



# Key Populations and Drug Resistant Tuberculosis in High-Burden Settings

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# Case Study

ZS is a 32 year old male born and raised in Durban, South Africa. He had a history of parental abuse during childhood. As a teenager, he began using drugs, including cannabis and heroin, and experiencing symptoms of depression. He left home unemployed 10 years prior to presentation has experienced homeless since. Shortly after he was diagnosed with HIV. He was intermittently adherent to ART, limited by a lack of a secure place to store medications, food insecurity, and substance use disorder. In 2023, he began to experience cough, fatigue, and diarrhea, and sought care with community-based organizations in Durban. He was eventually diagnosed with rifampin-resistant tuberculosis and was admitted to the hospital. On admission, he had a CD4+ T-cell count of 17 cells/mm<sup>3</sup>, and an HIV viral load of 1,095,658 copies/mL. He was started on a TB regimen and clinically stabilized.



Key populations for TB & MDR-TB:  
*“people who have increased exposure to TB bacilli, have limited access to health services, or are at increased risk of TB because of compromised immune function”*

(STOP TB Partnership)

**Stop TB Partnership**

**SOUTH AFRICA'S NATIONAL STRATEGIC PLAN FOR  
HIV, TB and STIs 2017-2022**

 **THE  
GLOBAL  
FUND**

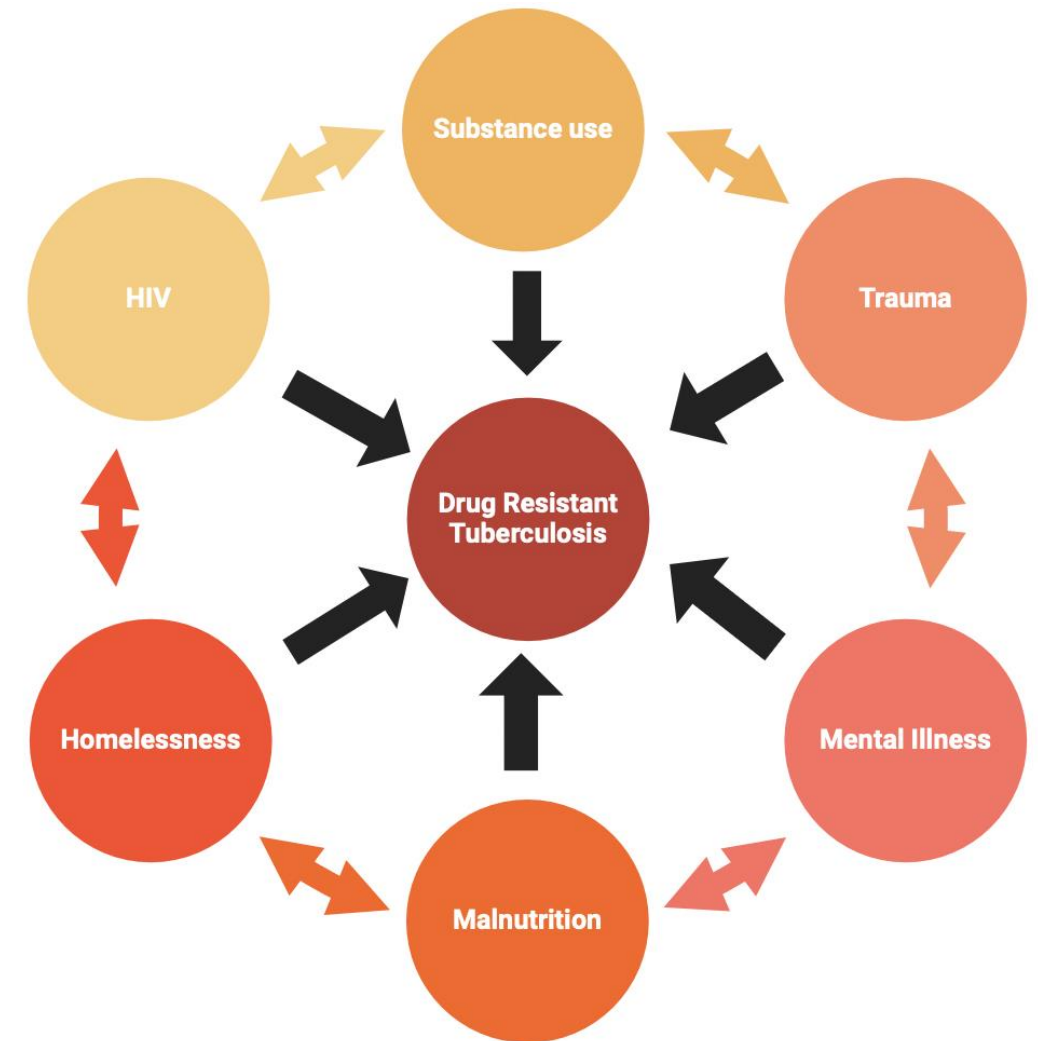
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# Ongoing Issues

- **Who are key populations in TB/DR-TB?**
  - At least 34 different groups have been proposed as key populations
  - TB risk is context-dependent and evades categorization
- **How can the key populations framework be applied to TB drug resistance/emerging TB drug resistance?**
- **“Non-traditional” sources of TB risk suggested by case study?**
  - Adverse childhood experiences
  - Trauma and abuse
  - Stigma
  - Drug use
  - Mental health

# Key Populations and TB Drug Resistance

- In a various settings, along various steps of care cascade, risk for DR-TB clusters in a small subset of the population
  - Chains-of-risk and lifetime accumulation of risk
- Key populations may have additional sources of risk for DR-TB beyond drug-susceptible TB
  - Social mixing patterns among key populations pose risk for transmitted resistance
  - Heightened social and structural barriers to adherence and healthcare access pose risk for acquired resistance
  - Similar risk factors make key populations important in emergent resistance in settings with high MDR-TB burden





# Implementing a Key Populations-informed Agenda for Drug Resistant Tuberculosis

- Adapt key populations framework to address drug resistant TB
- Account for heterogeneity in risk for all steps of TB progression
- Consider both traditional and non-traditional sources of TB risk
- Embrace local, context-specific needs of key populations
- Partner & collaborate with community-based organizations working with key populations