourful hats, singing and dancing will add to the atmosphere and bring people out of their houses.
- In addition, the use of a loudhailer can draw people out of their houses and into the streets.
- Once you have the attention of community members, use the loudhailer to introduce your organization, explain the health services being offered, and disseminate key health messages.
- Personnel can distribute pamphlets to reinforce the verbal messages.
- Consider conducting street mobilization at different times of the day to target different audiences who may not be home during regular business hours.

"What attracts us to come out into the street is the loudhailers. As soon as we hear them, we come out of our houses to listen to the messages. We hear the health messages loud and clear. They are about our health and well-being." - *Sarah Matthyse (Community member).*

Large groups of people walking through the streets of the community attract attention and create awareness of services.

3.2 Door-to-door mobilization

- This strategy allows you to speak individually to people in their homes about the health services your organization is offering.
- It is best done in pairs, to provide safety for personnel but also not to overwhelm the household.
- It gives community members a more private space to engage with you and ask questions.
- As with street mobilization, pamphlets can be left in the homes to reinforce verbal messages.
- Consider going door-to-door at different times of the day to reach a broad population, especially to target those who are not home during normal business hours.

Door-to-door mobilization is a great way to speak individually to people about the health services that your organization is offering.

- Be aware that household members may be distracted doing house chores or may not feel comfortable discussing private matters in front of other household members and therefore may not listen to you diligently.

"It is good to do door-to-door mobilization because if clients have questions you can answer them immediately. Also, some people cannot or do not like to read, so when you engage with them face-to-face, then they can understand the message better."
- Luzuko Manzi (Healthcare worker)

3.3 Large community engagement events

- A large community event means that you will be able to engage with a large number of people at one time.
- Ask a local, well-respected health politician to convey your key messages as they are usually well-placed to convey health messages contextually.
- Include activities to entertain people, such as music, games, raffles and prizes. If you do provide prizes, check with the CAB to ensure that they are appropriate for the local context.
- Consider using presentations, dramas or dance groups that can all spread a health-related message.
- Consider offering health screenings, so that the community becomes familiar with the type of service you will be providing.
- Ensure the event is held at a venue that can accommodate a large crowd.
- Ensure you have the appropriate permissions to hold the event.
- Consider additional requirements like sufficient water bottles, toilet facilities, medical response teams, crowd control (police) and exit plans if it is in an enclosed area.
- Cost is likely to be high compared to other strategies.

"As a community representative, I appreciate the services being brought to the community by DTTC because the services are brought to the people. This helps with educating the community about their health and also reminds the people to take responsibility to stay healthy. I would suggest that these large community engagement events are held on weekends to reach more community members."
- Mandla Dosi (Local Politician)

See Appendix 2 for a checklist on the operations and logistics of organizing a large community engagement event.

Large community engagement events provide an opportunity to engage with a large number of people at one time to promote the services your organization is offering.

3.4 Media

The use of media to create demand for HIV-prevention services can be effective, depending on the local context. Media incorporates radio, newspapers and television and social media.

- Find out from the CAB which media is most appropriate to use in the specific community.
- Clarify which languages will be best to communicate in.
- Take into consideration the literacy rate before developing IEC materials for distribution by print media.
- Develop visual materials, in consultation with the local community leaders, to ensure that it is contextually appropriate.
- A media plan should be developed with consideration for both the financial resources and the availability of skilled personnel.
- Decisions around the use of appropriate media for the target audience are important. For example, television is costly, but reaches a wide audience and usually something visual will be remembered longer than something read or heard. Another option to consider is the use of community radio stations in areas where more people have radios.

4. Does community engagement differ in urban, peri-urban and rural communities?

Urban, peri-urban, and rural communities each have their own unique assets and challenges when it comes to engagement. Engagement strategies can differ quite substantially, and community-based HIV-prevention services need to be tailored appropriately for optimal uptake of HIV services.

Did you know?
What is the difference between an urban, per-urban and rural area?

An **urban area** is the region surrounding a city. These areas are very developed and there is a density of structures such as houses, commercial buildings, roads, bridges and railways.

Peri-urban areas are on the outskirts of the city. These areas usually result from people moving from the rural areas closer to the city to look for work. Typically, these areas are densely populated and characterised by formal and informal houses (corrugated iron shacks), high unemployment, crime and general poverty.

Rural areas are geographic areas that are located outside of towns and cities. Typically, these areas have a low population density and small settlements. Agricultural areas are commonly rural.

Urban and peri-urban settings mean that single events can reach a large number of people due to the higher population density.

In **urban communities**, a larger population and proximity to the city also means greater competition for people's time. Populations in urban centers with a larger academic institutional presence may also be prone to engagement fatigue if too many projects exist simultaneously. It is important to keep in mind, that there may be an overburden of costs and time if too many projects exist in isolation in the area, and there are no tangible shifts in practice that occur as a result of the engagement process (47).

Peri-urban communities often have greater cultural and economic diversity, which is an opportunity to engage with higher-risk and marginalized populations (48). However, this means that engagement requires a more diverse approach depending on the target groups.

By contrast, working with **rural communities** often means more similarities in the local cultural value system. Such homogeneity can work for and against the process of community engagement. More uniformity may mean consensus is reached more easily in the process of engagement. On the other hand, a more homogenous society's value system can mean more resistance to engagement with groups viewed as outsiders (49, 50). In such settings, a longer initial investment in developing relationships with community representatives can prove extremely rewarding. Given the added complexities of working with hard-to-reach populations (in terms of both

Community engagement differs in urban, peri-urban, and rural communities. Take the time to understand the context to be able to deliver appropriate HIV-testing services.

Best practices for community engagement in traditional and/or culturally cohesive settings (52 - 54)

1. Do your homework
- Learn the appropriate greetings (e.g. soft handshake, bow, eye contact or not).
- Ask about and observe the appropriate attire for women versus men, children versus adults; married versus unmarried, etc.
- Enquire if you are expected to arrive with gifts for leaders or guests.
- Make a reasonable effort to become familiar with the language, especially greetings and HIV-relevant terminology.
- Consider employing a respected community member as a cultural advisor.

2. Minimize power imbalance at engagement meetings
- Meet somewhere within the community rather than at a clinic or other institution; this will put local attendees at ease.
- Use circular meeting spaces and encourage program implementers to intersperse with community members.
- Consider a local co-chair at engagement meetings.
- Use local games and activities that are not language-dependant for ice breakers.
- Serve local food.
- Accept invitations to cultural activities whenever possible.

3. Be prepared to shift your role as expert
- The concept of knowledge exchange depends on the expertise that comes from the lived experience of community members – this may be difficult for healthcare workers and community members to recognize or accept in the beginning.
- Practice listening more often than speaking – you are a student of the community.
- Avoid electronic media during meetings – slide presentations are often one sided and do not promote interaction.

4. Be cognizant of differences in status within the community
- Ensure appropriate representation from those who are most affected by poverty and powerlessness.
- Be sure to include people living with HIV along with or in place of delegates from the community-based organizations that represent them.
- Anticipate gentle ways to negotiate hierarchies within the team – although you may aim for equal say between members, expectations may differ according to cultural practices.

5. Don't be afraid to disagree
- Everyone understands bureaucracy; engagement is a delicate balance between the responsibilities and expectations of community members, healthcare providers, politicians, and the limitations of scare health resources – don't be afraid to identify this or remind the group.
- When expectations are at odds, negotiate. In our experience open communication was appreciated by community members and demonstrated respect for the wisdom and contribution of all parties.

proximity and culture), persistence often leads to long-term commitment from eager participants once trust has been established (48). This is also true of working with larger traditional communities (51).

It is important to note that even in more rural or traditional communities, much diversity may still exist, and value systems are far from stagnant (52). We suggest that healthcare workers learn as much as possible about differing ideologies within a community at the start of engagement and continue to reflect on their own beliefs while also checking in regularly with community members in order to identify and integrate subtle shifts in value structures.

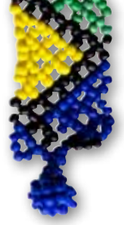
Stakeholder engagement is a crucial investment for program implementers. Building a collaborative partnership between social services, health services, community services, and research projects is central in stakeholder engagement. The idea is to build a trusting, transparent, and mutually beneficial relationship, in which your organization can deliver a high-quality, holistic health service to community members in collaboration with stakeholders.

Community members looking at flyers handed out during community mobilization.

COLLABORATING WITH NOT-FOR-PROFIT ORGANIZATIONS

Margaret van Niekerk, Blia Yang and Sue-Ann Meehan

> If you want to go fast, go alone.
> If you want to go far, go together.
> *(African proverb)*



CHAPTER 3
COLLABORATING WITH NOT-FOR-PROFIT ORGANIZATIONS

Why is this chapter important?

Implementing a community-based HIV-prevention program cannot be fully successful unless there is good collaboration between all stakeholders; the funders, those with expertise and skills in HIV-prevention services and activities and those who fully understand the community. Not-for-profit organizations (NPOs) who work in communities to improve the lives of community members are therefore vital partners in program implementation. This chapter shares the learnings from a unique partnership between an academic institution and various NPOs to highlight some of the key principles around collaborating with NPOs in working toward program sustainability.

What will you learn from this chapter?

1. What is a 'not-for-profit' organization (NPO)?
2. What is a successful partnership?
3. Why is it important to form partnerships with NPOs for delivering community-based services?
4. How do you select an NPO for collaboration?
   - 4.1 Issuing a tender
   - 4.2 Selecting successful NPOs
5. How do you establish a contractual partnership?
6. What are the reporting structures to monitor NPO progress?
7. How do partnerships link to program sustainability?

1. What is a not-for-profit organization (NPO)?

An NPO aims to provide a service or benefit to the public, but does not make a profit from doing so. In South Africa, an NPO is defined as a private organization established for public purposes (55). NPOs are independent of government (56, 57) and pursue activities to relieve suffering, promote the interests of the poor and/or promote community development (58). They typically rely on funding from donors, national and/or international funding agencies, government grants and fundraising events. NPO is a broad term that encompasses both non-governmental organizations (NGOs) and community-based organizations (CBOs) (56).

Did you know?
How do NGOs and CBOs differ? (59)

NGO stands for non-governmental organization. NGOs are generally formally structured organizations, registered with the government. They are voluntary, not profit making. They may provide services on an international, national or local level.

CBO stands for community-based organization. These are grassroots organizations, initiated by local residents and work within the interests of their members. They can be formal or informal but their members all belong to the community that they serve.

Case study: An NPO tailors programs to address the changing needs of the community

Etafeni is a registered not-for-profit organization that consists of a multi-use facility delivering a variety of educational and social welfare programs as well as outreach programs to an underserved population within Nyanga, Cape Town. The community of Nyanga is peri-urban with an estimated population of 58 723 in 2011. It has a high unemployment rate (approximately 56%) and widespread poverty and a high HIV and AIDS burden (60).

Founded in 2001, Etafeni originally served as a response to the HIV and AIDS epidemic which was rampant (and continues to be very present) in Nyanga and its surrounding areas. The center offers services to families affected by HIV and AIDS and, most specifically, vulnerable children infected and affected by the AIDS epidemic.

Etafeni came into being during the time when South Africa was transitioning from AIDS denialism. Grandmothers and carers were concerned about the rate at which parents were dying in Nyanga, leaving them and their children with little or no support. After months of consultation with the community, the Etafeni Day Care Centre Trust was established to address the needs of the many vulnerable families in Nyanga. The Trust was formed in December 2001 and is an independent legal entity, registered as a not-for-profit organization.

Etafeni started as a response to the HIV and AIDS epidemic, but evolved over the years to address all aspects related to/contributing to the epidemic such as orphaned children, female and youth unemployment and child neglect. Etafeni now encompasses a more holistic approach, serving the diverse needs of Nyanga while maintaining a special focus on women and children. It currently runs numerous programs including preschool care, which started in 2003, social work services which started in 2006, and a women's wellness microenterprise program and Fit for Work Program that started in 2007. The Fit for Work program provides young adults with the personal and professional development necessary to enter the workforce. In 2008, the afterschool care for orphaned and vulnerable children was established and HIV, TB and STI counseling was started.

Etafeni`s workforce has been identified from the local community. The organization builds capacity within entry-level personnel, through on-the-job training and mentorship. The capacity building within the organization also fosters and ensures sustainability of the organization.

Barbara, Development Manager, Etafeni Day Care Centre

Etafeni Day Care Centre is an established NPO, delivering a variety of educational, social welfare and HIV and AIDS programs in Nyanga, Cape Town.

The way in which an NPO is structured and operates differs from one NPO to the next. Typically, an NPO will have a board of directors who often provide their services on a voluntary basis. Their main functions are to supervise the managing director, develop and approve budgets and perhaps be involved in fundraising. The managing director is responsible for overseeing the day-to-day functions of the NPO and reports to the board. The staff members are responsible to implement the various program activities. The following websites give more information about the structuring of an NPO.

http://www.etu.org.za/toolbox/docs/building/lrc.html

https://www.gdrc.org/ngo/org-chart.html

https://libcom.org/library/what-structure-ngo

2. What is a successful partnership?

A successful partnership means different things to different people. A partnership is defined as "a collaborative relationship between entities who work toward shared objectives through a mutually agreed division of labour" (61).

The case study below offers one example of a successful partnership, between an academic institution (university) and various local NPOs. Many of the learnings from this specific case study have been used throughout this chapter to highlight best practices and lessons learnt.

Figure 3.1: A successful partnership is when everyone works together

Case study: Successful collaboration between a university and various local NPOs

"Civic engagement is a bridge that reconnects a university to the surrounding community. It takes both the university and the community to walk across the bridge." (Hlekani Kabiti, Graduate student from the University of Venda, South Africa).

Since 2007, Stellenbosch University has been a recipient of PEPFAR funding for community-based HIV-prevention services, through the Centers for Disease Control and Prevention (CDC). Stellenbosch University has collaborated with more than seven NPOs to provide community-based HIV-prevention services in a number of different communities around Cape Town. The overall goals of the partnership were to prevent new HIV infections, diagnose those living with HIV and link them to HIV care and treatment services.

University's responsibilities

- Financial support: funding to the NPO.
- Skills development: Technical support through formal and informal training.
- Mentoring and in-house training.

NPO's responsibilities

- Employment of personnel.
- Direct service delivery.
- Procure consumables.
- Monitoring and evaluation activities.
- Monthly and quarterly reporting.

The collaboration between Stellenbosch University and some of the NPOs continued for nine years. These partnerships were successful because:

- both parties were working towards a mutual objective;
- each valued the partnership;
- it was mutually beneficial;
- a formal structure was in-place to guide the partnership, e.g. a contractual agreement; and,
- the roles and responsibilities of each partnering organization were clearly documented.

3. Why it is important to form partnerships with NPOs for delivering community-based HIV-prevention services?

As the demand for health services increases globally, governments are becoming increasingly dependent on NPOs for the provision of key public services (62, 63). This is especially true in the case of the HIV epidemic. NPOs have a critical role to play because they have an in-depth understanding of the existing needs within the communities in which they work, the available resources in these communities, and the local political and social context. This enables them to play a valuable role in developing and implementing practical interventions for the benefit of the specific community. For example, a local NPO would know that in a certain community the majority of men practice traditional male circumcision as part of their culture. They could therefore advise the university that a voluntary medical male circumcision program would be challenging to implement in this community.

Although NPOs typically have the knowledge and understanding of communities and the desire to provide services that will benefit these communities, they may lack the structural and financial capacity to fund and implement programs on their own. This is not always the case, but is especially true if NPOs are small or recently established. One solution to increase capacity is to form a partnership. A partnership between a well-resourced organization, with good structural and financial governance could support the less-resourced, smaller NPO to achieve specific outcomes. A mutually beneficial partnership, where skills are transferred to the smaller NPO, will build capacity within that NPO and ultimately benefit the surrounding community.

4. How to select an NPO for collaboration?

There are many ways to select an NPO. The information in this section is based on our experience (see case study above), and provides some thoughts, reflections and guiding principles that may be adapted contextually. In South Africa, a tender process is often used to ensure equal opportunities between NPOs in terms of selection and to ensure transparency. A tender process can assist you in deciding which NPOs are best suited as 'partners' for your specific program.

Did you know?
What is a tender?

A tender is an offer to perform work, supply goods, services or products at a fixed price. When an organization puts out a tender, they are asking the public for price offers to supply the required products or services. Once the tenderer accepts a tender, it is binding to both the tenderer and the organization to whom the tender is awarded (64).

4.1 Issuing a tender

Step 1: Put out a call (advertisement) for NPOs who are interested in implementing community-based HIV-prevention services.

- The call for NPOs must be advertised on platforms that ensure maximum exposure and maximum opportunity for all possible NPOs to apply. Usually newspapers, websites and word of mouth are used
- The advert must contain the basic requirements for the application, for example, reason for the tender, information about the organization placing the tender, what types of services/activities the NPO will need to implement, all the documents needed in support of the tender application and the closing date of the tender. See Appendix 3 for an example of a tender advertisement.

Consider some of the following requirements for NPOs that wish to apply for the tender to implement community-based HIV-prevention services:

- Experience with employing healthcare workers.
- Experience with already providing community-based HIV-prevention services.
- Adequate infrastructure capable of providing good overall management and financial management, delivering the required services, and ensuring adequate monitoring and evaluation of the project.
- Willingness to enter into a contractual agreement that sets out the terms of the project, the standards required, targets, and roles and responsibilities.
- The capacity to manage the service and to sustain the initiative in the long term.
- Current experience/work in the geographic area where the services will be provided.

Step 2: Set up a compulsory briefing meeting which all prospective NPOs who plan on submitting a tender, must attend (this meeting should be noted in the tender advertisement). This meeting should be compulsory and any NPO who does not attend this meeting should be excluded from applying for the tender. The objectives of this meeting are to provide prospective NPO applicants with:

- an overview of the tender;
- the scope of work;
- information on the organization; and,
- an opportunity to ask questions.

Once this meeting has been held, the prospective NPOs will complete the relevant tender documentation and submit it together with all required supporting documentation in a sealed envelope to the procurement office by a designated date and time.

4.2 Selecting successful NPOs

Selection of the successful NPO/s should take place systematically. We suggest three steps.

Step 1: Set up a selection committee to open, review and evaluate each tender submitted based on predetermined criteria. Each criterion should be weighted according to how important it is in relation to the other criteria. The total should add up to 100%.

For example, the predetermined criteria for community-based HIV-prevention services may include:

- experience in community-based services (20%)

- experience in HIV services (25%)
- financial governance of the NPO (25%)
- organizational capacity to manage a community-based program (30%)
- TOTAL= 100%.

The selection committee should comprise of at least three or four persons including a finance person (accountant), a senior program manager/program implementer, and a procurement officer.

Step 2: A selection committee meeting should be planned, a register must be completed by the selection committee and a record must be taken detailing each tender that is opened.

Tip

It is beneficial to select an NPO with a record of accomplishment in the community. Such NPOs:

- will have a deep understanding of the needs of the community in which they work and will therefore provide input so that interventions are culturally appropriate and there won't be a duplication of services in the same area;
- will be able to access the more-hard-to-reach areas within the community, benefiting community members who typically would not otherwise receive services; and,
- have already earned the trust of the community and will feel accountable to the community.

The committee discusses each tender in relation to the weighted score. They should jointly decide on a score for each criteria. The committee head then enters the scores onto a sheet together with a brief narrative of why that score was given (See Appendix 4). The tender applicant with the highest score should be awarded the tender. If the committee is of the opinion that the highest-scoring tender applicant should not be awarded the tender, this must be documented together with clear reasoning. All these documents should be filed for future reference and be available for auditing purposes.

Step 3: Notifying the NPOs. The successful and unsuccessful applicants (NPOs) should be notified in writing. The reasons for the decision should be included in the letter.

5. How do you establish a contractual partnership?

Once the tender process is complete and the successful NPO has been informed, the next step is to agree on the partnership going forward.

- What should the partnership look like?
- How will each partner be held accountable?
- What is the process if one partner does not fulfill their obligations?

It is beneficial to have a legal contract that describes the partnership. A lawyer (legal advisor) can draw up a basic legal contract and ensure that the typical legal clauses are included, for example, the process to follow if there is a breach of agreement.

For the purposes of program implementation, in addition to the legal clauses, the contractual agreement should include a workplan and budget.

- A **workplan** should contain the overall aim and key objectives of the program, as well as the activities that are required to meet the objectives. For each activity, there should be a description of that activity, who will carry out the activity, by when (timeline) and how the activity will be measured. This will assist management to monitor progress against the plan and to assess how well each partner is progressing within their individual roles. Review the work plan often and update it as required. These revisions can be added as part of the contractual agreement as the program progresses. See Appendix 5 for an example of a workplan.
- The **budget** is also an important part of the contract. It is vital that the budget accurately reflects the costs of implementing a program. It should contain all relevant cost categories and allow for the practical implementation of activities. For example, it is not practical to aim to implement an activity in a high-crime community without budgeting for security. It is also important to consider the context in which you will be working. For example if you are organizing a community event, you may need to budget for water and toilet facilities. Remember to liaise with the NPO that is responsible for delivering services on the ground before finalizing the budget. The NPO should actively participate in this process. This will assist with accountability and ownership of the funds. See Appendix 6 for an example of a budget with relevant cost categories.

Case study: Developing a budget collaboratively

Stellenbosch University had finalized the tender process and awarded a tender to an NPO to implement HIV-testing services in a specific community which had high HIV burden. Although the total amount that the NPO would receive from the university for service delivery had already been set, the university invited the financial manager, the program coordinator and a professional nurse (all NPO personnel) to a meeting to decide how the set budget amount would be divided up to ensure that services could be provided in the most cost-efficient way possible. During the meeting, there was a discussion to determine the different cost categories required and the funds that should be allocated to each cost category. Many costs and cost categories were included. The following were highlighted by the NPO to re-adjust the budget to be in-line with programmatic outcomes:

Security. The nurse, Dorcas, stated that this is often underestimated. The budget should take into consideration the need for safety and security of staff working in communities that have high crime rates. There was a discussion around what security measures were necessary and what the estimated costs would be. A decision was made to hire a security person as part of the team providing mobile HIV testing. Dorcas was happy, as she felt the budget was addressing the security needs of her team who would work on the ground providing services.

The need for a **maintenance** budget was identified by the program coordinator, Peter. He recalled a previous experience when equipment had been broken and could not be fixed because there were no funds set aside for maintenance. The broken equipment negatively affected the program. It was agreed that there should be an amount allocated for maintenance on the budget. This included maintenance of equipment (for example: tents) and electronic items (for example: desktop computers). Servicing of vehicles was also noted under maintenance.

Local travel was considered as staff often have to travel for work purposes, to attend training, to provide outreach services or to follow-up clients. Irrespective of whether they have their own transport or need to use public transport, it is important that funds are available for travel so that program activities are not compromised.

Administration costs were mentioned by the NPO financial manager, Sipho. Typically, NPOs do not receive funding for overhead (running) costs such as administration and financial support to each program, utilities, office rental, etc. Money is always needed to pay these costs. It was agreed that 10% of the budget was a reasonable amount to be allocated to the NPO administration costs. This would assist the NPO to ultimately improve their capacity to implement program activities.

Once Dorcas, Peter and Sipho were happy that the allocation of funds was reasonable to achieve the program outputs, and the budget was in line with the amount set, the budget was finalized and a copy of this budget became part of the contractual agreement. This meeting was beneficial because Stellenbosch University had provided a platform for those representing the NPO to agree on the budget and have a better understanding of the operational and financial outputs going forward

Setting up the budget should be a collaborative process between all partners.

"This has been an ideal partnership – Stellenbosch University is one of the funders that took a consultative approach with us on the budget and they took our suggestions into consideration, reworking the budget according to our needs. The flexibility within the project has helped us to utilise the funds according to our needs." – *Izak Mofekeng (NPO Program Coordinator for Masincedane)*

Tip

Consider regular meetings with the management of the NPO prior to program implementation. This will:

- ensure that the operational and financial decision-making process is a joint responsibility of both partners;
- ensure that both partners are familiar with the program, understand the overall objectives and what activities will be implemented; and,
- ensure that both partners are well acquainted with the budget and the available resources (so that resources are adequately allocated).

6. What are the reporting structures to monitor NPO progress?

Monitoring is a continuous process that aims to assess progress. It identifies how resources are allocated, utilized and managed (62). This section will provide guidance around the reporting structures that can be put in place to monitor NPO progress according to the workplan and the budget. These reporting structures can be built into the contractual agreement and refer to the report type and frequency of report that the NPO is required to produce.

Consider a quarterly narrative report to determine NPO progress against the workplan and a quarterly financial report that tracks NPO expenditure against the budget. Also consider quarterly face-to-face meetings.

The **quarterly narrative report** aims to document the operational aspects of the community-based HIV-prevention program. It should contain at least the following:

- The program achievements during the quarter against the quarterly targets as set out in the workplan.
- Reasons for any targets that are not met. These should explain the challenges encountered and what was done to try to overcome these challenges. An example from our experience included an NPO partner who provided mobile HIV-testing services from pop-up tents and had a target to test 100 people per week for HIV. During the rainy season, it was almost impossible to set up the pop-up tents outside for testing. As a result, the NPO was not meeting their HIV-testing target. NPO management looked at an alternative indoor venue and received permission from a local shopping center to set up their tents and offer HIV testing from inside the shopping center premises. This scenario was documented in the narrative report as a successful way to overcome their challenge.
- Highlights and additional activities that capture what happened in the field during the quarter over and above the services provided. For example, the government health services approached one NPO, which provided HIV-testing services from a stand-alone site in a specific community. The government health services asked if they could use one of the rooms at the stand-alone site to distribute ART to their stable patients every Tuesday. The stand-alone site was centrally located opposite a major transport hub. Patients could come in and get their HIV treatment easily without having to wait in long queues at the health facility. The NPO agreed. This was documented as a highlight in the narrative report as it signified collaboration between the health services and the NPO.
- Any additional important information. For example, consider a human resource matter reported by one NPO on one of their healthcare workers who was away from work for an extended period. Her sister passed away and she had to travel to another province to bury her sister, fetch her niece and bring her back to live with her and start the adoption process. During this period, the NPO utilized a relief worker. The NPO documented all of this in the narrative report as it impacted on the HIV-prevention services.

An example of a narrative report template can be found in Appendix 7.

The **quarterly financial report** is essential to monitor NPO program expenditure against the budget. This report is essentially a reconciliation of quarterly expenses per cost category to ensure that NPO expenditure is allowable and in line with the budget. For example, the budget may include telephone costs. It is reasonable to include telephone costs directly linked to the HIV-prevention program being funded, for example telephone calls to follow up an HIV-infected client. However, it is not reasonable if the NPO includes telephone costs associated with another of their programs (for example, a program that teaches literacy to pre-school children).

The financial report should contain:

- An overview of the quarterly expenditure per cost category and the total expenditure year to date. See Appendix 8.
- Expenditure that is in line with the budget, is reasonable and is correctly allocated to the relevant cost category.
- Supporting documentation. For example, pay slips, proof of payments, receipts and petty cash slips, should all be included to support each expense/payment made.

Tip

Providing funding for the NPO

Provide funding to the NPO on a quarterly basis in advance. This ensures that the NPO has the financial capacity upfront to implement the services.

Case study: Quarterly financial reconciliation, an example of good financial governance

Stellenbosch University had a contractual agreement with an NPO to provide mobile HTS. The annual budget allocated to the NPO was $ 100 000. A detailed budget was documented in the contractual agreement. At the beginning of the contract, the university paid $ 25 000 to the NPO for expenses they would potentially incur in quarter 1. At the end of the first quarter, the NPO submitted their quarterly financial report to the program manager, Bulelwa, at the university. Bulelwa had to check the report. She first checked that every expense was reasonable and necessary, and in line with the budget in the contractual agreement. She noted that the NPO had purchased pop-up tents from which to provide HIV-testing services. Purchasing of tents was in the budget. She also noted that they had received three quotations for the supply of tents and had accepted the least-expensive quotation, which was the only one in line with the amount on the budget. She was happy that the tent purchase was necessary, reasonable and in line with the budget. Next, she checked that there was a proof of payment for each expense. She discovered that there was a pay slip missing. There were three healthcare workers employed by the NPO to provide HIV-testing services, but the financial report only included two pay slips. She contacted the NPO, who sent through the missing pay slips that had been omitted by mistake. Thirdly, she checked what the NPO had spent that quarter against the initial funding tranche they had received from the university. The NPO had spent a total of $ 22 500 in quarter one (i.e. they had $ 2 500 unspent). Bulelwa then calculated that the NPO could receive $ 22 500 for the second quarter ($25 000 - $ 2 500 they had left over from quarter 1 = $ 22 500). After Bulelwa had reconciled the NPO financial report, she requested that the NPO invoice the university for $ 22 500 for the second quarter.

This process is an example of good financial management because:

- reconciling on a quarterly basis makes it easy to manage the funds and ensures that issues are picked up and dealt with immediately;
- the funds paid out to the NPO each quarter are dependent on the previous quarter's expenditure, so it is easy to control funding and expenditure; and,
- the NPO received funds upfront for service provision, which means that services were not hindered by lack of funding.

Quarterly face-to-face meetings provide an opportunity to discuss progress in a discussion type forum. These meetings are beneficial because:

- Quarterly program results are disseminated, gaps highlighted and solutions identified.
- Minutes and attendance registers are kept for auditing purposes.
- They allow the partners to share their experiences face-to-face and provide an opportunity to show appreciation for the work the NPO is doing.

Face-to-face meetings between partners are important to actively address successes and challenges.

Strategic partnerships are important for sustainability.

7. How do partnerships link to program sustainability?

Sustainability in our setting refers to the NPO being able to provide community-based HIV-prevention services after initial funding or the partnership has ended (65). Program sustainability is important to reduce dependency on foreign aid, but, even more importantly, to enable the continuation of services that benefit the local community.

There is no single recipe to ensure that your program will be sustainable. Many factors play a role in making a community-based program sustainable. One important point to remember is that sustainability cannot be addressed when the program is about to end. It is recommended that a sustainability plan is drawn up at the beginning of the program and signed. Sustainability should be considered throughout the lifetime of the program.

When considering sustainability, consider the following best practices for incorporation into your program.

Visit the following websites to learn more key elements to consider for sustainability:

https://cals.arizona.edu/sfcs/cyfernet/evaluation/Sustaining_2007_cyfar_pp.pdf

Best practices for working toward sustainability of the NPO and the HIV-prevention program

- **Leadership competence**. NPOs that can show that they have strong management and good organizational governance are well placed to secure further funding because of the strength of their experience and skills. For example, an NPO that has a financial manager, a general manager and a human resources manager is better capacitated than an NPO that has one person trying to fulfill all three roles.
- **Well-equipped personnel**, who have a thorough understanding of the program and the community in which they work, and also the technical skills, will be in a good position to write funding applications to secure further funding hence sustaining the NPO. Developing personnel capacity is important to be able to perform functions, meet and address challenges and achieve objectives in a sustainable manner (65). Capacity building will result in highly skilled and trained people with in-depth knowledge around health, wellness and HIV prevention in general. For example, an NPO program co-ordinator may not be initially familiar with specific quality assurance (QA) activities for HIV rapid testing. Initial training and on-going coaching would improve the knowledge and skills of this person, and thereby also build QA capacity within the NPO.
- **In-depth understanding of the community**. Programs that address the needs of the community are more likely to be sustained because they are more likely to have buy-in from the community. In order for a program to address the direct needs of a community, the program managers need to have an in-depth understanding of the community, their needs and the available resources. This can only be done through good stakeholder engagement upfront (see Chapter 2: Stakeholder Engagement).
- **Demonstrated program results and the provision of quality services**. If the community perceives that they continually receive high-quality services that meet their needs, they will be more likely to utilize the services, thus creating demand. The need for services together with uptake of these services will provide a strong motivation for the need to sustain services.
- **Strategic partnerships are important for sustainability**. NPO programs are more likely to be sustained if NPOs have collaborated with key stakeholders in the community such as government health services. Continued close working relations with stakeholders such as the government health services is important and further aids sustainability by providing NPOs working in communities with consumables to be able to deliver a health service.

The case study below explores how a strong partnership between an academic institution and an NPO can aid sustainability.

Case study: Transference of skills and knowledge in a partnership can lead to program sustainability

Sizakuyenza is a registered NPO, established in 2005, delivering services in Philippi. Phillipi is a community situated on the outskirts of the city of Cape Town. The unemployment rate is very high at 43.1%, and there is a high level of crime and a high HIV burden (60).

Since inception, Sizakuyenza has been working to respond effectively to the needs of the community by encouraging and financing local initiatives to combat three social evils that plague Philippi; gender-based violence, child abuse, and HIV and AIDS. Sizakuyenza's vision is to create a place for growth, development, care and nurturing for children and their caregivers – as well as the wider community affected by HIV and AIDS.

In 2008, Sizakuyenza successfully applied (via a tender process) to partner with Stellenbosch University to deliver community-based HIV counseling and testing services within the Philippi community. This community-based HIV-testing program is an example of a collaboration between the university and an NPO with an in-depth understanding of the needs of the Philippi community, specifically in terms of HIV and AIDS. There was a need to provide HIV-testing services outside of the health facility to reach those populations who typically did not visit the health facility.

Sizakuyenza employed HIV counselors, a community mobilizer and a security person/driver to deliver HIV-testing services. Stellenbosch University employed two nurses and seconded them to Sizakuyenza. They worked as part of the Sizakuyenza HIV-testing team. The management team at Sizakuyenza consisted of an operations manager, an NPO coordinator and a financial manager. Over nine years, the NPO staff underwent extensive capacity-development training. This included all aspects around HIV-testing services, planning, keeping good records, interpreting routine data, procuring consumables and general service implementation. The staff also received on-going in-service training to ensure the quality of services was maintained. This process assisted in building the capacity of the NPO personnel.

Stellenbosch University also engaged with the NPO management (director, financial manager, operations manager) around the development of budgets and the general management of the HIV-testing program. This enabled the development of skills and expertise for the NPO management.

In July 2016, two months before Sizakuyenza's funding from Stellenbosch University was due to end, the International AIDS Conference was held in Durban, South Africa. The visionary leadership at the NPO together with encouragement from Stellenbosch University resulted in two of Sizakuyenza's HIV counselors applying for scholarships to attend the conference. Stellenbosch University provided assistance with the scholarship applications. Both were successful and the NGO arranged funding from another source to cover their travel and accommodation. These two HIV counselors flew to Durban (their first aeroplane flight and first trip to Durban) to attend their very first academic conference. The knowledge and skills they had acquired over the past nine years enabled them to confidently engage with academics, researchers, AIDS activists and other community healthcare workers at the conference. They quickly became engaged in the conference activities. Following a funding announcement, they decided to apply for a grant to continue HIV-testing services in Philippi. Neither had written a grant proposal before, but they knew what they wanted to achieve, they knew the needs of their community and, they understood how to implement a community-based HIV-testing service. This knowledge was as a direct result of their training and experiences over the nine years. Collaborating with another organization, they worked through the night and wrote a proposal to secure additional funding, which was awarded on the final day of the conference. They had successfully secured a years' funding to continue HIV-testing services in Philippi.

This case study highlights many of the elements that aid sustainability of a community-based program, including how valuable partnerships can be.

Sizakuyenza, an NPO in Philippi, Cape Town, is an example of how valuable partnerships aid sustainability.

CREATING, EQUIPPING AND SUSTAINING A TEAM

Blia Yang, Jerry Molaolwa, Sue-Ann Meehan, Margaret van Niekerk, Ricardo Felix and Vikesh Naidoo

> I just never, ever want to give up. Most battles are won in the 11th hour, and most people give up. If you give up once, it is quite hard. If you give up a second time, it is a little bit easier. Give up a third time; it's starting to become a habit.
>
> *- Lewis Gordon Pugh (United Nations patron of the Oceans and environmental activist who began his love affair with ocean swimming when he moved to South Africa as a 10-year-old boy.)*

CHAPTER 4
CREATING, EQUIPPING AND SUSTAINING A TEAM

Why is this chapter important?

The individuals on your team are the driving force behind effective community-based HIV-prevention services. The success of these programs is reliant on a balanced team, made up of skilled, well-trained and highly motivated individuals. This chapter provides some thoughts and guidance around employing the right people, giving then adequate training before they go out into the field and supporting them to function optimally. Perhaps the biggest asset for any community-based program is the personnel. Happy, inspired and driven employees are a resource that cannot be taken for granted.

What will you learn from this chapter?

1. How do you create a team to provide community-based HIV-testing services?
    - 1.1. Deciding on the team structure
    - 1.2. Recruiting personnel
    - 1.3. Health screenings
2. What kind of pre-service training is required?
    - 2.1. Initial considerations before training begins
    - 2.2. Pre-service training: Directly related to community-based HIV-testing service (CB HTS) provision
    - 2.3. Pre-service training: Related to the integration of other health services into CB HTS
    - 2.4. Pre-service training: Indirectly related to CB HTS provision
3. How do you sustain a team?
    - 3.1. Refresher training
    - 3.2. Wellness and psychosocial support

1. How do you create a team to provide community-based HIV-testing services?

The environment in which community-based HIV-prevention services are delivered is unique and very different from working in a public healthcare facility. Working in the community, often out in the open, means healthcare workers must adapt to different weather conditions such as heat, cold and wind; and different environments that may be dark, noisy and sandy, as well as areas that are unsafe in which to work. The community-based setting may make it difficult to adhere to HIV-testing protocols and/or quality assurance practices that are required to ensure the delivery of high-quality services. It is therefore very important for any program manager to employ the right people for their team. Employing those with relevant skills and experience is vital; however, employing those who can adapt and function well in community-based settings is important to deliver appropriate and well-contextualized services to clients. It is also imperative to have sufficient management and support staff to ensure that a team can be sustained.

Working in the community, often out in the open, means healthcare workers must adapt to different weather conditions such as heat, cold and wind; and different environments that may be dark, noisy and sandy, as well as areas that are unsafe in which to work.

1.1 Deciding on the team structure

Types of team members to consider:

- Management (program managers, co-ordinators, supervisors).
- Healthcare workers who provide all relevant services (medical doctors, nurses, HIV counselors).
- Support staff (monitoring and evaluation officers, community engagement officers, quality assurance officers, laboratory technicians, procurement officers, administrators, data clerks, logistics officers, security guards, drivers).

A well-functioning HIV-prevention program should have skilled people to deliver the services, management to guide the processes, and support personnel. Every HIV program is unique, depending on its aim, the target population and the setting, which means different categories and numbers of personnel are needed. We suggest that program managers should identify all the activities that need to be carried out within the program and then identify categories of personnel that are able to carry out those activities.

Best practice for deciding on the number of personnel required for community-based HIV-testing services

We share from our experience of delivering community-based door-to-door HIV testing. We considered the following:

1) How many HIV tests can one healthcare worker complete in a day?

   We looked at how many clients are typically counseled and tested by one healthcare worker in a healthcare facility setting within the Western Cape Province of South Africa. The answer: 15 clients per day. Taking into consideration that healthcare workers providing door-to-door HIV-testing services will reach fewer clients, as it takes time to go from one household to the next, we concluded that it was reasonable for community-based healthcare workers providing door-to-door HIV testing to test at least seven clients per day.

2) How many HIV tests are required to be completed in a day?

   Our goal was to test 50 clients a day.

3) How many healthcare workers do we need?

   A basic calculation revealed that seven community-based healthcare workers would need to be employed to do door-to-door HIV testing daily.

4) How many managers do we need?

   Previous programs had utilized a ratio of one manager to seven healthcare workers. This ratio gave the manager sufficient time to supervise and provide guidance to the seven healthcare workers. It also allowed the manager time to sit in on some of the counseling sessions to evaluate healthcare worker performance.

1.2 Recruiting personnel

Consider the points below when recruiting candidates to become a part of a team that delivers HTS in the community.

- **Advertize in the right places to get the right personnel**

  Advertize in public spaces where there is high traffic and in community newspapers in local languages. This way you can recruit people from the community who are familiar with the environment. Consider also engaging with community gatekeepers and ask for guidance from the Community Advisory Board (CAB) on the best places to advertise, as this will differ between communities. See Chapter 2: Stakeholder Engagement for information on collaborating with gatekeepers and seeking advice from CABs. Be mindful that in some communities gatekeepers may have their own agenda and refer 'preferred' candidates for you to hire.

- **Combine traditional and competency-based interview styles**

  Different interview styles will elicit different types of information from the candidate. Traditional interview methods focus on education, qualifications and experience, and elicit responses that address credentials, opinions and feelings (66). These are important; however, they do not give the interview committee insight into the candidate's actual performance in previous workplaces. Competency-based interviews are different. They target a specific skill or competency required for the position using a set of competency-based interview questions. Competency-based interviews give an indication of how individuals have reacted in a specific situation in the past, which can be a reliable predictor of how they will react in a similar situation in the future (66). For example, if the interview committee would like a project manager with analytical skills, then consider a competency-based question like, "From your previous work experience, what data did you analyse to track linkage to HIV care, and how did you use your analysis to improve linkage to HIV care in that program?"

"The use of competency-based interview questions often revealed personality traits of candidates, which is important and generally difficult to attain."
- Sterna Brand (Human Resources Manager)

- **Include a practical skills assessment as part of the interview process**

  Some candidates are very good at answering questions in interviews, but may not always have the level of skill that they indicate they have. If you are employing a person for a position that requires a practical skill, it is a good idea to test that skill as part of the interview process. For example, if you are hiring a data clerk, set up a practical test whereby the candidate needs to enter mock data in a certain timeframe. Afterwards you can count how many data entries were completed and check the accuracy of the data entries. This method will help the interview committee assess the candidate's accuracy and speed in data capturing.

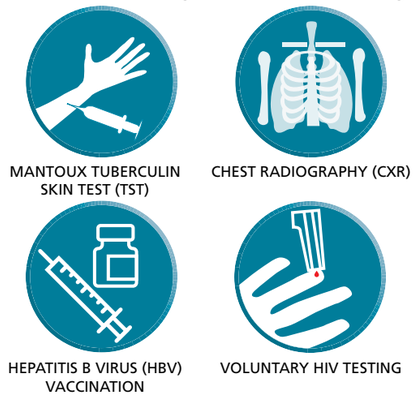
- **Request professional references from previous workplaces to ensure the candidate did perform in their previous positions**

  We suggest that at least two referees, from different organizations, be contacted for professional references for comparison. One former supervisor could state that the candidate was punctual, while another supervisor could state the candidate was not reliable. Comparable references give a fair indication of the candidate's professional work ethic. It is best to get references in writing so that they can be filed and retrieved later, if required.

1.3 Health screenings

Healthcare workers, providing HTS are at risk for Hepatitis B and TB. The TB-notification rate is higher amongst healthcare workers than the general adult population (67). As it is important for employers to be aware of the health status of their employees, a baseline assessment of each new employee's health status is desirable. Future (periodic) health assessments can be measured against the baseline measurement (68).

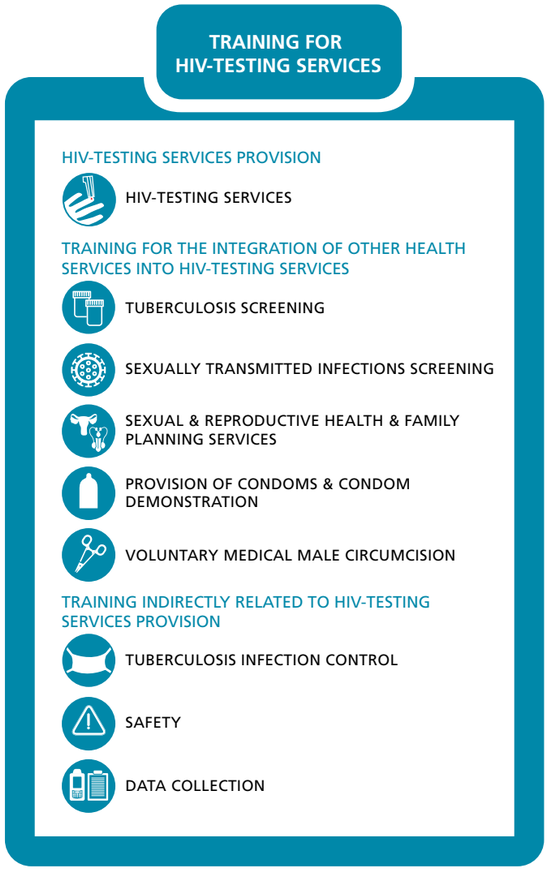
Consider the following baseline health screenings:



- **Mantoux tuberculin skin test (TST):** This provides an indication of whether an employee is infected with *Mycobacterium tuberculosis* or not. A positive TST, does not necessarily mean the employee has active tuberculosis (TB disease), but indicates that they have been infected with *Mycobacterium tuberculosis* (have latent TB). Isoniazid preventive therapy (IPT) is recommended for those who are living with HIV and have latent TB (indicated by a positive TST) (69). A negative TST means that either they are not infected with TB or have only recently been infected.
- **Chest radiography or chest X-ray (CXR):** This is a tool to screen for pulmonary TB (70). Any employee with pulmonary TB should initiate treatment immediately to ensure that they do not transmit TB to their colleagues or clients.
- **Hepatitis B virus (HBV) vaccination:** It is recommended that new healthcare workers be vaccinated against HBV (71). HBV is an occupational risk for healthcare workers, and is related to exposure to blood (72).
- **Voluntary HIV testing:** All healthcare workers should be aware of their HIV status. The employer should provide the opportunity for all employees to test for HIV, but does not need to know their employees' HIV status. Healthcare workers who are living with HIV should be aware of their HIV status, as they will be at higher risk when exposed to clients with TB for example.

Consider the following periodic health screenings:

- **Bi-annual TB screening:** It is important for employers to screen all personnel for signs and symptoms of TB, especially healthcare workers (73). TB is higher amongst healthcare workers than the general adult population (74). It is recommended that healthcare workers be assessed periodically for TB. It is recommended that this be conducted bi-annually. See Appendix 9 for an example of a TB screening tool. If personnel answer 'yes' to any of the questions, employers should refer them for further investigation to test for TB.
- **Annual HIV testing:** When working in high-HIV endemic areas, it is recommended that employers provide the opportunity for healthcare workers to test for HIV annually, so that they are aware of their status and can get proper HIV care.
- **Influenza vaccination:** It is recommended that healthcare workers have the influenza vaccination annually (71), as they are at a higher risk of contracting the influenza virus compared to the healthy adult population (75).



2. What kind of pre-service training is required?

Before newly appointed personnel can go out and provide community-based HIV-prevention services, they need to be equipped with relevant knowledge and skills, which form the foundation for delivering high-quality HIV services. This section will focus on pre-service training for healthcare workers who will provide community-based HIV-testing services. Pre-service training refers to training before the healthcare worker goes out into the field to provide CB HTS.

This section does not include all possible training that may be required for CB HTS, nor does it present training content. Rather the objective is to provide the reader with general principles and share best practices around how to approach training and tips to consider regarding the practical aspects of the three different categories of pre-service training:

- Directly related to CB HTS provision.
- Related to the integration of other health services into CB HTS.
- Indirectly related to CB HTS provision.

2.1. Initial considerations before training begins

2.1.1 What kind of trainer should I employ?

- Someone who can speak the local languages fluently: when working in communities where there is more than one local language, it is important to have trainers who are bilingual, so that healthcare workers understand the training content properly.
- Someone who is able to identify when healthcare workers may feel overwhelmed with information, and allow some down time to refresh.
- Someone who has a technical understanding of the training content.

2.1.2 What are some of the different ways in which learning happens?

- **Lectures** are beneficial to get important information across to many people at one time. For example, use lectures to train large groups of healthcare workers on the basics of HIV: the virus, acquisition, window period, etc.
- **Group discussions** may assist healthcare workers to share information with their colleagues in a space that is less threatening than a lecture hall. Smaller groups may make people feel more comfortable and allow for discussion around topics that are sensitive, for example sexual and reproductive health (SRH) and voluntary medical male circumcision (VMMC).
- **Audiovisual materials (film & videos)** are often impactful, when used to illustrate key points or to provide information of a sensitive nature. People often remember what they have seen more easily than something they have heard or read. This method can be utilized when training healthcare workers on basic information on Sexually Transmitted Infections (STIs).
- **Case studies** can be used during lecturing or tutorials to illustrate points and improve understanding. Using a story based on a real-life experience helps healthcare workers to bridge the gap between theory and practice. For example, when training healthcare workers how to actively link people living with HIV to care and treatment

services, use case studies of how this has been done in the past. This may open a discussion around the challenges of linking people to HIV care and how these could be overcome.

- **Planned reading** is important for the healthcare worker to gather additional information or a more in-depth understanding on a particular topic. For example, it is not possible to cover everything about TB during pre-service training. If additional reading material is made available, healthcare workers can utilize the opportunity to read further to gain a broader understanding around TB. Always provide the opportunity for healthcare workers to ask questions about what they have read.
- **On-the-job shadowing** gives new healthcare workers an opportunity to observe and learn from experienced healthcare workers who are already in the field. This gives new healthcare workers the opportunity to see how the theory is put into practice.
- **Coaching/mentoring** is an effective one-on-one session to improve specific techniques or skills that an individual may lack. This usually occurs after a healthcare worker's performance has been evaluated and a gap in knowledge or skill has been identified. Coaching sessions directly address this gap. For example, a healthcare worker may not be screening clients for TB because they are uncertain about how to use the screening tool. The coaching session will be set up to retrain this worker on how to screen a client for TB and how to use the TB screening tool. See Chapter 9: Monitoring and Evaluation for evaluation tools that managers can use to assess healthcare worker's performance.
- **Role-playing** is a practical way for new healthcare workers to test their newly learnt skills and provides an excellent opportunity for trainers to assess how well they can put the theory they have learnt into practice. For example, role-plays can be used effectively for practicing HIV-counseling skills, helping prepare healthcare workers for challenging situations, which they may face in the real world.

Learning can happen in many different ways. From left to right: Lecture style, group discussion, coaching/ mentoring, and role-playing.

Tip

Choose a venue that is conducive to learning

- Choose a venue that is accessible to the healthcare workers.
- There should be adequate lighting indoors (especially if there is an electricity outage).
- There should be an outdoor space for break-away sessions.
- There should be furniture that can easily be moved around for small group work.
- The space should be large enough for healthcare workers to conduct role-plays without disturbing their colleagues.

2.2 Pre-service training: Directly related to community-based HIV-testing service (CB HTS) provision

The World Health Organization has guidelines for delivering HTS in the community (76). The National Department of Health (NDOH) within each country adapts these guidelines contextually to develop training materials and tools to equip teams to deliver CB HTS. It is important to find out if it is a requirement for an accredited training service provider to train healthcare workers on delivering CB HTS. An accredited training service provider is an official body that has recognized standards to provide the training (77). In South Africa, the HTS training curricula is standardized and aligned to the NDOH HTS curricula (11). The training is theoretical and practical.

"Personnel have told me that providing them with training on pre- and post-test counseling and confidentiality has actually opened up their eyes to understanding that this is just not another 'job', but an occupation with a huge responsibility to provide adequate counseling and quality HIV testing to clients. I also find that training has improved the way personnel talk to their colleagues, with dignity and respect. Training has also helped to develop their listening skills." - *Yvonne Saunders (Trainer)*

In the field, healthcare workers will encounter different clients with diverse needs including individuals, couples, adolescents and children, and they need to be able to provide the relevant counseling for these clients. During basic HTS training, new healthcare workers are trained on how to provide counseling and how to conduct HIV rapid tests. Appendix 10 provides an example of a role-play that can help healthcare workers develop their counseling skills and practice HTS.

During basic HIV-testing services training, healthcare workers are trained on how to conduct HIV rapid tests.

Tip

Points to consider when training on sensitive topics

- Remind healthcare workers that within their role as a healthcare provider they will need to keep their personal beliefs and opinions aside and not discriminate against clients who may have opinions and practices that differ from theirs.
- Active participation in role-plays is a key way to assist healthcare workers to engage with their new knowledge and practice their new skills, especially around sensitive topics.
- Engaging healthcare workers in an open and non-judgemental discussion around sensitive topics provides a platform for questions and answers. This helps them to learn how to put sensitive topics across to clients in an informative, non-discriminatory way.

2.3 Pre-service training: Related to the integration of other health services into CB HTS

Many related services can be integrated into CB HTS including screening for TB and STIs, providing SRH and family planning referral services, providing condoms, and referring HIV-negative men for VMMC. See Chapter 5: Delivering Holistic Client-Centered Services, regarding how and when to integrate these services. Table 4.1 provides a summary of some of the additional services that can be integrated into CB HTS and what program implementers should consider when planning the training around these integrated services. Accredited HTS training may cover this content or you could consider in-house. In-house training can be provided by an expert in the field, a professional trainer or program manager. See Appendix 11 for an example of a role-play that can be used when training healthcare workers to screen for TB and collect sputum for TB testing. This role-play scenario can be adapted for any health service that may be provided as part of CB HTS.

Table 4.1: Considerations when planning pre-service training around intergrating other health services into CB HTS

	Pre-service training: Integration of other services into CB HTS				
	Tuberculosis (TB) screening	**Sexually Transmitted Infections (STIs) screening**	**Condom demonstration**	**Sexual and Reproductive Health (SRH) Services and family planning screening**	**Voluntary Medical Male Circumcision (VMMC) screening**
Aim of the training	To equip healthcare workers with a basic knowledge of TB, how to utilize the TB screening tool, collect sputum, and refer pulmonary TB cases for the initiation of TB treatment at the primary healthcare facility.	To equip healthcare workers with a basic knowledge of STIs and how to utilize the STI screening tool.	To equip healthcare workers with knowledge and skills to conduct male and female condom demonstrations.	To equip healthcare workers with a basic knowledge of SRH and family planning, ensuring that they will be able to refer clients appropriately for such services.	To equip healthcare workers with a basic knowledge of VMMC to ensure they are able to provide adequate information to clients, so that they can refer HIV-negative men for VMMC.
Recommended learning processes	Lecture style for the basic information. Role-playing for utilizing the TB screening tool. Practical session for collecting sputum.	Films and videos for the basic information. Role-playing for utilizing the STI screening tool.	Practical session on using the male and female condom using demonstration tools. Role-plays for additional experience.	Lecture style for the basic information. Role-playing for the education and referral process.	Lecture style for the basic information. Role-playing for the education and referral process.
Key messages for healthcare workers	Every client must be screened for TB. The TB screening tool must be correctly administered. Quality sputum must be collected according to guidelines.	Healthcare workers should feel comfortable discussing matters related to STIs. Every client must be screened for STIs and referred appropriately if required.	Healthcare workers should be able to demonstrate how to use a condom correctly.	Healthcare workers should feel comfortable discussing sensitive matters. Every client should be screened for family planning methods and referred appropriately if required.	Healthcare workers should provide adequate information on VMMC.
Why is this training recommended?	TB is the leading cause of death for People Living with HIV (78).	There is an association between STIs and HIV acquisition.	Proper condom usage is necessary for HIV prevention.	SRH is aligned with HIV prevention, care and treatment.	VMMC reduces a male's risk for acquiring HIV.

2.4 Pre-service training: Indirectly related to community-based HIV-testing service (CB HTS) provision

Not all training is directly related to service delivery. There are a multitude of other trainings that are relevant for healthcare workers who are about to go out into the field and provide community-based HIV-prevention services. This section highlights three appropriate trainings for consideration: TB infection control (all personnel should receive training on TB infection control for their own and their client's health), general safety (the health and safety of team members is integral to the success of delivering HIV-prevention services in the community) and data collection (any community-based HIV-prevention program that implements services will also collect data). Table 4.2 provides some considerations for program implementers for these specific trainings.

A training session for healthcare workers with necessary supplies ready to practice TB infection control.

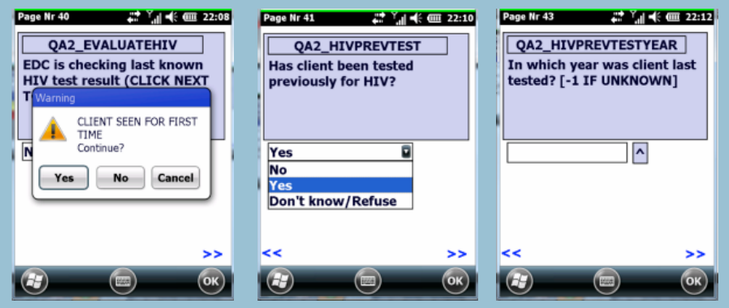
Best practice for ensuring safety of healthcare workers in the field

- Introduce the healthcare workers to the community before services start. It is important that community members know who will be implementing services in their community. (See Chapter 2: Stakeholder Engagement for more information on engaging with community representatives.)
- Healthcare workers should be easily identifiable by community members. They should wear uniforms to ensure that the community knows they are from an organization that delivers community-based HIV-prevention services. Wearing nametags is also a good idea.
- Healthcare workers should work in pairs, preferably one male and one female. This reduces vulnerability to crime, and allows an opportunity to strategize and solve challenges together.
- Ensure healthcare workers know that their safety is a priority.
- Have a plan so that if healthcare workers come across a threatening situation they know what to do and how to react.

Healthcare workers should work in pairs, as a safety precaution, when delivering door-to-door HTS.

Best practice for data-collection training using an electronic data-capture (EDC) device.

It is important that data-collection training involves tutorials using screen shots from the electronic data-capture device that healthcare workers will be utilizing to collect data. Below are examples of the screen shots we used from a training session on how to collect "previous HIV status". It is important to use screenshots in a practical session to ensure that healthcare workers understand how to navigate an EDC device when collecting data.



A combination of learning styles can be used when training healthcare workers to use an EDC device. From left to right: Lecture style with a larger group; A practical session to allow personnel to practice on the EDC; An assessment to check how well personnel are able to capture information; A trainer going over the tutorial with screen shots of the step-by-step procedure.

Tip

Role-playing is necessary for data-collection training

Role-plays are an excellent way to practice data collection. Healthcare workers can practice what they have learnt in the formal training and get used to using the data-collection tool. Role-playing bridges the gap between classroom learning and fieldwork. These sessions often identify gaps in knowledge or logistical issues that can be addressed before going out into the field.

Table 4.2: Considerations when planning pre-service training for topics not directly related to HTS provision.

	Pre-service training: Indirectly related to HTS provision		
	TB infection-control training	**Safety training**	**Data-collection training**
Aim of the training	To equip healthcare workers with basic knowledge on how to prevent post-procedure infection, to provide high-quality sputum collection and to prevent TB infections in healthcare workers.	To equip healthcare workers with basic information on the social-geographical make-up of the community (for example, crime hotspots), safe entry and exit from the area and emergency plans during protests/gang violence/or other unplanned events.	To equip healthcare workers with the knowledge of what data will be collected from clients, how to use the data-collection tool and how to do quality checks (completeness, correctness and accuracy) (11).
Recommended learning processes	Demonstration and practical sessions on how to properly put on and take off a facial mask and gloves. Demonstration and role-playing on how to collect sputum safely.	Group discussions to engage healthcare workers on the knowledge they have about the community and to identify safe entry and exit points.	Lecture style for all basic information required. Practical sessions to practice collecting the data. Role-plays for additional experience.
Key messages for healthcare workers	Healthcare workers must follow standard operating procedures on TB infection control. See Appendix 16 for information on collecting sputum responsibly.	Healthcare workers must be aware of their surroundings and have safe exit plans. See Appendix 12 for guidelines to ensure healthcare worker safety in the field.	Healthcare workers must collect quality data by following standard operating procedures. See Chapter 8: Managing Data for data-collection techniques.
Why is this training recommended?	Healthcare workers have a higher chance of contracting TB than the general adult population.	Healthcare workers who work in the community may be more vulnerable than those working in a closed setting (healthcare facility).	The data collected may be used to monitor and evaluate the program, allocate resources appropriately, disseminate results to stakeholders and for analysis to understand the epidemiological spread of disease (78). Good quality data collection is therefore imperative.

3. How do you sustain a team?

Sustaining a team to provide quality HIV-prevention services takes a lot of resources and investment. High staff turnover and continual staff absenteeism is even more costly and may hinder the ability to provide the community with high-quality services. It is therefore critical that program managers invest in and support their personnel for sustainability.

Once personnel have been trained, program managers need to ensure that they receive the support they require on an on-going basis. This can be through:

- The provision of regular refresher or update training, to ensure individuals are able to perform their duties to the best of their abilities.
- On-going coaching and mentoring by supervisors to provide regular feedback to individual healthcare workers in a constructive manner.
- The provision of wellness and psychosocial support, which is important for the emotional wellbeing of all personnel, but specifically health-care workers.

3.1 Refresher training

Refresher training is important to ensure all healthcare workers are providing high-quality services to clients consistently throughout the community, over the lifespan of the program. These trainings can either be:

- Scheduled on a regular basis, for example, every quarter healthcare workers could receive refresher training around safety procedures.
- Scheduled when the program manager notices that there is a gap in knowledge or service provision. For example, if data-collection forms are not being completed correctly, personnel should be provided with refresher training on how to complete the forms.
- At the request of personnel. For example, healthcare workers may request additional training on how to counsel adolescents adequately for HIV testing.

When initiating refresher trainings, consider:

- Obtaining input from personnel regarding what training they need.
- Monitoring and evaluating personnel performance and using this to guide training needs.
- Developing content so that it directly addresses gaps in knowledge.
- Having regular monthly training dates so personnel are aware of training dates upfront.
- Incorporating new and relevant training materials so that personnel can gain new knowledge.
- Educating personnel when new guidelines are published or when there are changes to existing guidelines. For example, WHO guidelines on HIV-testing services or the NDOH guidelines on eligibility criteria for ART.
- Involving personnel as much as possible in their own training, so that they have a voice and take ownership of the work they are doing.

Case study: Identifying gaps in knowledge - using refresher training to address these gaps

Lucy, a program coordinator, for a community-based door-to-door HIV-testing program spent one day a week for eight consecutive weeks in the field shadowing different healthcare workers. During this time, she witnessed the healthcare workers' strengths and weaknesses and identified common errors being made. Based on her observations, she put a refresher training course together that addressed the issues that she had witnessed.

Healthcare workers attended the refresher training that incorporated the following:

- How to use the TB-screening tool properly, by asking every client, every question on the tool. Lucy had witnessed several healthcare workers asking the client, "Are you TB symptomatic," rather than asking them the questions on the TB-screening tool.
- Why gloves are required when testing clients for HIV and how to dispose of them properly. Lucy had noted that some healthcare workers used the same pair of gloves for two or more clients, while others had not disposed of their gloves properly (into the medical waste).
- General safety precautions. Lucy had noted that some healthcare workers were using their mobile phones while they were testing clients for HIV and others ate their lunch at their workspace.

Healthcare workers have come in from the field for refresher training; the trainer demonstrates the importance of wearing gloves when conducting HIV testing.

Personnel 'in this field' work in a high-stress environment. Team building is a good to way take personnel out of their working environment; allow them time to debrief and to feel appreciated. Consider organizing a soccer game, an outing to the beach, picnics with activities, a function with singing and dancing or inviting a motivational speaker (for example Lewis Pugh).

3.2 Wellness and psychosocial support

While training is very important, it is also imperative to ensure that the team is supported psychologically and emotionally. This is especially important when teams work in communities that are characterized by crime, unemployment, substance abuse and other social challenges. Program managers should create a space that allows for engagement and dialogue, where healthcare workers can debrief and receive psychosocial support. Consider contracting an appropriately skilled psychologist or counselor, with prior experience, to provide psychosocial support to the team. Having an external person will make it easier for healthcare workers to feel comfortable to share and disclose information that they may not feel comfortable to disclose to their supervisor or someone within the organization.

The aim of psychosocial support is to provide healthcare workers with stress-management skills, mindfulness practices, and a space to debrief about personal and professional trauma. It can also provide a space for team building, dealing with effective communication and conflict situations. Psychosocial support is not once off, but rather an on-going process for the duration of the program (remember to include this in the program budget).

"I enjoy the mentoring sessions because it gives me a space whereby I get to voice my concerns, hopes, wishes and dreams. Johann, our psychosocial support counselor encourages us to dream big and not limit ourselves. He gives us this space to discuss anything and everything, related to home problems or work. He taught us to meditate, which I have never done before. I have been able to find harmony through meditation, even when my surroundings are not peaceful. We also do drawing sessions, in which we draw our dreams and our thoughts. We originally complained to each other and to him that it was a waste of time. However, what is funny is that we have never forgotten what we have drawn and what the drawings mean to our lives. It is through those drawings that we dream and better our lives. When Johann asks us, 'How are you? And How is work?' we always sense that he cares, and that is very reassuring to us." - *Kholeka Ncombo (Healthcare worker).*

Did you know?
What are the benefits of wellness and psychosocial support?

- It provides a caring environment for healthcare workers to speak confidentially about their concerns.
- It provides the opportunity to debrief about work and experiences related to work, including traumatic incidences.
- It provides the opportunity to engage with interpersonal relationship practices that support team building and address conflict situations.
- It provides an opportunity for personal development; attitudes, perceptions, emotional reactions and relationship practices can be addressed using mindfulness training.
- It provides the opportunity to engage with stress-management and self-care practices through the teaching of mindfulness meditation, deep breathing, stress-management skills (for example, hand-massages and doing collages or painting).
- It provides an opportunity to have fun with various interesting team-building activities.

It is important to engage with new healthcare workers for feedback on wellness and psychosocial support to see how useful they find the sessions and how they would like to structure these sessions.

"We share exercises with healthcare workers that they can implement in their daily work schedule and personal life. One of these exercises is called the 'Creative Collaboration' exercise; one healthcare worker shares a positive experience from their work, one healthcare worker is the interviewer (asks pertinent questions to better understand their experience), and one healthcare worker takes notes. This allows healthcare workers to connect through the sharing of a story and understanding the meaning of the story as it relates to the storyteller. This exercise allows healthcare workers to reflect on the impact of their work at a community level. Healthcare workers can also use this exercise to develop poems together as a team."
- *Carrie Smorenburg (Psychosocial support counselor).*

Healthcare workers created the following poem during a wellness session;

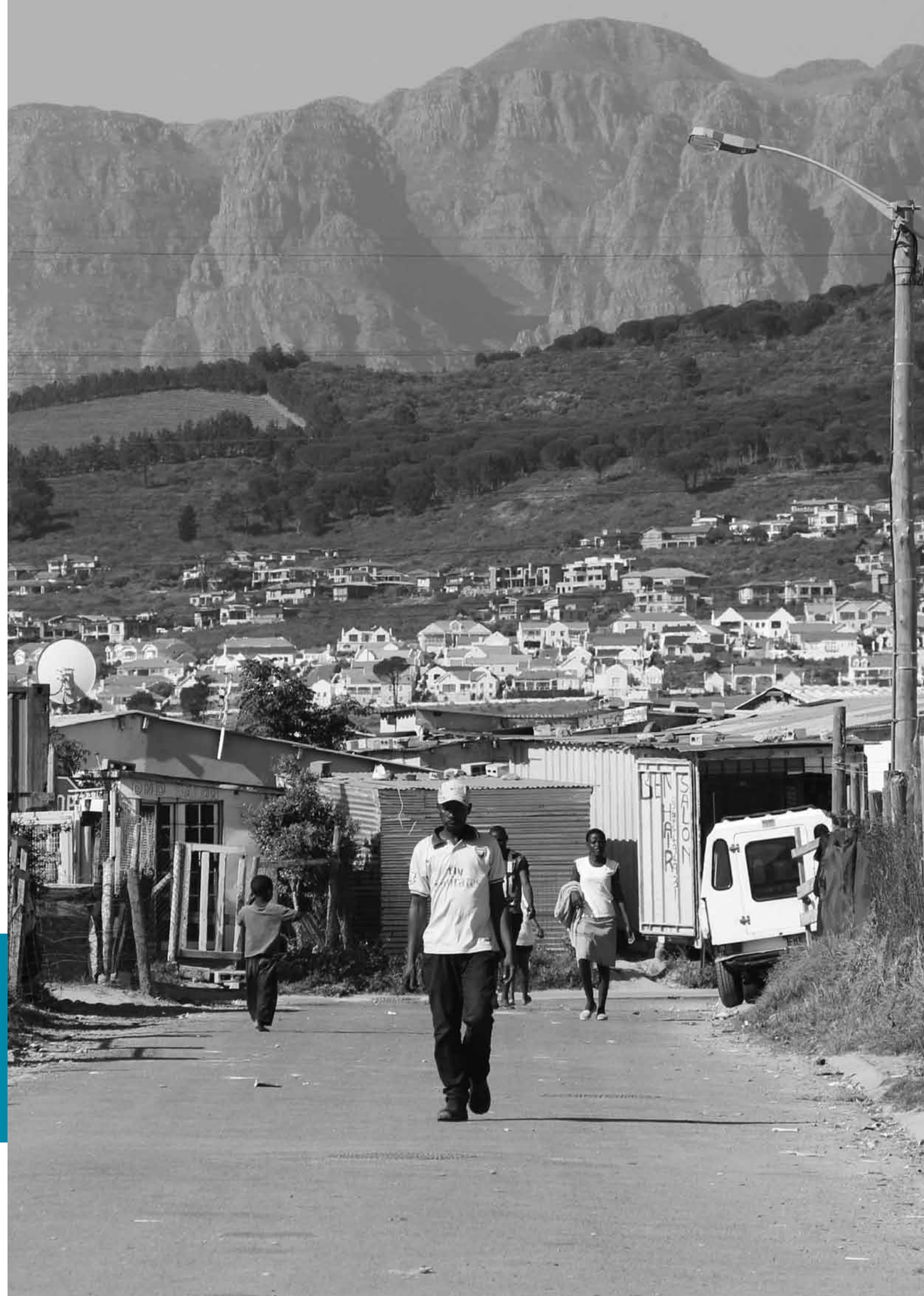
HIV/AIDS be not proud
Before you have taken our loved ones
Before you have destroyed our country
Some are orphans because of you

We've felt your presence
We've tasted your severe pain
We've heard the groans of those you've attacked
We've seen you killing our siblings
We've smelt your atmosphere

Well! Enough is enough
Now we can see through you
ARVs are here to suppress you
Now we can have healthy families while you are here
You are no longer a threat to us
You are dead to us now
The power is ours!

- *Nompendulo Ntsimbi, Nonzukiso Npapama and Zimasa May (Healthcare workers)*

Happy, inspired and driven employees are a resource that cannot be taken for granted.



DELIVERING HOLISTIC CLIENT-CENTERED HIV-TESTING SERVICES

Sue-Ann Meehan, Margaret van Niekerk and Blia Yang

> Do all you can with what you have, in the time you have, in the place you are.
>
> *- Nkosi Johnson (South African child activist, born with HIV, died at the age of 12 years in 2001)*

CHAPTER 5
DELIVERING HOLISTIC CLIENT-CENTERED HIV-TESTING SERVICES

Why is this chapter important?

This chapter highlights the vital role that community-based HIV-testing services (CB HTS) play in reaching HIV-infected individuals who are unaware of their HIV status and linking them to HIV care and treatment, as well as clients who are living with HIV and not in HIV care. Providing an integrated package of services is imperative in order to provide a holistic client-centered HIV-testing service. This chapter discusses three different community-based HIV-testing modalities (each with their benefits and challenges), the HIV-testing process and a number of related services that can be integrated into the HTS process at different points. The chapter aims to encourage thinking and inspire novel ideas, while it provides general guiding principles and best practices for providing HIV testing outside of a controlled environment.

What will you learn from this chapter?

1. What are some of the important issues to consider before implementing community-based HIV-testing services (CB HTS)?
2. What are the benefits and challenges of three different CB HTS modalities?
   - 2.1 Stand-alone HIV-testing centers
   - 2.2 Mobile HIV-Testing Services
   - 2.3 Door-to-door HIV-Testing Services
3. What are some of the considerations when deciding which CB HTS modality is most appropriate to implement?
4. What should be considered within the HIV-testing process?
   - 4.1 Demand creation
   - 4.2 Pre-test information session
   - 4.3 HIV rapid testing
   - 4.4 Post-test counseling - delivering the HIV-test result
5. How can related health services be integrated into HTS?
   - 5.1 Integrating STI, TB and family planning screenings into the pre-test information session
   - 5.2 Integrating other relevant services into HTS before post-test counseling
6. What does the referral process look like?
7. Does HTS end with referral of a client to a healthcare facility?

1. What are some of the important issues to consider before implementing community-based HIV-testing services?

The introductory chapter highlighted why community-based HIV-prevention services are important. This chapter will specifically address CB HTS and providing an integrated service package with a client-centered approach. Anyone thinking about implementing CB HTS should have a realistic perspective and take note of the many benefits as well as the challenges of providing services outside of a healthcare facility.

CB HTS differs from facility-based HTS in terms of the setting, client flow, the populations typically reached and the range of other services offered. CB HTS, is an effective, affordable way to encourage large numbers of people to learn their HIV status, including those populations (for example, men and adolescents) that do not visit healthcare facilities (79, 80). This makes community-based HIV-testing modalities a viable alternative to facility-based HTS in many settings.

Providing HTS outside of a healthcare facility in an uncontrolled environment is not straightforward. Some of the challenges to consider include:

- Healthcare workers may feel unsafe and vulnerable working in areas where crime is an issue (psychosocial support for healthcare workers is addressed in Chapter 4: Creating, Equipping and Sustaining a Team).
- Weather conditions (heat, cold, rain and wind) pose different challenges. For example, transporting and storing HIV rapid tests within the correct temperature range is challenging when it is extremely hot. This is addressed in Chapter 7: Quality Assurance of rapid HIV-testing services.
- Supervising healthcare workers is not easy because it is often indirect (especially for those who provide HTS in households). Monitoring and evaluating personnel performance is addressed in Chapter 9: Monitoring and Evaluation.

In addition to these challenges, some clients may not have the same level of confidence in CB HTS compared to HTS in a healthcare facility. These clients may ask:

- Can I expect the same quality of service as I would receive at a healthcare facility?
- Are the personnel adequately trained?
- Will the HIV-test result I receive be accurate?
- Will confidentiality be maintained?
- How will my privacy be addressed?

It is very important that the people to whom you are providing HTS have confidence and trust in your service. You can earn confidence and trust by:

- Engaging with the community in a meaningful manner before, during and after service implementation.
- Providing a consistently high-quality service
- Remaining client-centered.
- Being professional at all times.
- Acknowledging any mistakes and working to correct them.
- Having integrity in all that you do.

In addition;

- Personnel play a vital role in service provision. Ensure that you employ the correct category of healthcare worker for the services you intend to provide. Check the scope of practice for healthcare workers in your country. In South Africa, certified HIV counselors can provide HIV rapid testing, but different categories of nurses are required for other clinical services for example, taking blood pressure, calculating body-mass index, using a pregnancy test kit, doing point-of-care random blood sugar screening, dispensing contraceptives, etc.
- It is important that any CB HTS be aligned with the country-specific national and/or provincial policy for HTS. This will ensure that the community-based service follows the same guidelines and algorithms as facility-based HTS does. We suggest that program implementers familiarize themselves with the relevant policy and align their services accordingly. This will build further confidence in the service. Much of the information contained in this chapter is based on the 2016 South African national HIV-testing services policy (11).

As you read the best practices, guiding principles and general tips throughout this document (and this chapter) you will appreciate that CB HTS that follow the correct country-specific policies, procedures, protocols, algorithms and guidelines, can deliver a high–quality, holistic and client-centered HTS, providing clients with accurate HIV-test results, about which they can be confident.

2. What are the benefits and challenges of three different CB HTS modalities?

In this chapter, we will consider three different community-based HIV-testing modalities. We acknowledge that the three modalities described are not exhaustive; however, the aim is to provide practical knowledge based on our grassroots experience and not to consider every possible option.

Remember, before entering any community to provide any kind of service, you need to engage with all the relevant stakeholders and get buy-in from gatekeepers and/or local politicians. Chapter 2: Stakeholder Engagement provides pertinent information around understanding the community, engaging with stakeholders and mobilizing the community prior to service delivery. We suggest that the reader properly engage the community before implementing HTS.

We now describe three CB-HTS modalities, noting the benefits and challenges of each.

2.1 Stand-Alone HIV-testing centers

Stand-alone centers are fixed sites within a community, offering HTS, but are not attached to a healthcare facility (11). In our setting, stand-alone centers were located in rented retail space (shopping centers) or within the premises of a local not-for profit organization (NPO). Clients were able to walk in without an appointment and request any of the services provided as part of a holistic HTS package.

A stand-alone center is a fixed site offering CB HTS. It typically consists of a waiting area, counseling and testing rooms and a nurse's station.

Benefits:

- Can be set up in places where it is easy for people to **access**. Discuss suitable locations with community stakeholders.
- **Less congested** compared to healthcare facilities, as they are specifically focused on HIV testing and related health services.
- **Shorter waiting times** than healthcare facilities (81).
- **Private spaces** for confidential counseling and testing if each healthcare worker has their own fully equipped room.
- **Supportive infrastructure** for the easy integration of sexual and reproductive health services and pregnancy screening into CB HTS.

Challenges:

- **Offer a limited range of services**, predominantly screening and prevention services, clients may still need to access healthcare facilities for other services, for example treatment.
- **May be expensive to set up and maintain**. Program implementers must ensure good utilization of the center through marketing and visibility to make it cost efficient.

Tip

When choosing a location for your stand-alone center - make it accessible!

It is very important to ensure that your stand-alone center is easily accessible. This means that people do not have to spend additional time or money travelling to the center to have an HIV test. Choosing a location in a shopping center, where many people pass by daily and having clear, noticeable signage will make your service accessible and visible. People, who were not thinking about having an HIV test at that time, may be encouraged to come in and test for HIV.

"To make the client feel comfortable when they walk into the stand-alone center, I greet them in a warm and friendly manner, with a smile on my face and ask them how I can help them." - *Sr. Patricia Heneke (Site manager for a stand-alone HTS center)*

2.2 Mobile HIV-Testing Services

Mobile services, often referred to as outreach services, make use of mobile vans (caravans) and tents. Mobile services can be provided anywhere within the community (11); next to high traffic areas, at workplaces and in schools depending on the target population. It is important to get the necessary permissions from the relevant authorities before you set up your service.

Mobile HTS makes use of a mobile van and pop-up tents, which are set up in an appropriate space in the community, next to transport hubs or along major thoroughfares. The tents are used by the healthcare workers for testing and counseling clients. Chairs are lined-up outside the tents to make an informal waiting area.

Benefits:

- **Target key and priority populations**, as services can be set up in specific locations where those populations congregate, for example, providing services at transport hubs or male-dominated workplaces can reach men (3, 82); and providing services at truck stops can reach truck drivers (a mobile population) and sex workers (3).
- **Provides an immediate opportunity to test** for those who are walking past the mobile service (5) and were not necessarily planning to have an HIV test on that day.
- **May reach people who do not have any signs or symptoms of disease**, providing an opportunity to diagnose HIV-infected people early and link them to HIV care and treatment earlier (83).

Challenges:

- **Weather dependent.** On cold and wet days, it may not be conducive for staff to work in tents. A back-up plan may include setting up services where shelter is available, for example, at a workplace or school. This allows services to be provided from inside a building and not from the tents (the tents can also be set up in the school hall or workplace cafeteria).
- **Safety of personnel and equipment** is a challenge in high-crime areas. Hiring a security person could be a deterrent for potential criminals and assist with the safety of the personnel and their equipment.
- **Privacy**. Tents may not provide a private counseling space and uphold confidentiality (5). However, the issue of privacy can be addressed if tents are properly positioned with adequate space between each tent.

Case study: Using mobile HTS to reach men - what can we learn?

The Desmond Tutu TB Centre (DTTC) implemented mobile HTS, using two different strategies in Cape Town between June and September 2015. The table below highlights similarities and differences between the two strategies and provides some of the program outcomes for men.

Strategies	'Transport Hub'	'Street by street'
Location	Major city transport hub (train, buses and taxis all stopped here).	One high HIV burden community.
HTS delivered from	Central standardized location (mobile van and tents positioned in the same place each day).	Mobile van and tents set up on the side of the road (position changed weekly as the team moved through the community, street by street).
Services delivered	Monday to Friday for six weeks	Monday to Friday for four weeks
Demand creation	Used a loud hailer and mobilizers handing out pamphlets to all people walking through and/or using public transport at the hub.	Door-to-door providing education and motivating people to come out of their homes and test for HIV in the tents.
Target populations	Commuters traveling into the city during the day.	People at home during the day
	Outcomes	
Total tested for HIV	1880	2041
Number (%) of males tested	931 (50%)	931 (46%)
HIV positivity for males (%)	43 (4.62%)	46 (4.94%)
Males referred for HIV care (%)	41 (95%)	42 (91%)
Males linked to HIV care (%)	13 (32%)	24 (57%)
What can we learn?	• Both strategies may be useful for reaching men, as almost half of those tested were men. • The 'street by street' strategy tested the same number of men in four weeks as the 'transport hub' did in six weeks. • Men may be at home during the day (due to the high unemployment rate in this community). • Self-reported linkage to HIV care for men was low overall – better linkage to care strategies are needed. • Self-reported linkage to HIV care was lower from 'transport hub' compared to 'street by street' - it was more difficult to follow up men diagnosed at the 'transport hub' as they were coming into the city from all over Cape Town and surrounds.	
Conclusion: Before you go out and test people for HIV, decide on a strategy based on the populations you want to target, your available resources and how the strategy may affect linkage to HIV care and treatment.		

Providing HIV testing at a major 'transport hub' and 'street by street' in a high HIV burden community.

Tip

Using a security person optimally

The security person can play a diverse role within the team. Over and above acting as the security for the safety of the team and their equipment; this person can also be the driver, can assist with setting-up of the tents, as well as managing the queue of clients waiting for services to ensure overall orderliness. It is also a good idea for this person to be involved in the planning of all mobile services and to have contacts with the local police and/or security companies. (See Chapter 4: Creating, Equipping and Sustaining a Team.)

2.3 Door-to-door HIV-Testing Services

Home-based testing has high uptake in Africa (84). It falls into two categories. Door-to-door testing where healthcare workers go door-to-door offering eligible residents in a community an HIV test in their homes and an index case model which is a targeted approach in which healthcare workers visit the homes of individuals who are diagnosed with HIV or TB and offer HTS to family members and partner(s) who reside in the same home or frequent the house (11). There are two ways to conduct HIV rapid testing in a home setting, either by a trained healthcare worker (such as a nurse or an HIV counselor), or self-testing, where the individual tests himself/herself with an HIV rapid test.

Benefits:

- **Convenient for clients** (85), as they do not need to expend any time or money on travelling to a healthcare facility or wait in long queues.
- **May assist with reducing stigma**, as people do not have to risk being seen at public healthcare facilities (85).
- **May increase disclosure among family members or couples**. This provides a platform of support, which may also assist in reducing stigma.
- **Can reach young, HIV-infected children** who are orphaned and/or not living with their biological parents (86).

Challenges:

- **Lack of privacy and confidentiality**, especially in households with limited space (85). Disclosure of an individual's status may be of concern in a group setting, especially in cases where domestic violence exists.
- **Low uptake among adolescents** due to a lack of privacy. Adolescents may sometimes fear questions from other family members who may demand to know their status (85).
- **Safety of personnel.** Healthcare workers may be vulnerable to being robbed (for cell phones, supplies or uniforms).
- **The emotional well-being of personnel**. Healthcare workers may experience traumatic situations inside people's home, for example, seeing intimate partner violence or encountering people abusing substances (alcohol or drugs). See Chapter 4: Creating, Equipping and Sustaining a Team) around providing psychosocial support for healthcare workers.
- **High operational costs** (85), which need to be considered in relation to the efficiencies that this approach may yield.

Door-to-door testing where healthcare workers go door-to-door offering eligible residents in a community an HIV test in their homes.

3. What are some of the considerations when deciding which CB HTS modality is most appropriate to implement?

This section highlights some aspects for consideration when deciding which CB HTS modality is most appropriate to implement in a specific setting. It does not aim to be exhaustive, but merely to stimulate thinking.

"Generally effective planning and preparation are key elements for delivering a high-quality HIV-testing service." - *Sr. Fortunate Ndaba (Professional nurse at a stand-alone center)*

Healthcare workers preparing for door-to-door HTS

Table 5.1: Considerations for three CB HTS modalities

	Stand-alone HTS centers	Mobile HTS	Door-to-door HTS
Infrastructure required	Rented space (fixed site). Separate room for each healthcare worker.	Mobile van and pop-up tents. Each healthcare worker should have their own tent.	A central hub where personnel can meet at the beginning of each day.
Recommended personnel	A professional nurse and three HIV lay counselors (each must have their own room).	A professional nurse and three HIV lay counselors (each must have their own tent).	A pair of HIV lay counselors should work together, going into people's homes together.
Transport requirements for personnel and equipment	N/A. Healthcare workers work from the stand-alone center (equipment & consumables stored at center).	Vehicle that can tow a mobile van, transport the personnel and the equipment from a central hub to a specific outreach site daily.	N/A. Healthcare workers walk from a central hub and go door-to-door. Equipment & consumables stored at the hub.
Equipment in testing space	Office desk and chairs in each room	Fold up table and plastic chairs in each tent	Lap table (hard board that is used on your lap).
Smaller equipment	Scale, stadiometer, blood pressure meter, glucometer, cholesterol testing device, point-of-care CD4 analyzer.	Scale, stadiometer, blood pressure meter, glucometer, cholesterol testing device, point-of-care CD4 analyzer.	N/A
Transportation of the supplies	N/A - supplies will be set out on the desk.	Carry in a large storage crate and set out on the folding table in each tent.	Carry in a backpack and set out on a table or on the floor inside the home.
Storage of HIV rapid-test kits	In the fridge or air-conditioned storage area with a thermometer.	In a cooler box with gel packs and a thermometer.	In a cooler box with gel packs and a thermometer.
Supplies required for HTS	Gloves, HIV rapid-test kits, lancets, capillary tubes, chase buffer, cotton wool, alcohol swab, micropore tape, linen saver, timer, labels, pen, sharps container, medical waste bag, condom demonstration tool, male and female condoms, pregnancy test kits, blank HTS records (client forms) and IEC materials.		
Collecting sputum for TB testing	Collect outside in a private space. Consider building an external sputum booth.	Collect outside the tent in a private space. Consider using a designated tent as a sputum booth.	Collect outside the home in a private space.
Supplies required for sputum collection	Sputum jar, gloves, mask for the healthcare worker, pen, label for the sputum jar, a plastic bag in which to put the sputum jar, laboratory booklet and relevant client record forms.		
Infection control	Rooms should have windows that can open for airflow.	Tents should have two window panels for airflow.	Ask if the windows and/or the door of the house can be opened for airflow.

Did you know:
What is HIV self-testing?

HIV self-testing (HIVST) is a process in which an individual who wants to know his or her HIV status collects a specimen, performs a test and interprets the result by him or herself, usually in private (11). HIVST is a pre-screening test and does not provide a definitive diagnosis, however, it does give people the opportunity to test discreetly and may increase the uptake of HIV testing among people not reached by other HTS (76).

"When we arrive at the site, start putting up the tents and often there are people standing around, so we talk to them and explain why we are here and what services we will be providing…. I invite them to get tested" - *Sr. Gertrude van Rensburg (Site manager for mobile HTS).*

It takes co-operation and teamwork to position the mobile van and set up the tents each day for mobile HTS. Every member of the HTS team must play their part so that the process runs smoothly.

Did you know?
What is an external sputum booth?

This is a structure that is positioned outside of the healthcare facility or stand-alone center, where clients who have TB symptoms can go, in order to produce sputa in a private and well-ventilated place. It typically does not have a door and should be constructed so that air can flow freely from outside. The photograph shows a basic sputum booth situated behind a stand-alone center for privacy (the entrance faces the wall of the property). To ensure good ventilation, one whole side (entrance) is open and air can also flow through the remaining three sides. There is a roof to prevent clients getting wet if it is raining. Although roughly constructed, it was easy and quick to build and did not cost a huge amount.

4. What should be considered within the HIV-testing process?

This section describes the HIV-testing process, highlighting some of the key principles for providing a high-quality service.

4.1 Demand creation

It is important to create awareness for CB HTS. This can be done through campaigns in different formats (see Chapter 2: Stakeholder Engagement). Creating demand for HIV testing is important if you wish to reach certain population groups, as your campaign and messaging needs to be targeted towards that particular group.

4.2 Pre-test information session

4.2.1 Important pre-test information

Lengthy pre-test counseling is no longer needed (11) as most people have had exposure to information on HIV and AIDS. It is good to check that the client understands certain important pre-test information (11, 76). This includes:

- What HIV is and how it is transmitted.
- The association between HIV and sexually transmitted infections (STIs), and HIV and opportunistic infections (for example TB).
- What puts people at risk for HIV and a brief description of the HIV-prevention options available.
- The benefits of HIV testing.
- The meaning of an HIV-positive and an HIV-negative diagnosis.
- The services available should the client test HIV-positive.
- The confidentiality of the test result and any other information shared by the client.
- The client's right to refuse an HIV test and confirmation that this refusal will not negatively impact on their access to any other services.
- The opportunity to ask the healthcare worker questions.

See Appendix 13 for an example of an HTS record that can be used to record all the appropriate counseling and testing information for each client. It is beneficial to have printed information, education and communication (IEC) materials available in local languages, which the clients can take away with them and read. This material should be technically correct, but written in an easy-to-understand manner. Pictures and/or diagrams are useful. An information leaflet that can fit into a person's wallet or purse is something to consider. In our setting, we produced pocket-sized z-cards (named for the way in which they fold together). Different z-cards were available around HIV, TB, STIs, pregnancy and prevention of mother-to-child transmission of HIV (PMTCT). (See Appendix 14 for an example of the HIV z-card.)

IEC materials, including z-cards, are an ideal way to educate clients about health matters. Always ensure that the material is available in the local language and is written in a way that is easy to understand. It is helpful to have pictures and diagrams.

4.2.2 Considering individuals or couples

Most HIV testing happens between an individual and a healthcare worker present in the pre-test information session. However, testing couples is a good way to help more people know their HIV status, especially men who are less likely to test for HIV than women (76). A couple would be two individuals in an ongoing sexual relationship (heterosexual or same-sex). In couples testing they go through the pre-test information session together with the healthcare worker.

Encouraging couples to test together and to mutually disclose their HIV status allows couples to make joint, informed decisions about HIV prevention and reproductive issues, such as contraception and conception (11). Healthcare workers should encourage clients to test together as couples. See Table 5.2

Table 5.2: Individual versus couple HIV testing

Individual pre-test information and HIV testing	Couple pre-test information and HIV testing
Only one partner hears the information.	Partners hear the information together, enhancing likelihood of shared understanding.
Individual learns only his/her own HIV status.	Individuals learn their own HIV status and the status of their partner.
Post-test messages take into account only one partner's status; individuals may wrongly assume that their partner's status is the same as their own.	Post-test messages are tailored, based on the test results of both partners.
Individual assumes burden of disclosing to partner.	Mutual disclosure is immediate.
Healthcare worker is not present to facilitate the couple's discussion about difficult issues, including issues of tension and blame	Healthcare worker creates a safe environment and can help couples talk through difficult issues that they may not have discussed before, including blame.
Prevention, treatment and care decisions are more likely to be made in isolation.	Prevention, treatment and care decisions can be made together.
Individual bears burden of getting family members and/or children tested.	Decisions about family or child testing, as well as family planning, can be made together.

Case study: A couple uses the opportunity to test at a mobile HTS where they were able to make a joint decision regarding their health

In May 2013, a mobile HIV-testing unit from the DTTC, was set up on a busy street corner in a community on the outskirts of Cape Town. Kenneth and Nandi (an unmarried couple) walked passed. They had discussed testing for HIV previously and decided to take the available opportunity and be tested. Kenneth had come to South Africa from Zimbabwe and was studying in Cape Town where he met Nandi, originally from the Eastern Cape. The couple said that they had similar life goals and had been together for two years. They said that they found the pre-test information session to be an interesting and motivating session, where they received clear messages about HIV prevention and risk-reduction strategies. Patrick, the healthcare worker, had screened them both for TB, STIs, and discussed their family planning needs. He established that Nandi was using an oral contraceptive.

Both Kenneth and Nandi had an HIV test (both tested HIV negative). During post-test counseling, the couple asked for male condoms, which Patrick gave them. Patrick then discussed the benefits of voluntary medical male circumcision with the couple. Kenneth said he was interested in being circumcized. Patrick described what the process entailed. Nandi asked how long they would have to wait after the procedure before they could have sex again. After further discussion, the couple jointly agreed that it would be mutually beneficial for Kenneth to be circumcized. Patrick referred him to a healthcare facility, where Kenneth was successfully circumcized a week later.

Encouraging couples to test together and to mutually disclose their HIV status allows couples to make joint, informed decisions about HIV prevention and reproductive issues, such as contraception and conception.

4.2.3 Informed consent

Informed consent is taken at the end of the pre-test information session. Informed consent implies that a person has been given all the relevant information about the HIV test and, based on that information, is given the opportunity to either accept or refuse an HIV test (11). Informed consent should be in writing, and signed by the client and the healthcare worker.

Although the age at which a person can give informed consent differs from country to country (age of consent is 12 years in South Africa), healthcare workers should ensure that the client understands why they are being tested and understands the consequences of a negative or positive result. It is also beneficial if the client can provide some detail of how they are likely to react to either result. For example, how have they reacted to a negative event previously (11).

Informed consent should be in writing; the client signs the consent form. In the case of an illiterate person, it is best practice to use their thumbprint to show that they have consented to an HIV test.

Did you know?
What information should be included in informed consent?

Although based on the South African (11) setting, this information can be adapted contextually. Your client should:

- Know the benefits and implications of knowing his/her status.
- Understand the right to withdraw consent at any stage of the process.
- Know the availability of treatment; care and support; and prevention services.
- Understand the importance of disclosure and partner/family testing and availability of couple HTS.
- Know the HTS process and procedures.

4.3 HIV rapid testing

4.3.1 Detecting antibodies

HIV rapid tests work on the principle of detecting antibodies to the Human Immunodeficiency Virus (HIV). The virus contains many different proteins (antigens) to which the immune system produces antibodies. Antibodies are present in the blood and are an indication of HIV infection. HIV rapid tests do not identify the virus; they detect antibodies that have been produced in response to infection by the virus. It is important to remember that a negative test does not exclude infection. The rapid test can be negative in early infection when antibodies have not yet been produced in detectable quantities (the 'window period') (76, 87).

Informed consent should be in writing, and signed by the client and the healthcare worker.

Did you know?
What is the 'window period'?

The 'window period' is the time between when a person was infected with HIV and when the HIV rapid test can detect HIV antibodies in their blood. An HIV-infected person can transmit HIV during the window period (76). The South African HIV-testing policy states that re-testing should happen six weeks after the possible date of exposure for those who report recent or on-going risk of exposure (11).

4.3.2 The HIV-testing process

Community-based HIV testing should always be done in accordance with the country-specific guidelines and protocols. It is also important to follow a strict process to ensure that HIV testing is done consistently and safely, with the aim of giving the client the correct result. Community-based HIV testing uses rapid HIV rapid-test kits. (See Chapter 7: Quality Assurance for HIV rapid testing).

We suggest you consider the following best practices, using HIV rapid-test kits:

1. Healthcare worker to put on gloves after the client has signed consent.
2. Check the expiry date printed on the test kit pack and do not use tests that are beyond the expiry date.
3. Warm the client's hand.
4. Remove an individual test strip from the pack.
5. Remove the protective foil cover from the test strip and attach the strip to a flat surface with a sticker.
6. Label the sticker with the client's unique number (barcode) or name.
7. Clean the client's index, middle or ring fingertip with an alcohol swab and allow to air-dry.
8. Prick the side of the fingertip with an automatic lancet and safely dispose of the lancet in a sharps container.
9. Lower the hand to encourage blood flow to the fingertip until a large drop of blood accumulates.
10. Collect the correct amount of blood in the glass capillary tube. Avoid air bubbles.
11. Apply the end of the capillary tube to the sample pad on the test kit (do not touch the test pad with the end of the capillary tube).
12. Wait until the whole sample of blood is drawn into the pad of the test strip (the last drop is difficult to get out; ensure that this has been compensated for when drawing blood into the capillary tube).
13. Apply the reagent (chase buffer) to the test strip and note the time on the sticker. Take special care not to touch the buffer bottle against the test strip or blood sample.
14. Read the results after the designated time.
15. Ensure that there is a visible control bar to confirm the test validity.
16. Interpret the test result.
17. Dispose of the test strip in the appropriate medical waste container once the results have been recorded.

Healthcare workers must follow proper procedures and the relevant testing algorithm when doing HIV rapid testing.

4.3.3 Following a serial algorithm

Consider following a serial algorithm. We describe the serial algorithm used in South Africa (see Figure 5.1 below).

- One rapid test is used as a screening test.
- If the **screening test is non-reactive**, then the person is given a **negative result**, but should be informed about the window period (possibility of recent exposure).
- If the **screening test is reactive** (gives a positive HIV result), then a different rapid test must be used as a **confirmatory test.**
- If the **confirmatory test is reactive**, the person is **diagnosed with HIV**.
- If the **confirmatory test is non-reactive, repeat the test algorithm from the beginning**.
  - » If the screening test is again reactive and the confirmatory test is again non-reactive, then report the result as **HIV discrepant** (person's HIV status is inconclusive).
  - » Collect whole blood for an enzyme-linked immunosorbent assay (ELISA), which is done at the laboratory. Only a nurse can collect blood for an ELISA, so if there is not a nurse on site, the client will need to be referred to a healthcare facility.
  - » A person's HIV status will only be known when the laboratory results are returned.

See Appendix 15 for a visual representation of how to interpret an HIV rapid-test result.

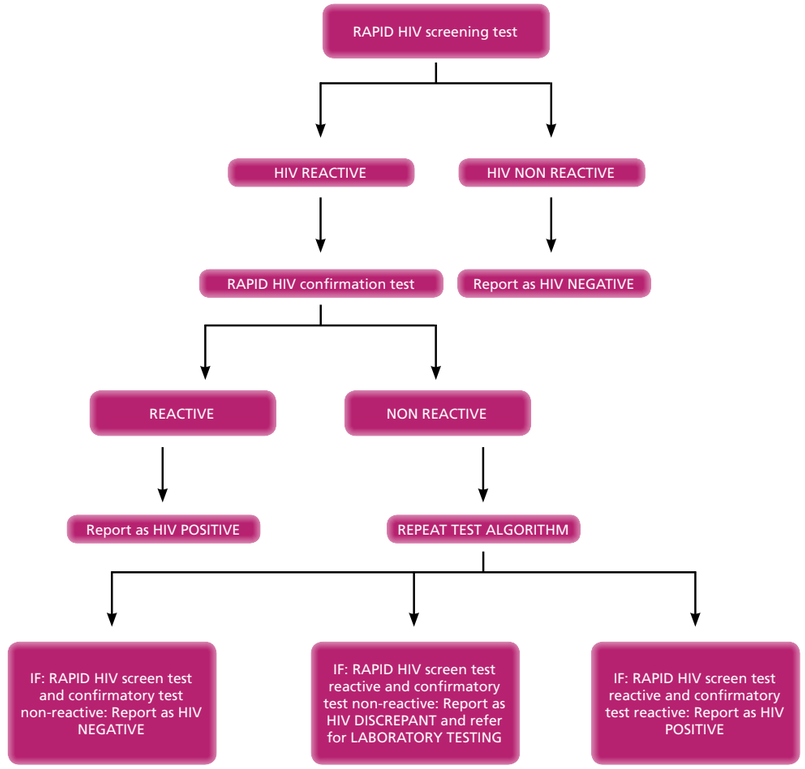


Figure 5.1: South African National HIV-testing Algorithm

Tip

Making HTS efficient

It takes time before the HIV-test result can be read (approximately 15-20 minutes depending on the make of the HIV rapid test kit used). During this period, the client can receive other relevant services (see section below on integration of services). As the other services are typically provided by a different healthcare worker (often a nurse), the client will move to another space, which means the original healthcare worker can provide pre-test information to the next waiting client. This results in each client receiving an integrated service in the shortest possible time and assists with overall shorter waiting times for clients, as healthcare workers are managing more than one client at a time. However, it is important to ensure confidentiality of HIV-test results when managing more than one client at a time.

4.4 Post-test counseling – delivering the HIV-test result

The healthcare worker will deliver the HIV-test result to the client during post-test counseling. The key messages delivered should directly reflect the HIV-test result.

4.4.1 Client decides they no longer wish to know their result

Sometimes, a client may decide that they no longer wish to know their HIV-test result even though they consented to an HIV test. This is within their rights. The healthcare worker should find out why they do not want to know their result and answer any questions they have relating to their fears. Addressing their fears, may result in the client changing their mind regarding finding out their HIV status. If the client is certain that they do not want to know their status, post-test counseling should be documented as such. Further counseling should include health information around risk reduction and the healthcare worker can

recommend HIV-prevention behaviours, for example consistent condom use. The client should be invited back when they feel ready to find out their result (The HIV test will need to be repeated if the client returns.) See post-test counseling section in Appendix 13.

4.4.2 HIV-negative result

This session should focus on keeping the person HIV negative. Health information should include risk-reduction counseling and recommend HIV-prevention behaviours depending on the clients' risk profile. For those who may have had recent HIV exposure, and may be in the window period, a date should be set to return for another HIV test. See post-test counseling section in Appendix 13. At this point healthcare workers can educate men around voluntary medical male circumcision (VMMC) and refer those who are interested in having the procedure, to a healthcare facility or other organization who performs the procedure.

"In a lot of cases, clients express happiness with HIV-negative results, especially women who have never tested before. They will say that they are very happy with their results because they don't know what their partner gets up to when he is away from home." *- Mrs Thabisa Bike (Healthcare worker)*

Explaining the HIV-negative test result to a client who is excited to have an HIV-negative status.

4.4.3 HIV-discrepant result

This session should ensure that the client understands what a discrepant result is (that the screening rapid test was positive, but the confirmatory rapid test was negative after following the serial algorithm). The client must understand that a definitive HIV diagnosis cannot be determined at this time and that their HIV status is inconclusive. The healthcare worker must explain the process going forward to confirm an HIV status, which involves drawing whole blood and sending it to the laboratory for ELISA testing. Clients should be counseled around safe sexual practices and use of condoms. It is also beneficial to discuss possible support available to the client during this period of uncertainty and to whom the client can disclose their inconclusive status. The client should be given a date when they can return to find out the ELISA result. At this follow-up appointment, the client will receive the appropriate post-test counseling for either a negative or a positive result. See post-test counseling section in Appendix 13.

4.4.4 HIV-positive result

Healthcare workers must be aware of a person's reaction to an HIV-positive result; some people may be in shock, others in denial. Healthcare workers must provide the necessary emotional support by:

- giving the client time to consider the results;
- helping the client cope with the emotions arising from the diagnosis of HIV infection;
- discussing immediate concerns and helping the client decide who in her or his social network may be available to provide immediate support;
- discussing possible disclosure of the result, and the risks and benefits of disclosure;
- assessing the risk of intimate partner violence and discussing possible steps to ensure the physical safety of the client, particularly women, who are diagnosed HIV positive;
- assessing the risk of suicide, depression and other mental health consequences of a diagnosis of HIV infection and providing additional appropriate referrals for prevention, counseling and support;
- discussing barriers to linkage to care; and,
- encouraging and allowing the client to ask additional questions (11).

By the end of post-test counseling it is important that the client understands their diagnosis and has clear information about HIV care and treatment, their eligibility for antiretroviral therapy (ART) depending on country guidelines and where to access HIV care and treatment. See post-test counseling section in Appendix 13.

"We tested a young, 18-year-old girl for HIV and she tested positive. We asked her to wait while we did a point-of-care CD4 test to determine her CD4 count. I think she was distraught as she ran out of the center without her results or a referral letter……we were able to trace her and communicated with her by sms…..two weeks later she explained to me that she was shocked. We offered her support. She brought her sister to an additional counseling session and disclosed her status to her sister. With the support of her sister, she began to cope better with her diagnosis and she started on ART." (*Professional Nurse working at a community-based stand-alone HTS center).*

4.4.5 Condoms are part of post-test counseling irrespective of HIV-test result

Irrespective of HIV test result, the healthcare worker should discuss the issue of condoms with the client, demonstrate how to use a condom correctly (male and female condom) and explain the benefits of using condoms to the client (reduce the risk of HIV transmission).

Visit the following websites to learn about the Do's and Don'ts of using condoms

http://www.ashasexualhealth.org/sexual-health/all-about-condoms/

http://www.health24.com/Sex/Great-sex/Condom-dos-and-donts-20120721

Visit the following CDC websites to see how to put on and take off:

a male condom; https://www.cdc.gov/condomeffectiveness/male-condom-use.html; and,

a female condom; https://www.cdc.gov/condomeffectiveness/female-condom-use.html

Irrespective of the client's HIV-test result, the healthcare worker must discuss the issue of condoms with the client during post-test counseling and demonstrate how to use a condom correctly, if required by the client.

Did you know?
Are condoms good for preventing pregnancy and STIs, including HIV?

If you use condoms perfectly every single time you have sex, they are 98% effective at preventing pregnancy. However, people are not perfect, so in real life, condoms are about 82% effective - that means about 18 out of 100 people who use condoms as their only birth-control method will get pregnant each year (88).

Condoms reduce HIV transmission by more than 70% when used consistently by HIV-serodiscordant heterosexual couples (89) and men who have sex with men (MSM) (90).

The consistent and correct use of latex male condoms reduces the risk for many STIs that are transmitted by genital fluids (e.g. chlamydia, gonorrhea and trichomoniasis). They can also reduce the risk for genital ulcer diseases (e.g. genital herpes, syphilis and chancroid) - but only if the infected area or site of potential exposure is protected by the condom (91).

5. How can related health services be integrated into CB HTS?

Many social factors drive the HIV epidemic; including poverty, inequality, unemployment and gender-based violence (92). Women have a higher risk of HIV than men (93). Many social determinants together with high-risk sexual practices (including unprotected sex and multiple concurrent partners) make people vulnerable to HIV. Being aware of what makes people vulnerable is important, as it allows the healthcare worker to deliver a client-centered service that meets the specific client's needs.

Meeting the client's needs and providing them with a holistic service will typically involve initiating and integrating relevant services into CB HTS. Integration of services is not only providing related services in a single setting, but also linking the client between settings and providers (76). Integration of services includes referral of clients to other appropriate health services, for example, VMMC or to social services, for example a safe house for abused women.

This section focuses on specific health services that can easily be incorporated into CB HTS. The services discussed below are not meant to be comprehensive, but merely represent the type of service that can be integrated and encourage thinking about where to integrate them within the CB HTS.

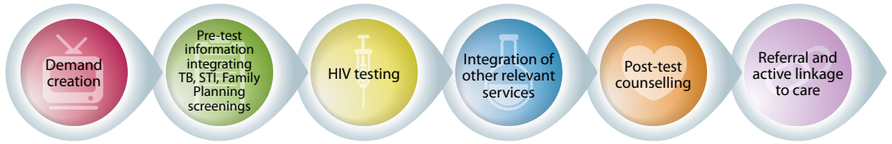


Figure 5.2: An integrated CB HTS

5.1 Integrating STI, TB and family planning screenings into the pre-test information session

It is possible to integrate important symptom screens into the pre-test information session. The screens below are simple and quick to use and assist the healthcare worker to identify additional needs that the client may have, over and above requiring an HIV test. Integrating these screenings into the pre-test information session means that all clients automatically receive these screens, even if they later refuse an HIV test. Healthcare workers should receive adequate training to ensure that they use these screening tools efficiently.

5.1.1 STI symptom screen

It is vital to educate clients about the link between HIV and STIs. As STI symptoms may be an indication of unprotected sex and put a person at increased risk for HIV, screening for STIs is important. A simple STI symptom screen can be used at this point. (See how the symptom screen below fits into the pre-test information session in Appendix 13.) STI screening is appropriate for men and women. The healthcare worker asks the appropriate questions for a female or male client. If the client answers "yes" to any question, they should be referred to the local healthcare facility for further screening and/or STI treatment.

STI Symptom Screen					
Women			**Men**		
Vaginal discharge	Yes	No	Discharge from penis	Yes	No
Sores/growth/swelling in vagina	Yes	No	Sores/growth/swelling in groin	Yes	No
Lower abdominal pain	Yes	No	Burning when passing urine	Yes	No

5.1.2 TB screen

In South Africa, TB is the most common opportunistic disease among HIV-infected persons (11). More than 50% of new TB cases are among HIV co-infected people (94). Early detection of TB and linkage to TB treatment can prevent unnecessary deaths. Clients' should be educated about the signs and symptoms of TB and the association between TB and HIV. A TB screen can be used during the pre-test information session to screen for TB symptoms. (See how the screen below fits into the pre-test information session in Appendix 13.) This screening tool consists of five questions. If the client answers "yes" to any of the questions, then the healthcare worker should collect sputum from the client, which will be sent to the laboratory to test for TB. In order to keep the process streamlined, we suggest that sputum collection is integrated into the HIV-testing process later; during the period where the healthcare worker has done the HIV test but must wait before being able to read the test result. Sputum collection is therefore discussed below.

TB Screen		
Cough for >2 weeks	Yes	No
Weight loss > 1.5 kg in last month	Yes	No
Fever > 2 weeks	Yes	No
Drenching night sweats	Yes	No
TB contact in house or at work	Yes	No

5.1.3 Family planning screen

In a generalized epidemic, like that in South Africa, where HIV transmission is primarily through heterosexual intercourse (15), it is important to discuss reproductive health with the client. The healthcare worker should screen the client for family planning needs and either refer the client to a relevant healthcare facility or provide contraceptives directly if the client is not currently using contraceptives and is not planning a pregnancy.

The family planning screen can be used when counseling men as well as women. The healthcare worker can ask the man what contraceptive his partner is using and create awareness around the importance of family planning. It opens a conversation around whether condoms are an efective method for preventing an unwanted pregnancy and an opportunity to discuss the role of condoms. Dual protection includes using another contraceptive method together with condoms.

The family planning screen is designed to try to elicit if the couple are using a family planning method and to check whether the woman is up to date, particularly if she is using an injectable method. It is also used to determine whether the couple has a need to either revise their current contraceptive method or if currently not using any contraceptive method, do they wish to consider family planning. This screen is most effective when a couple are being counseled together. However, it can and should be used during individual counseling as well.

Family Planning Screen (ask men & women)				
Using FP	Yes	No	Method:	
Last FP visit:				
Provided FP	Yes	No	N/A	
Referred for FP	Yes	No	N/A	

5.2 Integrating other relevant services into CB HTS before post-test counseling

HIV rapid tests take approximately 15-20 minutes (depending on the test kit type) before you can read the results. This provides an opportunity for the client to receive other relevant services while they wait. Typically, a suitably qualified nurse should be available to provide many of the clinical services.

Tip

Employ the correct category of healthcare workers

Different categories of healthcare workers (including professional nurses, enrolled nurses, enrolled nursing assistants, lay HIV counselors) have differing scopes of practice. The scope of practice defines the procedures (kinds of work) that these health workers are lawfully allowed to do. A national health professional body usually stipulates scope of practice. Ensure that you familiarize yourself with the scope of practice for healthcare workers in your country and that you employ the correct category of healthcare worker for the services you want to provide. In addition, check that they have the correct and most up-to-date training and certification necessary for the services that they will provide.

We offer suggestions for some of the services that can be integrated at this point in the testing process:

5.2.1 Collecting sputum for a TB test

If a client has TB symptoms (as per the TB symptom screen used in the pre-test information session), then sputum can be collected for a TB test at this point (see Appendix 16 on how to collect sputum responsibly). Infection control is as important in a community-based setting as it is in a healthcare facility. Ensure that sputum collection happens in a private, well-ventilated place. While it is good practice for the healthcare worker to oversee sputum collection, the healthcare worker should not stand in front of the client producing the sputum.

Tip

Use a mask when you collect sputum

It is important for all healthcare workers to be trained on infection-control measures. A healthcare worker should always have easy access to a box of masks, as a standard supply item. The healthcare worker should wear a mask and gloves when assisting a client with TB symptoms, to produce sputa. Wearing a mask will protect the healthcare worker from TB if the client is coughing, as the client may be spreading TB bacteria through coughing. The mask will prevent the healthcare worker from breathing in this bacteria.

Healthcare workers should wear a mask and gloves when assisting a client with TB symptoms, to produce sputa.

Ideally two sputum specimens should be collected. Collect one immediately and, if possible, collect the second one an hour later. If the client cannot wait, then collect two at the same time.

Once sputum has been collected and the healthcare worker has ensured that the lid of the sputum bottle is screwed on tightly, the sputum jar should be placed inside a paper bag and stored in the fridge or in a cooler box until it is transported to the laboratory for testing. The healthcare worker needs to complete all the relevant documentation (as requested by the laboratory that will do the TB test, for example a TB test request form) to ensure that the correct results are received for each client. A copy of the request form must be attached to the sputum jar. We suggest placing the paper bag (which holds the sputum jar) inside a plastic bag and putting the folded TB request form inside the plastic bag. This means that the client's sputum sample and paperwork travel together. A driver needs to tranport the sputum samples (in a cooler box) to the laboratory. The driver should make daily trips between the CB HTS and the laboratory.

The TB test results should be returned to the HTS from the laboratory, either by fax, email or the driver can collect the hardcopy forms. A designated person must contact all the clients who gave sputum samples. Those who have been diagnosed with TB, must be asked to return to the HIV-testing site. Here they will have the opportunity to ask any questions about TB. The healthcare worker must issue them with a referral letter to a healthcare facility of their choice, for TB treatment. A copy of the TB test results from the laboratory, showing the positive TB diagnosis should be attached to the referral letter. (See Appendix 17 for an example of a referral letter). Those whose sputum is found negative for TB, can be contacted telephonically and told that they have not been diagnosed with TB. However, if their symptoms persist they should return for more testing.

5.2.2 Screening for non-communicable diseases

Non-communicable diseases (NCDs) are diseases that are without an infectious cause and include cardiovascular disease, pulmonary diseases, cancer and diabetes. They share common risk factors: poor nutrition, smoking, physical inactivity and obesity (95). HIV and AIDS and NCDs are interdependent; HIV and AIDS increase the risk of NCDs evolving and NCDs worsen the severity of HIV and AIDS (96, 97, 98). It is therefore vital that NCD screening is incorporated into CB HTS.

NCDs (similarly to HIV and AIDS) need to be managed through prevention and care. Screening for hypertension, diabetes and cholesterol can identify potential risk for NCDs. As obesity is a symptom of all NCDs, calculating a client's body-mass index (BMI) is advantageous. If risks are identified, clients can be referred to healthcare facilities for the appropriate care and/or treatment.

5.2.2.1 Calculating Body Mass Index (BMI)

BMI is a useful measure for the human body shape based on an individual's weight and height. A high amount of body fat can lead to weight-related diseases and other health issues and being underweight can also put one at risk for health issues. Calculating BMI is important to determine if a client is obese or underweight, so that they can be appropriately referred for care.

BMI is defined as the individual's body mass divided by the square of their height. For example, if you weigh 73kg and your height is 1.55 metres, then your BMI = 73/ (1.55)2 = 30.38 (obese range). Most healthcare workers can be trained to calculate BMI. We suggest you include height, weight and BMI on the client's HTS record (see Appendix 13).

For a BMI calculator, visit

https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/metric_bmi_calculator/bmi_calculator.html

If your BMI is less than 18.5,
it falls within the underweight range.

If your BMI is 18.5 to 24.9,
it falls within the normal or healthy weight range.

If your BMI is 25.0 to 29.9,
it falls within the overweight range.

If your BMI is 30.0 or higher,
it falls within the obese range.

Calculating BMI is important so that underweight or overweight clients can be appropriately referred for further care.

5.2.2.2 Screening for hypertension

Blood pressure is the name given to the force that the beating heart causes in the arteries, veins, and blood vessels which carry blood around the body (99). Blood pressure is one of the most important screenings because high blood pressure often has no symptoms and can therefore not be detected without being measured. High blood pressure (hypertension) greatly increases one's risk of heart disease and strokes because it causes strain on blood vessels and the heart.

For a normal adult:

If your blood pressure is 120 mm Hg/ 80 mm Hg - it is considered normal.

If your blood pressure ≥ 140 mm Hg/ 90 mm Hg - it is considered raised or high – refer to healthcare facility

If your blood pressure ≤ 100 mm Hg/ 60 mm Hg - it is considered low – refer to a healthcare facility

People taking HIV treatment may be at increased risk for hypertension (99). We suggest that a prompt be included on the HTS record as a reminder to offer this service to the client.

Taking blood pressure during CB HTS to screen for hypertension is important as high blood pressure often has no symptoms and can therefore not be detected without being measured.

5.2.2.3 Screening for diabetes mellitus

Diabetes is a disease where the levels of blood glucose (also called blood sugar) are too high. Some risk factors associated with diabetes include, a family history of diabetes, being overweight, and having high blood pressure (100). Some HIV treatment may also increase blood glucose levels, so people with HIV on treatment may be at higher risk for diabetes (101). Look out for these and other risk factors in your client and do a random blood glucose screening if necessary.

Clients can be referred to a healthcare facility for further testing and/or treatment if they have a blood glucose level of >7 if they have fasted prior to the test or >11 if they have not fasted prior to the test. Clients accessing community-based services will typically not have fasted prior to being tested for blood glucose levels.

Random blood sugar screening during community-based HIV testing is a best practice to screen for diabetes.

5.2.2.4 Screening for cholesterol

Cholesterol tests are mainly done to screen for the risk of heart disease (102). Cholesterol testing should be offered to clients who have major risk factors for heart disease such as obesity, men 45 years or older and women 55 years or older, hypertension, a family history of premature heart disease, pre-existing heart disease or diabetes mellitus (103). Some anti-HIV drugs may raise cholesterol levels. Look out for the risk factors in your client and screen for cholesterol as appropriate. It is good practice to have a prompt on the HTS record as a reminder to review your client's symptoms and offer this service if required.

5.2.3 Providing sexual and reproductive health services

Sexual and reproductive health (SRH) incorporates a number of services, including contraception, cervical cancer screening, PMTCT, STI screening (11). In the South African setting, the recommended minimum package of SRH services that should be integrated into HTS includes the provision of male and female condoms, provision of other forms of contraception, voluntary medical male circumcision (VMMC) and screening and treatment of cervical cancer (104). Depending on available resources, CB HTS can provide these services directly to the client or refer the client for these services at a healthcare facility.

Integrating reproductive health services into CB HTS is beneficial as:

- It may reduce stigma associated with HIV testing. Some people do not want others to know that they are testing for HIV, so they may feel more comfortable approaching a service provider that offers multiple services, including HIV testing.
- It may increase the number of young girls who access CB HTS. Anecdotal evidence suggests that many young girls prefer accessing a community-based service for contraceptives compared to a healthcare facility. This provides the opportunity to offer these girls an HIV test and counsel them around reducing their risk for HIV.

5.2.3.1 Providing contraceptives

The distribution of male and female condoms as well as a demonstration on correct condom usage should be integrated into post-test counseling for every client, irrespective of their HIV-test result. This has been discussed above, as part of post-test counseling.

The outcome of the family planning screen (integrated into the pre-test information session) will determine if there is a need for contraceptive services. The healthcare worker (professional nurse) has the opportunity at this stage in the CB HTS process to offer contraceptive services (other than condoms).

In our setting, professional nurses provided oral and injectable contraceptives to female clients if they requested this service, either at the stand-alone center or mobile service. Before we implemented the provision of contraceptives, the nurses received sexual and reproductive health training, which included theoretical and practical components, from a nationally recognized external training provider. This was the same training received by professional nurses working in government healthcare facilities. Only when they had received their certificate of competence as well as their dispensing licence, were they able to commence dispensing contraceptives during CB HTS.

"When we started providing oral contraceptives, the number of school girls who came to our stand-alone center, increased hugely. These girls did not want to get contraceptives from the healthcare facility, where a family member could see them…. they liked the anonymity of our service. We could also use the opportunity to offer them an HIV test."
- (Professional nurse providing contraceptives as part of an integrated CB HTS)

5.2.3.2 Providing pregnancy testing

A healthcare worker can offer a female client a pregnancy test if the woman has signs or symptoms of a pregnancy or based on the discussion during the family planning screen conducted during the pre-test information session (if the woman is not using any contraceptive device or has not been using contraceptives regularly). One major reason for integrating pregnancy testing into CB HTS is to identify pregnant HIV-positive women and to refer them to the PMTCT program and/or other relevant services as early as possible in their pregnancy.

Healthcare workers need to be well trained to be able to counsel women who have just been told that they are HIV-positive and pregnant. Often these women will need additional counseling.

Integrating pregnancy testing into CB HTS allows healthcare workers to identify pregnant women living with HIV. These women can then be referred for PMTCT to reduce the risk of the virus being transmitted to their baby.

Case study: Providing a holistic, client-centered integrated service

Sibongile is a 17-year-old learner who arrived at a stand-alone HIV-testing service and asked for an HIV test because she was having unprotected sex with her boyfriend, whom she did not trust. Sibongile met with Mavis, the healthcare worker, who gave her information about how HIV is transmitted and the link between HIV and other STIs. Mavis discovered that Sibongile was not using any contraceptive method and did not want to fall pregnant. She offered Sibongile a pregnancy test (which was negative) and screened her for any symptoms of STIs. Mavis then spoke further with Sibongile about different contraceptive methods for her to consider and referred her to the local healthcare facility to get her contraceptives (this stand-alone center did not offer contraception). Sibongile's HIV-test result was negative.

This case study clearly shows how the healthcare worker provided her young client with a holistic service, specific to her needs. She provided both information and successfully integrated other appropriate services into the CB HTS to reduce this young girl's vulnerability, not only for HIV, but also for STIs and pregnancy.

It is important to deliver a holistic HIV-testing service that meets all the health needs of the client.

5.2.3.3 Education and referral for VMMC

Post-test counseling is the ideal time to integrate a discussion on VMMC with male clients, who have tested HIV-negative or with female clients, who think their partners would consider VMMC. VMMC means that the man voluntarily consents to being circumcized (removal of the entire foreskin from the penis) by a trained healthcare worker, typically at a healthcare facility. VMMC has been shown to reduce the risk for heterosexually acquired HIV among men by approximately 60% (105) and is therefore viewed as an HIV-prevention strategy. It also reduces the risk of cervical cancer for the female partner (106). It is important to remember that VMMC reduces but does not remove the risk of HIV infection and STIs. Circumcized men must still use condoms.

Once the healthcare worker has explained the benefits of VMMC to the client, it is important to write a referral letter which the man can take with him to a healthcare facility or to another organization that conducts VMMCs. Alternatively, make a booking on behalf of the client at the health facility. See Appendix 17 for an example of a referral form.

Consult the following South African website for useful information about VMMC; http://www.brothersforlife.org/medical-male-circumcision-mmc.html

Case study: Creating demand - Increasing uptake of VMMC in the community

A community-based project that aimed to increase uptake of VMMC in nine communities around Cape Town was implemented by the South African Clothing and Textile Workers Union (SACTWU). Social mobilizers were employed and trained to create demand for VMMC. Joseph was employed as a mobilizer. He was trained to understand why VMMC is important, the benefits for both men and women and other basic facts. Joseph was deployed to a local healthcare facility to speak with both men and women inside the facility about VMMC. Joseph's colleagues, Busi and Nelson, went door-to-door in the community, also speaking with people at home and on street corners about VMMC. They specifically targeted men and women between the ages of 12 and 49 years.

Busi said that she explained to men that being circumcized might improve personal hygiene. If men showed an interest, she recorded their contact details on a form and sent these through to the head office. A designated person at the head office then contacted the man and gave him an appointment date and time when the circumcision would take place. Circumcisions typically took place at one centrally located healthcare facility. If transport to and from the health facility was a challenge for some men, then SACTWU arranged to collect the men being circumcized, by meeting them at a central point and transporting them to the healthcare facility.. After the surgical procedure, each man was given a follow-up form, to take to a healthcare facility closest to his home, where wound care would be done.

SACTWU followed up that all men had gone for each of their follow-up appointments. After 48 hours, the bandages are removed. After seven days, the wound is checked and any adverse events recorded. After 21 days, healthcare workers need to check if the wound has healed properly. Typically, many men miss the third follow-up appointment. SACTWU therefore have a mobile van which can provide follow-up visits for wound care directly to men in the community.

SACTWU's mobile van.

"I was advised by my friends to get circumcized. I looked into it and decided that it would be good for my health. It was provided free of charge at the health facility. The nurses were very caring and told me everything that I needed to know." - *Obert Bore, (Client, Age 26)*

6. What does the referral process look like?

After post-test counseling and after the HIV-test result has been disseminated to the client, the healthcare worker must write out a referral letter for any further care or treatment services that the client may need to access at a healthcare facility, for example; family planning services, STI treatment, HIV care and/treatment, treatment for hypertension, etc. The referral letter should be addressed to a specific healthcare facility chosen by the client. Referral for TB treatment will happen over the following few days, if a positive TB test result is received back from the laboratory.

Considerations when choosing a healthcare facility for HIV care/treatment and/or TB treatment:

- Confirm that the health facility provides HIV care and treatment and/or TB treatment.
- Ensure accessibility by choosing a facility close to the client's home or work (travel time and cost are important considerations and are often a barrier to accessing HIV care).
- Consider the familiarity of the healthcare facility to the client (some clients may prefer anonymity, while others prefer familiar healthcare workers).

The referral letter:

- Should contain all details of the clinical and screening services received during CB HTS.
- Should be handed to the client in a sealed envelope.
- A copy should be kept with the client's HIV-testing services record.

An example of a referral letter can be found in Appendix 17.

Provide the client with an official written referral letter to present at the healthcare facility of their choice.

In addition, the healthcare worker can also refer the client to other services as appropriate. For example, if a client is underweight, as determined by the BMI calculation, the healthcare worker may refer them to the healthcare facility for further care (nutritional supplements), but they may also consider referring them to:

- a local organization that distributes food within their community (for example, a soup kitchen); or
- an organization that focuses on training and assisting people to establish their own food gardens in the community; or
- an organization that teaches skills to the unemployed that will enable the client to produce a commodity that can be sold for money to buy food.

These kinds of organizations all form part of the social service stakeholders in the community, referred to in Chapter 2: Stakeholder Engagement. If the CB HTS has the ability to refer clients to other services (other than related health services), this supports a broader perspective on health and well-being, and indicates a truly client-centered approach.

These types of referrals depend on:

- what organizations and services are available in the community;
- the healthcare worker knowing about these organizations/services;
- the healthcare worker having the contact details for organizations; and,
- the client accepting the referral.

Tip

Keep an updated list of relevant organizations in your community for referral purposes

Draw up a list of organizations and services offered in the surrounding communities in which you work. This can be done prior to program implementation, during the stakeholder engagement process (see Chapter 2: Stakeholder Engagement). Once you have a list, including contact details, update the list regularly. This will be a valuable resource when clients require a referral to services other than a healthcare facility.

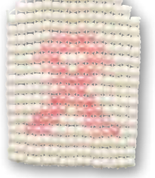
7. Does CB HTS end with referral of a client to a healthcare facility?

The short answer is NO. One of the most important aspects of CB HTS is active linkage to HIV care and treatment. It is not enough to simply diagnose HIV and give the client a referral letter. It is the healthcare worker's responsibility to actively link their client to HIV care and treatment services. As the world works toward the 90-90-90 target, reaching the second and third '90s' is dependent on successful linkage to care. Chapter 6: Linkage to HIV Care and Treatment is devoted to this topic.

LINKAGE TO HIV CARE AND TREATMENT

Sue-Ann Meehan, Kerry Nel and Blia Yang

> We mustn't say that just because we are making progress, the job is done. The job is far from done.
>
> *- Aaron Motsoaledi (South African Minister of Health from 2009 to present)*



CHAPTER 6
LINKAGE TO HIV CARE AND TREATMENT

Why is this chapter important?

Linkage to HIV care and treatment is a critical action that propels a person from their diagnosis into care and treatment. It therefore has a vital role to play in bringing the HIV epidemic under control. The World Health Organization (WHO) estimates that in sub-Saharan Africa, 40% of people who are aware that they are living with HIV do not link to HIV care and treatment services. Healthcare workers can play an active role in assisting individuals living with HIV to link into care and treatment services. This chapter will share some experiences and best practices to assist community-based healthcare workers to actively link their clients to HIV care and treatment services at healthcare facilities.

What will you learn from this chapter?

1. What is linkage to care?
2. Why is linkage to HIV care and treatment so important?
3. What are the benefits of linking to HIV care and treatment?
   - 3.1 Benefits to the individual
   - 3.2 Benefits to the community
4. Why do people not link to HIV care and treatment services?
5. What are some best practices for linkage to care for those diagnosed with HIV at community-based HIV testing services?
6. How do we know if a person living with HIV has linked to HIV care and treatment services?

1. What is 'linkage to care'?

Linkage to care (LTC) happens at the end of the HIV-testing service (see Chapter 5: Delivering Holistic Client-Centered HIV-Testing Services). It is when the client is linked to relevant services depending on their specific needs, taking into consideration their HIV status (11). According to the WHO, LTC is a process of actions and activities that support people testing for HIV and people diagnosed with HIV to engage with prevention, treatment and care services as appropriate for their HIV status (107).

For those who are HIV positive, LTC is the period beginning with HIV diagnosis and ends when the person enters into HIV care and/or initiates antiretroviral therapy (ART) (2). For clients who test HIV negative, it may be necessary to link them to prevention services, depending on their individual risk factors and taking into account settings where there is high HIV prevalence. For example, consider linking HIV-negative men to Voluntary Male Medical Circumcision (VMMC) services or linking HIV-negative intravenous drug users (IDUs) to a needle-exchange program. For more information regarding different types of evidence-based interventions that reduce an individual's risk of acquiring HIV, we suggest you look at the Centers for Disease Control and Prevention (CDC) website at; https://www.cdc.gov/hiv/research/interventionresearch/compendium/rr/index.html

Did you know?
What is the difference between passive and active linkage to HIV care?

The following explanation is a general understanding of the difference between passive and active linkage to care.

Passive LTC occurs when the healthcare worker speaks to their client and gives them clear and accurate information about the next step in managing their HIV status. They also tell them where and how they can access the relevant care or treatment services and provide them with a referral letter.

Active LTC goes a step further. The healthcare worker gives the client all the relevant information and a referral letter, but also takes actions to facilitate their clients' linking to care. For example, contacting them a week later to remind them to access HIV care or accompanying them to the healthcare facility.

We recommend actively linking clients into care.

Consider accompanying your client to the healthcare facility for HIV care and treatment services.

This chapter will specifically deal with linkage to HIV care and treatment for HIV-positive individuals, diagnosed at community-based HIV-testing services (CB HTS) (for example, stand-alone centers, mobile or door-to-door services), but needing to access HIV care and treatment at a healthcare facility (this can include a government or private healthcare facility).

2. Why is linkage to HIV care and treatment so important?

Linkage to HIV care and treatment services is a crucial component of any HIV-testing service. It is essential if we are to reach the UNAIDS '90-90-90' target and end the AIDS epidemic by the year 2020. LTC is the vital bridge between diagnosis (first '90') and starting HIV treatment (second '90')(2). Providing HIV testing where there is either no access to or poor LTC has limited benefit for those diagnosed with HIV (107). In fact, an HTS is incomplete without efforts to help people link to care after testing.

Some HIV-positive people 'become lost' during the period between diagnosis and initiating ART (108). LTC is a crucial aspect of HTS as it propels an HIV-infected person into HIV care (the treatment continuum) and can assist in reducing the number of people who do not access HIV care and treatment services.

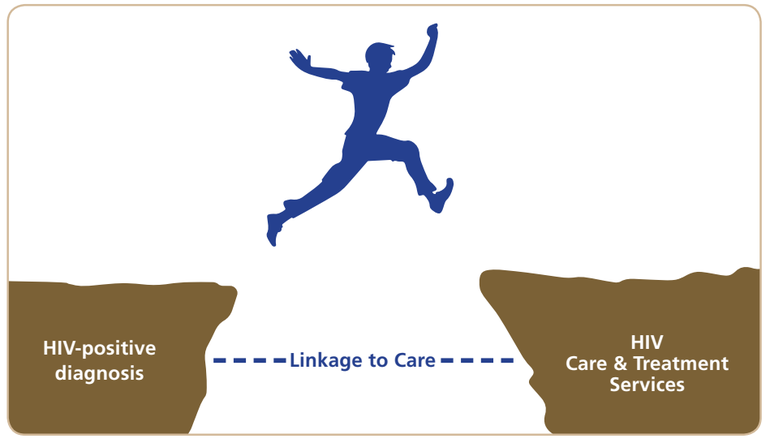


Figure 6.1: Linkage to care is a crucial aspect of HIV-testing services as it propels an HIV-infected person into HIV care

Did you know?
What does 'Lost to follow up' (LTFU) mean?

The term 'lost to follow up' is not universally defined (107), but refers to the unscheduled loss of clients from healthcare services and may occur at every step of the HIV-treatment continuum. For HIV-positive individuals, it refers to a person who does not access HIV care and treatment services at all after the initial HIV diagnosis or a person who does access HIV care and treatment services initially, but does not remain in care. LTFU is time sensitive because the person could re-engage in care later. A threshold of 180 days since the last clinic visit is recommended as a standard definition for LTFU (109).

Although there are efforts to integrate healthcare facilities and community-based HIV services, HTS provided by NPOs is mostly independent of treatment services which are provided at healthcare facilities. For this reason, it is vital that newly diagnosed HIV-positive persons are actively linked into HIV care and treatment. Part of actively linking a client to HIV care is following up to ensure that they have reached the services to which they have been referred. This may take the form of a telephone call, text message or home visit. Actively linking an HIV-positive person diagnosed in a community setting to HIV care in a healthcare facility is an important and integral component of the transition from testing to ART initiation (108).

Did you know?
What is the treatment continuum for lifelong ART?

The treatment continuum, also called the HIV cascade, is a model that outlines the sequential stages of HIV medical care that people living with HIV go through from:

Initial diagnosis → linkage to care → engaged in care → put onto ART → achieving the goal of viral load suppression.

Did you know?
What is the difference between linkage to HIV care, retention in HIV care and re-engagement in HIV care? (110)

Linkage to HIV care: the process of assisting people living with HIV to begin accessing the HIV services they need.

Retention in care: a client continues to attend the healthcare facility and regularly receives the required care. For example, a client on ART attends all clinic appointments and collects their ART medication timeously.

Re-engagement in care: an HIV-positive person who was previously utilizing HIV care services starts using the service again. An example of this is when a person restarts ART care after a period of LTFU.

3. What are the benefits of linking to HIV care and treatment?

Linkage to care is beneficial because it links HIV-positive people to treatment (ART) and being on ART and virally suppressed is hugely beneficial for both the individual and community.

3.1 Benefits to the individual

HIV-infected individuals who do not link to care or delay linking to care and starting ART may be at risk for immune damage, which may result in increased HIV-related illnesses, hospitalizations and ultimately death. The earlier people start ART the better because the virus has less time to establish itself outside of the bloodstream which improves the individual's chance of viral load suppression, meaning that there will be less chance of damage to the immune system and less chance of getting opportunistic infections, for example, tuberculosis or pneumonia (111). Viral load suppression as a result of ART also reduces the risk of transmission of HIV (107).

It is beneficial for people to link to HIV care and treatment services as early as possible.

Did you know?
What is 'viral load suppression'?

If a person on ART is 'virally supressed', it means that the amount of HIV virus in their blood has decreased to a very low level (112). The person is not cured, but has such low levels of the HI virus in the blood stream that the risk of damage to the body by the virus is greatly reduced. There is also reduced risk of passing the virus to a sexual partner or to their baby if they are pregnant.

3.2 Benefits for the community

HIV-infected people who are on treatment and are virally suppressed have a greatly reduced chance of transmitting the virus to others (113). Mathematical modelling has shown that if there is universal HIV testing with immediate ART, fewer people in the community will transmit the virus, which will reduce the number of new people being infected (114). Although ART has been shown to greatly reduce the transmission of HIV, HIV-positive people who are virally suppressed must still practice safe sex and use a condom every time they have sex.

Did you know?
Who is eligible for ART?

The WHO guidelines suggest that HIV-positive people should start treatment as soon as they are diagnosed with HIV (111). Most countries practice 'universal test and treat', known as UTT. This means that all people living with HIV are eligible for ART, regardless of their CD4 count. We suggest you familiarize yourself with the treatment guidelines in your country so that healthcare workers can counsel newly diagnosed clients appropriately and tell them what they can expect when they link into HIV care and treatment services.

4. Why do people not link to HIV care and treatment services?

The WHO has estimated that in resource-limited settings, primarily sub-Saharan Africa, as many as 40% of people who are diagnosed through HTS are not linked to care (76), and late initiation of ART remains common (76). If LTC is so important and has numerous benefits for both the individual and for the community, why do people delay linking to care or not link to care at all?

Different factors may contribute to poor linkage to HIV care and poor rates of enrolment in care and treatment following HIV testing (76, 115 - 117):

- **Personal barriers:** being younger (15-24 years), fear of HIV disclosure, denial of HIV status (or not trusting the test results), lack of partner support, feeling healthy (absence of HIV/AIDS symptoms), lack of understanding of the importance of linking to HIV care timeously, belief in spiritual healing, not knowing someone with HIV/AIDS, drinking alcohol.
- **Social/cultural barriers:** fear of stigma and discrimination.
- **Structural/economic barriers:** demanding work schedule, high transport costs (or lack of transport).
- **Health system/programmatic barriers:** poor referrals, not receiving help to make an HIV care appointment after diagnosis, fear of antiretroviral drug side effects, long waiting times in facilities, inadequate staff respect for patients (unfriendly or stigmatizing service).

The job of the healthcare worker is to do everything possible to ensure that their newly diagnosed HIV-positive client links to care. It is important that the healthcare worker understands the different types of barriers that prevent people from linking to HIV care, so that they can counsel their client appropriately. Giving the client an opportunity to verbalize potential barriers that they may be facing and then to provide the appropriate counseling may be beneficial and improve the chances of that client linking to HIV care. At all times, the healthcare worker must ensure that the client understands how important it is to access HIV care and treatment and how this will benefit not only themselves, but also their partners.

Did you know?
Can community-based adherence clubs reduce losses to follow up?

Adherence clubs are one alternative care delivery model for individuals living with HIV and on ART. Clubs enable health facilities to manage large numbers of clients more efficiently, without a decrease in quality of care (118). Clients who have good ART adherence and are virally suppressed may be referred to adherence clubs (119), which can take place inside or outside the healthcare facility and may be facilitated by non-clinical personnel (118). The clubs enable a 'fast-track' refill mechanism (shorter waiting times) and provide adherence and peer support (119).

5. What are some best practices for linkage to care for those diagnosed with HIV at community-based HIV-testing services?

Many factors influence linkage to HIV care. Studies have shown that a person is more likely to link to care if: they have disclosed to a family member or their partner (120); they have a lower CD4 count (121); and, if they have received an official referral letter (120).

Below we share a number of best practices from our experiences that, when used in combination with one another, can help to facilitate linkage to HIV care. We recommend that healthcare workers conducting CB HTS:

1. **Have standardized, regular meetings with healthcare facility personnel.** These meetings can address issues such as long waiting times or stigma associated with visiting a healthcare facility for HIV care. Regular meetings appear to be effective because they bridge the gap between the community and the healthcare facility for the clients and may help to alleviate the barrier of long waiting times and perceived stigma.
2. **Build up a professional trustworthy relationship with HIV personnel at healthcare facilities.** Having a good rapport with healthcare facility personnel may result in a sense of 'partnership', where the healthcare facility personnel welcome clients referred to them from healthcare workers at the CB HTS. This may overcome the barrier of perceived unfriendly services at some healthcare facilities.
3. **Provide the client with an official referral letter** that clearly states all the relevant details of their diagnosis, so that the healthcare facility does not have to retest them. Include any symptoms of TB, sexually transmitted infections (STIs) or non-communicable diseases. (See Appendix 17 for an example of a referral letter.)
4. **Build rapport with your client.** Listen to them and hear what they are saying. Allow them to voice their concerns and explore potential barriers that may prevent them from linking to care. Discuss the resources they have that can help facilitate LTC. Ensure that they understand the importance and benefits of linking to HIV care (even if they do not feel ill or have any signs of disease).

It is essential for healthcare workers to build rapport with their clients, to put them at ease and to provide a safe and comfortable space, where clients feel free to ask questions and share concerns.

5. **Set an appointment with the healthcare facility on behalf of your client.** It is important that the client be given a specific date to visit the healthcare facility. The field of social psychology has shown that people's goals and plans (for example, to visit the healthcare facility for HIV care on a certain date) can positively affect their behaviour (for example, they actually access HIV care on that date) (122).
6. **Confirm with the client that you will contact them to check if they have visited the health facility** (follow-up). Always get the client's consent to follow up with them. They may be more likely to access HIV care and treatment services if they know you are going to follow up with them.
7. **Provide additional counseling.** If you speak to a client telephonically and they report that they have not yet accessed care, provide additional counseling to address the reasons for delayed access. Often people's circumstances are overwhelming and an HIV diagnosis is extremely difficult to deal with. Listen to your client and remain professional and courteous at all times (see case study below).
8. **Providing a point-of-care (POC) CD4 count.** This is for countries that still have eligibility ART requirements. If a client knows their CD4 test result, they can be counseled appropriately about their eligibility for ART. If the client (based on the POC CD4 test result) is eligible for ART, they may be more likely to link to care, as they know they will be able to access treatment immediately.

Case study: 'Going the extra mile' – providing additional counseling to clients who have not linked to HIV care

Healthcare workers from the Desmond Tutu TB Centre (DTTC), provided additional counseling to clients who had not yet linked to HIV care. They telephoned these clients and asked them to meet so that they could provide them with additional counseling. Healthcare workers (including professional nurses) were provided with additional counseling skills to equip them with the knowledge and skills to provide support to clients who had not linked to HIV care. The healthcare workers did home visits specifically to provide additional counseling.

Not everyone wanted to meet in his or her home. In these cases, healthcare workers organized to meet the clients outside of their home. Clients were met at soccer fields, spaza shops (informal convenience shops in South Africa), barber shops and at other locations within the community.

Healthcare workers reported that clients felt that meeting outside of their home was beneficial because it was more private, especially for those who had not yet disclosed to family members and it made them feel like they were just having a regular conversation, rather than making them feel like they had a problem and are sick.

Further reading on linkage to HIV care and treatment:

The ACTS model (Assess, Consent, Test and Support), contains easy-to-follow guidelines for health providers on how they can best support clients who have just learnt that they have tested HIV positive. Visit the following website https://aidsetc.org/resource/acts-model-hiv-testing-adapted-rapid-hiv-testing-and-counseling

To read about International best practices for linkage to care – read the WHO's Consolidated Guidelines on HIV-testing Services, 2015: 33, which can be found at: http://apps.who.int/iris/bitstream/10665/179870/1/9789241508926_eng.pdf?ua=1&ua=1

The website of the Centers for Disease Control and Prevention (CDC) has a list of resources on linkage and retention in care best practices, which can be found at: https://www.cdc.gov/hiv/research/interventionresearch/compendium/lrc/stratifiedlist.html

"I am fortunate; I did not get sick, because I quickly got onto treatment with the assistance of the healthcare workers." - (Male client, Age 30)

6. How do we know if a person living with HIV has linked to HIV care and treatment services?

Confirming that a client has linked to HIV care and treatment can either be done by (a) asking personnel at the public healthcare facility (where the client said they would attend) to check their client records and confirm linkage to care or (b) asking the client through a series of confirmation questions and/or getting them to show you their health facility card (if applicable).

Verification from healthcare facility records is good practice. Research studies typically use this method to report LTC rates and proportions. Healthcare facilities often have electronic databases and, with the correct permissions, researchers may be able to access these databases, making it easier to determine LTC (compared to a paper-based system).

Case study: Using different database sources to confirm linkage to care in a research study

A research study at the DTTC received approval from government health services and the Stellenbosch University Ethics Committee to link the university research study database with the government health-service database. Within the research study, clients who were either newly diagnosed with HIV or who were living with HIV but had not yet accessed HIV care were referred to the local healthcare facility for HIV care. Healthcare workers provided all clients with an official referral letter, as part of the LTC process.

Study management were able to confirm who had linked to HIV care at healthcare facilities. The study data manager extracted the HIV-positive clients' study numbers from the university database, with additional unique identifiers (for example, unique healthcare facility number, name, surname, date of birth, physical address and age). This was done with the clients' verbal consent. A list of HIV-positive clients was given to study management who checked the data against the government health-services databases. Utilizing this method allowed study management to verify which clients had linked to HIV care.

Tip

Ensure quality collection of data from the primary source

Where possible, try to ensure that healthcare workers capture as many unique identifiers as possible and as accurately as possible for every client. This will reduce the proportion of missing or misspelt data and overcome the challenge that these types of errors pose when trying to match database sources.

If you are not providing HTS as part of a research study, then you may not have access to, nor permission to access the electronic records of the healthcare facility. You could check the hardcopy facility records (patient folder/HTS register), but this may also not be possible nor very easy to do because:

- Clients may not access the healthcare facility they said they would. It is not practical to call/visit every possible healthcare facility.
- Healthcare facility personnel typically have large patient loads. They may be too busy to check client records.
- Healthcare facilities may not want to share information with you regarding who has accessed HIV care. You may need special permission to check facility records.

To overcome these challenges, self-reported LTC by the client is another way for confirming LTC. A follow-up is an intended contact with the client (telephone call or formal face-to-face meeting).

Best practices for following up directly with the client to confirm LTC

- **Get correct and sufficient contact details for the client.** Record two or more telephone numbers (at least one landline and one cellular phone number). Make sure that the client's home address is correctly recorded. Note down any landmarks or other information that will assist you if you need to do a home visit.
- **The same healthcare worker who tested the client should do the follow-up** because they have already built up rapport and trust with the client.
- **Send a text message** to ask the client when you can telephone them.
- **Telephone the client.** Ask them relevant questions to determine if they did visit a healthcare facility for HIV care. Possible questions include; which health facility did you visit? Who did you see (type of healthcare worker)? What did they say to you? Did you have any tests done? When is your next appointment? What will happen next? If the client can answer each question, providing adequate detail, it would be reasonable for you to assume that they have linked to care.
- **If you are unable to speak with the client**, telephone at different times and on different days. Try to contact them at least three more times.
- **Home visits** can be done, as they are a way of offering additional face-to-face counseling for clients who have not yet linked to HIV care and treatment.

It is best practice for healthcare workers to follow up with their clients; by either sending the client an sms, telephoning them or doing a home visit, to check if they have linked to HIV care and treatment services.

Tip
Keep good records

Document the date and time for every attempt made to contact a client for follow up. When you do speak with them, document the general conversation and the specific answers provided to your questions. See the HTS record that makes space for follow up conversations in Appendix 13.

"I found it hard to come to terms with my HIV-positive status. The healthcare workers supported me. They visited me and sent me messages via my mobile phone. I started taking my ART in May 2015."
- (Male client, Age 38)

QUALITY ASSURANCE FOR HIV TESTING

Michelle Scheepers, Anelet James, Margaret van Niekerk and Sue-Ann Meehan

> It is the job that is never started that takes the longest to finish.
>
> *- JRR Tolkien (Internationally acclaimed author; born and raised in Bloemfontein, South Africa)*

CHAPTER 7
QUALITY ASSURANCE FOR HIV TESTING

Why is this chapter important?

The tremendous strides made in curbing the worldwide HIV epidemic have depended on reliable HIV testing. Community-based HIV-testing services (CB HTS) are provided outside of a controlled environment and program implementers need to ensure that every client receives an accurate HIV diagnosis based on a correct HIV-test result. Having quality assurance strategies in place and correctly following quality-control activities will ensure that you always deliver a correct HIV diagnosis to your client. This chapter will highlight the importance of having proficient healthcare workers, strict temperature control and good stock management as they relate to quality assurance. We will share practical tips and tools that will help you maintain a quality CB HTS.

What will you learn from this chapter?

1. How does Quality Assurance (QA) differ from Quality Control (QC)?
2. How can you ensure quality of HIV rapid-test kits used in a community-based setting?
   - 2.1 Well-trained and proficient personnel
   - 2.2 Temperature control
   - 2.3 Stock-control management
   - 2.4 Ensuring validity of the HIV rapid-test kits
3. What are the standard precautions?
   - 3.1 Guidelines for standard precautions related to the workspace
   - 3.2 Guidelines for standard precautions related to personnel safety

1. How does Quality Assurance (QA) differ from Quality Control (QC)?

QA refers to planned systematic strategies that are put in place to ensure the final HIV rapid-test results communicated to the client are accurate (123). In other words, it is the set of strategies adopted to ensure quality standards. QC is the set of activities needed to implement the strategies in real-time, including the day-to-day activities undertaken to implement that strategy (124). See table 7.1 for examples of QA strategies and the relevant QC activities associated with each.

Table 7.1: Examples of QA strategies with related QC activities for HIV rapid testing

Examples of QA strategies	Examples of QC activities
Ensure personnel are competent.	Train healthcare workers to draw the correct amount of blood. Train healthcare workers to use a timer.
Ensure correct temperature control.	Monitor the temperature within storage. Monitor temperature during transportation.
Ensure adequate and functioning stock for HIV-testing services.	Routine stocktaking. Timely ordering of stock. Check the expiry date of HIV rapid-test kits. Use stock that will expire first before stock with a later expiry date.
Ensure standard precautions are implemented and monitored.	Wear a new pair of gloves for each client. Use sharps and medical waste containers to dispose medical waste.
Consistent, accurate record keeping.	Regular audits to check that data are correctly captured.

Every person involved in the community-based HIV-testing service (CB HTS) has a role to play in maintaining program quality. Each person should understand how their job function fits into the QA strategy and how their actions can affect HIV-test accuracy.

Figure 7.1: The long and winding road to achieve quality

Case study: All categories of personnel are part of QA

Every Thursday afternoon it is Sophia`s responsibility to clean the stock refrigerator at the stand-alone HTS center. The stock refrigerator stores the HIV rapid-test kits used by the healthcare workers who provide mobile HIV testing for sex workers. This particular Thursday was sunny and very hot (the outside temperature was 35°C). Sophia remembered the training she received when she was initially employed by the organization; concerning the importance of storing the HIV rapid-test kits within the correct temperature range. She remembered the trainer mentioning that the rapid-test kit cannot be exposed to high temperatures. As Sophia unpacked the refrigerator, she placed the test kits on a surface out of the direct sunlight. She worked quickly as she cleaned the refrigerator to ensure that the test kits did not remain outside of the refrigerator for too long. This case study provides a good example of how all categories of personnel are part of QA and should be trained in quality-control practices.

Did you know?
Is QA a continuous process?

QA is on-going; in fact, it is a cyclical process. The cycle is continuous as it strives to improve the quality of the program by; firstly developing a QA plan and then developing policies based on the plan, for example, standard operating procedures (SOP). Quality control activities need to be implemented and personnel need to be trained (as per the SOP). The QC activities and personnel proficiencies then need to be monitored and evaluated. Feedback should then be provided to personnel and changes made to the program, based on the monitoring and evaluation process, thereby improving the program. These changes result in a revised QA plan and the cycle repeats itself as new strategies and activities are added to the QA plan (76).

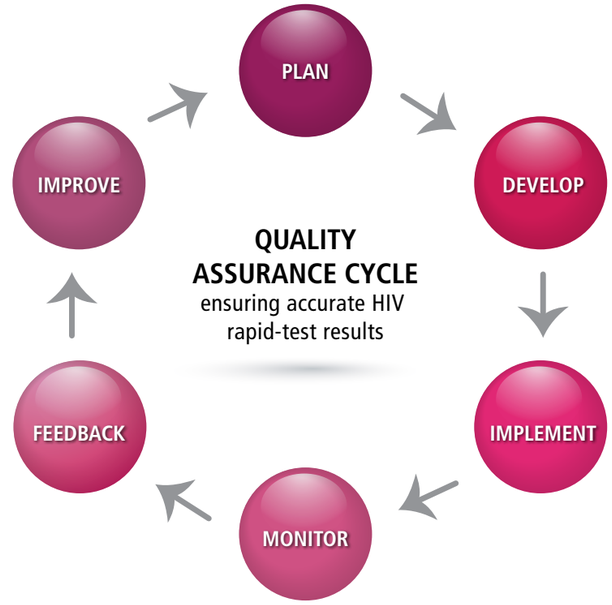


Figure 7.1: Quality Assurance cycle (76)

Case study: Following the QA cycle in real life

The QA manager at a large NPO, Lebogang, had the task of compiling an SOP at the start of an HTS program. This program aimed to hold HIV-testing days in rural communities around the province, with HIV testing being provided in pop-up tents. On each HIV-test day, music and refreshments were provided to encourage community members to come and test for HIV in the tents. People were able to access relevant health information, be tested for HIV and screened for related diseases. Lebogang used the NPO's QA plan to develop the SOP. One of the strategies she included in the SOP was that personnel must always adhere to standard precautions to ensure safety. One of the related activities was that healthcare workers had to wear a new pair of gloves for every client they tested. As she developed the SOP, she liaised with program management to ensure that it was possible that every healthcare worker could have a new pair of gloves for each new client, how many clients they expected to test on a daily basis and how they thought this process could be monitored. She also liaised with the financial manager (to ensure that there was adequate funding in the budget to procure the quantity of gloves

Case study cont.

required) and with the trainer (who needed to build this into the training agenda for the healthcare workers). After the SOP was finalized and the healthcare workers had received all the relevant training, the program commenced. The program coordinator, Rochelle, needed to monitor if the healthcare workers were following all the processes documented in the SOP, including the wearing of gloves. In accordance with the monitoring process laid out in the SOP; Rochelle was to issue a box of gloves to each healthcare worker at the beginning of each week. When the box was finished, the healthcare worker requested another box. Rochelle had to record how many boxes of gloves were issued to each healthcare worker during the week and reconcile this with the number of clients each healthcare worker saw. Rochelle reported back to program management that one of the healthcare workers, Lulu, had used fewer gloves than the number of clients she had tested for HIV. The program manager therefore organized additional training for Lulu around standard precautions and explained the importance of using a new pair of gloves for each client. Going forward Lulu understood why she needed to change gloves for each new client and did so diligently. Rochelle realised that healthcare workers should receive update training on a regular basis, especially around standard precautions. Lebogang therefore revised the QA plan and SOP to include quarterly update training for all healthcare workers.

Wearing gloves is important for healthcare workers doing HIV rapid testing.

2. How can you ensure quality of HIV rapid-test kits used in a community-based setting?

Ensuring that the client receives an accurate HIV-test result is dependent on well-trained personnel who are proficient; the correct storage and maintenance of kits as per manufacturer guidelines; and, valid HIV rapid-test kits. The following section will discuss each of these aspects within the context of CB HTS.

2.1 Well-trained and proficient personnel

The ability of healthcare workers to use HIV rapid-test kits correctly is of utmost importance. A proficient healthcare worker will follow the correct process and perform the HIV rapid test according to all the quality measures in place in order to give the client a correct HIV-test result. Be aware, however, that even proficient personnel may not always perform optimally. Personnel who have received all the relevant training and passed the practical test may be proficient; however, due to fatigue in the field or loss of interest they may not always follow protocol, resulting in errors, which affect their proficiency.

Some common errors that affect tester proficiency are:

- using HIV rapid test kits after their expiry date.
- not wearing a new pair of gloves for every new client.
- not collecting the required amount of whole blood (typically two drops) from an adequate finger prick. This should produce enough blood to allow you to wipe away the first drop of whole blood with cotton wool and then collect the required amount of blood for the HIV test.
- not using the proper reagent (buffer) in the correct quantity (the reagent helps to dilute the blood sample, so that the blood can flow freely on the test pad of the HIV rapid-test kit).
- not labelling the HIV rapid-test kit with the client's name (clients' test results could get mixed up).
- recording the test results earlier or later than the manufacturer's instructions state.
- incorrectly interpreting or recording test results.

When we talk about proficiency, we include performance. In order to have proficient testers, personnel need to be trained and certified appropriately. Once-off training is not adequate to sustain high-quality HIV testing. Over and above certification training, personnel should be monitored on a regular basis to prevent testing errors from occurring, to ensure that performance is aligned to proficiency, and, ultimately, that the correct HIV diagnosis is communicated to each client (125). Personnel should undergo regular internal proficiency testing evaluations.

2.1.1 Internal proficiency-testing evaluations

Healthcare workers can be transported to a central location, where they are monitored by a facilitator (QA manager or similar qualified personnel), while they conduct HIV rapid testing, using serum. The facilitator monitors the healthcare worker throughout the process. After the healthcare worker has read and interpreted the HIV-test result, the facilitator compares this HIV-test result to that of the HIV-negative or HIV-positive serum sample. This is a single-blinded process as the facilitator is aware if the serum sample is HIV negative or HIV positive, but the healthcare worker is not. If the healthcare worker's result is the same as the known serum sample, they are found proficient in HIV rapid testing. If their result differs from the known serum sample, they will require further training or coaching. Our recommendation is that these evaluations be conducted on a quarterly basis. See Appendix 18 for an example of the internal proficiency-testing assessment process.

An internal proficiency-testing evaluation is a good practice to ensure healthcare workers are able to conduct HIV testing skilfully.

2.1.2 External proficiency-testing evaluations

This evaluation is a process put in place in South Africa and forms part of external quality assurance (EQA). Like internal proficiency testing, it also measures the proficiency of personnel conducting HIV rapid testing, however, it differs in that it involves using serum prepared by an external provider (the National Health Laboratory Service in South Africa), making it a double-blinded process. Neither the facilitator nor the healthcare worker knows whether the serum samples are HIV negative or HIV positive. The facilitator monitors the healthcare worker while they conduct the HIV rapid test. The test results are recorded and sent back to the external provider, where they are assessed for accuracy. After analysis by the external provider, the results are fed back to the facilitator, who disseminates the results to the healthcare workers. If the HIV rapid-test result did not match the serum then either the healthcare worker made an error or the rapid HIV-test kit used was not valid. The facilitator would need to investigate further, highlighting gaps and identifying areas for further training.

Did you know?
Why is it best to use serum rather than whole blood in a training setting?

1. Serum is readily available from external suppliers and flows easily onto the HIV test strip because it does not clot (as whole blood does).
2. The reactivity of the serum sample (HIV negative or positive) is known, but the source of the serum is anonymous whereas taking whole blood from a person for a training session may compromise the confidentiality of that person's HIV status.

Tip

When using serum for proficiency testing

Always check the manufacturer's guideline on the HIV rapid-test kits regarding how much buffer should be used when using serum compared to whole blood. The amount of buffer may differ and personnel conducting HIV rapid testing should be aware of this.

Case study: Using proficiency testing to improve overall tester proficiency and to highlight gaps in HIV-testing training

As part of a regular internal proficiency training session, certified healthcare workers, providing HIV testing in workplaces, came to the training center to receive refresher training on HIV rapid testing and for a proficiency assessment. After the formal training session, each healthcare worker was provided with serum (instead of whole blood) and was monitored while they conducted an HIV rapid test. James, one of the healthcare workers, put on his gloves, checked the expiry date of the test kit, labelled the HIV rapid-test kit and drew the serum into the capillary tube. He placed his finger over the top of the capillary tube and could not get the serum out of the tube and onto the HIV rapid-test strip. After shaking the capillary tube for a while, he held the capillary tube over the HIV rapid-test strip and blew into it, blowing the serum out. Although his mouth did not touch the capillary tube, this practice is not recommended. James' actions were noted and corrected. The trainer, Elise explained to James what he had done incorrectly. In addition, Elise revised the training manual to include, "do not blow whole blood/serum out of the capillary tube". This became part of the standard training with all new healthcare workers and part of all future refresher training.

2.2 Temperature control

For optimum compliance of quality standards, proper monitoring of HIV rapid-test kit temperature is a necessity and HIV rapid-test kits should be stored, transported and used within the temperature range recommended by the manufacturer. Quality-control activities should aim to minimize the risk of temperature fluctuations of the HIV rapid-test kits. If HIV rapid-test kits are found to have been stored out of the temperature range, these test kits need to be assessed to confirm whether they can still be used or not.

Tip

Check temperature range

If you are storing two different makes of HIV rapid-test kits, which have different storage ranges, e.g. 2°C to 30°C and 2°C to 27°C, then store them according to the narrower temperature range (2°C to 27°C).

Did you know?
Can HIV rapid-test kits that are stored outside of the recommended temperature range give incorrect test results?

The correct temperature for HIV rapid-test kit storage is determined by the manufacturer and is always printed on the package or on the leaflet found inside the packaging. Typically, HIV rapid-test kits should be stored between 2°C and 30°C (35°F and 86°F). This means that the manufacturer recommends that the HIV rapid-test kit should not be in temperatures below 2°C (35°F) or above 30°C (86°F). It is not good practice to freeze an HIV rapid-test kit, then thaw it out and use it, nor should you leave an HIV rapid-test kit in the direct sun so that it gets very hot and then put it in the fridge to cool down before using it. If HIV rapid-test kits are not kept within the recommended temperature range, they may give incorrect HIV-test results.

In order to ensure that HIV rapid-test kits remain within the recommended temperature range, their temperature needs to be controlled at all times. We will now discuss how to control the temperature of test kits in different situations.

2.2.1 Temperature control and monitoring while HIV rapid-test kits are in transit

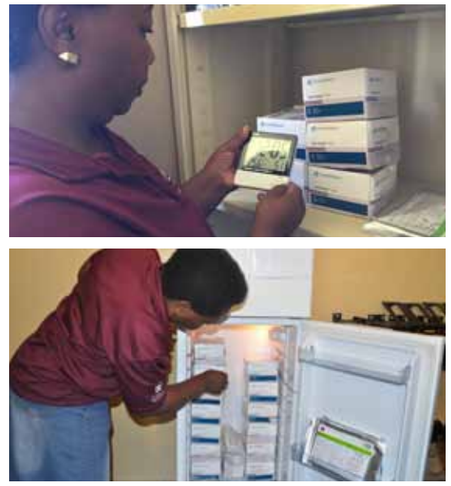
When transporting HIV rapid-test kits in a vehicle, irrespective of whether transportation is between the storage facility and a field site or between two field sites, the HIV rapid-test kits must be transported in a cooler box with gel packs inside an air-conditioned vehicle. The air conditioning should be on for the entire duration of the journey. This will decrease the risk of test kits reaching temperatures outside of the recommended range.

HIV rapid-test kits must always be transported in a cooler box inside an air-conditioned vehicle.

2.2.2 Temperature control and monitoring during storage of HIV rapid-test kits

It is important that HIV rapid-test kits are stored in a designated area where there is strict temperature monitoring. The storage area should be away from direct sunlight and should preferably be lockable. A fridge is ideal or a cabinet/cupboard that is in an air-conditioned area. You can monitor temperature by using a thermometer and temperature log sheets. The thermometer should be placed alongside the stored HIV rapid-test kits. A designated person should take responsibility for checking the thermometer and documenting the temperature readings of the HIV-test kit storage area at least twice a day (once in the morning and once in the afternoon). The temperature readings should be recorded onto a temperature log sheet. See Appendix 19 for an example of a manual temperature log sheet. If the temperature moves out of the acceptable range, then the designated person should notify a supervisor. A plan should be made to rectify the situation by extracting the HIV rapid-test kits and placing them in optimal conditions (i.e. storage within the acceptable temperature range) and thereafter to undergo internal quality control to determine if the HIV rapid-test kit is still valid and can still be used (internal quality control is discussed further on).

Another tool that can assist in monitoring temperature is the room temperature control chart (see Appendix 20). This allows the designated person to plot the temperature of the storage place every day and produce a graph of the temperature over a period of a month.



It is extremely important to monitor the temperature of the HIV rapid-test kits irrespective of whether they are stored in a lockable cabinet or a fridge.

2.2.3 Temperature control and monitoring during HIV testing in the community

When providing HIV testing in people's homes, tents and mobile vans, it is not easy to keep the HIV rapid-test kits at the correct temperature, as it often gets extremely hot outside. We recommend that HIV rapid-tests be stored and carried in cooler boxes in this situation. The cooler boxes should never be left standing in the direct sunlight and should always contain gel packs. Personnel should be trained to pack their cooler boxes correctly with the HIV rapid-test kits, gel packs and a thermometer each morning before going out.

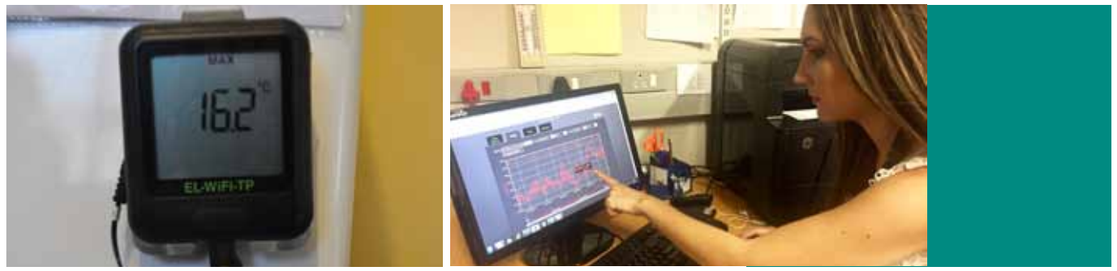
HIV rapid-test kits should remain in the cooler box and only be taken out when needed. Each time a test kit is removed from the cooler box, the thermometer must be read and the temperature recorded on the client's HIV-testing record. If the temperature is out of range, this should be noted and the quality assurance manager must be notified, so that corrective action can be taken.

HIV rapid-test kits should be kept in cooler boxes when CB HTS are provided outside of a controlled environment.

Case study: Monitoring temperature using a remote temperature monitoring and evaluation system

To monitor temperature manually can be challenging, as it relies on individuals remembering to check the thermometer and is therefore subject to human error. A study at the Desmond Tutu TB Center (DTTC) implemented an innovative electronic temperature monitoring system, which enabled the quality control coordinator, Stephanie, to monitor the temperature of HIV rapid-test kits, stored at different community testing sites. The system utilized an electronic data logger with a probe, which was placed alongside the HIV rapid-tests kits where they were stored at each site. The electronic temperature data logger sent a temperature reading from each probe to Stephanie`s computer hourly, so that she could view and monitor temperature readings. Whenever the temperature reading was out of the acceptable range, the system automatically alerted Stephanie via email or sms. The data logger had WiFi capabilities, and could therefore be synced daily, so temperature log data could be viewed in real-time.

On one occasion, Stephanie received an email alert of an out-of-range temperature at one of the HIV-test sites. Stephanie requested that all the test kits at that site be immediately removed from the refrigerator and brought back to the central office so that they could be checked for validity. On further investigation into why the temperature rose inside the refrigerator, she discovered that due to electricity cuts, the refrigerator had turned off. The electronic monitoring system enabled her to react quickly and provide corrective action to minimize the risk of providing an incorrect HIV-test result.



Electronically tracking the temperature of HIV rapid-test kits stored remotely.

2.3 Stock-control management

Stock management refers to the proper maintenance of sufficient supplies to ensure an uninterrupted service. This means that you must regularly count how many HIV rapid-test kits you have against how many you estimate you will need to ensure that you never run out. Good stock management also means that you must check the expiry date of the test kits to ensure they have not expired and organize the kits so that they are used in date order, with the ones closer to their expiry date used first. Good stock management minimizes waste and ensures adequate stock levels at all times.

We describe four basic steps that are integral for stock management for all relevant consumables, including HIV rapid-test kits, in a community-based setting.

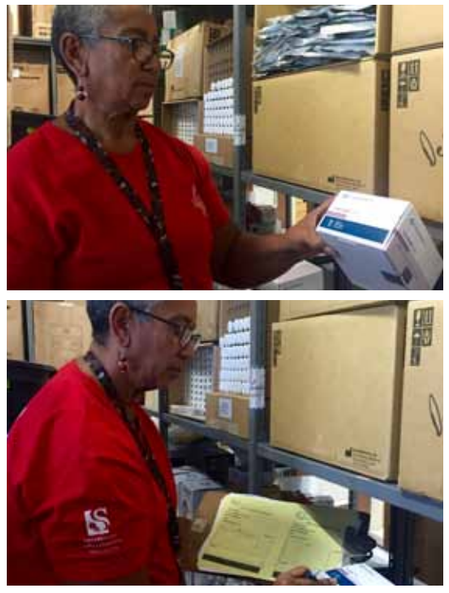
Step 1: Decide on a required stock level for each consumable, i.e. what quantity should be in stock. This is an important consideration, as you do not want to run out of stock. For example, if you usually use 500 HIV rapid-test kits each month, we suggest that you always have at least 750 HIV rapid-test kits in stock at the beginning of the month to prevent a stock out. (This gives you one and a half months' worth of stock). Count how many of each consumable you have in stock. Note this down, and then calculate the quantity that you need to order. For example, if you do your stocktake and find that you have 150 HIV rapid-test kits in stock, then you calculate: 750 – 150 = 600. You need to order 600 HIV rapid-test kits. (If each test pack contains 100 HIV rapid-test kits, then you need to order six HIV rapid-test packs). See an example of stock order form in Appendix 21. As determining the required stock level can be challenging, it is recommended that program implementers use multiple data sources and cross-check with data from the field, past experience and future predicted trends, to determine required stock levels (126).

Tip

Order your stock on the same date every month

Send your order form to the supplier on the same date every month to ensure that you receive your order at roughly the same time each month. Also, ensure that you place your order early enough so that it arrives near the beginning of each month.

Step 2: Formal handover on delivery of stock. A designated person should receive the delivery, count the stock, check the quantity against what was ordered, check expiry dates on boxes, check to confirm that the stock was in a temperature-controlled environment during transit and sign for the delivery. Any outstanding stock (ordered but not delivered) can be noted on the stock order form (see Appendix 21).



Ensure that the correct stock has been delivered and always check the expiry dates on the boxes of HIV rapid-test kits.

Step 3: Designated personnel enter newly received HIV rapid-test kits into the HIV-testing stock-control register, which allows for the monitoring and reconciliation of HIV rapid-test kits. This register (see Appendix 22) requires the personnel to record the following:

- the type of test;
- date received;
- pack quantity;
- lot number;
- batch/serial number;
- expiry date; and,
- when (the date) the pack is opened.

Step 4: the personnel responsible for stock management should also be responsible for issuing the daily HIV rapid-test kits to healthcare workers. The number of test kits given to each healthcare worker is based on the average number of clients that can be tested by that person in one day.

2.4 Ensuring the validity of the HIV rapid-test kit

As mentioned, you must ensure that the HIV rapid-test kits are valid. This means that they are working properly and will provide an accurate HIV-test result. Validity of HIV rapid-test kits can be checked in two ways;

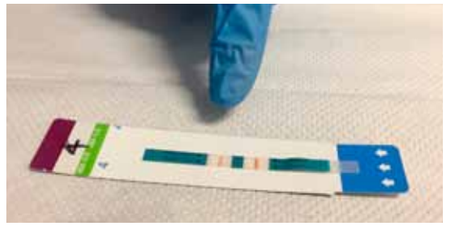
2.4.1 Checking the control panel on the HIV rapid-test kit

Checking the control panel on an HIV rapid-test kit is one way to check test validity. All HIV rapid-test kits have a built-in control window. A control line is usually marked 'C' on the device. When the HIV rapid-test kit is used, a line must always appear in the control window. This confirms that the test is valid. If no control line appears then the test is invalid. See Appendix 15 on how to interpret HIV-test results. There are a few reasons why no control line may appear: the test kit may be damaged; the proper testing procedure may not have been followed; and, the test kit may have expired or may not have been stored within the correct temperature range. If the control line does not appear, the healthcare worker should notify the supervisor immediately, so that the cause can be determined and the correct action be taken. If test kits have been stored outside of the recommended temperature, then use this process to check their validity to determine whether they can still be used (if they are valid) or if they should be discarded (if they are invalid). Appendix 23 provides a guideline around corrective actions to take, depending on the problem and its potential cause.

Tip

Ensuring quality HIV rapid testing

Never give a client an HIV-test result if the test kit is invalid.



Check the validity of the HIV rapid-test kit by ensuring there is a 'control line'.

2.4.2 Independent quality control

Independent Quality Control (IQC) is the process of using serum to test the validity of an HIV rapid-test kit, by comparing the HIV rapid-test kit result with known negative and/or positive serum samples. If the result differs, then the rapid-test kit may be invalid (if the correct procedure has been followed). As serum is typically supplied by an external source, this process has to be set up in partnership with a health laboratory and therefore is logistically more complicated and may have associated costs. However, IQC, if implemented, is a valuable process.

Tip

Remember for IQC

1. Always take four test kits out of a pack. Test two with the negative serum and two with the positive serum. Testing in duplicate increases confidence in the results.
2. Always record the lot number of the test strip and of the pack (sometimes these differ).
3. It is best practice to do IQC at the beginning of the week. If any defective test kits are identified, all test kits can be extracted before rigorous testing has taken place and corrective action can take place.

3. What are the standard precautions?

Every time you collect or work with a human specimen (e.g. blood, urine, sputum); you are potentially putting yourself at risk for diseases like HIV and Hepatitis B. HIV testing poses an occupational health hazard for the healthcare worker, the client being tested and anyone else in close proximity to where the testing is being done. The term 'standard precautions' has replaced 'universal precautions' and describes standard infection-control practices to be used universally in healthcare settings to minimize the risk of exposure to pathogens (for example, by wearing gloves and masks) and to prevent exposure to human specimens (127). Standard precautions are required to provide a safe HIV-testing environment for everyone, ensure the personal safety of individuals involved in HIV testing and to minimize their health risk (128, 129).

All personnel involved in the collection of any human specimen should be well trained in standard precautions, and should be familiar with applying these precautions in their environment and with what procedures are to be followed in case of an accident.

Tip

Standards for precautions

Treat all specimens as if they are potentially infectious.

3.1 Guidelines for standard precautions related to the workspace:

- Keep your workspace clean and neat (free of mobile phones, food, drink, clutter).
- Disinfect work surfaces daily and limit or restrict access when working.
- Discard used lancets and needles in special sharps containers:
  - » sharps container should be placed near the work space;
  - » sharps container must be closed when not in use; and,
  - » sharps container should be sealed when three quarters full.
- Use a medical-waste container (with a red bag) for disposal of products that contain bodily fluids.
- Manage spills of blood specimens or body fluids. Wipe most of the spill with paper towels. Mop up the rest using a chlorinated detergent.

Always keep your workspace neat and clean.

Did you know?
What do you do with the sharps container when it is full?

The sharps container must never be filled to the top. Securely seal the lid when the container is three quarters full. It is good practice to seal with tape over the lid. Put the container in a secure place, where it will not be handled by anyone, to avoid the contents being spilled. A certified medical-waste disposal company should be utilized to collect the sharps containers from your site and transport then to a designated disposal area, where the waste will be incinerated. Typically, the medical-waste disposal company will drop off new sharps containers when they collect the used ones. Ensure regular collection of all medical waste.

3.2 Guidelines for standard precautions related to personnel safety:

- Always wash/disinfect your hands after every client.
- Always wear a new pair of gloves for every client.
- Do not recover anything from a sharps container or the medical waste container/bag.
- Do not eat, drink, smoke, use a mobile device or apply cosmetics while doing HIV testing.
- Do not place mouth on or over the capillary tube/ pipette.
- Have an SOP for needle-stick injuries and ensure personnel know exactly what process to follow should such an injury occur.

Did you know?
What to do if a needle-stick injury occurs?

- Wash the infected area thoroughly with soap and water.
- Take post-HIV exposure prophylaxis (PEP) immediately or as soon as possible (maximum four hours) after exposure.
- Report the incident immediately to a health and safety officer (or other designated person).
- If possible, get sample of client's blood (± 2ml) with informed consent and the client's details.
- Go to the relevant medical professional (as per your organization's standard procedure) who can advise regarding further steps.

(See Appendix 24 for an example of SOPs for needle-stick injuries.)

Tip

Ensure occupational health guidelines are in place

Ensure that your organization has the relevant health insurance for all healthcare workers.

"When a needle-stick injury occurs we arrange and pay for the medication required for the employee involved. We then claim the amount back from the insurance company. If the employee is booked off sick, the leave is recorded as 'injury on duty'." - *Joyal Arendse (Health and Safety officer)*

MANAGING DATA

Mark Theart, Nomtha Mandla, Sue-Ann Meehan and Rory Dunbar

> Things get done only if the data we gather can inform and inspire those in a position to make a difference.
>
> *- Mike Schmoker (American born, administrator, English teacher, football coach and author, who wishes to visit South Africa one day)*

CHAPTER 8
MANAGING DATA

Why is this chapter important?

Collecting high-quality data that is accurate, relevant and timely is vital in order to provide information that is truthful, reliable and appropriate. This information is crucial for monitoring and evaluating community-based HIV-prevention programs to continuously improve effective service delivery. In order to generate the information required, good data management is essential. A data-management plan provides a framework for the collection, verification and analysis of data. This chapter will cover key concepts and provide considerations pertinent to both paper-based and electronic data-collection techniques and data flow. In addition, the chapter uses case studies to highlight how geographical data can be used within community-based HIV-prevention programs, to visually display data.

What will you learn from this chapter?

1. Why is there a need for high-quality data?
2. Where do you start? – The data-management plan
3. What types of data can be collected?
   - 3.1 Quantitative data
   - 3.2 Qualitative data
4. Who should collect the data?
5. How should the data be collected?
   - 5.1 Ethical considerations
   - 5.2 Choosing paper or electronic data collection
6. What happens to the data after collection?
   - 6.1. If you collect data on paper
   - 6.2. If you collect data electronically
7. How can geographical data be used in community-based HIV-prevention programs?
   - 7.1. Using aerial photography to display structural changes to the environment where a community-based HIV-prevention program was implemented
   - 7.2. Using mapping within a community-based HIV-prevention program to monitor program performance
   - 7.3. Using mapping to display self-reported access to care over the lifespan of a community-based HIV program

1. Why is there a need for high-quality data?

Data are a collection of facts or pieces of information that need to be processed, organized, structured and interpreted in order to become useful information (130). Data are therefore a key component of any community-based HIV-prevention program, as this information assists program implementers and managers to better understand how well their program is being implemented and whether it is reaching the intended targets. Better information allows for better decisions, which results in better health (110). In order for program managers, funders and other stakeholders to have confidence in the data and the information it produces, the data must be of high quality. Data quality is defined as, "data that are relevant to their intended uses and are of sufficient detail and quality with a high degree of accuracy and completeness, consistent with other sources and presented in appropriate ways" (131).

Some key characteristics of high-quality data:

- **Accuracy:** The extent to which the data is free of identifiable errors. The following example shows the difference between accurate and inaccurate data collected for 'sex' of a person accessing HIV-testing services (HTS).

  Sex: Female ACCURATE!

  Sex: Positive INACCURATE!

- **Completeness:** This is a sub-category of accuracy and is the proportion of data fields that are complete. The following example is for the data field 'HIV result'.

  HIV result: Negative COMPLETE!

  HIV result: Missing INCOMPLETE!

- **Accessibility:** The extent to which data are easily obtained (in an ethical manner). For example, if a client has consented to an HIV test and the healthcare worker has tested the person for HIV, then the 'HIV-test result' can be collected and should be available.
- **Relevancy:** The extent to which data are useful for the purposes for which they were collected. For example, if your program is providing voluntary medical male circumcision, it will be relevant and useful to collect data on any adverse outcomes after the circumcision procedure. It may not be relevant or useful to the program to collect data on the man's favourite colour.
- **Timeliness:** The extent to which data can be obtained in a timely manner. Data should be available frequently enough for program implementers to make informed decisions. Data should also be current and sufficiently up to date to be useful for decision making. For example, if data show that few men are testing for HIV in a community but the data is over 10 years old, the data may not reflect the current testing behaviour of men in the community.

2. Where do you start? – The Data-Management Plan

Before the roll-out of any project, it is imperative to have a data-collection and management plan. This is also true for community-based HIV-prevention programs. Data will be collected throughout the program, so you need to know upfront how you are going to collect and manage the data, so that you can produce reports that provide useful information that can be used to evaluate the program (See Chapter 9: Monitoring and Evaluation). As this guidance document pertains to program implementation, this chapter will focus on program data (and not research data).

Did you know?
What is the difference between program and research data?

Program data is information that is routinely collected, on an on-going basis, during the implementation of a health or social-services programs. The intention is mainly to inform program performance. For example, when implementing community-based HIV testing, routine data that is collected for each client may include age, sex, prior testing history, etc.

Research data is collected as part of a research process. These data are intended to collect additional information to contribute to new knowledge by addressing a clearly defined question. For example, a research study that aims to determine why persons living with HIV do or do not access HIV services may seek to interview persons newly diagnosed with HIV. Interviews would involve asking participants about reasons for going or not going to HIV services. This interview data would be considered 'research' since it is extra information, not routinely collected, and will contribute to new knowledge about accessing HIV-testing services (HTS).

A data-management plan is essential to manage data well. The plan should outline how you will handle your data during and after the program. When developing a data-management plan, consider the following:

- The purpose of the data (why are you collecting the data).
- What data to collect (the type, format and volume of data to be collected).
- How to collect the data (what method will be used, what quality assurance processes will be put in place).
- Who will collect the data (what categories of staff and what skills do they require).
- How to manage ethical issues (how to protect the identity of clients, who owns the data).
- What data management software to use (for example, Microsoft SQL, MySQL).
- How the data will flow (when it will be entered into the database, how it will be verified, when it will be considered correct, at what point will M&E reports be generated).
- How the data will be stored and backed up (is there sufficient storage capacity, who will be responsible for back-up and recovery, how will data be recovered if there is an incident).
- How to manage access to and security of data (how to control access to keep the data secure, who will manage the risks to data security).
- Which data should be retained, shared and/or preserved (how will you decide what data to keep, for how long will data be kept).
- How will the data be shared (who will you share the data with and under what conditions).
- Who will be responsible for data management (who is responsible for implementing the plan and for each data-management activity).
- What resources are required to deliver the plan (what hardware/software will be needed over and above what you currently have, what training is required).

For more guidance around data-management plans, we suggest you look at the following websites:

http://www.dcc.ac.uk/sites/default/files/documents/resource/DMP/DMP_Checklist_2013.pdf

https://www.icpsr.umich.edu/icpsrweb/content/datamanagement/dmp/framework.html

A good data-management plan will include a data-management system. This will allow the data to be created, retrieved, updated and managed easily. Typically, the data-management system will be electronic. Even when data collection is paper-based, it is best to enter the data into an electronic database for analysis. This means that data ends up in an electronic format.

Did you know?
What is a database?

A database is an electronic collection of data that is organized so that its contents can easily be managed, accessed and updated (132).

Best practices to consider when setting up a data-management system. The system:

- must be aligned to the project goals;
- must not be dependent on any specific software or computer system;
- must be simple, so that it is easy to adapt if the data-collection tools change;
- must generate information that is accurate, complete and relevant, as the information will inform decision making about the program; and,
- must include safety and security features to protect participants' identity and to protect data from loss.

3. What types of data can be collected?

There are different types of data. The type of data you collect will depend on what you want to know.

3.1 Quantitative data

This is information about quantities; that is, data that can be measured and written down with numbers (133). Quantitative data generally answers the questions 'Who?' 'What?', 'When?', and 'How much?'. Quantitative data will tell you, for example, the number of females and males who had an HIV test and who were diagnosed with HIV within your program. Analysis of this data may reveal that a higher proportion of females tested HIV positive compared to males within your program.

Geographical data (geospatial data) can be classified as quantitative data. Geospatial data is defined as, "data and information having an implicit or explicit association with a location relative to the earth" (134). Collecting geographical data is beneficial as

you are able to locate and visually display the data using maps, and analyse spatial relationships using Geographic Information System (GIS) software. This is a powerful way to display program data, in relation to the context in which the program exists. For example, if you are doing door-to-door HIV testing in a community, you may want to show a map with all the households in that community and then highlight the households you have visited for HIV testing. This gives an immediate picture of how many households have been visited as a proportion of the total households.

3.2 Qualitative data

This is information that is non-numerical. Qualitative data generally answers the questions 'Why?' and 'How?' Typically, it is descriptive. It can be written (e.g. newspaper accounts), verbal (e.g. interviews) or visual (e.g. observations) (133). Qualitative data, for example, would be the transcripts from interviews that asked people why they tested for HIV. Analysis of the data would provide some of the reasons why people came to test for HIV.

4. Who should collect the data?

Deciding who will collect the data is often dependent on the where the data originates.

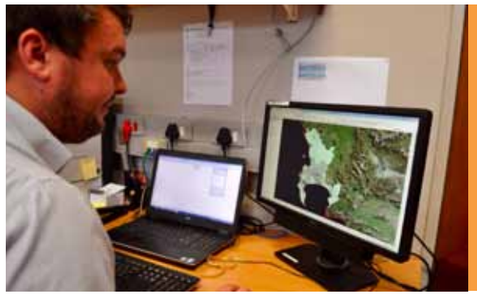
Primary data can be collected by any category of personnel working at the source (where the data is collected). Program managers must ensure that personnel are adequately trained to collect high-quality data (see Chapter 4: Creating, Equipping and Sustaining a Team). Typically, in a community-based HIV-prevention program, the majority of data collected will be collected at the source, i.e. directly from clients accessing the services. For example, at a mobile HIV-testing services (HTS), the healthcare worker will collect data routinely from each of their clients (usually demographic and health data). The healthcare worker may collect client age, their contact details, whether they have tested for HIV previously, etc. This is primary data collected at the source.

Examples of secondary data include; the national census database or databases that exist in the healthcare sector (for example, the District Health Information System [DHIS], which is aggregated routine healthcare data that is collected from health facility's registers and combined with data from other facilities). Program managers or any other category of personnel, requiring this level of data, may use this type of data. For example, a program manager, overseeing a community-based HIV-testing program targeting males in a specific community, may wish to determine the program's HIV-testing coverage for males in that community, and would review DHIS data for this purpose. The program manager could also use the national census database to determine how many adult males are living in the community. The program data will determine how many males were tested for HIV as part of the community-based HIV-testing service (CB HTS). Using these data sources, the program manager can estimate the proportion of adult males in that community who were tested for HIV and hence HIV-testing coverage for males achieved by the CB HTS.

Did you know?
What is the difference between primary and secondary data?

Data from **primary** sources include information collected from program registers, surveys, structured questionnaires or direct observations. **Secondary** data comes from data that have already been collected and are now available for use by others.

Primary data is collected 'in the field', while secondary data comes from data that have already been collected.



5. How should the data be collected?

5.1 Ethical considerations

Data must be collected in an ethical manner. Respecting confidentiality and privacy of the client, getting informed consent where applicable and collecting data that is correct is crucial within any program. Data must never be fabricated or assumed. We suggest you familiarize yourself with the Singapore Statement (135) and the Helsinki Declaration (136), which provide ethical guidance that can be used to develop data-collection policies and codes of conduct to ensure that data are collected in an ethical manner. Although these documents refer to research-data collection, the same principles can be applied to the collection of program data. (See Appendix 25 for the Singapore Statement)

Visit the following websites for more information:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3954607/pdf/nihms-561137.pdf

http://www.apa.org/monitor/jan03/principles.aspx

https://www.wma.net/what-we-do/medical-ethics/declaration-of-helsinki/

Collecting data on paper and electronically.

5.2 Choosing paper or electronic data collection

Program managers need to decide whether to collect data using a paper-based system (using a pen to write all the relevant information onto a hardcopy form) or electronically (using a device such as a tablet, phone or computer to enter the relevant information). Due to technological developments, electronic data capturing can now be done at the point of collection, for example, in the community, at the client's home or at a mobile site. Each system has advantages and disadvantages, and a good program manager should consider which is most appropriate in the specific context.

Table 8.1: Advantages and disadvantages of paper versus electronic data collection

Paper-based data collection	
Advantages	Disadvantages
• It is easy to use (the data collector does not need any technological skills). • The data-collection form can be easily printed and distributed. • It is practical for documents involving signatures. • It is easy to access the document information to make changes if errors have been made (always remember to sign next to any changes that are made).	• There may be a delay in analysing the data, as the data must be captured into an electronic system from the hardcopy form. • More personnel will be required to manage the flow of data (compared to an electronic system). • A lot of storage space is required for the huge amounts of paper generated and it can be difficult to organize and store paper-based data. • Storage is less environmentally friendly. • Paper is open to natural disasters (fire or floods will damage/destroy the paper).
Electronic data collection	
Advantages	Disadvantages
• Data entry is immediate. • Reports can be generated in real-time. • Data do not require a large storage space. • Fewer personnel are required to manage the flow of data (compared to a paper-based system). • It is easy to access the data and easy to share with others electronically.	• Specific technical training is required to ensure personnel are skilled in using an electronic data-collection device. • The electronic data-collection device can malfunction, which results in downtime in the field. • Electronic data-collection devices will need capital outlay upfront as well as a budget for regular maintenance. • Electronic data-capture devices have a market value in the open market and are vulnerable to theft.

Healthcare workers collect data from their clients, on either paper or using an electronic data-capture device.

6. What happens to the data after collection?

In this chapter, we share our experiences and best practices regarding data flow whether collected on paper or electronically. We also discuss data verification, which is important because program reports generated must be based on data that are as accurate and complete as possible.

6.1 If you collect data on paper

During CB HTS, healthcare workers collect routine data from their clients. The data are collected on paper forms, stored securely throughout the day to protect confidentiality and the integrity of the forms and, at the end of each day, these forms should be transported to a locked location in a central office where they are checked for any errors and verified before being sent to a data office where the data can be dual entered into a database. Dual entry means that two different people enter the data to ensure that it is entered accurately and completely. The two datasets are compared and any errors are corrected by checking the source data. All source data from the original forms must be stored in a locked, secure location to prevent breaches of confidentiality and data loss. A final validated dataset is used to generate reports. See Figure 8.1 for the flow of data from collection to analysis.

Consider the following for paper-based data collection on the next page;

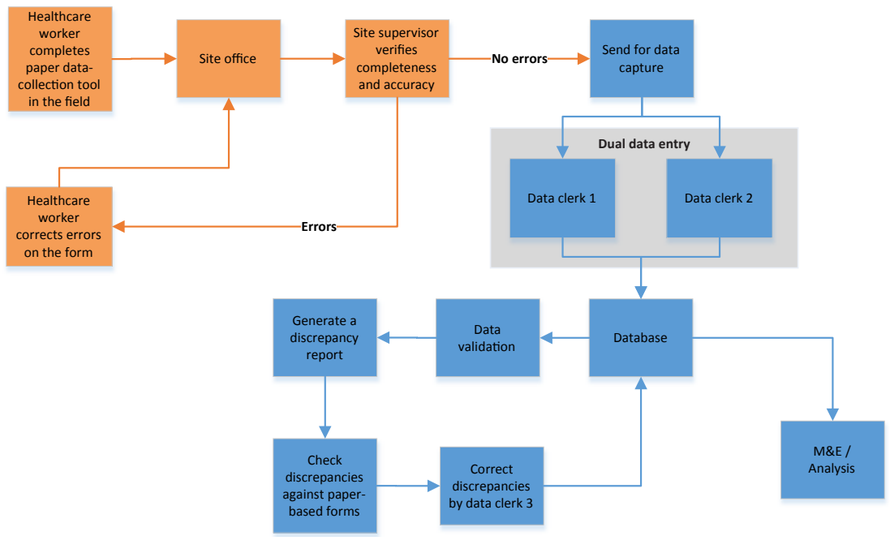


Figure 8.1: Data flow for paper-based data collection

Case study: Paper-based tracking system: Transporting paper from the community to a central office

Sandra and Ricardo are community healthcare workers, providing door-to-door TB screening and testing. They collect relevant health data for each client (including age, sex and TB symptoms) on a paper form (client record). Sandra and Ricardo carry files to store the forms during the day. At the end of the day, these records are handed over to a driver, Theodore, who transports them to a central office. Here they are checked for accuracy and completeness before they are given to the data clerks to enter into an electronic database. When Sandra and Ricardo hand over the client records to Theodore, they record in the driver's logbook; the date and time, the name and quantity of client records being handed over. Theodore signs acknowledgement that he has received these records. He puts them neatly into plastic sleeves and then puts them into a document box. When Theodore arrives at the central office, he hands the box and plastic sleeves to Marlene (the document receiver). Marlene is responsible to check what forms she has received and how many she has received. She writes these details into her receiving logbook. She also checks this against what is written in the driver's logbook. Both Marlene and Theodore sign the receiving logbook. If any forms go missing it is easy to identify where they were last handled, by reviewing both the driver and the document receiver logbooks. Missing forms are often quickly traced in this manner.

6.1.1 Transportation of paper forms

Paper documents can easily go missing. We suggest that a tracking system be put in place and provide a case study below to illustrate such a system.

6.1.2 Manual verification

Designated individuals need to check the completeness of the data-collection forms and highlight any missing data. Consider a system where the designated person randomly selects a number of client records each day and reads through these to check for completeness. Depending on what data are missing, the client record can be returned to the healthcare worker to add the missing data. For example, if age is missing from a client record, the healthcare worker can telephone their client or revisit their home to find out their age. The client record can be updated appropriately. This method also helps to identify problems in the data-collection or recording practices, such as miscoding, skipping required elements, misspellings or illegible writing.

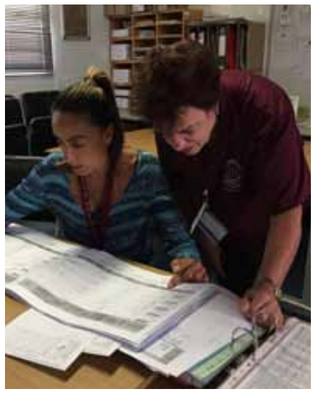
Tip

Ensuring data is complete

The designated person should keep a record of data elements that are regularly missing from client records and explore the possible reasons for this. For example, when reviewing client records completed for male clients accessing mobile HTS, we discovered that the family planning screen was often blank. We spoke to the healthcare workers, who said that family planning did not concern men. We provided additional training and explained that the family planning screen is also to be used for male clients; men can be asked what family planning method their partner is using and it opens the conversation to discuss the role of condoms. After this training, the family planning screen was completed for men attending mobile HTS.

In health programs, data are often transcribed from individual client records into registers. For example, the key data collected from clients who access mobile HTS are usually transcribed from individual client HTS records into an HTS register. HTS registers usually accommodate about 20 rows per page, with each row containing a different clients' information. The columns contain the different data elements. Registers can be used to check for data completeness and accuracy. The designated person can look at the register and easily see if there is missing data on a page. They can also conduct routine 'cross checks' for accuracy (in the register). For example, they may look at one page (20 clients per page). If 'sex' is one of the demographic variables collected for every client, then if they total the 'male' and 'female' columns on that page, it should equal 20. If they count five males and 14 females (5 + 14 = 19), the data element 'sex' is missing for one of the clients on that page. It is easy to check which of the 20 clients has the 'sex' data element missing. The designated person can check the individual client's HTS record (in case 'sex'

was not transcribed into the register). If the data are also missing from the client HTS record, then this record can be sent back to the relevant healthcare worker for completion (they can contact their client to confirm their sex).



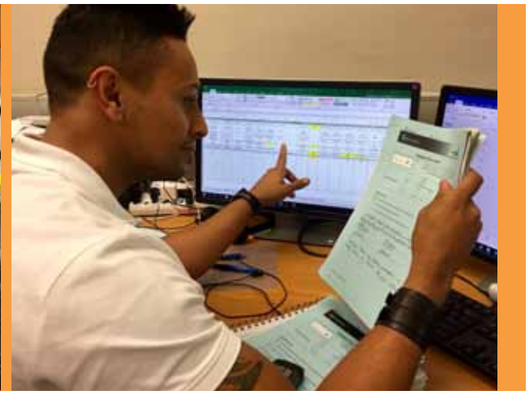
Data are manually checked for accuracy and completeness before being handed over to independent data clerks for dual capturing.

6.1.3 Dual capturing and electronic verification

If you chose to collect data using a paper-based system, then the data collected needs to be entered into an electronic database for analysis. Analysing data is much easier if it is in an electronic format. It is good practice to use dual capturing when entering data into an electronic format, as this will result in better quality data with fewer errors than single entry (137). Dual capturing involves two independent data clerks who each capture the same source document into two independent datasets: dataset 1 and dataset 2 respectively. The two independent datasets are checked against each other to find any data fields that do not correspond. This becomes a data discrepancy. For each of the data fields that do not correspond, an independent third data clerk checks the source data and makes the correction based on what is contained in the paper-based document. The final validated dataset can now be used to generate reports.

"We received the HIV-testing service registers on the 15th of each month….I capture the data from the register into the database and then give the register to my colleague to capture." - *Bulelwa Mangcunyana (Data clerk)*

Data collected on paper need to be captured into an electronic database to make it easy to generate reports.



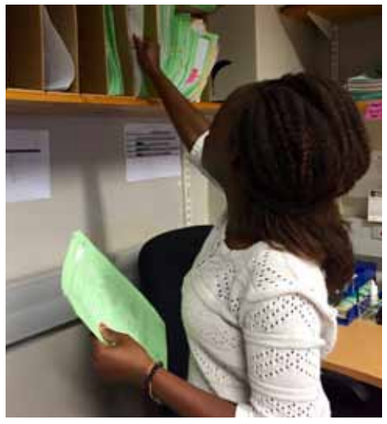
Verification of the electronic data is important. This can be done by reviewing source data (collected on paper) and comparing it to the data entered into the database.

6.1.4 Filing documents

Within any program, you will end up with many papers. These can range from individual client records, program protocols to financial documents, contracts and other source documents. All of these need to be filed and later stored long term. Consider the following regarding filing:

- **Make a physical space available**. Depending on the volume of documents, you may need a document storeroom or one or more filing cabinets.
- **Ensure confidentiality**. Filing cabinets/ storerooms should be lockable and only designated persons should have access to the files and documents.
- **Create a filing system**. This is necessary for effective retrieval of documents at a later stage.
- **Ensure administrative support**. Have a designated person to assist with the management, monitoring and receipt of documents as well as management of the filing system.

"The data office receives all the HIV-testing services records and registers on a monthly basis. These are stored in a locked cupboard. They are considered 'active' files, as they are being 'keyed' by the data clerks. Once all data have been keyed and the data have been validated the forms and registers are indexed & boxed for off-site storage." - *Taryn Allie (Data Administrator).*



It is essential to file individual client records appropriately.

6.1.5 Data storage

Depending on the context, you may need to store the program data long term. Consider the following regarding data storage:

- How long do you need to keep your data? Sometimes documents may need to be kept for up to 10 years (long-term storage).
- Physical storage space. What space is available at your offices? Should you use a document-storage company?
- What will it cost to use a document-storage company? Data storage should be budgeted for upfront. You will need to pay for long-term storage costs upfront, as the data will be stored long after the program (and the funds) have finished.
- How safe and secure is the proposed storage facility. You must maintain client confidentiality throughout the process.
- How do you store and backup the electronic database you have created? (This is addressed in the next section).

6.2 If you collect data electronically

The process from data collection to the generation of reports is shorter if data are collected electronically. There is no need for the transportation of large amounts of paper nor is there a manual-verification process. (See Figure 8.2.) Data are uploaded into the database from the electronic data-capturing (EDC) device and are verified electronically.

"Validation is built into the electronic data capture (EDC) program, but it is always good to evaluate the data in the database regularly for systematic or unexpected errors. One of the drawbacks of directly recoding data electronically is that you do not have a paper-based source document and therefore have no way of comparing the data to anything. The EDC therefore has to be programmed very accurately and specifically to eliminate errors that could be made on paper-based data capture tools." - *Rory Dunbar (Data manager)*

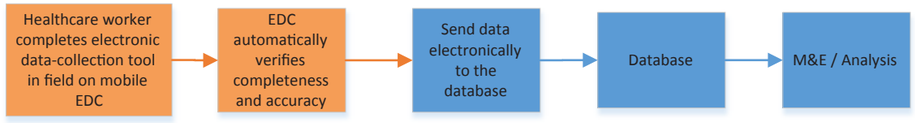


Figure 8.2: Data flow for electronic data collection

Apart from the advantages and disadvantages associated with electronic data collection, we provide some additional considerations, from our experience:

6.2.1 Choosing an electronic data-capturing device (hardware)

This can be challenging because you need to ensure that the device you choose has the functionality that is relevant to your needs. Consider the following when choosing a device:

- **Durability.** When collecting data in the community (uncontrolled environment), the device needs to be robust. It will be handled constantly throughout the day. It could be dropped, be left in direct sunlight or get wet. It also needs to be able to be charged or have sufficient battery power for an entire day or shift.
- **Global Positioning System (GPS) functionality.** This may be useful if you plan to collect geographical data. For example, capturing GPS coordinates for every household where you provided an HTS would be beneficial if you wish to show program coverage within a specific community.
- **Barcode scanner.** This is useful if you have barcodes as unique identifiers for your clients or if you have barcoded biological specimens, for example, blood samples.

6.2.2 Method of transmitting the data from the device

You may need to travel to the central office and download the data from the device into the database.

Alternatively, you could transmit the data from your community-based location, using WiFi or 3G, which is beneficial as it does not require any traveling and therefore can be done more efficiently.

At the end of each day, healthcare workers 'sync' their data. This means that they use the 3G capability on their devices to send the data straight to the database at head office.

6.2.3 Choosing appropriate software

Developing the required software internally will allow you to customize the software to your specific needs, but you will need highly skilled personnel (and lots of time) to do this. This may not be an option within many organizations. Alternatively, you can use an open–source, data-collection tool that does not require a large investment in personnel time, however, technical support for such a system may be slow and may not be locally accessible. There are various open–source, data-collecting systems available at the following websites;

- Redcap (Research Electronic Data Capture) - https://catalyst.harvard.edu/services/redcap/
- Kobo Toolbox - http://www.kobotoolbox.org/,
- Open Data Kit (ODK) - https://opendatakit.org/

6.2.4 Technical support

This refers to maintaining both the hardware and software during the lifespan of the program. If technical difficulties are not sorted out in a timely manner, they may impact on the quality of the data collected, making technical support a key part of electronic data collection. Hardware support might include repairing or replacing broken devices and replacing batteries. Software support might include setting up of devices initially and also during the program's life cycle, ensuring that the software is up to date, ensuring that date and time are correct, and troubleshooting any errors that may occur.

"…the most common issue we experience is that the batteries run flat, often due to personnel forgetting to charge the devices. We (the technicians) always have spare batteries with us so the flat battery can be changed in the field. This reduces the amount of downtime for the device." - *Shaun Lawrence (EDC technician)*

It is vital to have program technicians who can provide technical support to the HIV-prevention program by maintaining the electronic data-capturing devices.

6.2.5 Data storage and back-up

Even if you collect data electronically, you will have many paper documents, which need to be filed and stored. See section above for the filing and storage of papers. If data have been collected electronically or entered into an electronic database after collection, you will end-up with electronic data, which need to be stored or backed-up. Consider the following for the electronic data storage;

- Ensure good data support. Have a designated person (for example, a data administrator) who can manage and retrieve electronic data files.
- Have a good back-up strategy. This is important so that months and years of hard work will not be lost.

The kind of back-up strategy you use is dependent on your program and data-management system.

- External hard drives are ideal to back-up program documents, policies, monitoring and evaluation forms, presentations, photographs, etc. (everything related to the HIV-prevention program except the routine health data collected from the clients).
- An automated data back-up system is highly recommended for all client-level data collected in the field (used for analysis). Use a product that has been specifically developed to perform automated backups of file systems (file server backup software or a USB external back-up device that includes automated backup software).
- How often you back-up may depend on the frequency with which personnel are providing the system with fresh information. A best practice is to do daily back-ups.

"At the Desmond Tutu TB Center, data are kept on a central server. The database administrator has created a script that allows for the automatic back-up of the central server at the same time every day. This back-up means that the data are copied from the central server to a server with multiple hard drives, known as a NAS (network attached storage). In addition; once a week the data are encrypted (to ensure client confidentiality) and stored on an external hard drive. This is sent to an external storage company." - *Clyde Smith (Data Programmer)*

For more information on data management read the World Health Organization publication: Consolidated strategic information guidelines for HIV in the health sector, which can be found at: http://www.who.int/hiv/pub/guidelines/strategic-information-guidelines/en/

7. How can geographical data be used in community-based HIV-prevention programs?

This section will describe three case studies, which highlight how collecting geographical data can be used within community-based HIV-prevention programs.

7.1 Using aerial photography to display structural changes to the environment where a community-based HIV-prevention program was implemented

An HIV testing and linkage to care program was implemented in a peri-urban community that comprised both formal and informal households (shacks made of corrugated iron). Healthcare workers went door-to-door, providing HIV tests to consenting residents in their homes. Those who tested HIV positive were referred for HIV care and treatment at the local healthcare facility. Healthcare workers were required to do a follow-up household visit for those newly diagnosed with HIV to check if they had accessed HIV care at the healthcare facility.

In 2014, before the program started, an aerial photograph was taken of the community in which the program was to be implemented. The photograph assisted program management with planning. A workplan was put in place taking into account both informal and formal residential structures. Based on the estimated number of households in the area, a specific number of healthcare workers were employed and the program was rolled out.

Two years into the program (2016), the healthcare workers started to report that the informal structures were being replaced with more formal residential structures (brick houses). This was in line with the government's housing policies. A second aerial photograph was taken, which clearly showed changes in the number and type of residential structures, compared to the earlier photograph in 2014 (see Figure 8.3). These changes had an impact on the program. The building of new formal houses, where previously informal housing had been, meant that new people had moved into the area who now needed to be tested (the formal housing was awarded to people on a waiting list and not necessarily those who had been living in the informal structures). It also meant that those who had been living in informal structures (and had already been tested for HIV), had left the area and were lost to follow-up (could not be followed up in their homes). The program therefore could not report whether they had accessed HIV care or not.

Program management used the two aerial photographs in the following way:

- They restructured their program based on the new information that aerial photograph 2 presented, amending their workplan and timelines accordingly.
- In their report to the funders and other stakeholders, they used the photos as evidence that their ability to follow-up those tested for HIV had been compromised due to structural changes in the area.

Using aerial photography to display structural changes to the environment where a community-based HIV-prevention program is implemented.

7.2 Using mapping within a community-based HIV-prevention program to monitor program performance

The Families Matter! Program (FMP) is an evidence-based HIV-prevention program for parents/caregivers of pre-adolescent children between nine and twelve years old. The program aims to assist caregivers in improving and enhancing their parenting skills through effective communication with their children on aspects such as sexual reproductive health and sexual risk reduction. The program also assists parents by encouraging general parenting practices such as relationship-building, positive reinforcement and good communication with their pre-adolescent children. The long-term objective is to delay sexual debut of pre-adolescents and thereby reduce their risk of acquiring sexually transmitted infections (STIs) and HIV. FMP is a six-week program, with one contact session per week, and a graduation ceremony after completion of the six-sessions. FMP was implemented in Cape Town between April 2014 and September 2016 and made use of GIS software to screen and recruit eligible participants.

Program management decided on a predetermined area which was mapped using census data. Community liaison officers (CLOs) went door to door in the predefined area. They worked in a systematic manner to screen every household in the area and enrol eligible parents/caregivers into the program. They used a handheld personal digital assistant (PDA), an electronic mobile device that contained an electronic questionnaire (preloaded). The CLOs collected the GPS coordinates (using the PDA) for each household. If no adult was at home, the CLO captured the GPS coordinates and moved to the next household. If there was an adult at home, the CLO administered the screening questionnaire to determine their eligibility for FMP. All answers were captured directly into the PDA. All data were downloaded into a specially designed database.

Collecting data electronically made it easy for program managers to monitor the progress made by CLOs, regarding recruiting community members into FMP. Data analysts used the electronic data and GPS coordinates to show progress on a map. See Figure 8.4.

The predefined area where FMP was implemented is marked with a red outline. Each enumerated area is shown with yellow borders and numbered (these are predetermined by the census data in this area). Each colour dot on the map represents a different aspect of the recruitment process (blue represents the households visited, green represents households where there was an eligible participant and red indicates households where the caregiver attended FMP and graduated from the FMP program). Using the map (visual representation), the program manager was able to easily see at a glance what progress was being made in recruiting participants for FMP. The program manager could also determine which enumerated areas had not yet been visited as well as the households where there were caregivers who were eligible for FMP but had not attended the program. These households could be revisited and these caregivers re-invited to enrol for FMP.

Map of the predefined area where FMP was implemented, showing households visited, households eligible for FMP and those where participants had graduated from FMP.

7.3 Using mapping to display self-reported access to HIV care over the lifespan of a community-based HIV program

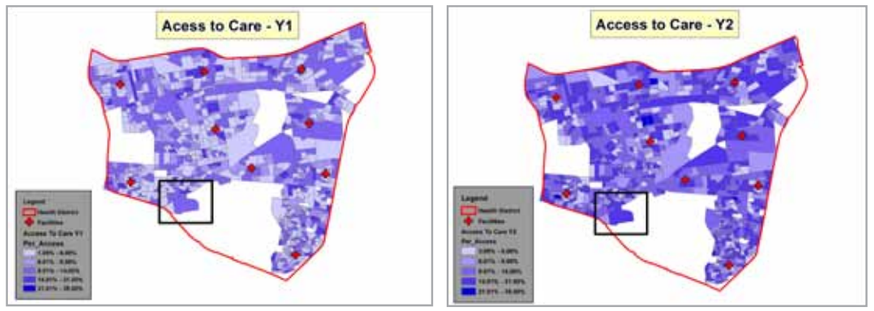
Access to HIV care and treatment is an important indicator that is often collected in HIV programs. It is vital that HIV-infected clients reach a healthcare facility, access HIV care and start treatment as soon as possible for improved health outcomes.

A community-based HIV-services program, implemented in a predefined area, initiated an HIV-testing campaign, whereby healthcare workers went door-to-door in the community providing HIV testing to all consenting clients in each household. This program used a mobile device to capture the GPS coordinates of each household they entered and then proceeded to collect routine data electronically for each client who consented to an HIV test in that household. For each new client, a unique number was automatically generated by the mobile device. All newly diagnosed HIV-infected clients were referred for HIV care and treatment at a healthcare facility.

The program employed peer counselors who visited each HIV-positive person in their home or at a mutually agreed place at a later date (at least one month after diagnosis) to follow-up and confirm if they had accessed HIV care and treatment at a healthcare facility. When the peer counselor met with the clients, they entered the client's unique number into the electronic data-capture device and proceeded to administer an electronic questionnaire, in order to capture information about 'access to care for that client. Based on the information gathered from the client, the peer counselor would confirm if the client had accessed HIV care and treatment or not. The peer counselors provided psycho-social support and further education to clients who had not yet linked to care. They also supported clients by going to the healthcare facility with them, if the client requested this.

The program used mapping to geographically display the proportion of HIV-positive clients who had linked to care and treatment services in each enumerated area (as per the census data) within the predefined program area. A colour was allocated to each range of percentages, with the lightest colour demarcating a lower proportion and the darker colour, a higher proportion. Maps were created at the end of year 1 and 2.

If you look at Figure 8.5, you will notice that the bottom map (year 2) generally has darker colours compared to the top map (year 1), highlighting an overall increase in the proportion of clients who had accessed HIV care and treatment by year 2 compared to year 1. If you look at the area within the marked black square, you will notice; in year 1 between 14% and 21% of clients diagnosed with HIV had accessed care. By the end of year 2, this had increased to between 21% and 35%. This case study used mapping to display the progress made within a community-based linkage to HIV care program between years 1 and 2, in terms of the proportion of HIV-infected people who had accessed care and treatment at a healthcare facility.



Using mapping to display self-reported access to HIV care from year 1 to year 2.

MONITORING AND EVALUATION

Blia Yang, Jerry Molaolwa, Margaret Van Niekerk and Rory Dunbar

> What gets measured gets done, what gets measured and fed back gets done well, what gets rewarded gets repeated.
>
> *- John E. Jones (United States Federal Judge, named Time magazine's 100 most influential people of the year)*

CHAPTER 9
MONITORING AND EVALUATION

Why is this chapter important?

Monitoring and evaluation (M&E) is an essential practice for any community-based HIV-prevention program. Program implementers need to gather information regarding the progress made by their program and to use this information to determine whether the program is reaching its goals and delivering what it set out to do. M&E needs to happen repeatedly during the lifetime of a program.

However, it is not always easy to implement M&E practices. Program implementers need time and skills to develop appropriate M&E tools. This chapter will use case studies and share personal experiences to highlight key aspects of M&E to assist program implementers with M&E practices. We share appropriate tools that can easily be adapted and used in different settings, making this chapter an important one for anyone implementing a community-based HIV-prevention program.

What will you learn from this chapter?

1. Why is monitoring and evaluation important for community-based HIV-prevention programs?
2. How do you monitor and evaluate program outputs?
   - 2.1 Considering concepts related to monitoring and evaluating program outputs
   - 2.2 Indicator considerations
   - 2.3 Using case studies to illustrate monitoring and evaluation of program outputs
     - 2.3.1 Case study: M&E to assess the process of a community-based HIV-testing services (CB HTS) program six months after implementation
     - 2.3.2 Case study: M&E of TB screening in a community-based HIV-prevention program
   - 2.4 Tools for monitoring and evaluating program outputs
3 . How do you monitor and evaluate healthcare worker performance?
   - 3.1 Evaluating how healthcare workers deliver services
   - 3.2 Evaluating how healthcare workers collect data
4. How do you monitor and evaluate TB infection control?
   - 4.1 Using a TB infection-control assessment tool
5. How important is it to disseminate program data and M&E results to healthcare workers?

1. Why is monitoring and evaluation important for community-based HIV-prevention programs?

No community-based HIV-prevention program can be successful without continual monitoring and evaluation (M&E). Monitoring is the routine tracking of service and program performance using information collected regularly (11), for example, the information collected on client HIV-testing records or in an HIV-testing services register. Evaluation is the periodic assessment of whether the program is achieving its objectives (11). This involves data analysis and looking at indicators.

Without M&E, program implementers would not know whether their program was reaching its goals and doing what it set out to do. After conducting M&E, program managers should provide feedback to program personnel, and implement new strategies or adapt existing ones to improve the program and assist in meeting the intended objectives.

In this chapter, we will not only consider M&E to monitor and evaluate program outputs, but also healthcare worker competency (the manner in which personnel perform directly affects the program outputs) and TB infection control (extremely important for any HIV-prevention program).

2. How do you monitor and evaluate program outputs?

2.1 Considering concepts related to monitoring and evaluating program outputs

Depending on the nature and size of your program, you will need to develop an M&E plan and/or an M&E framework. The aim of an M&E framework is to monitor the services delivered and evaluate the outcomes achieved. A framework describes the indicators used to measure whether the program is meeting its targets or not (138, 139).

Tip

M&E frameworks are to be developed prior to implementation

Always set up the M&E framework before the commencement of the program, to ensure that your data-collection activities are in line with the information required for M&E.

When setting up the M&E framework, think about the following in relation to your HIV-prevention program:

- **Program goal:** The long-term objective to which the program contributes, for example, to decrease HIV incidence.
- **Strategic objective(s):** The purpose of the program, for example, conducting HIV testing or distributing condoms.
- **Outputs:** The program deliverables, for example, increased condom usage within the sex worker population. Outputs are identified as increased knowledge, skills and utilization, changed attitudes, or delivery of other benefits.
- **Activities:** These are the tasks undertaken, as reflected in the program workplan.
- **Indicators:** These are variables that measure different aspects of the program. Some activities will be linked to multiple indicators (See example of a workplan in Appendix 5). Indicators measure the outputs, and ultimately determine if the program is being carried out as planned, i.e. meeting the program objectives. For example, the activity may be to provide HIV-testing services. The indicators linked to this activity may include the number of adolescents tested for HIV, the number of adults tested for HIV, the number of individuals who test HIV positive, etc.

In addition, program implementers, need to consider how the data will be collected for M&E purposes and what M&E reports will be generated. These considerations are included in the overall M&E plan.

- **The data-management system:** This includes data collection and validation, before the generation of M&E reports. See Chapter 8: Managing Data, which describes data collection and data management, including the flow of data for paper-based and electronic data-collection methods. M&E personnel should be involved in setting up the data-management system because they need to ensure that the data collected are in line with the indicators, such that the program outputs can be evaluated to determine if the program is meeting its objective.
- Generation of M&E reports: These can be generated to show how well the program is performing with regards to the different indicators being measured and how well the program is doing in reaching its overall objective. Data and M&E personnel should work closely together to ensure useful M&E reports are generated during the lifetime of the program.

There is a wealth of literature around M&E, which includes information on setting up M&E plans and frameworks. The following websites may be helpful:

http://www.who.int/hiv/strategic/me/en/

http://www.unaids.org/en/dataanalysis/monitoringandevaluationguidance

https://www.cdc.gov/hiv/programresources/evaluation.html

2.2 Indicator considerations

2.2.1 Deciding on indicators

Only once you have identified the indicators you are going to report on, will you know what data need to be collected. When deciding on indicators, it is good practice to familiarize yourself with the HIV indicators that the national department of health report on. Indicator selection at the national level within the M&E department at the Ministry of Health (National Department of Health) (11, 138) is typically done

Indicator	Type of indicator	Levels of disaggregation
Number of public health facilities offering HTS	Input	Province, district and facility
Number of non-health facilities providing HTS	Input	Province and district
Number of campaigns aimed at promoting HTS	Process	Province and district
Number of trained lay counselors on stipend	Process	Province, district and facility
Number of clients receiving pre-test information	Output	Province, district, facility, gender and pregnancy status among females
Number of clients tested for HIV	Output	Province, district, facility, gender and pregnancy status among females
Number of clients screened for TB	Process	Province, district and facility
Proportion of HIV-negative men referred for MMC	Process	Province, district and facility
Proportion of HIV-positive clients referred for CD4 testing	Process	Province, district and facility
Number of HIV-positive clients receiving CD4 results	Output	Province, district and facility
Proportion of new TB patients tested for HIV	Output	Province, district and facility
Proportion of new STI patients tested for HIV	Output	Province and district
Proportion of new pregnant women tested for HIV	Output	Province, district and facility
Percentage of facilities where the HTS policy guidelines are available	Outcome	Province, district and facility
Proportion of individuals who have been tested for HIV in the previous year and have received results	Outcome	Province, district and facility
Proportion of newly diagnosed HIV positive (people newly enrolled in and receiving care)	Process	Province, district and facility

Figure 9.1: Adapted from the recommended HIV-testing service indicators in South Africa (11)

by a multisectoral working group. It is important for the indicators used in your community-based HIV-prevention program to be aligned to the national HIV indicators.

Within South Africa, the Department of Health, requires public primary healthcare facilities and community-based HIV-prevention programs to report on a basic set of indicators for the national HIV-Testing Services Program (11), in addition to indicators for antenatal care (ANC), tuberculosis (TB), opportunistic infections (OI), sexually transmitted infections (STIs), and post-exposure prophylaxis (PEP). There are also indicators that measure referral into services, such as TB screening, STI screening, antiretroviral treatment (ART), and Voluntary Medical Male Circumcision (VMMC). Figure 9.1 shows the recommended HTS indicators identified by the National Department of Health in South Africa.

2.2.2 Reporting indicators to government

Ideally, the indicators collected within your community-based HIV-prevention program, should be reported to the government health services, so that your data will form part of the National HIV Database. For this reason, it is critical that the data collected are accurate and complete.

In our setting, relevant data from community-based HIV-testing services (CB HTS) are shared on a monthly basis with the local health authorities. These data are included in their monthly district report which is sent to the provincial health authorities, who, in turn, report the provincial data to the national health authorities.

Did you know?
Why do program managers need to ensure high-quality data?

It is important to have a global TB database because TB is one of the top-ten causes of death in the world, with an estimated 1.79 million deaths in 2015 (67). It is also the leading cause of death for People Living with HIV and AIDS (140). Using the global TB database as an example, data collected from the primary source (healthcare workers who conduct HIV tests and screen for TB in the field), are entered into a database at local and sub-district level. Data from all the sub-districts are then fed through to a database at provincial level and from there to national level. The national level data becomes part of the global TB database. This is one of the reasons data quality is so important and why program managers need to monitor and evaluate routinely collected data.

Quality measures need to be put in place to ensure that data collection in the field meets the standards necessary to be submitted to government health services for reporting.

2.3 Using case studies to illustrate monitoring and evaluation of program outputs

2.3.1 Case study: M&E to assess the process of a community-based HIV-testing services (CB HTS) program six months after implementation

Linda and Jacob were healthcare workers, working together, providing door-to-door HIV-testing services, as part of a home-based HIV-prevention program, targeting men and adolescents specifically (men and adolescents do not typically access healthcare facilities for an HIV test). Linda's role was to do the HIV testing and the counseling, while Jacob collected the relevant demographic and health-related data for each client they visited. He captured this data using an EDC (electronic data capture) device. Jacob had to capture many demographic and health indicators, including; age and sex of each client, client consent for an HIV test and the client's HIV-test result. At the end of each day, the data from Jacob's EDC were uploaded into an electronic database. The data manager used this database to generate reports for M&E purposes, using aggregated data.

The program employed six pairs of healthcare workers (including Linda and Jacob). The overall target for the number of clients tested for HIV was 800 per month. Two of the indicators that the program was monitoring included: number (and proportion) of males who test for HIV and the number (and proportion) of adolescents who test for HIV. The program had set monthly targets for each of these indicators: overall 400 (50%) of those tested should be male and 200 (25%) should be adolescents. In order to monitor program performance, the M&E co-ordinator, Nellie, requested that the data manager generate a report after six months to track how many of those tested were male and how many were adolescents.

The data manager generated the following report, which included data collected from all six pairs of healthcare workers (including Linda and Jacob) who were providing door-to-door HTS:

Report generated: 5 April 2015			
Reporting period: 1 October 2014-31 March 2015			Targets for indicators at six months
	Number (n)	%	
Total tested	4863		4800
Sex			
Male	2382	49%	2400 (50%)
Female	2481	51%	
Age			
13-19 years	632	13%	1200 (25%)
20-25 years	1466	30%	
26-40 years	1652	34%	
>40 years	1113	23%	

Case study 2.3.1 cont.

Nellie was able to look at this report and determine that 49% of those tested were men (target 50%), and 13% were adolescents (target 25%). Nellie set up a meeting with Rosemary, the program manager, to discuss the M&E report. The program had exceeded the number of clients tested for HIV (at six months) and was on track to reach the target relating to the proportion of men tested, but was not close to reaching the target for the proportion of adolescents tested. Rosemary said that healthcare workers had reported that adolescents did not like to test in the household, especially in front of their parents and usually declined an HIV test. Nellie and Rosemary therefore strategized about how they could reach more adolescents for HIV testing. They decided to set up a meeting with the healthcare workers, including Linda and Jacob, to provide them with feedback from the M&E report and to discuss how the program could reach more adolescents for HIV testing.

This case study shows how a simple M&E report, detailing program indicators, can be used to monitor program objectives during the course of the program, and the importance of using M&E reports to feed this information back to healthcare workers and address any gaps within the program.

EDC - ELECTRONIC DATA CAPTURE DEVICE

PAPER REGISTER

The health data collected from clients will be used for M&E to determine how well the program is progressing toward its targets and for epidemiological understanding of HIV and TB in communities.

2.3.2 Case study: M&E of TB screening in a community-based HIV-prevention program

Beauty was the District Manager for a community-based HIV-prevention program that went door-to-door and screened people for TB in their homes, as part of an integrated HIV-testing service. One of the indicators that Beauty monitored was TB screening. She knew that, of the people screened for TB in her program, 1.5% had TB symptoms (See Appendix 13, for an example of a TB screening tool integrated into an HTS record). As part of her job, Beauty attended the quarterly health service meetings in the district. It was at one of these meetings that she noted that the proportion of people at public healthcare facilities who are screened for TB and have TB symptoms, ranged between 4% and 10%. She compared this to the proportion of people with TB symptoms in her program (1.5%).

Beauty was aware that the proportion of people with TB symptoms will be higher in a healthcare facility compared to a community-based setting, but she still thought that 1.5% was very low. She therefore asked the site managers in her program to increase the frequency of their visits to those sites that had had the lowest number of clients with TB symptoms during the past six months. She requested that they observe and evaluate how well the healthcare workers were screening clients for TB and how well the TB screening tool was being used. After two weeks, the site managers provided feedback to Beauty. This showed that there were instances where healthcare workers would ask the head of the household if anyone had signs and symptoms of TB rather than screening each member of the household using the TB screening tool. Site managers corrected these errors in TB screening immediately and Beauty developed refresher training related to TB screening. All healthcare workers had to return to headquarters for refresher training on the correct TB screening process to follow and using the TB screening tool appropriately.

One of the concepts that the World Health Organization (WHO) considers is what impact the M&E had (11). In this case, Beauty noticed that the community-based HIV-prevention program had a low proportion of people with TB symptoms. She used site managers to monitor and evaluate what was happening in the field, and provided refresher training that directly addressed the problem identified in the field as a result of the monitoring process. Over the next few months, Beauty saw an increase in the proportion of clients who had been screened for TB and had TB symptoms within the program.

2.4 Tools for monitoring and evaluating program outputs

Many tools exist that can be utilized for monitoring and evaluating program outputs for HIV-prevention programs. This section provides information, based on our experience, and describes two tools that we have used to monitor and evaluate program outputs for CB HTS.

2.4.1 Using an HIV testing-services register

In South Africa, all clients counseled at CB HTS should be entered into a HTS register. This is usually a paper-based register. Typically, client data are initially collected on an HTS record (paper) and then transcribed into a paper-based HTS register. If data are collected electronically, then a data specialist can generate an electronic HTS register, which will include the same data elements as the paper-based HTS register. It is recommended that the national HTS register be the minimum data-collection tool used for door-to-door HTS (140).

Irrespective of whether a client consents to and has an HIV test or not, it is recommended that they be entered into the register. This allows program managers to compare the group that accepts an HIV test to the group which does not (in terms of age and sex). The register must be kept up-to-date as it forms one of the source documents utilized to maintain electronic records (11). Information that cannot be entered into the register immediately, for example, a TB test result (it usually takes 48 hours to get a TB test result from the laboratory), can be entered later.

Benefits of using an HTS register for M&E:

- Makes it easy for program managers to determine the accuracy and completeness of the data collected.
- Enables program managers to detect trends, which may result in changes to the services provided, based on the data collected.

See Appendix 26 for an example of an HIV-testing services register. Using an HTS register for M&E is described in the case study below.

Case study: Using an HTS register to ensure accuracy of data before sending it to the national health department

Sister Margaret is a site manager, for a stand-alone HTS. One of her responsibilities is to ensure the accuracy of the data routinely collected from clients who access the stand-alone center. She does this by checking the HTS register at the end of each month.

The register has columns for male and female, columns for HIV test accepted and HIV test declined and columns for 'pregnancy test - yes' and 'pregnancy test - no'. All clients who access the stand-alone center are identified as male or female and it is standard practice to offer pregnancy tests to all females.

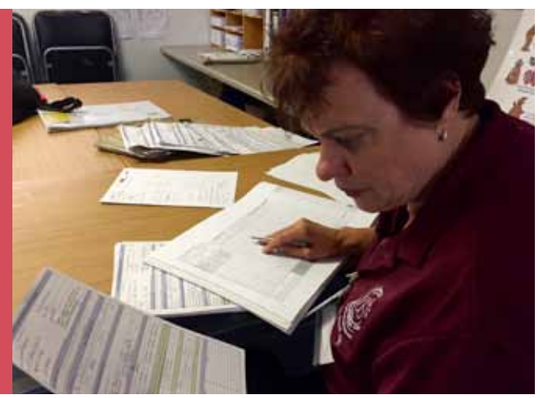
On 6 May 2016, Sister Margaret sat in her office and began her monthly review (for the month of April) of the HTS register, checking completeness and accuracy.

First, Margaret reviewed the male and female columns and looked at the totals for each of these columns: 125 females and 89 males. In other words, 214 clients had accessed the stand-alone center in April 2016. To check this total, Margaret added up the columns for the number of clients who had an HIV test (total 210), plus those who had declined an HIV test (total 4), which totalled 214. Margaret was happy that the total number of clients who accessed the center in April was 214. Her quick calculation showed that the majority of clients had consented to an HIV test (210/214; 98%) and that most of the clients were female (125/214; 58%).

Secondly, Margaret reviewed the 'pregnancy test - yes' column. She counted 131 females who were offered a pregnancy test. Her previous check had shown that there were 125 female clients. There appeared to be an error in the data. Margaret carefully checked the sex of each client who had been marked as having been offered a pregnancy test. On page 15 on the register, she found that six of the clients marked as having had a pregnancy test, were also marked as males. Margaret then visited the HTS record (source document) for these six clients and confirmed that these clients were men.

Margaret spoke to the healthcare worker who had completed the register and requested that the healthcare worker rectify the error in the register and initial the mistake.

Margaret also noticed that on this particular day, there were a higher number of HIV tests completed than the norm. Margaret used this as an opportunity to coach the healthcare workers and explain how important it is to record data accurately. Even on busy days (when personnel tend to make more mistakes), personnel should be mindful of recording data correctly. Using an HTS register can therefore be helpful in identifying mistakes and corrective action can be taken before the data are sent to the sub-district level for reporting to the national level.



It is important for supervisors to check what is recorded in the HTS register against the data contained on the primary source document (the HTS record) to ensure that transcribing has been completed accurately.

2.4.2 Using a site audit tool

An audit is a good way of monitoring if the appropriate and relevant services are being provided to each client and to check if healthcare workers are documenting these services accurately. This is important because program managers need to ensure that the program is delivering the services that it intended to and that data are being correctly captured.

Community-based HIV-prevention program are often implemented at different sites. A site can be any designated place where HIV services are delivered, for example, a stand-alone center or a mobile HTS delivered in a specific geographical area. Each site should be audited.

Tip

Site personnel should be a part of the auditing process

A site audit should be conducted by an M&E officer (or appropriate program manager) together with the site manager (or whoever is responsible for the site). In this way, the site manager is part of the audit process. The audit should not be conducted by an external person who comes in to find problems at the site.

In our setting, we developed an electronic site audit tool (see Appendix 27), in Excel. It contains predefined questions, which could be answered either as, yes, no or not applicable. The tool was divided into different sections including:

1. Instruction sheet.
2. Evaluation of the physical site environment.
3. A systematic review of clients' HTS records for HIV-positive and HIV-negative clients).
4. Automatically generated analysis sheet.

Consider using the tool in the following manner:

Step 1: Complete the site-evaluation section. This section evaluates how secure the site is (security measures), infection-control measures and the counseling and testing rooms (how well they are equipped for HTS).

Step 2: Randomly select 20 client records for review. Because all data from individual client HIV-testing records are transcribed into the HTS register, we suggest that the HTS register is used to randomly select individual client HIV-testing records for review.

The aim is to select 20 records (10 for clients with a negative HIV rapid-test result and 10 for clients with a positive rapid-test result). Note the date on which the site audit is taking place and open the HTS register to one month earlier. For example if the audit is taking place on 22 April 2016, open the HTS register to 22 March 2016. Working backwards (going toward February and January 2016), select every 10th client who has a negative HIV-test result. Note down their unique client numbers and pull out their HTS records. Repeat the selection process for clients with a positive HIV-test result. As fewer clients will have tested HIV positive, we suggest you randomly select every second or third client who has a positive HIV-test result.

Step 3: Complete the review by reading each question, looking at each HTS record and answering either yes, no or not applicable. This section evaluates the following:

- If HTS records were filled out correctly.
- If HTS records have all the necessary demographic and health data recorded.
- If there is a record of risk reduction discussed with the client.
- If family planning needs were assessed and an action noted around the needs.
- If there is a record of TB screening conducted, a clinical assessment, TB treatment referral service recorded if applicable, data from the sputum collection.
- If consent for an HIV test was given by the client.
- If condoms were offered.
- If STI screening was conducted and recorded.
- If there is a record of referral to an HIV service.
- Records of the number of attempts to follow up clients who are TB cases and/or diagnosed with HIV.
- Evidence that the client accessed health services for TB and/or HIV.

A Site Audit Tool is used for monitoring delivery of health services, and is a good method of visually providing feedback of the services that are being delivered and where improvement is needed.

Step 4: Upon completion, the electronic tool automatically generates graphs and a basic analysis, which allows program personnel to easily interpret the results of the site audit. Alternatively, the M&E officer can do some preliminary analysis if a paper-based tool was used. The important point is that the results of the site audit should be fed back to all healthcare workers at the site. If there are areas where the site has performed poorly, the healthcare workers need to meet with the site manager and draw up a quality improvement plan.

Step 5: The quality improvement plan is implemented and monitored by the supervisor/manager.

We suggest that a site audit is conducted bi-annually. It is a great tool to utilize to assess at a micro-level how well field teams are doing in ensuring clients are given quality CB HTS.

3 How do you monitor and evaluate healthcare worker performance?

One of the key messages from Chapter 4: Creating, Equipping and Sustaining a Team is that a successful HIV-prevention program is reliant on skilled, well-trained and highly motivated personnel. To ensure that healthcare workers provide consistently high-quality services, their performance needs to be monitored and evaluated regularly by a supervisor. Studies have shown that supervision through audit and feedback had consistent to moderately large effects on the performance of health workers (141).

Did you know?
Why do we record health-related data?

1. To ensure that we refer clients for proper referral with accurate data.
2. To monitor program activities and impact (11).
3. To gather data for government health services who then report this to the national level and globally to inform resource allocation and implementation of interventions.
4. To understand the epidemiological spread of diseases by analyzing data (78).

Some points to consider regarding healthcare worker evaluations:

- Healthcare worker performance should be monitored in a standardized manner.
- Evaluating healthcare workers' competency levels should not be a punitive process. Program managers and supervisors must ensure that healthcare workers understand this.
- The aim of the evaluation is to ensure every healthcare worker is performing optimally and to identify areas that need improvement.
- Healthcare workers must have received all the necessary and appropriate training prior to their performance being assessed.
- They must receive feedback after the evaluation so that they know how well they are doing, they can feel proud of their accomplishments, and understand which areas require improvement.
- If required, the correct remedial action must be put in place. This can include additional training, coaching, mentoring, etc.

A healthcare worker is being assessed on using the HIV rapid test by the supervisor who provides feedback during the process.

We share two tools that we developed and adapted for monitoring and evaluating how well healthcare workers perform while providing CB HTS and how well they collect data during CB HTS.

3.1 Evaluating how healthcare workers deliver services

The aim of evaluating service delivery provided by a healthcare worker is to ensure that they are skilled at providing HTS. In order to evaluate healthcare workers' service delivery, we developed a healthcare worker competency evaluation tool (See Appendix 28). The tool can identify areas where the healthcare worker is very competent as well as areas that require improvement. By repeating the evaluation quarterly (or bi-annually, depending on the number of healthcare workers to be assessed), healthcare worker competency can be tracked.

The tool is used as follows:

Step 1: The supervisor sits in on an HTS session (with the client's permission), to observe and monitor how the healthcare worker conducts the session (HTS) and evaluate the quality of the HTS provided. The competency evaluation tool evaluates if the healthcare worker:

- Provides adequate information and education on HIV, prevention of mother-to-child transmission (PMTCT), VMMC, TB, STIs, family planning, and condoms.
- Screens for additional services; screening for TB, STIs, and non-communicable diseases.
- Conducts quality HIV rapid testing, i.e. according to standard operating procedures and following all the quality assurance practices.
- Adheres to all safety measures and precautions, for example, correctly disposing of biohazardous waste, wearing gloves, etc.
- Provides adequate post-test counseling as appropriate for the HIV-test result.

The supervisor completes the tool as she observes the HTS.

S**tep 2:** After the session, the healthcare worker completes the tool, reflecting on their perception of how they delivered the HTS.

Step 3: The supervisor and healthcare worker meet and discuss their assessments. At the end of the session, there should be agreement on areas where the healthcare worker performed well and areas where improvement is required.

Step 4: They decide and agree on what remedial action is required (if any) for any areas of work that require improvement. This could include formal training or informal coaching. They both sign the documents and all documents are filed.

Step 5: It is the responsibility of the healthcare worker to ensure that they receive the necessary training for improvement.

The benefits of this tool are:

- It assists supervisors to determine if healthcare workers are having difficulties or require improvement in any aspect of service provision.
- It allows healthcare workers to reflect on their work and gain insight into the manner in which they provide HIV services. It allows them to evaluate their own performance, highlight where they think they did well and which areas could be improved.
- It offers the opportunity for supervisor and healthcare worker to sit together, discuss how they each evaluated the session and compare and discuss the similarities and/or differences between their evaluations. This provides a professional and mature space to discuss work performance.
- It allows a space for the discussion to be captured together with any remedial plan. Both parties sign the document, which is filed. This document is then referred to at the next assessment so that improvements can be tracked.

Healthcare workers should receive constructive feedback from their supervisor (in an encouraging manner), after the completion of a competency evaluation on the services they have just provided to a client.

"The competency evaluations give me the opportunity to go into the field and into the homes with the healthcare workers to assess their competency with an actual client. We first get permission from the client if they are comfortable with me as a supervisor assessing the healthcare worker who will be providing the HIV-testing services. We explain to the client that this is to help us monitor and evaluate the healthcare worker's competency and if need be to develop training content to ensure we deliver high-quality services into the community. Clients have been supportive when we have explained it in this manner.

I find sitting in on a healthcare worker's actual delivery of HIV-testing services also helps me identify gaps in the service. For example, I have noticed that healthcare workers often use too many acronyms such as 'PMTCT, STI, and ART'. When I sit in on the sessions, I can see that sometimes clients do not understand the acronyms.

Competency evaluations allow me to give immediate

feedback to the healthcare worker immediately after the session. My approach to providing feedback is a sandwich approach, which is providing them with a compliment on something they did really well and then giving them feedback on areas needing improvement, and then ending off with an overall compliment, and how we can work together on a remedial action plan to help them improve. The healthcare worker also tells me where they felt they did well and any areas where they feel they could improve. We discuss possible tools required to help them improve in these areas." - *Jacqueline Hlalukana (District Manager)*

3.2 Evaluating how healthcare workers collect data

Healthcare workers do not only provide HTS they also collect data from clients. One of the key messages in Chapter 8: Managing Data is the need for high-quality data (data that are accurate and complete). Ensuring data are collected properly and efficiently is necessary to monitor the progress of services delivered.

A data-verification audit tool (see Appendix 29) can be used by supervisors and aims to monitor and evaluate whether healthcare workers are collecting quality data. i.e. data that are consistent and plausible. This tool was used in a door-to-door HIV-testing program but could be adapted for any setting.

Consider using the tool in the following way:

Step 1: The supervisor will randomly select households to visit, where healthcare workers have provided HTS and collected relevant data the previous day.

Step 2: The supervisor visits these households and, with permission from the head of the household, asks the household members a series of questions to evaluate if HTS were offered in a quality manner.

Step 3: The supervisor is equipped with the printed list of the data recorded by the healthcare worker. (The list is printed because the healthcare worker collected the data electronically.) The supervisor asks the household members predefined questions to confirm the data that the healthcare worker collected. These data-verification audits are completed without the relevant healthcare worker present.

Some of the questions that the supervisor may ask include:

- How many individuals live in the house? When the head of the household provides the answer, the supervisor will confirm this against the printed data collected by the healthcare worker. It is important to enumerate all the individuals who live in the house and not just those present at the time of the visit. Enumerating all individuals will provide a plausible denominator, which will help determine the estimated population size of the community.
- How many individuals were home and were offered HTS by the healthcare worker? This answer is again verified against the printed list that documents how many HIV tests were offered, and how many clients were screened for TB and STIs in the house.
- Were any individuals referred for services at a healthcare facility and what services were they referred for? The supervisor needs to ask this question to each individual in the house and verify their answers against the printed list. This is important to ensure that clients are appropriately referred for services.

Tip

Timing is crucial for data-verification audits

A data-verification audit should be done on the day following the healthcare workers' visit to the household. This is important so that memory about the HTS received is fresh in their minds of those in the household.

Step 4: The supervisor provides feedback to the healthcare workers (within 24 to 48 hours). This should be in the form of a discussion, which should be captured onto the audit tool. This an opportunity for supervisor and healthcare worker to have a professional discussion relating to the healthcare workers' performance.

Step 5: The healthcare worker revisits the household if required and rectifies any errors that may have been highlighted by the audit.

"I think that the data-verification audits have helped me to ensure that I enumerate all individuals in the household and make appointments to go back and offer HIV testing to those who were not at home when I originally visited. There are times when I forget to enumerate all the individuals in the house. Sometimes there may actually be ten individuals that live in the house and I am busy trying to provide HIV-testing services to the seven individuals who are presently at home. My partner and I need to provide information and education on HTS and record all the demographic and health related information for each individual onto the electronic data-capture device. When I have many clients in one house, I may forget to ask if anyone else lives in the house who is not currently home. I therefore miss the opportunity to make appointments to come back to see them when they are home and to offer them HIV-testing services. When my supervisor conducts a data-verification audit and returns to let me know that I forgot to enumerate one or two individuals in a house, then I return to enumerate those individuals and I schedule an appointment to see when they are home so I can return back to the house to offer them HIV-testing services." - *Akhona Kili (Healthcare worker)*

4. How do you monitor and evaluate TB infection control?

In addition to having skilled healthcare workers, it is also critical to have personnel who are aware of their health status and potential health risks, especially relating to HIV and TB. Chapter 4: Creating, Equipping and Sustaining a Team highlights the importance of healthcare workers being screened for TB at baseline and again periodically. Chapter 4 also describes TB infection-control training as essential for personnel providing HIV services. In Chapter 5: Delivering Holistic Client-Centered HIV-testing Services we discussed integrating TB screening and testing into HTS and how to collect sputum responsibly to reduce the risk of the spread of TB bacteria.

TB infection control plays a vital role within any program that provides HIV services. As a result, it is essential that TB infection control is monitored and evaluated. This is especially true in countries with high HIV and TB burden, where the spread of unsuspected infectious TB is higher within HIV-care facilities, and amongst those who test for HIV (142). We share a TB infection-control assessment tool, which was developed to monitor infection control at community-based HIV-testing centers.

4.1 Using a TB infection-control assessment tool

TB infection control involves a combination of measures aimed reducing the risk of TB transmission within populations (143). The TB infection-control assessment tool (see Appendix 30) monitors and evaluates four aspects of TB infection control. These are:

- **Supportive controls:** Structures and activities that will support the implementation of TB infection control.
- **Administrative controls:** Strategies developed to reduce the generation of infectious aerosols.
- **Environmental controls:** Strategies developed to remove infectious aerosols.
- **Personal controls:** Risk-reduction strategies to reduce inhalation of infectious aerosols.

The aim of using the tool is to prevent TB infections amongst personnel and clients, and thereby ensure a safe working environment where the risk of acquiring TB is minimized.

Reflect on the following when implementing this tool:

- Have a designated person responsible for infection control, for example, a healthcare worker. This same person would be responsible for implementing this TB infection-control assessment. Having a healthcare worker responsible for infection control, gives them the opportunity to take on ownership for TB infection control. The designated person could rotate on a quarterly basis and a supervisor would retain overall supervision.
- Use the tool regularly (we suggest quarterly).
- Use the tool to track progress.
- The tool highlights the different components of TB infection control and healthcare workers can see how all of these components working together can reduce the risk of TB transmission.
- There are many simple techniques to help reduce the risk of TB transmission, for example, improving airflow (by opening windows or using mechanical fans), fast-tracking clients who are coughing and wearing masks. This tool should assist healthcare workers to see that TB infection control is not a management issue, but one that they can control in their daily environment.

Part of the TB infection-control assessment is to ensure that windows are open for proper ventilation.

- Any areas where infection control can be improved upon should be addressed by the supervisor and the healthcare workers. A plan should be put in place with a timeline (corrective active should be taken before the next infection-control audit). As the audit tool allows progress to be tracked, the corrective action can be assessed during the next audit.

5. How important is it to disseminate program data and M&E results to healthcare workers?

Program data is often only given in reports for funders and Ministries of Health rather than being disseminated to those at the field level (144). Throughout this chapter, irrespective of what M&E practice is implemented or which M&E tools are being used, we have highlighted the importance of providing feedback to healthcare workers regarding the outcome of the evaluation. Healthcare workers are the ones providing the service, so it is imperative that they are included in M&E feedback. It is important to help them monitor and evaluate their progress.

When providing feedback to healthcare personnel, keep in mind:

- **The category of personnel receiving the feedback:** For example, supervisors, nurses, lay HIV counselors, etc. to ensure that appropriate feedback is provided at the appropriate level.
- **The format of the feedback:** Decide whether the information is best displayed as tables, graphs or words.
- **Where the feedback is given:** Consider using a regular meeting timeslot or during a training session (refresher training) or send the feedback via email.

"It is really important that we disseminate the data collected by healthcare workers in a routine and standardized way. We disseminate data on a monthly basis during the in-service training, where all healthcare workers come into headquarters. We disseminate data to over 270 healthcare workers who are delivering HIV-testing services to a population of over 120,000 individuals across six communities. It is important that we disseminate these data in a transparent manner to all healthcare workers so they see their progress and the progress of their colleagues. This method has given us the opportunity to hear directly from the healthcare workers on certain indicators, for example, there may be a low uptake of HIV testing from men. The healthcare workers can provide us with reasons for this. In this way, we can strategize with them and plan for improvement together, such as working weekends and evenings to reach more men.

Regular dissemination of data to healthcare workers involves them and allows them to take ownership of the data, strive toward targets and strategize for ways to improve the healthcare services they deliver."
- Francionette Esau (District Manager)

It is important to disseminate data collected back to healthcare workers so that they know their progress and where they can improve.

Best practice for disseminating program data via email

In response to the need to quickly and easily disseminate program data to healthcare workers on a daily basis, we developed a dashboard to track the number of HIV tests completed each day. See Figure 9.2. This tool can be adapted to accommodate any indicator being measured.

- A daily dashboard was developed by personnel working in the field (supervisors and healthcare workers) together with data personnel.
- The dashboard comprised a simple table, which could be populated with the number of HIV tests completed each day for each community in which HIV testing was provided.
- The dashboard was populated automatically each morning (using a script written by the data programmer). A member of the data team emailed the dashboard out to all the relevant site offices every morning.
- The site manager received the dashboard daily and briefed the healthcare workers on the number of tests completed the previous day(s). This was compared against the weekly target.
- The daily dissemination helped supervisors to monitor the progress of their site and to track specific days of the week that have the lowest number of clients testing for HIV. This helped them to work out community mobilization plans (see Chapter 2: Stakeholder Engagement).
- Healthcare workers can monitor their own progress each week. If they have not met their target by mid-week then they know they only have a certain number of days to reach their target, or they may need to work overtime or weekends to reach their targets.
- Each site has a different target due to the number of households in the community, and a different number of healthcare workers. Figure 9.2 shows the dashboard populated and sent out on a Thursday morning.

Community	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Total	Target	% reached
1	35	27	32	31	N/A	60	N/A	185	200	93%
2	48	50	65	47	N/A	70	N/A	280	300	93%
3	66	86	97	75	N/A	101	N/A	425	450	94%
4	53	48	47	42	N/A	70	N/A	260	300	87%
5	25	27	30	45	N/A	55	N/A	182	200	91%
6	32	35	37	39	N/A	56	N/A	199	200	100%
Grand Total	**259**	**273**	**308**	**279**	**N/A**	**412**	**N/A**	**1531**	**1650**	**93%**

Figure 9.2: A daily dashboard disseminated through email on the number of HIV tests completed per day

CONCLUDING REMARKS

> We have not taken the final step of our journey, but the first step on a longer and even more difficult road.
>
> *- Nelson Mandela (One of the great moral and political leaders: an international hero whose lifelong dedication to the fight against racial oppression in South Africa won him the Nobel Peace Prize)*

CONCLUDING REMARKS

This is a comprehensive contribution to anyone or any entity interested in the provision of community-based HIV-prevention services and specifically accessible HIV-testing services (HTS). Although written from the experience base of not-for-profit organization (NPO)-provided community-based HTS, the observations and tools, make this guidance useful for any entity working in this field, including NPOs, funders and government health departments. In fact, it contains principles which can be applied to the provision of community-based services in general, not just HIV testing, such as the chapters on stakeholder engagement and monitoring and evaluation.

In this era of trying to achieve ambitious '90 90 90' targets and HIV epidemic control, it is important to move beyond HIV testing in healthcare facilities, which is vital but not sufficient. This practical guide provides the detail of 'how to do it'. During the development and implementation of the community-based HIV-testing projects (which formed the basis of the learnings in this guidance), I would like to highlight the following aspects:

- There was a respect for stakeholders, such as City Health Department.
- There was a willingness to listen and learn from stakeholders.
- There were shared learnings between DTTC (who implemented the projects), the health services and other stakeholders.

In keeping with the way in which the projects were conducted, this guide contains the voices and contributions of various stakeholders and, as such, will resonate with a variety of service providers in a public health system. Some of the most important outcomes of the community-based HIV-testing projects were reaching men and youth (in higher proportions compared to in-facility testing), and the learnings of how to do this in a holistic way.

In HIV service delivery a lot of attention is currently being paid to 'differentiated models of care', acknowledging that true patient-centered care requires providing ART in different ways, for example, to patients who are stable on ART or those newly enrolled on ART. In a similar way, for providing HIV testing in a patient centered way, this guide is an important contribution to models of patient-centered care. It also comes at a time when community-based services in general and the way in which they are delivered is being re-examined in Cape Town and South Africa, so a detailed guide such as this one on HIV testing should be a valuable resource.

I would like to thank the Desmond Tutu TB Centre at Stellenbosch University, the authors and the co-ordinating group for taking on this task, as well as the funder (Centers for Disease Control and Prevention), for making it possible.

The introductory chapter includes a quotation from Archbishop Emeritus Desmond Tutu: "Do your little bit of good where you are…..". I would like to add, in the service provided at the times of the projects, in the capacity built within the NPOs and in the learnings already shared, I think that there is much more than a little bit of good that has been done. This guideline opens up the potential for good to continue to be done, here in Cape Town and further afield, wherever this guideline can reach.

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APPENDICES

Appendix 1: Situation-analysis tool

1. Routine data

A. Demographics

Site		Source
General description of the area		
Size (km)		
District		
Sub-district		
Population (number)		
Adults (>=18)		
Males (>=18)		
Females (>=18)		
Adults (18-44y)		
Males 18-44		
Females 18-44		
Children (<18)		
Marital status		
Religion		
Number of households		
Housing types		
Number of homeless people		
Main languages spoken		
Cultural group breakdown (in %)		
Education level		
Employment levels		
Average income per capita/hh		

B. Burden of disease

		Source
Morbidity rates		
Perinatal mortality rate		
Infant mortality rate		
Maternal mortality		
HIV/HTS		
Prevalence of HIV		
Number with HIV		
18-45 HIV positive		
18-45 HIV negative		
Status unknown		
Current annual uptake for testing		
DOH target for testing		
HIV Wellness		
ART/Wellness service run by…		

HIV positive, not in wellness		
HIV positive in wellness		
ART		
HIV positive, not eligible for ART		
HIV positive, eligible for ART		
HIV positive, in care, not on ART		
HIV positive, in care, on ART		
ART coverage currently		
DOH target		
PMTCT		
Number pregnant in a year		
Pregnant women who are HIV positive		
Current PMTCT uptake		
Number eligible for PMTCT		
Where does this service take place		
Female condoms		
Target		
Current coverage		
Where are they distributed?		
Male condoms		
Target (30 condoms per person per month)		
Current coverage (15 pppm)		
Where are they distributed?		
MMC		
Estimated number of men with cultural circumcision		
Estimated number of men eligible for circumcision		
Current MMC uptake.		
Where it is performed?		
STIs		
STI annual prevalence rate		
Current coverage STI testing and treating		
TB		
Incidence		
Prevalence		
Proportion of active TB in care		
Current TB treatment cases per year		
Sputum testing services testing - how often who when where how		

2. Services

A. Social services

Site		Source
Home-based carers		
Support groups		
Feeding schemes		
Shelters		
Rehabilitation centers		
Prisons		
Churches		
Shopping malls		
Markets		
Taxi ranks		
Train stations		
Sports centers		
Community centers		
Schools		
Police stations		
Hostels		

B. Health services

Clinics (types, personnel, usage, services)		Source
CHC (types, personnel, usage, services)		
Secondary referral hospital (referral rates)		
Tertiary referral hospital (referral rates)		
Other health services		
Health committees		
Health forums		
Rehabilitation centers (physical therapy)		
Health NPOs		
Health training capacity		
Traditional healers		
Private medical services		

C. Relevant community services

Site		Source
CABs		
Community forums		
Cultural leaders		
Community leaders		

D. Current research projects

Site		Source
HIV		
TB		
MMC		
PMTCT		
STI		
Other		

Appendix 2: Large community-engagement event checklist

Event application requirements for a large community-engagement event

Legend	
√	**Mandatory submission**
*	**Submission where applicable**

Applications	**Approval**
Event application form	√
Indemnity form	√
Emergency plan	√
Waste-management plan	√
South African Police Services/Community Police Forum) events safety	√
Noise-exemption form	√
Certificate of acceptability for food	√
Environmental-protection plan	*
Erection of temporary structures (Stage)	*
Population-certificate application	*
Temporary signage	*
Transport-management plan (road closures)	*
Traffic-management plan (traffic services)	*

Appendix 3: Example of a Tender advert

DESMOND TUTU CENTRE · SENTRUM · IZIKO
UNIVERSITY | STELLENBOSCH | UNIVERSITEIT
tb
Every breath counts

Call for NPO Partners to manage Community HIV-Prevention Centers

The PEPFAR/CDC Community HIV-Prevention Project is a collaboration between the Desmond Tutu TB Center (DTTC), City of Cape Town, provincial government of the Western Cape and non-governmental organizations (NGOs). We are looking for NPOs who can manage community-based HIV-prevention centers.

NGOs with experience in employing HTS counselors or in running community HTS sites are invited to apply to partner in this initiative. NGO partners will be responsible for:

- Managing/taking over an existing HTS site, which will be managed as a community HIV-prevention center.
- Ensuring appropriate premises for the center.
- Employing or seconding a part-time co-ordinator to assume responsibility for the daily running of the center.
- Employing HTS counselors – NGOs should take over/utilize existing counselors where possible.
- Working with enrolled nurses employed by the DTTC who will be seconded to NGOs to provide clinical services.
- Working with professional nurses who will be responsible for the monitoring and evaluation/quality assurance aspects of the center. These three nurses will work across the five sites, providing clinical services where needed, and will be based at the centers.
- Purchasing of all consumable items.
- Purchasing of medical supplies excluding HIV tests.
- Contracting a waste-disposal company to collect medical waste on a weekly basis.
- Producing necessary IEC materials.
- Establishing services at these centers in collaboration with the DTTC and according to agreed standards.
- Maintaining the site.
- Undertaking outreach activities in the community.
- Putting together and implementing an HIV-prevention plan for youth, including monthly youth HIV sessions.
- Reporting to the DTTC on activities undertaken and financial expenditure.

Each community HIV-prevention center will be staffed by:

- a part-time NGO co-ordinator;
- an enrolled nurse who will do HIV and TB tests under supervision of a professional nurse;
- three HTS counselors;
- one driver (optional);
- one security person (optional); and,
- one Professional Nurse who will provide M&E, quality assurance, oversee and undertake HIV testing if required.

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jou kennisvennoot · your knowledge partner

Desmond Tutu TB Sentrum ⌖ Centre ⌖ Iziko
Departement Pediatrie en Kindergesondheid ⌖ Department of Paediatrics and Child Health
Fakulteit Geneeskunde en Gesondheidswetenskappe ⌖ Faculty of Medicine and Health Sciences
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Funding is available and we would like to sign contracts until 30 September 2013. The funding is potentially for five years. Contracts will be renewed depending on funding and performance. NGOs interested in collaborating with the DTTC need to meet the following requirements:

- The NGO must be registered under the Non-profit Organisations Act No. 71 of 1997.
- NGOs are expected to have an adequate infrastructure capable of providing good management (including financial management), delivering the services that have been funded and ensuring adequate monitoring and evaluation of services.
- NGOs will be required to enter into contractual agreements with Stellenbosch University and will be held accountable for funds allocated to them.
- Organizations will be required to submit quarterly financial and narrative reports.

Funding will be allocated for specific activities and not for the general use of organizations. Funding will only be allocated for the agreed funding period. Organizations will be selected on the basis of having the capacity to manage the service and to sustain the initiative in the long term.

Organizations interested in participating in the partnership are requested to attend a meeting at the DTTC on DATE and TIME at VENUE. **RSVP to contact person and contact telephone number.**

EVALUATION CRITERIA FOR A TENDER

TENDER NUMBER:

		Weight	*Tenderer 1*		*Tenderer 2*		*Tenderer 3*		*Tenderer 4*	
	Criteria for Evaluation		*Point 1-10*	*Weighted score*	*Point 1-10*	*Weighted score*	*Point 1-10*	*Weighted score*	*Point 1-10*	*Weighted score*
Experience in community-based services		20%	7	1,4	5	1	8	1,6	5	1
Experience in HIV services		25%	6	1,5	3	0,75	8	2	5	1,25
Financial capacity of the NPO		25%	5	1,25	3	0,75	3	0,75	6	1,5
Organizational capacity to manage a community-based program		30%	7	2,1	4	1,2	3	0,9	6	1,8
Total		**100%**		**6,25**		**3,7**		**5,25**		**5,55**

Motivation : **__TENDERER 1_____** has been identified as the successful NPO.
They scored the highest overall

Date:

OBJECTIVE: The overall objective of this project is to develop, implement and evaluate a community-based HIV-prevention program.			
ACTIVITIES	**TIMEFRAME**	**PERSON(s) RESPONSIBLE**	**OUTPUT & INDICATORS & TARGETS**
Liaise with Sub-district Health Management Team, Health Committee, MSAT and other appropriate community structures to discuss establishment of community HIV-prevention centers	May/June 2012	NGO Director NGO coordinator	Minutes of meetings
Sign contract with Stellenbosch University	27 March 2012	NGO Director	Signed contract
Confirm lay counselors for site	April 2012	NGO HR Manager	Contracts signed with HIV counselors
Do formal job descriptions for NGO coordinator/ENs/Lay counselors	April/May 2012	Project manager NGO HR NGO Coordinator Enrolled nurses Lay counselors	Signed job descriptions
Confirm site for community hiv-prevention center	May/June 2012	NGO Director	Lease agreement signed
Refurbish site/connect electricity/telephone/ADSL, etc.	1 July 2012	NGO Director Subcontractors	Fully connected site
Purchase equipment/non-medical equipment	June 2012	NGO Director NGO Coordinator	Invoices submitted
Advertize services locally	From July 2012 (ongoing)	NGO Coordinator	Quarterly narrative report
Launch community HIV-prevention center	July 2012	NGO Director NGO Coordinator	Quarterly narrative report
Stocktake and ordering of consumables	Monthly	NGO Coordinator	Monthly stocktake forms filed Invoices
Waste-disposal delivery and collection order	Monthly	NGO Coordinator	Adequate supply of medical-waste receptacles Regular collection of used receptacles
Commence services at community HIV-prevention center • Provide daily HTS and screening for TB • Refer HIV-positive clients to local healthcare facilities • Refer clients diagnosed with TB to local healthcare facilities • Refer relevant male clients to MMC • Refer HIV-positive pregnant clients to PMTCT • Follow-up referrals with clinics • Hold monthly youth sessions • Distribute condoms	1 July 2012 (ongoing)	NGO Director NGO Coordinator PNs HIV Team	Register Monthly statistics submitted
Hold youth sessions, provide youth-friendly services (including HTS) in collaboration with other relevant organizations	Monthly	NGO Coordinator PNs HIV team	Register Monthly statistics submitted
Collect routine data on services	Daily	NGO Coordinator HIV Team	Updated records and registers (paper and electronic) available for weekly review with data on: Number of clients counseled (target 750 per quarter YR01) Number of males counseled (target 50%) Number of couples counseled (target 10%) Number of clients tested (target 90%) Number of clients screened for TB (target 750 per quarter YR01) % HIV+ clients accessing HIV care (target 90%) % Clients diagnosed with TB commenced on treatment (target 95%) % HIV+ pregnant clients accessing PMTCT (target 90%) % Clients referred for MMC accessing MMC (target 90%) Number of youth attending monthly sessions
Maintain financial accounts of project expenditure	Daily	NGO Finance Manager	Cashbook or electronic accounts available for review
Plan and undertake outreach activities to reach target groups	Weekly	NGO Coordinator HIV Team	Monthly narrative reports
Report to DTTC on activities, output indicators and financial expenditure as per quarterly report template	Within 10 working days of end of quarter	NGO Finance Manager NGO Coordinator	Completed quarterly report submitted on time

Appendix 5 cont.

Attend mentorship with psychologist for debriefing, skills development, case discussions, stress management and team-building	Bi-monthly	Record of mentorship and attendance
Attend project meeting with DTTC	Monthly/Quarterly as required	Attendance Register
Provide feedback on activities to community forum	As required	Record of minutes/presentation notes
Meet with local clinics	Quarterly (minimum)	Record of minutes of meetings

NGO Coordinator HIV team		
NGO Director NGO Coordinator	Quarterly	
NGO Coordinator PNs		
PNs		

Appendix 6: Example of a budget

Line item categories					Total costs
Personnel costs	**Effort**	**Months**	**Unit cost**	**Units**	
Project Co-ordinator	10%	12		1	
HTS Counselors	100%	12		3	
Driver/security	100%	12		1	
Equipment					
Folding tables	N/A	N/A		4	
Cabinets	N/A	N/A		2	
Pop-up tents	N/A	N/A		3	
Desktop computers	N/A	N/A		2	
Supllies					
Site consumables (including stationery)	N/A	12		1	
Medical supplies	N/A	12		1	
Waste disposal	N/A	12		1	
Travel					
Local travel	N/A	12		1	
Other direct costs					
Site rental	N/A	12		1	
Telephone costs	N/A	12		1	
Site utilities	N/A	12		1	
Maintenance of equipment	N/A	12		1	
NGO Administrator					
NGO Administrator	N/A	12		1	
Total NPO budget					

Appendix 7: Example of a narrative report for HTS activities

*****NB: To be completed as a team including NGO co-ordinator and all healthcare workers**

MONTH:

SITE:

List the places you visited (areas, organizations, etc.) and the number of clients who received HTS at each outreach and at the site:	
Place	**Number of clients**

Identify one indicator that you performed well on this month and give reasons why you performed so well:
Identify one indicator which could be improved upon and provide the short-term remedies the team will undertake to improve this particular indicator:
Was there improvement of the indicator identified during the previous month (i.e. did the suggested remedies achieve an improvement of the indicator?) If not, why not? Suggest new remedies.
Other:
Ongoing counseling:
Completed by:

Appendix 8: Example of a quarterly expenditure report per cost category and expenditure to date

Line item categories	Monthly budget	Quarterly budget	Expenditure				Total Contractual budget	Variance
			Q1	Q2	Q3	Total spent to date		
Personnel costs	$3 500	$10 500	$10 500	$10 500	$10 500	**$31 500**	$42 000	$10 500
Equipment	$0	$4 000	$5 300	$2 000	$0	**$7 300**	$16 000	$8 700
Suplies	$1 500	$4 500	$1 800	$2 100	$2 340	**$6 240**	$18 000	$11 760
Travel	$500	$1 500	$260	$430	$510	**$1 200**	$6 000	$4 800
Other direct costs	$3 000	$9 000	$5 500	$6 100	$6 300	**$17 900**	$36 000	$18 100
NGO Administrator (10%)	$0	$2 950	$2 336	$2 113	$1 965	**$6 414**	$11 800	$5 386
TOTAL		**$32 450**	**$25 696**	**$23 243**	**$21 615**	**$70 554**	**$129 800**	**$59 246**

Appendix 9: Example of a bi-annual TB screening tool that can be used by employers

Name and surname: _____

Date: _____

Employee identification number: _____

Position: _____

Site: _____

Please fill in the table below.

Signs and symptoms of TB: Do you have any of the following?		
	Circle Yes or No	
Cough for > 2 weeks	Yes	No
Weight loss > 1.5 kg in last month	Yes	No
Drenching night sweats	Yes	No
Are you in contact with an individual who has TB (at home or at work)	Yes	No

If you have one or more of the above signs and symptoms, we will arrange for you to go for the necessary tests.

Appendix 10: Example of a role-play that can be used to practice HTS in a household

Setting: You will be conducting home-based HIV counseling and testing in a shack in a densely populated peri-urban township. Inside the shack is a couple (the man is 28-years old and the woman is 25-years old), and they have two children (the daughter is 3-years old and the son is 15-months old).

Facilitation of the role-play:

1. The trainer should read aloud the scenario to ensure everyone understands it (it is a good idea to give each person a copy).
2. Divide healthcare workers into reasonably sized groups so that they can actively engage in a constructive conversation after the role-play.
3. In each group, two healthcare workers will play the HIV counselors and two will play the couple.
4. Ensure that everyone has a clear understanding of the setting: the confined space for testing in a shack.

Key questions for the facilitator to read aloud prior to the role-play:

1. How do I ensure confidentiality?
2. Where do I put my supplies when I am conducting the HIV rapid testing to ensure quality assurance is being adhered to?
3. What key questions do I ask to ensure that the couple would like to be tested together and have their results disclosed together?
4. What key questions do I ask the couple to ensure that domestic violence is not involved? What is the role of domestic violence in disclosure of HIV status?
5. Do I test the children in the home?
6. If someone is HIV positive in the home, what stationery should I have with me to be able to refer him or her to the local healthcare facility?

Tools and supplies to give the healthcare workers:

1. HIV-testing services record (see Appendix 13).
2. Supplies for HIV rapid testing: HIV rapid-test kit, cotton wool, biohazardous waste container, gloves, bag for the disposal of non-biohazardous material, timer. See Chapter 5: Delivering Holistic Client-Centered HIV-testing Services, for a full list of supplies required).
3. Stationery: pen, pencils, referral letter, ink pad (for clients who are not able to write/sign during the informed consent procedure for HIV-testing services)

Trainer's role:

- To check if confidentiality was taken into consideration and if the clients were asked if they would like to be tested as a couple or individually.
- If they chose individually, did the HIV counselor ask permission from one of the clients if they would feel comfortable testing outside the house or ask where s/he would prefer to be tested.
- Note if the other HIV counselor stayed with the other client inside the house.
- Note if the HIV rapid-testing supplies were laid out in an open and clean area.
- Check if the HIV counselors followed the correct biohazardous disposal procedures (see Chapter 7: Quality Assurance).
- Observe if the HIV counselors offered HIV testing for the children. In addition, did they know that children under 18 months should be referred to the local healthcare

facility for testing.

- Walk around from group to group to ensure that the key questions (listed above) are being addressed during the role-play.
- Ask questions during the facilitation and viewing of the role-play so queries from healthcare workers can be addressed immediately.
- Provide feedback that is constructive: give compliments where due; highlight where improvements are needed; and, give healthcare workers an opportunity to ask questions.
- Ensure healthcare workers know that if they encounter a difficult situation, one which they are unsure how to handle, they should contact their supervisor.
- End off your feedback with a positive response to their role-play.

Setting: You are in a house with a man and a woman, and their two children (one son is two-years old and the other son is four-years old). As part of HTS, you screen the man for TB. The man says that he has drenching night sweats, however, he believes that these are related to influenza and not TB. After providing education on the signs and symptoms of TB and after discussion with the client, he agrees to have his sputum collected. He is only able to produce one sputum initially, but after some deep breathing in which you help him with, he is able to produce the second sputum. The two sons are very scared of the deep breathing and are unsure of what is happening to their father, so you are also trying to soothe the two sons as well. You then screen the woman for signs and symptoms of TB and collect two sputum specimens from her. The sputum are then sent to the laboratory. After 48 hours, your supervisor receives the laboratory results and informs you that the man is positive for pulmonary tuberculosis. You have to deliver the results to his house and refer him to a health facility to initiate TB treatment.

Facilitation of the role-play:

1. The Trainer should read the scenario out loud to ensure everyone understands it (it is a good idea to give each person a copy).
2. Divide healthcare workers into reasonably sized groups so that they can actively engage in a constructive conversation after the role-play.
3. In each group, one healthcare worker will play the man, another the woman and two will play the children. A fifth healthcare worker will play the HIV counselor.
4. Explain to the healthcare workers that they are conducting active TB case finding, meaning that they are in the household asking the TB screening questions, rather than clients presenting to the local healthcare facility with signs and symptoms of TB.

Key questions for the facilitator to read out loud prior to the role-play:

1. How do I ensure confidentiality while collecting sputum from a client in a community setting?
2. Where do I keep my supplies for sputum collection?
3. What infection-control procedures must I follow in a community setting?
4. What TB screening questions do I ask?
5. If the client has signs and symptoms of TB how many sputum specimens do I collect?
6. If the client is diagnosed with TB how do I ensure he gets the laboratory results and is properly referred for TB treatment at a healthcare facility?
7. What steps must I put in place to ensure that he has initiated TB treatment?
8. After the client has been diagnosed with TB, should I refer the two children to the clinic for TB care or should I collect sputum from them?

Tools and supplies to give the healthcare workers:

1. TB screening tool (See Appendix 13 for an example of an HIV testing-services record containing a TB screening tool).
2. Supplies for infection control: mask and gloves.
3. Supplies for sputum specimen collection: sputum containers, plastic bags for the storage of sputum containers, cooler for the storage of the sputum, and the laboratory form. See Chapter 5: Delivering Holistic Client-Centered HIV-testing Services) for TB collection supplies.
4. Stationery: pen, pencils, referral letter.

Trainer's role:

1. Observe the way in which the TB screening questions are being asked.
2. Note if questions are being asked to each individual in the household.
3. Observe how sputum is being collected for those who have signs and symptoms of TB.
4. Note infection-control procedures when sputum is collected.
5. Provide feedback when correct practices are not being adhered to.
6. Provide immediate feedback when infection-control practices are not being adhered to.

Know your environment

- Be aware of common gatherings, for example, taxi ranks, shebeens, spaza shops, fruit and vegetable stands. High-traffic areas may pose as possible threats to safety.
- When conducting home-based HTS, it is important to employ healthcare workers who live in the same community, so that they know their surroundings and are already aware of activities of crime in certain hot spots.
- Be vigilant even if you have become familiar with the area.

Communication

- Ensure your supervisor knows where you will be providing HTS for the day. Keep a logbook that notes the addresses and areas that you will be visiting.
- Have a mobile phone with you at all times.

Listen to local advice

- For example, if more than one resident tells you about a no-go area, avoid going there alone.
- If the community tells you that it is an unsafe place do not go there alone.
- Report the above to your supervisor.

Trust your instinct

- Listen to your feelings.
- If you feel unsafe leave the situation as quickly as possible.
- Discuss your concerns with your supervisor.
- Decide on the next steps together with your supervisor.

Avoid confrontations

- If confronted by a potentially aggressive situation, calm those around you as much as possible.
- Suggest discussing things at another time.
- Always make sure you work in pairs with another team member.

Be gender and culture sensitive

- Examples in certain cultures: When a man talks to a woman alone in a public place this could be seen as inappropriate or be misunderstood.
- If you are young woman alone in a drinking place, this could be misinterpreted.
- Make a list of cultural issues to be aware of in the specific community.

Avoid talking with people under the influence of substances

- If a client is drunk tactfully suggest that you meet him/her at another time.
- Do not spend an unnecessarily long time talking to the intoxicated person.
- Stay as calm and as friendly as possible, since alcohol and drugs can make people more reactive or aggressive.

Common sense measures

- Don't forget everyday safety precautions.
- For example: Don't carry large amounts of cash when walking around.
- Keep your personal possessions in a safe place.
- Avoid walking alone in an unknown area.

Keep a balance

- As far as possible be friendly with people.
- Avoid being or showing that you are uptight or suspicious.
- Be especially vigilant during school holidays or public holidays (more people are around in the community during these times).

Stay in touch with your supervisor

- Raise any concerns you have about safety with your supervisor.
- Don't keep worries or concerns to yourself.

HIV TESTING-SERVICES RECORD

Name of client:									**Sex**	M	F	**Age:**	**Type**	Indiv	Couple
Address:															
Tel 1:				Tel 2:				Date	d	d	m	m	y	y	y	y
Height:				Weight:				BMI:							

PRE-TEST INFORMATION WITH INTEGRATED SCREENING

Previously tested?		Yes	No	Last HIV test:		<1yr	>1yr	Result from last HIV test		Pos	Neg	Unsure		
Known HIV?	Yes	No	ART?	Yes	No	Reason for seeking HIV test:		Unsafe sex	Blood	Other:				

HIV education		**PMTCT education**		**TB screen**		
1. Difference between HIV and AIDS		1. Transmission to baby		Cough for >2 weeks	Yes	No
2. Transmission		2. Feeding options		Weight loss > 1.5 kg in last month	Yes	No
3. Disease progression		3. ARVs to mother		Fever > 2 weeks	Yes	No
4. Window period		4. ARVs to baby		Drenching night sweats	Yes	No
5. TB/HIV link		5. Bactrim to baby		TB contact in house or at work	Yes	No
6. STIs/HIV link		6. Testing of baby				

Family Planning Screen (ask men & women)					**STI symptom screen**					
Using FP	Yes	No	Method:		**Women**			**Men**		
Last FP visit:					Vaginal discharge	Yes	No	Discharge from penis	Yes	No
Provided FP	Yes	No	N/A		Sores/growth/swelling in vagina	Yes	No	Sores/growth/swelling in groin	Yes	No
Referred for FP	Yes	No	N/A		Lower abdominal pain	Yes	No	Burning when passing urine	Yes	No

Last unsafe sexual encounter?					
Possible reaction to testing HIV+?					
If HIV+ who will provide support?				Ability to negotiate safer sex?	Yes / No
Willingness to disclose? Sexual partner:			Other (specify):		
Possible reaction to testing HIV-?					
Risk-reduction plan: (no. of sexual partners, consistent condom use, substance abuse, STIs, MMC, MSM, IDU)					
Client risk profile:					
Action plan:					

Test decision:	Consents	Needs to think about it	Declines	Test procedure explained?	Yes	No
Comments:						
Healthcare worker's signature:						

CONSENT

I hereby consent to having blood taken for HIV testing and CD4 testing if necessary. I understand the consequences of the outcome as I have received counseling regarding the disease. I understand I might be recalled for further testing/ Ndiyavuma okokuba igazi lam lingahlolelwa isifo sengculazi (HIV/AIDS) namajoni omzimba ukuba kuyimfuneko. Ndiyazi ukuba iziphumo zithetha ntoni kuba ndicaciselwe malunga nesi-sifo. Ndiyaqonda ukuba ndingabizwa liphindwe lihlolwe kwakhona/ Hiermee magtig ek die neem van bloed monsters vir HIV toetsing en CD4 toetsing indien nodig. Ek dra kennis oor die nagevolge van die uitslae soos verduidelik aan my gedurende die voorligting sessies. Ek verstaan ook dat ek moontlik onderwerp sal word aan verdere toetsing.

Client name/Igama/Naam:	Signature/Usayine/Handtekening:	Date/Umhla/Datum:
Healthcare worker's Name:	Signature/Usayine/Handtekening:	Date/Umhla/Datum:

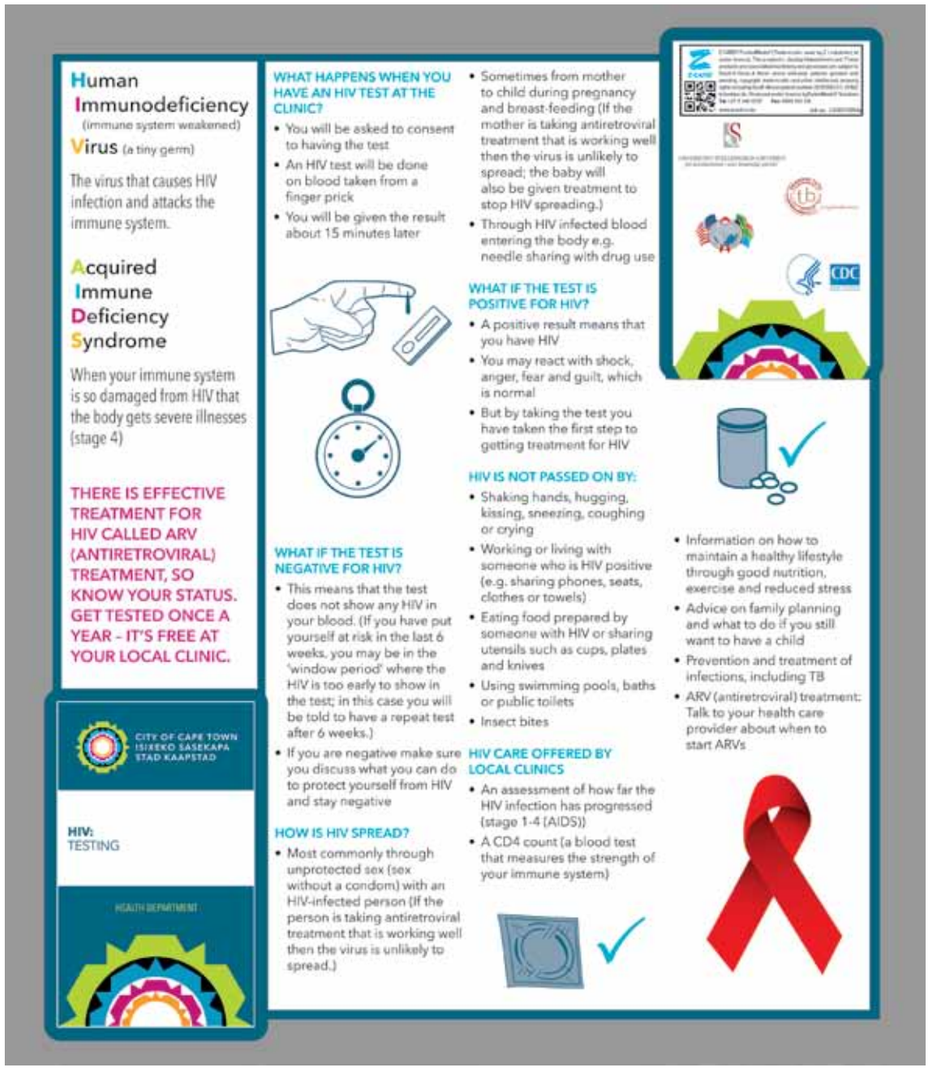
I hereby consent that my HIV-test result and CD4 test result can be disclosed in the presence of my partner/ Ndinikezela imvume ukuba iziphumo zam zovavanyo lwentsholongwane ka-Gawulayo, nobungakanani bamajoni omzimba zinganikezelwa likhona neqabane lam/ Ek verleen hiermee toestemming dat my HIV uitslag en CD4 uitslag in die teenwoordigheid van my vriend/vriendin/man/vrou bekend gemaak mag word.

Client name/Igama/Naam:	Signature/Usayine/Handtekening:	Date/Umhla/Datum:
Healthcare worker's Name:	Signature/Usayine/Handtekening:	Date/Umhla/Datum:

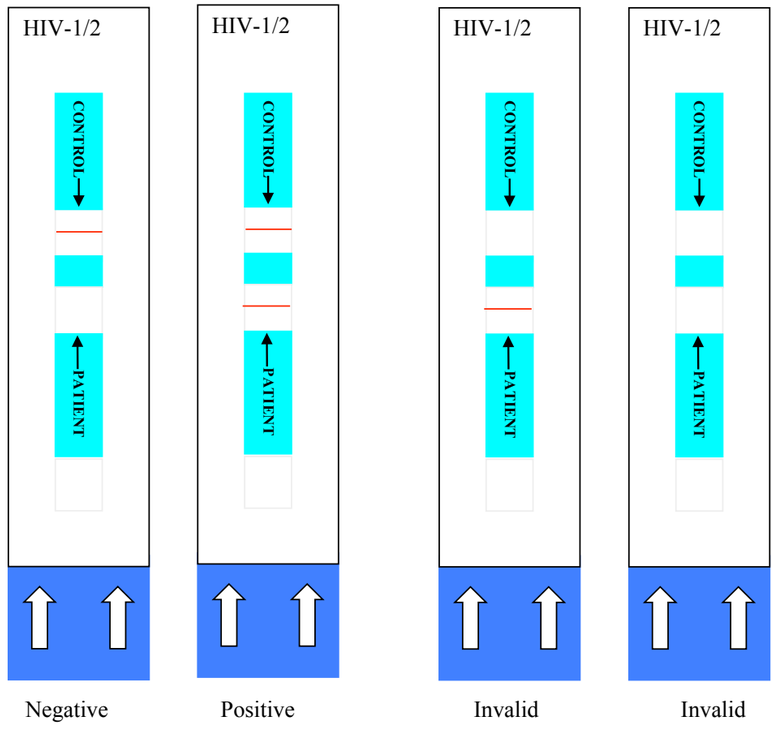
HIV-TEST RESULT												
HIV testing by:	Name of healthcare worker:						Signature:			Date:		
Screening test result	Neg	Pos	Confirmatory test result		Neg	Pos	ELISA	Neg	Pos	Return date for ELISA:		
Other Clinical services:	Name of healthcare worker:						Signature:			Date:		
Pregnancy test	Neg	Pos	N/A	Glucose:			BP:			Cholesterol:		

POST-TEST COUNSELING												
CLIENT NO LONGER WANTS TO KNOW THEIR RESULT												
Reason for not wanting result and plan:												
Safer sex discussed			Yes	No	Condom demonstration done						Yes	No
Number of condom packs dispensed			M	F	Healthcare worker's signature:							
NEGATIVE RESULT												
Initial reaction and comments:												
Window period discussed	Yes	No	Date repeat test (window period):						Safer sex discussed		Yes	No
Condom demonstration done	Yes	No	Number of condom packs dispensed			M	F		Educate and referral for VMMC (men):			
Healthcare worker's comments and signature:												
POSITIVE RESULT												
Initial reaction and comments:												
Main concern and management:												
Disclosure discussed	Yes	No	Support discussed	Yes	No	Short-term plans discussed					Yes	No
Safe sexual practices discussed	Yes	No	Condom demo done	Yes	No	Number of condom packs dispensed					M	F
Follow-up process described to client	Yes	No	Partner testing discussed	Yes	No	Client consented to follow-up process (potential home visit)					Yes	No
Health care worker's comments/follow-up plan:												
Healthcare worker's signature:				Client's signature (consent to follow-up):								
DISCREPANT RESULT												
Initial reaction and comments:												
Main concern and management:												
Disclosure discussed	Yes	No	Support discussed	Yes	No	Short-term plans discussed					Yes	No
Safe sexual practices discussed	Yes	No	Condom demo done	Yes	No	No. of condom packs dispensed					M	F
Date for follow-up & ELISA result:				Healthcare worker's signature:								
Healthcare worker's comments:												

REFERRAL and LINKAGE TO CARE							
Refer HIV	Yes	No	Date of clinic visit:	Document visit:			
Refer TB	Yes	No	Date of clinic visit:	Rx start date:		Spoke to (name):	
Refer STI	Yes	No	Date of clinic visit:	Document visit:			Rx start date
Refer PMTCT	Yes	No	Date of clinic visit:	Document visit:			
Refer FP	Yes	No	Date of clinic visit:	FP received:	Y	N	If no, reason:
Refer VMMC	Yes	No	Date of clinic visit:	Date VMMC done:			Date follow-up visit:
NOTES:							



Appendix 15: Interpreting HIV rapid-test results



Negative | Positive | Invalid | Invalid

Appendix 16: Example of how to collect sputum responsibly

1. **Before collecting sputa**, label the sputum jar appropriately. The container should always be labeled and not the lid as lids may get mixed up.

- Correct labeling of sputum samples is essential as it will save time and prevent errors. Label the container very clearly with:
  - Name of HIV-testing service
  - Name of client
  - Unique client identifier (e.g. client number/barcode)
  - Date of specimen collection
  - Indicate that the specimen is from a presumptive TB case

2. Sputum collection

- It is important that sputum collection occurs in a well-ventilated area or outside, but it must be a private space (without others watching). Supervise the collection, but do not stand in front of the client. Wear gloves. Carefully explain the steps to the client:
  - Ask the client to rinse out their mouth with water.
  - Advise the client to be very careful and direct the sputum into the container so as not to contaminate the outside of the container.
  - Give the client the container without the lid.
  - Demonstrate a deep cough from the bottom of the chest, beginning with deep breathing. Collecting good-quality sputa, from the chest and in an adequate volume, increases the likelihood of diagnosing TB.
  - Be ready to replace the lid on the container immediately after the client has produced a specimen.
  - Once the specimen is in the container, securely close the lid by pressing down on the center of the lid until a click is heard.
  - Take off the gloves and wash your hands after handling the sputum specimen.

Appendix 17: Example of a referral letter

Relevant logos

Name of NPO
Address
Tel:

REFERRAL LETTER

To: Sr./Dr In charge at _____. Please attend to the following client:

Client's name and surname: _____ Age_____

Height: _____ Weight: _____ BMI:_____

This client has received the following screening/tests today from our community HIV-testing team. The results were as follows:

☐ HIV rapid test: Result: _____ (screening) _____(confirmatory)

☐ CD4 test result:_____ Eligible for ART: yes/no Reason:_____

☐ Random blood sugar: Result:_____

☐ Pregnancy test: Result:_____

☐ Family planning: Needs:_____

☐ STI screening: Symptoms: _____

☐ TB test: Result: _____

☐ Blood pressure: Result: _____

☐ VMMC: _____

☐ PMTCT: _____

Comments: _____
_____

I refer the client to you for appropriate care and/or treatment based on the above.

Name:_____ Signature: _____

Designation: _____ Date: _____

Appendix 18: Example of the internal proficiency-testing assessment process

Aim: To directly observe and assess trained personnel as they conduct HIV rapid tests and interpret the test result in order to determine the proficiency of personnel conducting HIV rapid tests.

Roles: For the purposes of this example;

- Participants are the personnel whose proficiency is being measured.
- The trainer is the facilitator who will observe and assess proficiency.

Materials required during proficiency assessments:

- Sharps container (for disposal of capillary tubes).
- Linen saver (infection-control testing is conducted on a linen saver which is discarded after testing).
- Red biohazard bags (for discarding of all other non-sharp materials).
- Pens (for labeling of test kits and recording of results).
- Timer (to ensure test is run according to manufacturer recommended time).
- Thermometer (to ensure test is run according to manufacturer-recommended temperature).
- HIV rapid-test kits (Four test kits; testing in duplicate).
- Capillary tubes (observation of the use of the capillary tube is part of the assessment and often an area of improvement).
- Gloves.
- Markers.
- 2x vials containing control samples of serum (colour coded). Only the trainer knows which colour is linked to HIV-positive serum and which to HIV-negative serum, the participants do not. This is a single-blinded system.

Method:

The trainer prepares the serum vials so that the participants can differentiate between each vial, based on the colour. The participants are unaware which serum is HIV negative and which is HIV positive. The participants are required to run two HIV rapid tests on each serum sample, following the manufacturer guidelines on the HIV rapid-test kits. These participants should indicate any clumping, foul smell or discoloration of the serum before testing begins. If this occurs, the serum should be disposed of.

The trainer must directly observe each participant to assess:

- If they are adhering to infection-control measures, e.g. are they using gloves, not touching their face with gloves on, discarding capillary tubes in corrective manner, etc.
- If they have labeled the test strips correctly.
- If they are handling of the test strip correctly, e.g. there should not be excessive touching of the sample pad and the test strip should be placed on a flat surface.
- If they are using all their materials correctly, e.g. are they using the capillary tube correctly and have they placed their linen saver on the correct side.
- If they have added the correct amount of serum to the test strip, e.g. the amount used in line with the manufacturer's instructions.
- If they have recorded the results after the correct amount of time (not too soon or too late).
- If they have recorded the results properly, e.g. are the results recorded the same as the results obtained from the test.
- If mistakes were made, did they take any corrective active.

The trainer must not provide any guidance to participants during the proficiency procedure.

The trainer can use the following tables to assess participants.

Observations	**Outcome (circle corrective outcome) Proficient (P) / Not Proficient (NP)**
Infection-control adherence	P / NP
Labeling of test kits	P / NP
Handling of test strip	P / NP
Test strip placement on flat surface	P / NP
Problem with use of capillary tube	P / NP
Amount of serum added	P / NP
Reading of results too early	P / NP
Recording of correct results	P / NP
Corrective action if mistake was made (if applicable)	P / NP / N/a

Sample Colour	Type of Test		Interpretation	Reviewed by
		1st result	Positive ☐ Negative ☐	
	Name of test kit	2nd Result	Positive ☐ Negative ☐	
	Name of test kit	1st Result	Positive ☐ Negative ☐	
		2nd Result	Positive ☐ Negative ☐	

Outcome:

A participant is found to be either proficient or non-proficient in conducting HIV rapid testing. A participant will be found to be non-proficient if they documented false HIV-test results or if the trainer observed any errors during the HIV-testing process.

Way forward:

Proficient participants can continue their work providing HIV testing in the field.
Non-proficient participants need to undergo additional training and then be re-assessed. The re-training session can consist of a visual presentation explaining the importance, concept and method of HIV rapid testing and a visual demonstration on how to perform a rapid HIV test using serum. The participant should be given the opportunity to perform a second round of proficiency testing. If successfully completed, they can resume their HIV testing in the field.

A **final report** should be compiled by the trainer and sent to all the relevant personnel.

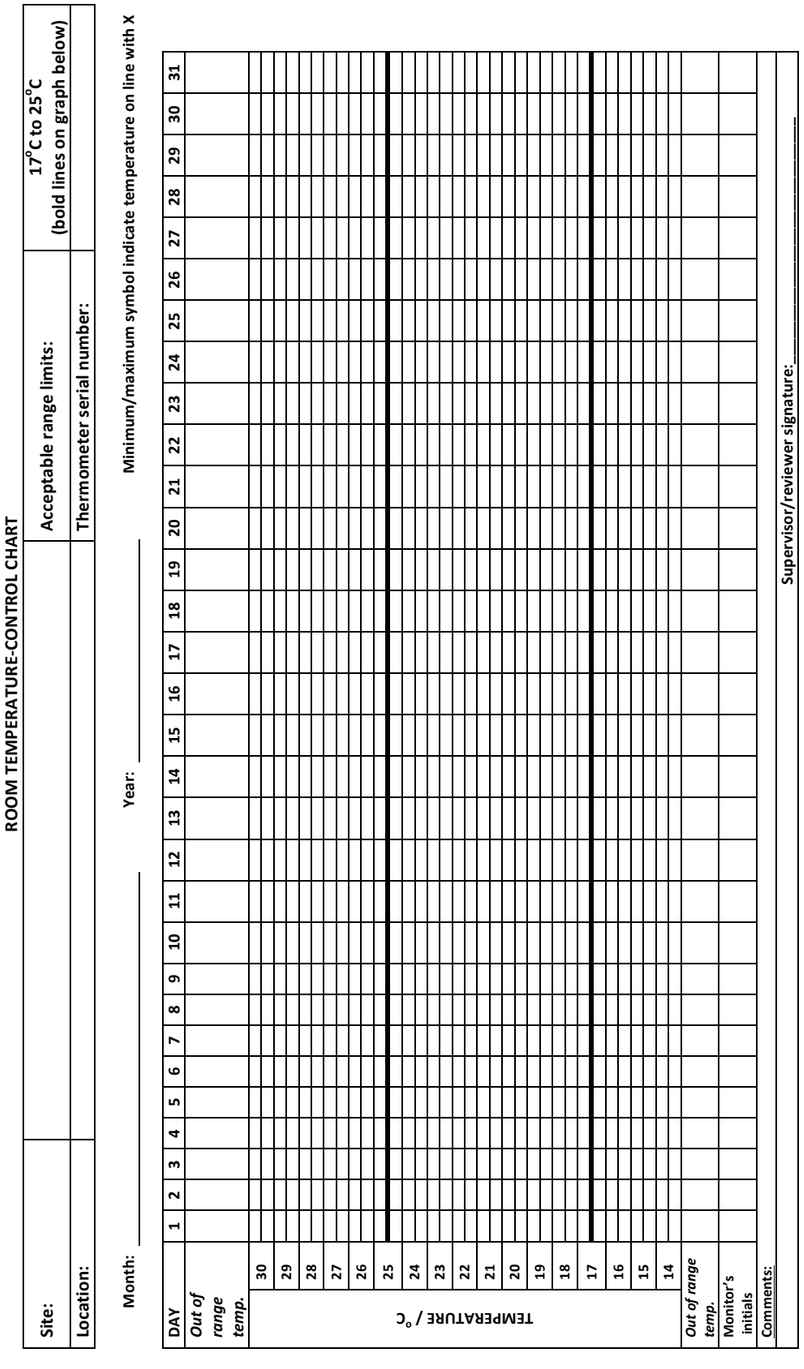
Appendix 19: Example of a manual temperature log sheet

Temperature-control log

- Please record the temperature within the storage facility (fridge) every **morning and afternoon**.
- Ensure that the temperature is between 2 - 27°C.
  - If the temperature is outside of this range, report it to your coordinator ASAP.
  - Please ensure fridge is working or set it to an acceptable temperature.

MORNING			AFTERNOON		
Date	**Time**	**Temperature**	**Date**	**Time**	**Temperature**

Appendix 20: Example of a room temperature-control chart



Appendix 21: Example of a monthly consumable stock form

Site:
Month:

Stock Item	Required stock level*	Amount in store	Order amount	Stock-take date	Ordered date	Issued date	Received date	Outstanding Stock
Screening HIV rapid-test packs (100 per box)	8							
Chase buffer (bottles)	8							
Confirmatory HIV rapid-test kits (100 per box)	1							
Capilliary tubes 100 per tube	9							
Lancets 200 per box	5							
Butterfly needles (vacutainer blood-collection sets) - individual needles	20							
Blood-collection tubes	20							
5ml syringes	20							
Cholestrol strips 25 per box	8							
Glucose sticks 25 per box	30							
HTS register	4							
Pathology request forms	1							
TB request books	3							
HTS client-record forms	750							
Ongoing counseling forms	50							
Sputum bottles (x100)	1							
TB screening form	100							
Condoms male (packs)	1000							
Condoms female (packs)	250							
Barcodes	750							
Referral letter templates	450							

* Estimates based on 500 HIV tests per month

Notes: _____

_____

Ordered by: _____

Issued by: _____ Signature: _____

Delivered by: _____ Signature: _____

Received by: _____ Signature: _____

Appendix 22: Example of an HIV-test stock control register

Notes: Please note invalid tests/other problems												
Reconciliation	Signature											
	Check usage											
Sign for receipt of tests												
Absolute expiry date												
Serial number												
Lot number												
Pack quantity												
Date received / Date commenced use												
Type of test												

Appendix 23: Guidelines for corrective actions to ensure validity of HIV rapid-test kits

Problem	Potential cause	Action taken
No control line or band present	Damaged test device	Repeat the test using new device and control sample.
	Proper procedure not followed	Follow each step according to SOP for serum/plasma/whole blood testing.
		Re-check buffer and/or control sample volumes.
		Wait for the specified time before reading the test.
	Expired or improperly stored test kits	Check expiry date of kits or controls. Do not use beyond stated expiry date.
		Check temperature records for storage and testing area.
Repeatedly invalid result obtained	Possible problem with specific test-kit box	If repeatedly invalid, use a test device from a different test box.
Positive reaction with negative control, i.e. false positive	Incubation time exceeded	Re-test negative control using a new device and read at specified time limit.
	Expired or improperly stored control	Check control expiry date and repeat the test using a fresh control sample.
	Test performed at very high temperature	Check test-kit insert for appropriate testing-area temperature and ascertain if the room temperature does not exceed specified-range upper limit.
	Possible contaminated or deteriorated control	Ensure control is not contaminated, check for signs of deterioration and repeat test using a different or new control vial.
Repeatedly false-positive result obtained	Assume kit box has failed quality control	Identify cause, and repeat the test using a different or new test-kit box.
Negative reaction with positive control, i.e. false negative	Incubation time shortened	Re-test positive control using a new device and read at specified time limit.
	Inadequate sample or buffer volume	Re-test and add specified control and/or buffer volumes.
	Expired or improperly stored control	Check control expiry date and repeat the test using a new control.
Repeatedly false-negative results obtained	Assume problem with specific test-kit box	Identify cause, and repeat the test using a different or new test-kit box.
Extremely faint control line	The control line can vary in intensity	No action required. Any visible line validates the results.

Appendix 24: Example of Standard Operating Procedures for needle-stick injuries

SOP – NEEDLESTICK INJURIES

- Ensure that you have HIV insurance cover.
- Ensure that you know where to access post-HIV exposure prophylaxis (PEP).

When a needle-stick incident occurs, the following steps should be followed:

- Wash infected area thoroughly with soap and water.
- Report immediately to the Health and Safety Officer.
- Health and Safety Officer to arrange appointment with Campus Health Services (CHS).
- If possible, get sample of client's blood (± 2ml) with informed consent and the client's details.
- Your own blood sample will be taken at CHS.
- Counseling will be given before your and the clients' blood samples are sent for testing for HIV and Hepatitis B.
- Depending on the risk level of the injury and the client's HIV-status, a decision will be made on whether retroviral prophylaxis should be taken.
  Prophylaxis must begin within four hours (maximum) after exposure.
- Health and Safety Officer to report incident within 24 hours to the insurance company. They will then forward the necessary papers to be completed.
- The accounts, with a claim number, will be sent directly to the insurance company.
- Health and Safety Officer to complete an adverse-event form.

(Adopt a **BUDDY** at work with whom you can talk to should something like this happen to you.)

Appendix 25: Singapore Statement

Singapore Statement on Research Integrity

Preamble. The value and benefits of research are vitally dependent on the integrity of research. While there can be and are national and disciplinary differences in the way research is organized and conducted, there are also principles and professional responsibilities that are fundamental to the integrity of research wherever it is undertaken.

PRINCIPLES

Honesty in all aspects of research
Accountability in the conduct of research
Professional courtesy and fairness in working with others
Good stewardship of research on behalf of others

RESPONSIBILITIES

1. Integrity: Researchers should take responsibility for the trustworthiness of their research.

2. Adherence to Regulations: Researchers should be aware of and adhere to regulations and policies related to research.

3. Research Methods: Researchers should employ appropriate research methods, base conclusions on critical analysis of the evidence and report findings and interpretations fully and objectively.

4. Research Records: Researchers should keep clear, accurate records of all research in ways that will allow verification and replication of their work by others.

5. Research Findings: Researchers should share data and findings openly and promptly, as soon as they have had an opportunity to establish priority and ownership claims.

6. Authorship: Researchers should take responsibility for their contributions to all publications, funding applications, reports and other representations of their research. Lists of authors should include all those and only those who meet applicable authorship criteria.

7. Publication Acknowledgement: Researchers should acknowledge in publications the names and roles of those who made significant contributions to the research, including writers, funders, sponsors, and others, but do not meet authorship criteria.

8. Peer Review: Researchers should provide fair, prompt and rigorous evaluations and respect confidentiality when reviewing others' work.

9. Conflict of Interest: Researchers should disclose financial and other conflicts of interest that could compromise the trustworthiness of their work in research proposals, publications and public communications as well as in all review activities.

10. Public Communication: Researchers should limit professional comments to their recognized expertise when engaged in public discussions about the application and importance of research findings and clearly distinguish professional comments from opinions based on personal views.

11. Reporting Irresponsible Research Practices: Researchers should report to the appropriate authorities any suspected research misconduct, including fabrication, falsification or plagiarism, and other irresponsible research practices that undermine the trustworthiness of research, such as carelessness, improperly listing authors, failing to report conflicting data, or the use of misleading analytical methods.

12. Responding to Irresponsible Research Practices: Research institutions, as well as journals, professional organizations and agencies that have commitments to research, should have procedures for responding to allegations of misconduct and other irresponsible research practices and for protecting those who report such behavior in good faith. When misconduct or other irresponsible research practice is confirmed, appropriate actions should be taken promptly, including correcting the research record.

13. Research Environments: Research institutions should create and sustain environments that encourage integrity through education, clear policies, and reasonable standards for advancement, while fostering work environments that support research integrity.

14. Societal Considerations: Researchers and research institutions should recognize that they have an ethical obligation to weigh societal benefits against risks inherent in their work.

The Singapore Statement on Research Integrity was developed as part of the 2nd World Conference on Research Integrity, 21-24 July 2010, in Singapore, as a global guide to the responsible conduct of research. It is not a regulatory document and does not represent the official policies of the countries and organizations that funded and/or participated in the Conference. For official policies, guidance, and regulations relating to research integrity, appropriate national bodies and organizations should be consulted. Available at: ***www.singaporestatement.org***

Appendix 26: Example of an HIV testing-services register

HIV testing-services register

This document contains confidential information and is to be kept in a locked cupboard when not in use.

Site Name:_____

Register: **Stand-alone** **Mobile** **Door-to-door**

Date (year/ month):_____

NB: Commence each new month on a new page Month/Year:_____ Page Number:_____			Type of counseling		Age			Sex		HIV testing and results									
										Tested		Screening test		Confirmatory test		Indeterminate ELISA		CD4 test	
Date	Client Code	Name Surname	Indiv	Couple	<15	15-24	≥25	M	F	Yes	No	Pos	Neg	Pos	Neg	Pos	Neg	Yes	No
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
TOTAL																			
A	B	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
			Indiv	Couple	<15	15-25	≥26	M	F	Yes	No	Pos	Neg	Pos	Neg	Pos	Neg	CD4 Yes	CD4 No

Pregnancy test			TB symptoms		Date TB sputum sent/ TB sputum result					TB diagnosed			Condom packs issued		Referral for care/treatment						Linked to care/treatment received					Previously tested		Notes (ELISA sent; referral site, etc.)	Healthcare worker's signature
Pos	Neg	NA	Yes	No	Xpert MTB complex	Rif R	Rif S	Sputa 2	Cult	Yes	No	NA	M	F	HIV	TB	STI	Family planning	VMMC	PMTCT	Linked to HIV care	TB Rx commenced	Linked to STI Rx	VMMC completed	Linked to PMTCT	Yes	No		
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
Pregnant Yes	Pregnant No	Pregnant N/A	TB Symp YES	TB Symp NO	S1 sent / GXP Pos	GXP Pos Rif R	GXP Pos Rif S	S2 Sent / S2 Pos	Cul Sent / Cul Pos	TB YES	TB NO	TB NA	Condoms M	Condoms F	HIV Ref	TB Ref	STI Ref	FP Ref	MMC Ref	PMTCT Ref	HIV LTC	TB Treatment Commence	STI LTC	MMC complete	PMTCT enrolled	Prev Test YES	Prev. Test NO		

HIV testing-services register

The HTS register contains confidential information and is to be kept in a locked cupboard when not in use. Each center is required to maintain separate HTS registers for the center (site register) and for outreach activities (Outreach register).

This register contains:
1. This instruction sheet (1 page)
2. HTS Client records (100 pages)

HTS Client Records:

This is the section in which individual client information is entered.
Please start each new month on a new page.
Label the first page for that month as *Page 1*, the next as *Page 2*, etc.
All clients who undergo pre-test counseling must be entered in the register, irrespective of whether they are tested or not. Clients who are known to be HIV positive and in care, they need counseling and not repeat testing. Other services such as TB screening can still be provided but the appropriate stationery should be used.
A-C. Complete the date, client code, name and surname: Date - If it is the 15 January 2012, the top of the page should reflect January 2012. The date '15' should be entered in the date column Client code - This is a site generated client specific number eg ETAS001 for Etafeni Site (next client would be ETAS002 etc) Name Surname - Complete these in the correct order (Name then Surname) to facilitate follow-up of laboratory results.
1-2. Type of counseling: Indicate whether the client was seen as an individual or as a couple. For couples, both would be entered on separate lines in the register and marked as 'couple'.
3-5. Age: Enter the actual age (in years) in either of the '<15' column (for a child of age up to, but not including, 15 years old) or in the '15-25' column (for youths who are from 15 years to 25 years old) or '>25' column (for an adult who is 26 years or older). For example, if a client is 15-years old, write '15' in the '>5-25 - column and for a 26-year old, write '26' in the >25 column.
6-7. Sex: Put a cross in the appropriate column for male (M) and female (F) clients.
8-9. HIV testing: Indicate with a cross whether the client was tested (Yes) or not (No).
10-17. HIV results: Indicate the HIV test result for those tested with a cross. - Screening test: Indicate whether the screening test was positive (pos) or negative (neg) for all those tested (including children >18mths of age). - Confirmatory Test: Indicate whether the confirmatory test was positive (pos) or negative (neg) for all those who had a positive screening test - Indicate the ELISA result for all those with indeterminate rapid test results (positive screening; negative confirmatory). If a sample has been sent for an ELISA, please ensure that the result is filled in when it becomes available.
18-20. Pregnancy test: If the client did a pregnancy test and the result was positive, put a cross in the (pos) column. If the client did a pregnancy test or was male, put a cross in the N/A column.
21-22. TB symptoms: If the client had one or more symptoms of TB (Cough for >2 weeks; Weight loss >1.5 kg in last month; Fever > 2 weeks; Drenching night sweats) mark as Yes. If the client had no symptoms of TB mark as No. This should be completed irrespective of whether the client had an HIV test or not.
23 -27. Date TB sputum sent & TB sputum result: For all clients with symptoms of TB, write the date on which the sputum was sent for an Xpert test in the top half of the block (e.g. 18/01) and the Xpert test result in the lower half of the same block (e.g. negative or positive). Mark with a cross if the Xpert result is Rif R or Rif S. Information for sputum smear and culture is recorded separately. Document date in the top section of the block and the result of the culture in the bottom section of the block. **All TB suspects require a minimum of one Xpert test and one smear test if the Xpert result is positive.**
28-30. TB Diagnosed: Indicate with a cross Yes if the client was diagnosed with TB (confirmed on smear and or culture). Mark No if smear and culture (if done) are negative. Leave blank if TB results are still outstanding and update this as results become available. Mark 'NA' if client did not have TB symptoms or if smears or culture were not sent (e.g. with suspected extrapulmonary TB).
31-32. Condoms distributed: Enter the actual number of male condom packs distributed to the client in the " column and the number of female condoms distributed to the client in the 'F' column.
33-38. Referral: For all clients who have been referred to the clinic, mark the reason for referral. If clients are referred for multiple services, mark all of these. Write the name of the referral clinic in the notes section. The expectation is that every client who requires additional services will be formally referred to health facilities. If a known HIV-positive client was retested and is already in care, tick the referral for HIV.
39 - 43. Linkage to care/treatment received: You are required to follow-up all clients who are: 1) HIV positive to ensure that they have accessed care at the local clinic; 2) diagnosed with TB; 3) referred for male medical circumcision to confirm that they accessed the clinic; and, 4) referred to the PMTCT program to confirm that they have enrolled on the program at their nearest antenatal clinic. Mark with a cross for: 1) clients diagnosed HIV-positive at the HTS center who have linked into the HIV care program at the clinic. If a known positive in care was re-tested, confirm that the client is in care and tick HIV Care Received; 2) clients diagnosed with TB who have commenced TB treatment at the clinic; 3) clients who were referred for MMC and have completed the procedure; and, 5) clients who were referred for the PMTCT program and have booked at an antenatal clinic.
44-45. Previously tested for HIV: Mark with a cross the Yes column if the client had a previous HIV test and has been for HTS again and the No column if the client has not had a previous HIV test.
48. Notes: Make relevant notes such as referral clinic, ELISAs that have been sent for indeterminate results or quality control (QC ELISA) in the Notes column to facilitate follow-up of results.
49. The counselor who provided counseling is required to sign in the last column. This signature is to confirm that the information entered into the register is correct for their client.
When the page has been filled, total each of the columns and record as 'TOTAL'. For clients with sputa sent, count the number of sputa sent and the number of sputa positive and put these in the total columns. Check the quality and completeness of data, sign and date the page.
Proceed to the next page of the register.

Monthly report

1. Monthly reports must be submitted electronically to the project manager by the 5th working day of the following month.

Quality control of information – validation checks

For each page of the register:
- Column 3 (<15) + Column 4 (15-25) + column 5 (>25) = 20
- Column 6 (Yes) + Column 9 (No) = 20
- Column 12 (Confirmatory positive) + Column 13 (Confirmatory negative) = Column 10 (Screening positive)
- Column 6 (M) + Column 7 (F) = 20
- Column 10 (Screening positive) + Column 11 (Screening negative) = Column 8 (Tested)

Community-based HTS site audit			
Audit date:			
Site name:			
Auditor's name:			
Site evaluation **Ask the questions below and validate the answers by checking where possible.**			
1. Are the following **security** norms adhered to:			
a. Security person on site? (As per NGO contract)	Yes	No	N/A
b. Security person available for mobile? (As per NGO contract)	Yes	No	N/A
c. gates at all external doors of the HTS area?	Yes	No	
d. Burglar bars on all external windows?	Yes	No	
e. Working burglar alarm currently in use?	Yes	No	
2. Is there a covered **waiting area**?	Yes	No	
3. Are there rooms allocated such that **counseling and testing** are done in separate rooms?	Yes	No	
4. If not what process is used?			
5. Infection control:			
a. Is there a general infection-control protocol present?	Yes	No	
b. Are windows currently open in all rooms used for counseling?	Yes	No	
c. Are windows currently open in the bathroom (that clients use)?	Yes	No	
d. Are windows currently open in the waiting area?	Yes	No	
e. What alternative ventilation systems exists (e.g. fans, extractors, etc.)			
f. Is the alternative ventilation currently in use/on?	Yes	No	N/A
g. Is there an external sputum booth currently in use for collection of sputa?	Yes	No	
h. If not, where are sputum samples taken?			
6. Are there adequate medical-waste receptacles (at least one sharps container and one box that are not full)?	Yes	No	
7. Is there an HIV workplace plan in hard copy on site?	Yes	No	
8. Are the Batho Pele principles available & visible?	Yes	No	
9. Is there a site year plan and promotion plan in hardcopy on site?	Yes	No	
10. Is the latest edition of the SOP for community-based HTS sites readily available?	Yes	No	
11. Is the latest edition of the SOP for needlestick injuries visible in each counseling and clinical room?	Yes	No	
12. Is a non-expired PEP pack readily available?	Yes	No	
13. Are both the National & Provincial TB and HIV testing algorithms visible in all counseling and testing rooms?	Yes	No	
14. Are the stand-alone and mobile HTS registers available?	Yes	No	
15. Are the stand-alone and mobile family planning registers available	Yes	No	N/A
16. Are HIV testing services records correctly filed and are files correctly labeled?	Yes	No	
17. Are HTS registers and records kept in locked cabinets?	Yes	No	
18. Are monthly consumable stock sheets in use?	Yes	No	

	Instructions for auditing community-based stand-alone and mobile HTS Three pages must be completed: 1) site evaluation, 2) HTS review mobile, 3) HTS review stand-alone All questions must be answered either YES, NO or N/A 1 **SITE EVALUATION:** Answer all the questions. The auditor must see the evidence before answering a question. **Counseling room evaluation:** The auditor must identify all rooms in which counseling could potentially occur. These rooms must then be evaluated. 2 **HTS REVIEW** For the HTS reviews, each question must show a validation = 100% When each sheet has been completed you can print out the analysis sheet in order to better understand the results. The following provides an interpretation of the questions:
	How many HIV tetsing records were looked for and not found: Write down the barcode from each HIV testing services record that you have sampled, as per the sampling procedure, from the register. If all 10 HIV testing services records sampled cannot be located continue the sampling process until you have five HIV-positive testing records and five HIV-negative testing records. Note down how many HIV testing services records could not be found. If you cannot sample a total of five HIV-positive testing records, as per the sampling process, then sample every HIV-positive testing record until you have five HIV-positive testing records.
1	Correct HIV testing services record been used: Check the reference number on the testing record. Mark YES if the latest version has been used. Mark NO if the latest version hasn't been used.
2	**Client contact details**: Check if a full address is documented and at least one correct telephone number. Mark YES if a full address and a telephone number are both documented. Mark NO if there is no address documented or no telephone number documented or an incomplete address or telephone number documented.
4	**Record for risk reduction:** Check if risk-reduction plan is marked in pre-test information session and/or safer sex is discussed in post-test counseling. Mark YES if either of these aspects are documented as discussed or if the comment section shows that risk reduction was discussed. Mark NO if neither of these aspects were recorded as discussed and there is no mention of risk reduction in the notes.
5	**Contraceptive needs assessed:** Check if it is documented that the client has been asked if they are using a FP method. Mark YES if the client is using a method and/or if the method is documented. Mark NO if it is not noted if the client is using a FP method. Mark N/A if it is documented that the client is wanting to fall pregnant, is post menopausal, not sexually active, or any other reasonable reason is given for not using family planning.
6	**Action noted around contraceptive needs:** Check if it is evident that some reasonable discussion around contraceptive methods occurred. Mark YES if there is evidence that contraceptive methods were discussed, e.g. a contraceptive method is documented, a date for the next injection is noted or a referral letter for family planning is attached. Mark NO if there is no action documented. Mark N/A if it is documented that the client is wanting to fall pregnant, is post menopausal, not sexually active, or any other reasonable reason is given for not using family planning.
7	**Record of TB screening and clinical assessment:** Check if a symptomatic screen for TB has been done and if client is symptomatic, check if a TB screening tool has been completed and the appropriate TB tests have been done according to the national TB algorithms. Mark YES if the symptomatic screen has been done and the client has no TB symptoms OR the symptomatic screen has been done, the client is symptomatic and a TB screening tool has been completed and there is evidence of the appropriate TB tests having been done. Mark NO if the TB screen has not been done or if the screen has been done, the client is symptomatic, but the TB screening form has not been completed and/or if there is NO evidence of the appropriate TB tests having been done. Mark N/A if the client is already on TB treatment or is already a TB suspect.
8	
3	**Consent taken:** Check the consent section. Mark YES if the client has both signed and written their name in the correct place OR there is a right thumb print AND the counselor has signed. Mark NO if there is neither a signature nor thumb print nor written name belonging to the client. Mark N/A if the client did not consent to an HIV test.
	Condoms offered: Check condom distribution in post-test counseling. Mark YES if condoms have been distributed and the numbers for male and female are noted or if there is evidence why condoms were refused. Mark NO if there is conflicting evidence around condom distribution or if no information was filled in.
9	**Record of referral to a TB service:** Check if there is a referral letter attached. Mark YES if there is a relevant referral letter attached. Mark NO if there is no relevant referral letter attached. Mark N/A if the client had no TB symptoms.

10	**Symptomatic screening for STI:** Check the STI screen. Mark YES if the answers have been appropriately checked. Mark NO if the answers have not been appropriately checked. Mark N/A if client is already on STI treatment or is not sexually active.
11	**Record of referral to STI service: Check if there is a referral letter attached.** Mark YES if the client had symptoms and was referred to an STI service (referral letter attached). Mark NO if client has STI symptoms and was not referred to an STI service (no referral letter attached). Mark N/A if the client is already on STI treatment or if the client did not have STI symptoms.
12	**Record of referral to an HIV service:** Check if there is a referral letter attached. Mark YES if the client tested HIV positive and was referred for HIV care (referral letter attached). Mark NO if client tested HIV positive but was not referred for HIV care (no referral letter attached). Mark N/A if client tested HIV positive and is already in care or on ARVs (this must be documented) or the client tested HIV negative.
13	**Attempts to follow up client for TB and/or HIV: Check in the referral and linkage to care notes.** Mark YES if the client was referred for TB and /or HIV care and there is documentation confirming that the client was followed up. Mark NO if the client was referred for TB and/or HIV, but there is no documentation confirming that a follow up was done or the documentation is incomplete OR if the client was diagnosed but was not referred. Mark N/A if the client was not diagnosed with TB and/or HIV.
14	**Evidence client attended health services for TB and/or HIV:** Check in the client's notes and in the register. Mark YES if there is evidence that the client attended a health service (at least the name of the facility should be documented). Mark NO if there is no evidence that the client attended a health facility. Mark N/A if the client was not diagnosed with TB or HIV OR was not referred to a health facility OR there is evidence that at least three attempts were made to follow up the client at different times of the day and at least one home visit was attempted.
15	**Date between sputum collection and referral for TB treatment:** Look at the date the 1st sputum sample was taken. Look at the date the client was referred for TB treatment. Calculate how many working days in between. Mark YES if the total is less than or equal to seven. Mark NO if the total is greater than seven. Mark N/A if the client was not diagnosed with TB.
16	**Information entered into the register: Check the information on the HIV testing services record against the HTS register. Mark YES if all columns are correctly entered into the register. Mark NO if any column is incorrectly entered into the register or if any information is missing from the register.**

Outcome of audit:
Each site must generate a plan:
1. Any REG FLAG that did not achieve 90% must be included in the plan.
2. Any area that achieved <80% in either mobile or stand-alone must be included in the plan.
3. Any question that was answered NO in the site evaluation must be included in the plan.

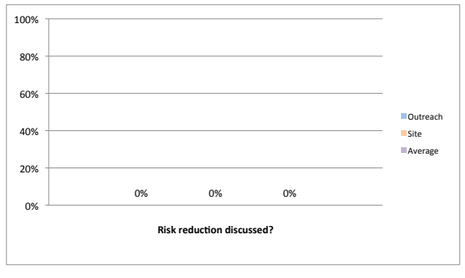
The plan must be comprehensive and include;
1. Objective to be achieved (area of under-performance).
2. Activities required to achieve that objective.
3. Person responsible for each activity by name and designation.
4. The time period for that activity.

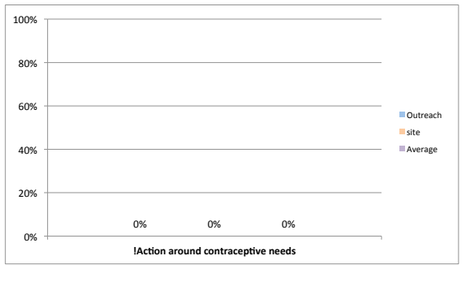
Timelines
The full audit must be submitted to the project manager within **ONE** week of completing the audit - this is the responsibility of the **auditor.**
The plan must be submitted to the project manager within **THREE** weeks of completing the audit - this is the responsibility of the **site manager.**

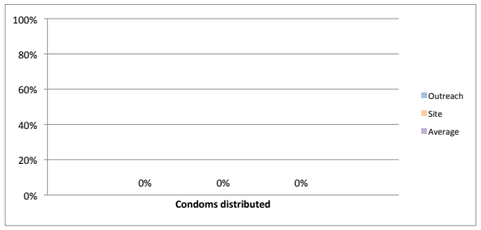
19. Has the HIV rapid test register been completed correctly including reconciliation of stock for the last 3 months?	Yes	No	
20. Are HIV rapid tests & CD4 cartridges stored in a cool, dry place?	Yes	No	
21. Is there a thermometer to monitor temperature to which HIV rapid-test kits, CD4 cartridges & IQC samples are exposed?	Yes	No	
22. Are IQC forms completed weekly for the last 3 months	Yes	No	N/A
23. Was EQA process implemented in this quarter?	Yes	No	N/A
24. Are EQA forms completed correctly?	Yes	No	N/A
25. Are the temperature log sheets for rapid tests, CD4 cartridges & IQC samples completed for the last six-months?	Yes	No	
27. Is there reasonable stock of all relevant stationery? (HTS records, TB history sheet, TB request books, pathology request books, referral letters)	Yes	No	
29. Number of HIV counselors working at site (including part-time staff)?			
30. Number of HIV counselors working at site (including part-time staff) trained through accredited service provider?			
31. Is there a file that contains up-to-date healthcare wokrer service delivery evaluations (must be done one per quarter)	Yes	No	
Comments on site evaluation:			

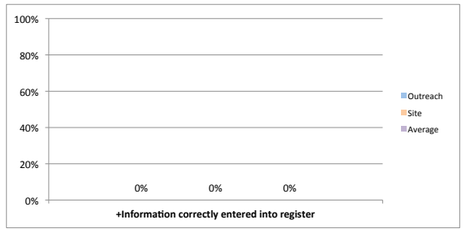
Counseling room evaluation **Evaluate each room that is used for counseling. Answer Yes (Y) or No (N) or Non-Applicable (N/A) for each question.**	**Room 1**	**Room 2**	**Room 3**	**Room 4**
1. Is the room private?				
2. Is there a dildo in the room?				
3. Are there both male and female condoms in the room?				
4. Are there relevant information materials in the appropriate language in the room?				
5. Are the latest editions of the standard counseling forms in the room?				
6. Is the room adequately equipped for HTS? (Yes to Q2-5)				
Comments on counseling room evaluation:				

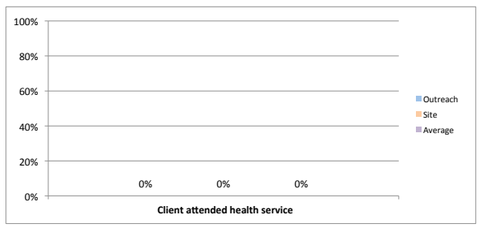
Number		Mobile HTS records	Stand-alone HTS records	Total Average
1	Correct HTS record used used?	#DIV/0!	#REF!	#DIV/0!
2	Client contact details recorded?	#DIV/0!	#REF!	#DIV/0!
3	Consent for an HIV test given?	#DIV/0!	#REF!	#DIV/0!
4	CD4 test offered if HIV positive?	#DIV/0!	#REF!	#DIV/0!
5	Risk reduction discussed?	#DIV/0!	#REF!	#DIV/0!
6	Were condoms offered?	#DIV/0!	#REF!	#DIV/0!
7	Contraceptive needs assessed?	#DIV/0!	#REF!	#DIV/0!
8	Action noted around contraceptive needs?	#DIV/0!	#REF!	#DIV/0!
9	Symptomatic screening for TB?	#DIV/0!	#REF!	#DIV/0!
10	Referral to a TB service?	#DIV/0!	#REF!	#DIV/0!
11	Symptomatic screening for STIs?	#DIV/0!	#REF!	#DIV/0!
12	Referal to an STI service ?	#DIV/0!	#REF!	#DIV/0!
13	Client referred to an HIV-care service?	#DIV/0!	#REF!	#DIV/0!
14	Follow up the client for TB and/or HIV?	#DIV/0!	#REF!	#DIV/0!
15	Client attended health services for TB and /or HIV?	#DIV/0!	#REF!	#DIV/0!
16	Days between sputum collection and referral	#DIV/0!	#REF!	#DIV/0!
17	Correctly entered into the HTS register?	#DIV/0!	#REF!	#DIV/0!

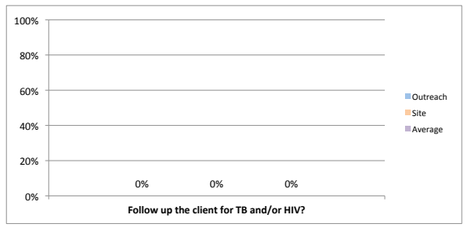












HIV testing service record review	Starting on a date one month ago in the HTS mobile register and working backwards, draw every 2nd HIV-positive HTS record until you have five HIV-positive HTS records to review. Repeat the exercise for HIV-negative HTS recordss. (Sample every 10th HTS record). Answer the following questions for each client HTS record as Y (Yes), N (No) or NA (Not Applicable).													
How many HTS records were looked for but not found?_____	***HIV +ve HTS records***					***HIV -ve HTS records***					***Summary Results***			**Validations**
	HTS Record 1	HTS Record 2	HTS Record 3	HTS Record 4	HTS Record 5	HTS Record 6	HTS Record 7	HTS Record 8	HTS Record 9	HTS Record 10	Yes	No	NA	
1. Has the correct HTS record been used?														0%
2. Have the client's contact details been recorded (address and telephone number)?														0%
3. Was consent for an HIV test given?														0%
4. Was a CD4 test offered?														0%
5. If screening or confirmatory test result differed, was blood drawn for ELISA?														0%
6. Is there a record that risk reduction was discussed?														0%
7. Were condoms offered? (Either male or female condoms.)														0%
8. Were the contraceptive needs assessed for men and women?														0%
9. Was some action noted regarding contraceptive needs?														0%
10. Is there a record of symptomatic screening for TB and appropriate clinical assessment?														0%
11. Is there record of referral to a TB service (e.g. referral letter) if applicable?														0%
12. Has the symptomatic screening for STIs been completed appropriately?														0%
13. Is there record of referral to an STI service (e.g. referral letter) if applicable?														0%
14. Is there a record that the client was referred to an HIV-care service?						N/A	N/A	N/A	N/A	N/A				0%
15. Is there evidence of attempts to follow up the client for STIs, TB and/or HIV?						N/A	N/A	N/A	N/A	N/A				0%
16. Is there a record that client attended health services for STIs, TB and /or HIV (date, clinic name, activities @ the visit)?						N/A	N/A	N/A	N/A	N/A				0%
17. Was the date between sputum collection and referral for TB treatment <= 7 days?														0%
18. Is the information from the client's HTS record correctly entered into the HTS register?														0%

HIV testing service record review	Starting on a date one month ago in the HTS stand-alone register and working backwards, draw every 2nd HIV-positive HTS record until you have five HIV-positive HTS records to review. Repeat the exercise for HIV-negative HTS recordss. (Sample every 10th HTS record). Answer the following questions for each client HTS record as Y (Yes), N (No) or NA (Not Applicable).													
How many HTS records were looked for but not found?_____	***HIV +ve HTS records***					***HIV -ve HTS records***					***Summary Results***			**Validations**
	HTS Record 1	HTS Record 2	HTS Record 3	HTS Record 4	HTS Record 5	HTS Record 6	HTS Record 7	HTS Record 8	HTS Record 9	HTS Record 10	Yes	No	NA	
1. Has the correct HTS record been used?														0%
2. Have the client's contact details been recorded (address and telephone number)?														0%
3. Was consent for an HIV test given?														0%
4. Was a CD4 test offered?														0%
5. If screening or confirmatory test result differed, was blood drawn for ELISA?														0%
6. Is there a record that risk reduction was discussed?														0%
7. Were condoms offered? (Either male or female condoms.)														0%
8. Were the contraceptive needs assessed for men and women?														0%
9. Was some action noted regarding contraceptive needs?														0%
10. Is there a record of symptomatic screening for TB and appropriate clinical assessment?														0%
11. Is there record of referral to a TB service (e.g. referral letter) if applicable?														0%
12. Has the symptomatic screening for STIs been completed appropriately?														0%
13. Is there record of referral to an STI service (e.g. referral letter) if applicable?														0%
14. Is there a record that the client was referred to an HIV-care service?						N/A	N/A	N/A	N/A	N/A				0%
15. Is there evidence of attempts to follow up the client for STIs, TB and/or HIV?						N/A	N/A	N/A	N/A	N/A				0%
16. Is there a record that client attended health services for STIs, TB and /or HIV (date, clinic name, activities @ the visit)?						N/A	N/A	N/A	N/A	N/A				0%
17. Was the date between sputum collection and referral for TB treatment <= 7 days?														0%
18. Is the information from the client's HTS record correctly entered into the HTS register?														0%

Appendix 28: Example of a healthcare worker competency evaluation tool

Healthcare worker competency evaluation tool		
Why is monitoring and evaluating the competency of healthcare workers delivering HIV-testing services (HTS) important?		
1) M&E of the competency of healthcare workers delivering HTS is a necessity: it is part of a legal and ethical duty to care for and protect clients. **2) It is supportive and educational:** this means that supervisors can track the services delivered by each healthcare worker and provide constructive feedback. This helps the healthcare worker to learn and improve their skills. **3) To help healthcare workers to increase their knowledge and skills:** which ensures that the correct information is conveyed to the client, that healthcare workers use their skills appropriately and that healthcare workers are allowed to develop professionally. Note: This tool has been adapted from the *VCT Toolkit HIV voluntary counselling and testing: A Reference Guide for HIV Health care workers and Trainers*. USA: Family Health International, 2004.		
M&E of the competency of healthcare workers include: 1) Completion of the evaluation form by the supervisor. 2) Completion of the reflection form by the healthcare worker. 3) A discussion between the supervisor and the healthcare worker regarding the information contained in these forms, which must be reflected In this tool.		
Evaluation date:	**Name of site:**	
I hereby give permission for a supervisor to sit in on my counseling session.		
Client's signature:	**Client code:**	
Outcome		
Discussion and remedial plan:		
Date of discussion:		
Supervisor's name:	**Signature:**	
Healthcare worker's name:	**Signature:**	

Supervisor's form			
Evaluation date:	**Name of site:**		
Supervisor's name:	**Supervisor's signature:**		
Client code:			
Observe each component of the HIV-testing services and answer the following questions: If any question is marked N/A, reasons must be detailed below.			
Welcome and introduction Did the healthcare worker…			
Welcome the client in a professional manner?	Yes	No	
Introduce him/herself?	Yes	No	
Give information on the organization they are from?	Yes	No	
Pre-test information session Did the healthcare worker…			
Complete the address and telephone number for the client?	Yes	No	N/A
Educate the client around HIV, including transmission and the link with TB & STIs?	Yes	No	N/A
Discuss the window period?	Yes	No	N/A
Discuss a risk-reduction plan?	Yes	No	N/A
Demonstrate condom usage?	Yes	No	N/A
Assess the client's family planning needs?	Yes	No	N/A
Attempt to action family planning needs for the client?	Yes	No	N/A
Screen for TB?	Yes	No	N/A
Screen for STIs?	Yes	No	N/A
Discuss PMTCT?	Yes	No	N/A
Explain the test procedure for HTS?	Yes	No	N/A
Gain consent from the client to test?	Yes	No	N/A

Finger-prick testing			
HIV rapid testing checklist			
1. Check test supplies: Is there enough of everything the healthcare worker needs in the necessary quantities?	Yes	No	N/A
a. Instructions for screening and confirmatory test procedures.	Yes	No	N/A
b. Rapid-testing algorithm.	Yes	No	N/A
c. Screening-test strips (check expiry date).	Yes	No	N/A
d. Screening pipette and/or capillary tubes (according to test-kit instructions). (Caution: Used pipette and/or capillary tubes must be disposed of in sharps container).	Yes	No	N/A
e. Screening buffer (check expiry date).	Yes	No	N/A
f. Confirmatory test strips (check expiry date).	Yes	No	N/A
g. Confirmatory pipette and/or capillary tubes (according to test kit).	Yes	No	N/A
h. Confirmatory buffer (check expiry date).	Yes	No	N/A
i. Gloves.	Yes	No	N/A
j. Lancets (Caution: Used lancets must be disposed of in a sharps container.)	Yes	No	N/A
k. Sharps container (for used screening and confirmatory pipette and/or capillary tubes only.)	Yes	No	N/A
l. Biohazard waste bags.	Yes	No	N/A
m. Alcohol swabs (check expiry date).	Yes	No	N/A
n. Cotton wool.	Yes	No	N/A
o. Bottle of 10% Jik (make fresh daily, label with date and initials) and/or hand sanitizer.	Yes	No	N/A
p. Timer/cell phone.	Yes	No	N/A
q. Plasters.	Yes	No	N/A
2. Prepared test area properly.	Yes	No	N/A
a. Flat, clean surface to work on? Disinfected surface using 10% Jik before proceeding any further. Covered area with paper towel.	Yes	No	N/A
b. Adequate light to see.	Yes	No	N/A
c. Sharps container open and within reach.	Yes	No	N/A

Screening-test procedure (Note: Never reuse any test supplies)			
3. Prepared screening-test reagents.	Yes	No	N/A
a. Put on a new pair of gloves.	Yes	No	N/A
b. Confirmed expiry dates of strips, pipettes and buffer.	Yes	No	N/A
c. Removed screening test strips from packaging.	Yes	No	N/A
d. Carefully tore strip one from the sheet, starting from the right to the preserve the Lot No.	Yes	No	N/A
e. Peeled off cover.	Yes	No	N/A
f. Labeled strip with client ID (barcode).	Yes	No	N/A
g. Removed a new, unused screening capillary tube and placed it on a clean, dry paper towel.	Yes	No	N/A
h. Tore off a few pieces of new, unused cotton wool and placed them on the dry paper towel ready for use.	Yes	No	N/A
4. Perform finger-prick	Yes	No	N/A
a. Selected finger (least callused, third or fourth finger usually is the best choice)	Yes	No	N/A
b. Positioned hand below heart level, in a downward position, allowing gravity to increase blood flow to the fingers	Yes	No	N/A
c. Massaged finger gently to warm and stimulate blood flow.	Yes	No	N/A
d. Cleaned finger with alcohol swab, starting in the center and working toward the sides. Dispose of used alcohol swab in a clear biohazard bag.	Yes	No	N/A
e. Waited for finger to air dry completely. Residual alcohol can cause haemolysis and erroneous test results.	Yes	No	N/A
f. Selected a new, unused lancet and twist-off the tab to break the seal.	Yes	No	N/A
g. Positioned the hand palm-side up (below the heart level, in a downward position to increase blood flow to the fingers).	Yes	No	N/A
h. Positioned the lancet firmly against the puncture site, off-center of the finger pad, away from the most callused area.	Yes	No	N/A
i. To activate, pressed the lancet firmly against the finger. Do not remove the lancet until you hear a click.	Yes	No	N/A
j. The lancet will fire, puncturing the skin, then retracting for safety.	Yes	No	N/A
k. Dropped the used lancet into the sharps container. Never stick fingers into sharps container.	Yes	No	N/A
5. Wiped away first drop of blood using clean cotton wool, as this drop may contain an excess of tissue fluid that could cause erroneous results.	Yes	No	N/A

a. Dropped the soiled cotton wool into a biohazard waste bag.	Yes	No	N/A
6. Picked up the new, unused Screening pipette and/or capillary tube (according to test kit).	Yes	No	N/A
a. Held it horizontally with the tip against the drop of the blood.	Yes	No	N/A
b. If necessary, squeezed the finger gently to help the blood flow. (Do not squeeze too hard).	Yes	No	N/A
c. Keeping the pipette and/or capillary (according to test kit) tube horizontal, drew blood into the tube until it reaches between the two lines.	Yes	No	N/A
7. Once enough blood has been collected, covered finger-prick site with clean, unused cotton wool.	Yes	No	N/A
8. Held the screening pipette and/or capillary tube (according to test kit) horizontally with the tip directly above the sample pad.	Yes	No	N/A
a. Turned the pipette and/or capillary tube (according to test kit) into the vertical position directly above the sample pad on the test strip (allow bubbles to move up away from the tip).	Yes	No	N/A
b. Squeezed the bulb gently to release all of the blood onto the sample pad (avoid releasing bubbles).	Yes	No	N/A
d. Dropped the used pipette and/or capillary tube into the clear biohazard waste bag.	Yes	No	N/A
9. Waited minute(s) until the blood is absorbed into the sample pad.	Yes	No	N/A
a. How many minute(s) waited until the blood was absorbed into the sample pad.			
b. Did healthcare worker follow the HIV rapid-test kit instruction for how many minute(s) should be waited until the blood was absorbed into the sample pad?	Yes	No	N/A
10. After the blood has been absorbed, dispensed drop(s) of screening buffer onto the sample pad (according to test kit instructions).	Yes	No	N/A
a. How many drop(s) of screening buffer were used?			
b. Was the number of drop(s) according to the screening buffer HIV rapid-test kit instructions?	Yes	No	N/A
11. Started the timer or checked watch/cell phone for the time.	Yes	No	N/A
12. Read the result after the timer alarm sounds off according to the incubation period/minutes.	Yes	No	N/A
a. How many incubation minutes did the healthcare worker wait for?			
b. Were the incubation minutes according to the Screening HIV rapid-test kit instructions?	Yes	No	N/A
13. Is there a visible line (of any intensity) in the control window?	Yes	No	N/A
a. Yes. The test is valid. Go to Step 14.0			
b. No. The test is invalid. Go to step 3.0 and repeat test with a new screening test strip.			
c. If two consecutive screening test strips are INVALID, consult your supervisor.			
14. Is there a visible line (of any intensity) in the test window?	Yes	No	N/A
a. Yes. The test is reactive and the result is positive. Go to Step 15.0 and perform the second test, confirmatory.	Yes	No	N/A
b. No. The test is non-reactive and the result is negative. Go to Step 30 (Clean-up).	Yes	No	N/A
Confirmatory test procedure (Note: Never reuse any test supplies)			
15. Prepared confirmatory test reagents.	Yes	No	N/A
a. Put on a new pair of gloves.	Yes	No	N/A
b. Confirmed expiry dates of strips, pipettes and/or capillary tubes (according to HIV rapid-test kit instructions) and buffer.	Yes	No	N/A
c. Removed confirmatory test device from packaging.	Yes	No	N/A
d. Labeled test device with client ID.	Yes	No	N/A
e. Removed a new, unused confirmatory pipette and/or capillary tube (according to HIV rapid-test kit instructions) and place it on a clean, dry absorbent towel.	Yes	No	N/A
f. Tore off a few pieces of new, unused cotton wool and place them on the absorbent towel ready for use.	Yes	No	N/A
16. Performed finger-prick.	Yes	No	N/A
a. Selected finger (least callused) and held below heart level.	Yes	No	N/A
b. Massaged finger to stimulate blood flow	Yes	No	N/A
c. Cleaned finger with alcohol swab, starting in the center and working toward the sides. Disposed of used alcohol swab in a biohazard bag.	Yes	No	N/A
d. Waited for finger to air dry completely.	Yes	No	N/A
e. Selected a new, unused lancet and pulled out the pin.	Yes	No	N/A
f. Positioned the hand palm-side up.	Yes	No	N/A
g. Placed the lancet off-center on the finger tip, away from the most callused area.	Yes	No	N/A
h. Pressed lancet firmly against the finger.	Yes	No	N/A
i. The lancet will fire, puncturing the skin, then it will retract for safety.	Yes	No	N/A
j. Dropped the used lancet into the sharps container. Never stick fingers into sharps container.	Yes	No	N/A

17. Wiped away first drop of blood using clean cotton wool. Dropped the soiled cotton wool into a biohazard bag.	Yes	No	N/A
18. Picked up the new, unused confirmatory pipette.	Yes	No	N/A
a. Squeezed the bulb and held it horizontally with the tip against the prick site/drop of blood.	Yes	No	N/A
b. If necessary, squeezed the finger gently to help the blood flow. (Do not squeeze too hard).	Yes	No	N/A
c. Keeping the pipette and/or capillary tube (according to HIV rapid-test kit) horizontal, released the bulb slowly and drew blood into the pipette, up to the marked line, without collecting air bubbles.	Yes	No	N/A
19. Once enough blood has been collected, covered finger-prick site with clean, unused cotton wool.	Yes	No	N/A
a. How much blood was collected?			
b. Was this according to the HIV rapid-test kit instruction?	Yes	No	N/A
20. Held the filled confirmatory Pipette and/or capillary tube (according to HIV rapid-test kit instructions) horizontally with the tip directly above the sample port on the test device.	Yes	No	N/A
a. Turned the pipette and/or capillary tube (according to HIV rapid-test kit instructions) into the vertical position directly above the sample port (allowed bubbles to move up away from the tip).	Yes	No	N/A
b. Squeezed the bulb gently and dispensed drop(s) of blood into the sample port (avoid releasing bubbles).	Yes	No	N/A
c. How many drop(s) of blood were dispensed into the sample port?			
d. Was this according to the HIV rapid-test kit instructions?	Yes	No	N/A
e. Dropped the used pipette and/or capillary tube into the clear biohazard waste bag.	Yes	No	N/A
21. Waited minute(s) until the blood is absorbed into the sample port (as per HIV rapid-test kit instruction).	Yes	No	N/A
a. How many minute(s) waited until the blood was absorbed into the sample port?			
b. Was this according to the HIV rapid-test kit instructions?	Yes	No	N/A
22. After the blood has been absorbed, added drop(s) of confirmatory buffer into the sample port.			
a. How many drop(s) of confirmatory buffer were used?			
b. Was this according to the HIV rapid-test kit instruction?	Yes	No	N/A
23. Started the timer or checked watch/cell phone for the time.	Yes	No	N/A
24. Read the result after the time alarm sounds off according to the incubation period/minutes.	Yes	No	N/A
a. How many incubation minutes did the healthcare worker wait for?			
b. Was the incubation minutes according to the confirmatory HIV rapid-test instructions?	Yes	No	N/A
Interpretation of confirmatory test results			
25. Is there a visible line (of any intensity) in the control window?	Yes	No	N/A
a. Yes. The test is valid. Go to Step 26.0.			
b. No. The test is invalid. Go to Step 15.0 and repeat confirmatory test.			
c. If two consecutive confirmatory test results are INVALID, consult your supervisor.			
26. Is there a visible line (of any intensity) in the test window?	Yes	No	N/A
a. Yes. The test is reactive and the result is positive.			
b. No. The test is non-reactive and the result is negative.			
27. If the screening test is positive and the confirmatory test is positive then the results are CONCORDANT. No further testing is necessary.			
a. Go to Step 29 (Clean–up).			
28. If the screening test is positive and the confirmatory test is negative, then the results are DISCORDANT.			
a. Return back to conduct a screening test procedure at step 3.0.			
b. If the screening test is reactive, then go to Step 15.0 for the confirmatory test procedure			
Clean–up			
29. The sharps containers are for lancets only.	Yes	No	N/A
a. If there is space remaining in the sharps containers (contents below dotted line), close the top so the contents don't fall out as you move to the next testing site.	Yes	No	N/A
30. Disposed of all used alcohol swabs, cotton wool, test strips and devices, pipettes, wrappers and paper, and gloves in a small biohazard bag.	Yes	No	N/A
31. Cleaned testing area with 10% jik (made fresh daily)/alcohol.	Yes	No	N/A
32. When the small, biohazard bag is full (DO NOT OVERFILL), sealed and returned it to the site office to put inside the biohazard bag.	Yes	No	N/A

Post-test counseling			
Client no longer want to know their result **Did the healthcare worker adequately……**			
Discuss the reason for not wanting the result?	Yes	No	N/A
Discuss safer sex?	Yes	No	N/A
Distribute condoms?	Yes	No	N/A
How many male condoms were distributed?			
How many female condoms were distributed?			
If condoms were not distributed, was the reason recorded?	Yes	No	N/A
Negative result **Did the healthcare worker adequately……**			
Ensure that the client understood the meaning of the test result?	Yes	No	N/A
Discuss the window period and determine a date to return?	Yes	No	N/A
Discuss safer sex?	Yes	No	N/A
Distribute condoms?	Yes	No	N/A
If condoms were not distributed, was the reason recorded?	Yes	No	N/A
Was VMMC discussed for men?			
Positive result **Did the healthcare worker adequately……**			
Ensure that the client understood the meaning of the test result?	Yes	No	
Address the client's main concerns?	Yes	No	N/A
Discuss disclosure?	Yes	No	N/A
Discuss support?	Yes	No	N/A
Discuss safer sex?	Yes	No	N/A
Discuss treatment and adherence to treatment?	Yes	No	N/A
Distribute condoms?	Yes	No	N/A
If condoms were not distributed, was the reason recorded?	Yes	No	N/A
Discrepant result **Did the healthcare worker adequately……**			
Ensure that the client understood the meaning of the test result?	Yes	No	
Address the client's main concerns?	Yes	No	N/A
Discuss disclosure?	Yes	No	N/A
Discuss support?	Yes	No	N/A
Discuss safer sex?	Yes	No	N/A
Distribute condoms?	Yes	No	N/A
If condoms were not distributed, was the reason recorded?	Yes	No	N/A
Provide a date for return for ELISA result?	Yes	No	N/A
Comments from the supervisor:			

	Healthcare worker reflection form			
	Evaluation date:	**Name of site:**		
	Healthcare worker's name:	**Healthcare worker's signature:**		
	Client code:			
	Reflect on the counseling session you have just completed and answer the following questions honestly. If any question is marked N/A, reasons must be detailed below.			
	Welcome and introduction			
	Did I welcome the client in a professional manner?	Yes	No	
	Did I introduce myself?	Yes	No	
	Did I give information on the organization that I am from?	Yes	No	
	Pre-test information session			
1	Did I conduct a client-centered session where I responded to the needs of the client?	Yes	No	N/A
2	Did I educate the client around HIV including transmission and the link with TB & STIs?	Yes	No	N/A
4	Did I discuss a risk-reduction plan?	Yes	No	N/A
5	Did I assess the client's family planning needs?	Yes	No	N/A
6	Did I attempt to action family planning needs for the client?	Yes	No	N/A
	Post-test counseling			
7	Did the client understand the meaning of the test result?	Yes	No	N/A
8	For HIV-positive & indeterminate clients, did I discuss the client's support system?	Yes	No	N/A
9	For HIV-positive & indeterminate clients, did I discuss disclosure?	Yes	No	N/A
10	Did I discuss safer sex?	Yes	No	N/A
11	Did I issue condoms?	Yes	No	N/A
12	Did I discuss referral options with the client?	Yes	No	N/A
	Comments from the healthcare worker: What did I do well? What could I have done better? Additional comments:			

Data-verification audit tool	
This monitoring and evaluation tool will be completed by a supervisor. This will not be done in the presence of a healthcare worker.	
Data-verification auditing includes: 1) Completion of the evaluation form by the supervisor. 2) A discussion between the supervisor and the healthcare worker regarding the information contained in these forms, which must be reflected on the data-verification audit tool. 3) Review of the evaluation form by the supervisor must be reflected on the data-verification audit feedback form.	
Evaluation date:	**Name of site:**
I, hereby give permission to the supervisor to ask questions about the healthcare worker's performance.	
Client's signature:	**Client code:**
Discussion and remedial plan:	
Date of discussion:	
Supervisor's name:	Signature:
Healthcare worker's name:	Signature:

Data-verification: Enumeration form

Evaluation date:	**Name of site:**	**Zone:**
Supervisor's name:		
Signature:		
HOUSEHOLD ID:		
Could household be located?	Yes	No
Was household visited by healthcare worker recently?	Yes	No

Household data	
Name of head of household	
Address/landmarks	
House number	

Enumeration data

Surname	Name	Age	Sex (m/f)	Present during healthcare worker visit (Y/N)	Present now (Y/N)

Data-verification: Client information form

First name and surname of the client:	Date:	Household ID:	Member ID:
Supervisor's first name and surname:		Comments	

About HIV testing	
Before the healthcare worker visited yesterday, when were you last tested for HIV?	
What was the result (positive/negative/NA/don't want to share)?	
Are you registered at a clinic for HIV care?	
Are you currently taking ART (in the last month)?	
Where you offered to be tested by the healthcare worker? (Y/N/NA)	
Did you accept to do an HIV test (Y/N)?	
If no, why not?	
If yes, what was the result? (p/n/don't want to share)	
Any comments on the offer of HIV testing?	
About VMMC: (for males only)	
Have you been circumcized (Y/N)?	
Medical or traditional?	
If not circumcized, was VMMC discussed with you? (advantages/disadvantages/procedure, etc.)	
Were you referred for VMMC	
About pregnancy: (for females only)	
Were you asked if you are pregnant? (Y/N)	
About TB:	
Were you asked if you are on TB treatment? (Y/N)	
Are you on TB treatment?	
Were you asked if you are coughing? (Y/N)	
Are you are coughing? (Y/N)	
Were you asked if you are having night sweats? (Y/N)	
Are you having night sweats? (Y/N)	
Were you asked if you have lost weight? (Y/N)	
Have you lost weight? (Y/N)	
Were you asked if you anyone in the household is on TB treatment? (Y/N)	

Is anyone in the household on TB treatment? (Y/N)	
About STIs:	
Were you asked if you are experiencing symptoms of STIs? (Y/N)	
Are you having symptoms of STIs?	
About condoms:	
Were you offered any condoms? (Y/N)	
How many male condoms were given?	
How many female condoms were given?	
Does client want to share anything about conduct/approach, explanation of the visit, confidentiality, privacy, time taken …	

Data-verification audit feedback form

Name of site:	Zone:	Date of feedback:	Household ID

1. **Supervisor's name and surname:**

   Signature:

2. **Healthcare worker's name:** **Signature:**

3. **Healthcare worker's name:** **Signature:**

Discussion and remedial plan:

1. **Were there any data discrepancies detected when the supervisor compared the data extracted from the day before to the information provided by the client today? If so, what were they?**

2. **Has the supervisor discussed this with the healthcare worker? If so, the space below is for the healthcare worker to write down the information they have been given.**

3. **Remedial plan to improve of the quality collection of data and ensure proper HTS and referral services are being provided: what are the steps, additional training, additional competency evaluations needed, etc.?**

TB infection-control assessment tool				Ref ICAT 06-12
(To be completed quarterly)				
Community HTS site name:				
Date of assessment:	**Completed by:**			
Instructions for completion:				
• Circle the response most applicable to your institution. Total the scores in the place provided. No=1 Yes=2				
• Retrieve your last quarter assessment and complete the column 'Last months score' (LMS).				
• Note improvements and declines in this assessment compared to last quarter's assessment.				
1. Supportive controls: Structures and activities to ensure implementation of TB infection-control interventions.	**1**	**2**	**Last Q score**	**Comments/ explanations**
1.1. Do you have a designated person responsible for infection control? If Yes, who?	No	Yes		
1.2. Is there a TB infection-control plan for the site?	No	Yes		
1.3. Are there infection-control materials (e.g. booklets, posters, flipcharts, masks, etc.) visible at the site? State what is available?	No	Yes		
1.4. Were TB infection-control measures assessed during the last quarter? If issues were raised, what has been done?	No	Yes		
1.5. Were staff trained in TB infection control in the last three months? What was the training?	No	Yes		
1.6. Were at least 98% of all clients screened for TB symptoms (as per CT form)?	No	Yes		
TOTAL				
2. Administrative controls: Strategies to reduce generation of infectious aerosols:	**1**	**2**		
2.1. Are clients screened for cough as they enter your site? If Yes, what process is followed?	No	Yes		
2.2. If clients cough, are they provided with masks/tissues to reduce infectious aerosols?	No	Yes		
2.3. Are TB suspects given priority to ensure shorter waiting times in sites or offered masks while they are waiting? If Yes, state the process followed.	No	Yes		
2.4. Are there separate and ventilated facilities for sputum collection from TB suspects?	No	Yes		
2.5. Did at least 80% of new smear-positive clients get referred to the clinic within one week, as determined in the last audit?	No	Yes		
TOTAL				
3. Environmental controls: Strategies to remove infectious aerosols after generation:	**1**	**2**		
3.1. Are all the windows in your site/caravan able to open? If not, give details.	No	Yes		
3.2. Are all the windows in your site/caravan kept open during working hours?	No	Yes		
3.3. Is there a flow of air in all the areas where clients move through the HTS site?	No	Yes		
3.4 Is there any mechanical intervention in use (fans, aircon)?	No	Yes		
TOTAL				
4. Personal controls: Risk-reduction strategies to reduce inhalation of infectious aerosols:	**1**	**2**		
4.1 Are staff screened for TB symptoms? If Yes, how are staff screened and how often is this done?	No	Yes		
4.2 Do any staff know their HIV status? What percentage?	No	Yes		
4.3 Have staff ever been trained in general infection control? What percentage?	No	Yes		
4.4 Were N95 respirators available in the last month?	No	Yes		
4.5 Were N95 respirators used by staff every time there was a coughing client in the last month?	No	Yes		
TOTAL				
Additional comments:				

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