# HIV/AIDS OUTBREAK AND RESPONSE PLAN: CITY OF TSHWANE, SOUTH AFRICA

Disaster Plan

GPH-GU 5210

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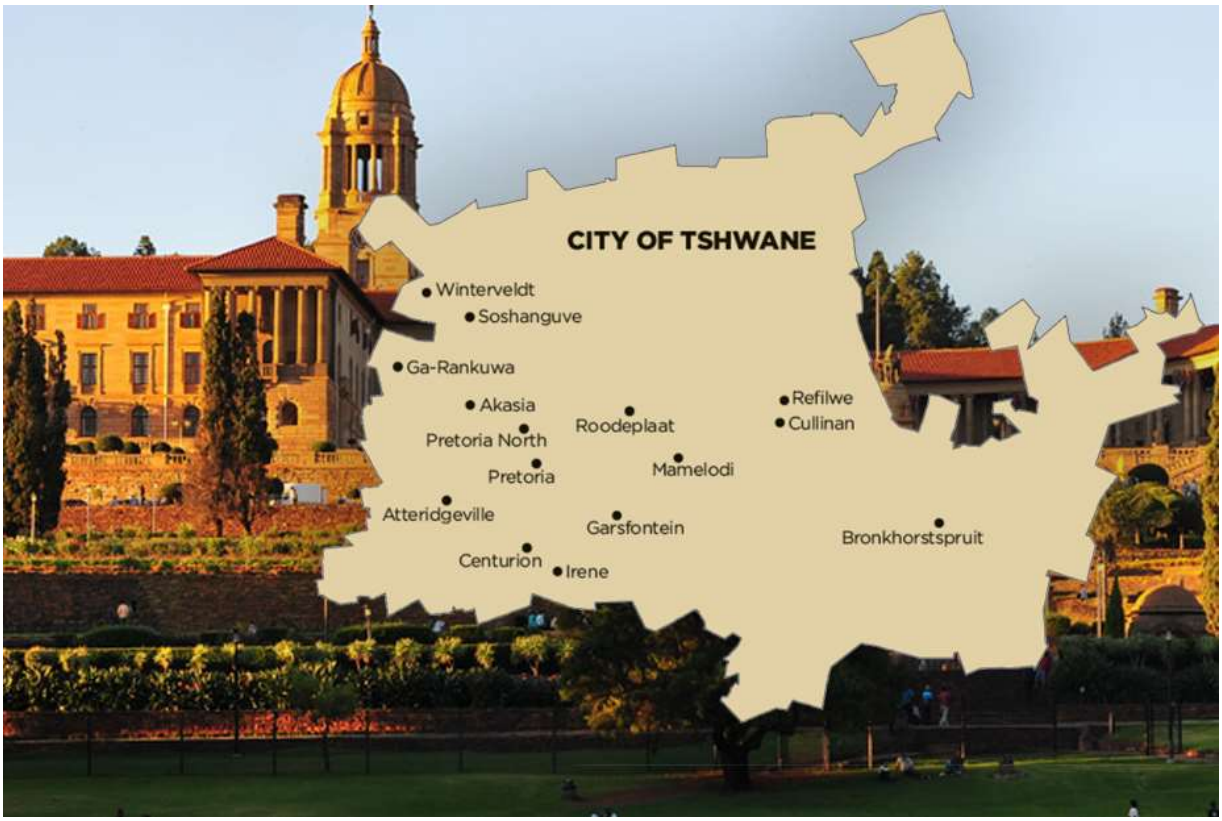


**April 28, 2022**

**City of Tshwane, South Africa**

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**Preface**

South Africa currently has one of the worst HIV/AIDS epidemics in the world, with 7.5 million people living with HIV/AIDS, contributing to a prevalence rate estimate of 17.3% in the adult population.[1] The country ranks first in the world for number of cases and fourth in the world for prevalence rate.[1] The country is seeing a rise in cases in the young adult population, and over 3 million of the current population living with HIV do not have access to treatment. Although the country has made strides to reach the UNAIDS 90-90-90 goals, only the goal of 90% of people living with HIV know their status has been met; only 70% of people diagnosed with HIV are on sustained treatment, and only 83% of people on treatment are virally suppressed.[2] The provinces of KwaZulu-Natal and Gauteng (in which the city of Tshwane is located) account for 50% of the country's burden of HIV.[2]

The City of Tshwane was established in December of 2000, and it comprises 13 city and town councils, including the capital city of Pretoria.[3] Tshwane is the largest metropolitan municipality in the country, with a population of 2.7 million people and a coverage of 5,700 square kilometers.[3] The city has a medical insurance coverage rate of roughly 25%, but the rates differ heavily in the different regions of the municipality.[4] Further, the distribution of health facilities is skewed to areas that have a higher population density, more road access, and better economic conditions. Issues with access and adherence to HIV medications is due, in part, to extreme income inequality in the region and a lack of funding for public health programs.[3] Many people live in informal settlements and transient housing, leading to difficulties in accessing medical services.[3]

Due to the high prevalence and incidence measures of HIV in the city of Tshwane, the threat of this disease must be addressed. The country has taken great measures to ensure that people who are infected know their status but getting people treatment and ensuring that they stick to their treatment schedule are large barriers that need to be addressed. This lack of treatment uptake makes the city of Tshwane vulnerable to sustained, and potentially even greater, outbreaks of HIV. A response plan for this potential outbreak is necessary, in order to protect against the disastrous impacts that HIV outbreaks can have.

**Signature page**

The undersigned have reviewed, approved in full, and will support implementation of the following HIV/AIDS Response Plan for City of Tshwane.

_____ _____

Motaze Ebonwu, MD Date

Head of Emergency Operations Center

_____ _____

Johan Van Hoek, MD, MPH Date

Emergency Medical Operations

_____ _____

Joy Essel, MD Date

Head of Provincial Conditions Surveillance

_____ _____

Elisa Moban Selumi, MD, MPH Date

Department of Health (DoH)

**Mission Statement**

The City of Tshwane (CoT) aims to provide sustainable solutions to enhance the quality of life of all people throughout the municipality. The CoT aims to deliver a developmental system of local government and provide efficient, effective, and affordable services to all people. Tshwane contains Pretoria, which is the administrative capital of South Africa.

**Statement of Purpose**

The purpose of this plan is to provide an effective response plan to the ongoing HIV/AIDS epidemic and the threat of a future outbreak in the City of Tshwane. This response is designed to offer treatment guidelines for those who have been diagnosed with HIV and strategies to address problems with adherence to medications. This plan will provide the city and associated organizations with the tools necessary to respond to and halt a future HIV outbreak in the city.

**Authorities[6]**

1. The Disaster Management Center of the Gauteng Province
2. The National Disaster Management Center (NDMC)
3. The CoT ward disaster management structures
4. Each of the municipalities neighboring the CoT

**Definition(s)[5]**

**HIV** (human immunodeficiency virus) is a virus that attacks the body's immune system. Untreated HIV can lead to AIDS (acquired immunodeficiency syndrome). During the acute phase of HIV infection, people report flu-like symptoms within 2-4 weeks, such as fever, chills, swollen lymph nodes, mouth ulcers, night sweats, muscle aches, sore throat, fatigue, and rash. Some might not experience any of these symptoms. The definitive way of knowing HIV status is to get tested. There are three stages of HIV infection: - acute, chronic, and AIDS. People infected with HIV have it for life as there is no effective cure, although it can be controlled with proper treatment.

**CoT** = City of Tshwane

**Communication Plans**[6]

The City of Tshwane (CoT) uses the Tetra radio system for all departments replacing other analog systems in operation. All Tetra radios are multi-channel, allowing users to select preferred channels for communication. It also makes direct communication between two radios feasible. A cellular phone network can be used in the absence of radio reception to communicate. The desktop and mobile version functionalities are also available in the handheld sets. Disaster Management Services has access to a satellite phone. In an emergency, major event, or disaster, information flow between the different role-players is related to the physical set-up of the Disaster Operation Center (DOC). Information for tactical decision-making is under the DOC. Information for strategic decision-making falls under the Pieter Delport Center in Perdehoef, relaying information to the Disaster Management Information Center (DMIS) and Geographical Information Systems (GIS) to assist with strategic decision-making.

**Mutual Aid Agreement**

City of Tshwane (CoT) has mutual aid agreements with Disaster management, Community Safety Department, Gauteng Provincial Government (PDMC), Health and Social Development Department, National Institute for Communicable Diseases (NICD) Information Technology Unit, and Telcom.

**Concept of Operations (CONOPS)**

### I. Assessing the Needs of Patients with Suspected HIV

The World Health Organization (WHO) has a global target set to end the HIV/AIDS epidemic by 2030.[7] This means no new infections, no related deaths, and no discrimination for those living with the disease.[7] The WHO focuses on delivering high impact, equitable interventions that are innovative and sustainable.[7] In order to address the HIV/AIDS epidemic in the city of Tshwane, a multisectoral approach that focuses on both prevention and treatment is needed. Measures are needed to both ensure that infection does not spread, as well as to maintain and improve quality of life for those already living with the disease. Key prevention efforts include assessing the structural and social mechanisms that drive new infections, especially for those most at risk, including young adults, women, and sex workers.[8] Testing is another important prevention measure that ensures that those who have HIV know their status and take steps to protect their own health through treatment.[8] Further prevention efforts include education, access to condoms, and antiretroviral therapy to reduce the chance that an infected person can spread the disease.[8]

Along with prevention efforts, education on treatment in addition to easy access, low cost/free treatment are both necessary to ensure that those who have the disease can live healthy, long lives. Access to treatment greatly increases quality of life, as well as reducing mortality rates drastically.[9] Once a case is confirmed as HIV positive, there needs to be structures in place to link those who are positive with correct care.[9] The most vulnerable populations tend to have the most difficulty sticking to treatment regimens, so linkage to care and treatment follow-up are extremely important to ensure that people have treatment and continuity of care.[9] South Africa has one of the highest rates of HIV infection in the world, and treatment uptake for those infected is only about 53%.[10] The country has an HIV response agenda in place that addresses treatment options in different populations, including treatment for pregnant women and the youth population.[10] In 2019, South Africa introduced a new treatment scheme that is easier to follow and more cost-effective. This treatment, TLD, is a three in one drug that includesdolutegravir, lamivudine, and tenofovir disoproxil fumarate.[11] This drug is expected to continue the recent price drop in antiretroviral medication in the country, and aid in helping the country reach the WHO's 2030 goal to end the HIV/AIDS epidemic.[11]

### II. Matching available resources to the needs including how you will address the needs of vulnerable populations

HIV/AIDS continues to be a major challenge for South Africans. South Africa has a comprehensive five-year national plan strategy addressing prevention, treatment and care, research, and human rights related to HIV/AIDS and sexually transmitted infection. South Africa's government collaborates with various stakeholders. It promotes public awareness and life skills campaigns, increases prevention strategy, expands programs to prevent mother-to-child transmission of HIV, condom supplies, improves access to voluntary HIV counseling and testing

(VCT), and provides care for rape survivors.[13] Such partnership will address the community's needs on different levels and advance progress in the prevention of HIV/AIDS.

Soul City, loveLife, and Khomanani initiatives have been at the forefront in addressing HIV/AIDS through mass media and community action, among other interventions such as life skills work and advocacy campaigns.[15] The South African government funds all these three. Khomanani, meaning "caring together," differs from the other two initiatives. In addition to mass media, it offers face-to-face communication to support the prevention of HIV and the development of care, support, and treatment. It also has six government awareness campaigns that focus on youth prevention, support for vulnerable children, living positively with HIV, effective STI treatment, Tuberculosis (TB) control, and supporting health workers.[15] This initiative is unique because it is built upon the partnership with community groups who are part of their development by contributing local knowledge. Thus, addressing culture and appropriate innovative approaches to the needs of the community members.

The most accessible source of information and counseling for thousands of people is the government-sponsored free HIV/AIDS Helpline. To avoid stigma and discrimination against people living with HIV/AIDS (PLWHA), the Department of Health has appointed PLWHA in various governmental positions.[15] The Department of Labor has also set guidelines for addressing HIV/AIDS in the workplace.

Training has been standardized countrywide to improve home and community-based care. Provincial coordinators have been appointed to maximize access to these services in all provinces. There is a conditional and health grant that the Department of Social Development utilizes to address problems related to orphans and vulnerable children, social relief, including food parcels, counseling, and childcare.[14]

### III. Evaluating the effectiveness of the disaster response

To combat the HIV/AIDS epidemic in South Africa, the gap between policy and implementation needs to be addressed. The public health infrastructure does not have the resources to scale up and increase coverage programs such as Pre-exposure prophylaxis (PrEP).[12] The health facilities are overstretched with chronic health worker shortages- most recently exacerbated by the COVID pandemic, surge in non-communicable diseases (NCDs), and a decentralized health system making it challenging to implement services at the provincial and district levels.[12] Also, school governing boards, some provincial officials, and other gatekeepers prevent basic health education and service delivery in schools making it difficult to reach young people.[12] The South African government should address the barriers past strategies to implement services for South Africans who are at high risk of contracting HIV/AIDS.

Many organizations provide humanitarian services aimed at combating the HIV/AIDS epidemic in South Africa. PEPFAR (President's Emergency Plan for AIDS Relief) is an American organization that works with South African partners to prevent transmission of HIV, as well as focusing on linking those infected with treatment and ensuring that they are able to live healthy, full lives.[17] Although PEPFAR, and many other organizations, have a strong focus on "testing and treating",

there is still a large gap between those who are HIV positive and those that are on treatment.[18] There are many reasons that aid is not going as far as intended in South Africa, including frequent budget cuts and a poorly run public healthcare system.[18] Even if people are finding out their status and linked to care, there is a very low rate of adherence to medications, which goes past the basic healthcare system to a lack of access to mental health care and psycho-social support, among other shortfalls.[18]

**Annex 1**: Threat and Hazards Assessment Table: Disease Outbreak in South African Townships

| Natural | Technological | Human-Caused |
|---|---|---|
| Resulting from acts of nature | Involves accidents or the failures of systems and structures | Caused by the intentional actions of an adversary |
| · Earthquakes that could disrupt basic services. Although rare in the country, infrastructure in townships does not have the capacity to withstand damage and rebuild after.<br><br>· Drought. In the past four decades, South Africa has seen seven major drought periods, with 2018-2020 being the most recent. Millions of people affected and contributes highly to food insecurity throughout the region.[19]<br><br>· Flooding and extreme rainfall events. Flash flooding in 2022 has led to hundreds of people having to be evacuated and at least 20 people dead. Also contributes to crop damage and adds to food insecurity.[20]<br><br>· Climate change induced heatwaves and a shift in the geographical spread of vector-borne diseases. South Africa has a high number of endemic vector-borne diseases, but warming temperatures have the potential to increase the number of vector-borne diseases in the country.[21] | ·Water supply failure and issues with sanitation that could lead to improper containment and disposal. Collapse of these structures due to natural disasters such as earthquakes, flash flooding, etc. Townships, especially, have poor infrastructure and construction, and are susceptible to building collapse and structural damage.<br><br>·Mine accidents and deaths related to them are becoming more common, with 69 reported deaths in 2021. Mine accidents are also a cause of earthquakes in the region, with 7 dead from an earthquake caused by a mine accident in 2018.[22]<br><br>·Power: South Africa does not have enough infrastructure to always power the entire country, leading to power crashes and planned electricity shut offs. Internet and communication failures are common, especially for those living in low-resource settings.[23] | ·Terrorism and Bioterrorism- intentional disease outbreak. South African townships have a high density of people living in extremely close quarters. History of terrorism in South Africa is related to race and religion.[24]<br><br>·Civil disturbance- South Africa has a long history of civil unrest. Most recently, in 2021, 342 people died and 3,407 people were arrested due to protests against incarceration of the previous president.[25] |

**Annex 2**: Training Seminar Outline

| **Training Seminar Title:** HIV/AIDS in Tshwane, South Africa | |
|---|---|
| **Objectives of your Training Seminar (What mitigation strategy are you advocating?)** | Minimize the spread of HIV/AIDS virus. |
| **Estimate Length of Training** | 1 hour on a monthly basis |
| **Target Audience and max size of audience.** | Community members in Tshwane including community leaders and stakeholders. 50 members per training group. |
| **Who would be a good candidate (e.g., structural engineer, health dept. official, first responder?) as Facilitator of this session? Why?** | Healthcare leaders and public health officials such as infectious disease specialists or Ministry of Health Infectious disease leaders. These are the best candidates for the role as facilitator as they are experts in managing an HIV/AIDS epidemic including but not limited to how the virus is spread, prevented, and managed through treatment. They are also experts in how to care for and educate community members, leaders, and community health workers. |
| **What do you want community members to do as a result of their attending this session?** | 1. Have a better understanding of how HIV/AIDS is spread, prevented, and managed through treatment.<br>2. Know who the most vulnerable individuals in the community are and how to protect them.<br>3. Personal steps that can be taken to minimize risk of infection for oneself and others in the community.<br>4. Be able to identify when and where to get tested.<br>5. Understanding of treatment structure and where to go to access care.<br>6. Dispel misconceptions and reduction in personal stigma surrounding the disease.<br>7. Understanding of mother-to-child transmission and how to prevent this. |
| **Strategies to increase community uptake of your mitigation.** | 1. HIV testing incentives in the form of money, food, airtime minutes, or t-shirts.<br>2. HIV self-testing especially among men who are difficult to reach.<br>3. Community-based HIV testing instead of facility-based testing to reduce loss to follow-up, stigma, financial costs due to travel, and improve access to testing services.<br>4. Provide educational interventions along with local leaders as part of the community-based outreach programs.<br>5. Task-shifting and task-sharing through community health workers.<br>6. Training and sensitization of service providers including health care workers, lawmakers, and law enforcement officials.<br>7. Prevention of mother-to-child transmission related services through linkage to care, adherence support, antiretroviral therapy delivery and home-based care. |

**Annex 3**: Table for Emergency Operations Plan: Short-term Strategies

| Necessities | Possible Resources | Distribution Strategies |
|---|---|---|
| Strengthening programs for health prevention and education | ● Mother-to-child transmission<br>● Pre-exposure prophylaxis and post exposure prophylaxis<br>● Voluntary medical male circumcision<br>● The DREAMS initiative (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe)<br>● Increasing social support systems | ● CDC supports HIV prevention strategies under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR).<br>● UNAIDS regional support team supports government and community prevention and education efforts<br>● Coordination with ART clinics to provide education and prevention materials<br>● South Africa Partners increases social supports across the continuum of care, integrating education efforts |
| Taking immediate disease control measures | ● Case identification<br>● Treatment as prevention<br>● Laboratory systems | ● Index testing-HIV testing of family members and sexual partners who are HIV positive to find others who are at increased risk of infection.<br>● Multi Month dispensing of antiretroviral treatment.<br>● Point-of-care testing to build confidence and enhance trust in laboratory systems. |
| Providing medication access | ● Stock of antiretroviral treatment<br>● Well-defined supply chain<br>● Inventory management<br>● Community health workers | ● Antiretroviral therapy (ART) Clinics<br>● Effective and reliable transportation and distribution<br>● Coordination throughout the supply chain, from manufacturer to warehouse to hospital/clinic to patient<br>● Coordination between community health workers and community members to encourage treatment use and sustained adherence |

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