

JOHANNESBURG HEALTH DISTRICT

2024 RESEARCH CONFERENCE

Factors associated with unfavourable treatment outcomes of drug-susceptible tuberculosis patients registered in the Johannesburg health district from 2017 to 2018

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#JoburgResearch2024

The logo for the City of Johannesburg, featuring the word "Joburg" in a stylized, lowercase font with a small tower icon above the letter 'j'. The logo is enclosed in a thin black rectangular border.

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Acknowledgements



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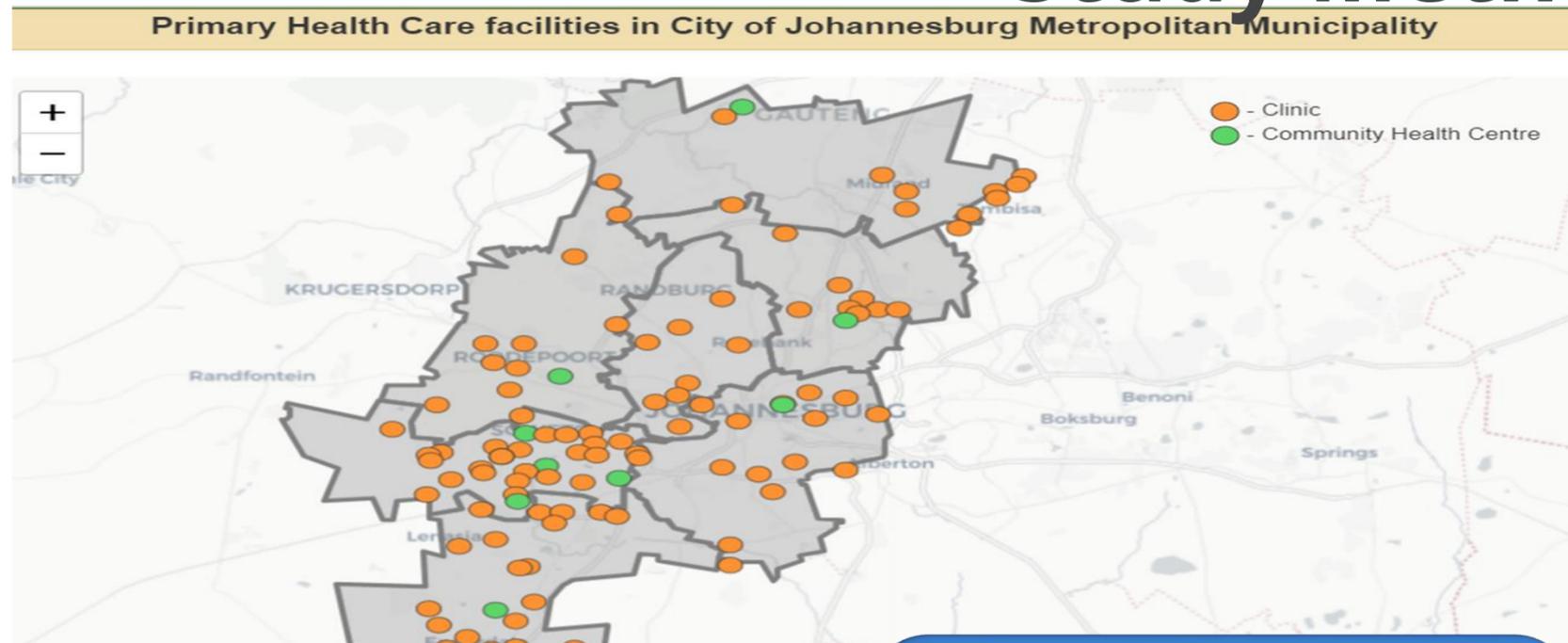


Introduction



Global Context: Tuberculosis (TB) is a preventable and curable disease, yet it remains one of the leading causes of death globally from a single infection. Despite appropriate treatment, many people diagnosed with TB do not achieve successful treatment outcomes.

Study Methods



Study Focus: Retrospective study conducted in the Johannesburg Health District, focusing on drug-susceptible TB patients and the factors that lead to unfavourable treatment outcomes. Analyzed data using Stata 17 & employed logistic regression (Significance @: p-value < 0.1). Focused on patients registered in Tier. Net between 2017 and 2018.

Study Settings: Included all the Johannesburg Health District Primary health clinics. Hospital not TB reporting units at the time. Early days of capturing TB data into Tier. Net (from mid 2016)



Results: Baseline Characteristics

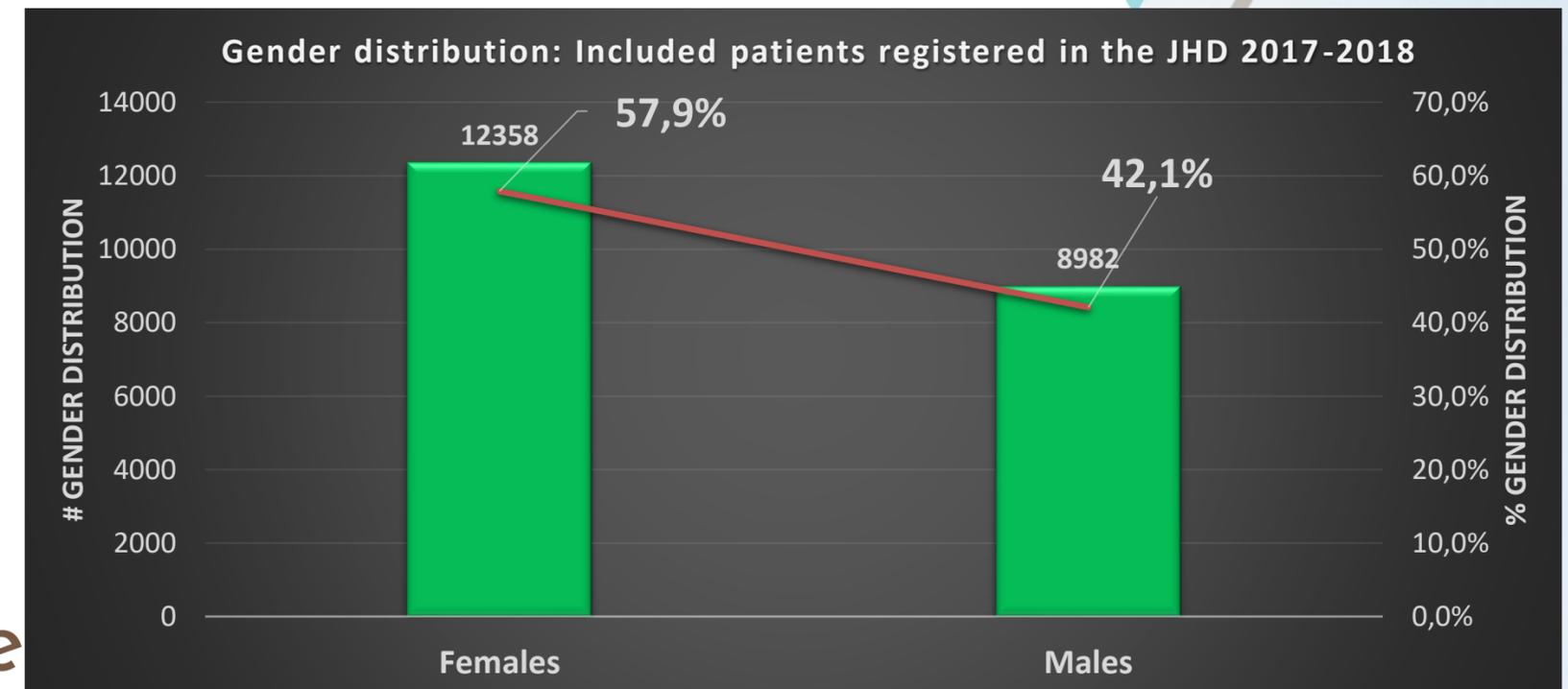
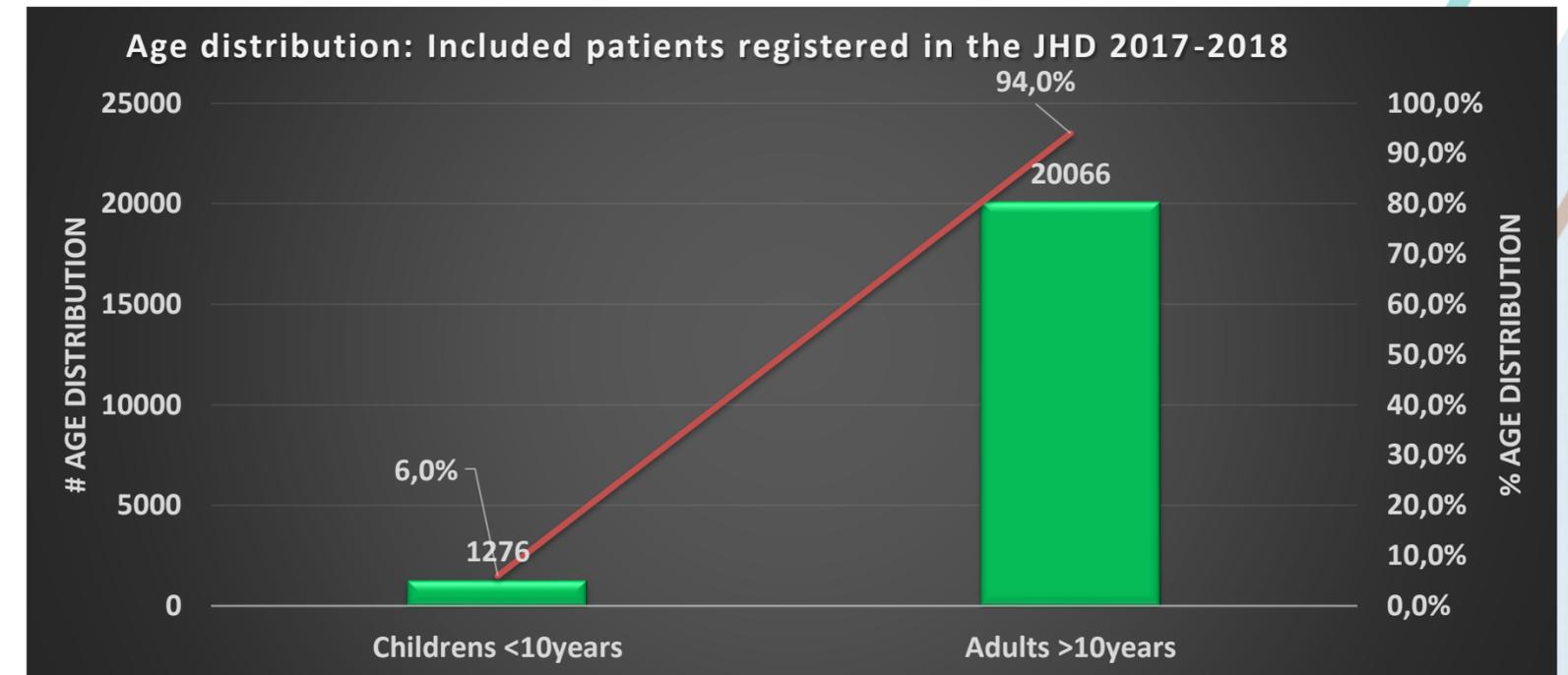
Total included: 21 342

Median Age = 38.0 years.

History of TB treatment: <10% (n=1 750,8.2%) Previously treated.

Registration Type: Over 10% (n=2 331, 10.9%) Clients continued their treatment in facilities that did not make the diagnosis.

HIV and ART status: Approximately 65% of the participants were HIV positive, with only 10% **Not** receiving ART, making ART use nearly universal.



Results: Treatment success rate

Treatment success rate: Success achieved in 17 959 (84.1%) of 21 342
Unsuccessful treatment outcomes included: loss to follow-up (n=1 939, 9.1%)
and death (n=1 316, 6.2%).

Observed highest frequency: LTFU (20%) and all-cause mortality (20%) in
participants who were HIV Positive but not on ART.

Time to unsuccessful Outcomes

Median time to unsuccessful outcomes:

- **Median time to LTFU :**
 - Participants **Aged 10-19 years and Sub district B** was longer (4.1 & 4.0 months respectively) to LTFU.
 - **HIV Pos not on ART** was 2.5 months
- **Median time to death:**
 - **HIV Pos not on ART and HIV unknown status** was <2months
 - **Sub districts A, B and C** was almost at 3months

Median time to LTFU was **3.0 months** and for Death was **2.4.**

Significant difference

detected in survival curves by **age groups, Sub district, and HIV status** for both LTFU and death.

Results: Predictors of Loss to Follow up (LTFU) outcome

Significant by: Age group, Gender, History of TB treatment, Origin at registration, Sub district, and HIV status

- Aged 10-19 and >50 had 41% and 35% less risk of LTFU vs the 20-49 years old
- Being a Male increased your risk of LTFU by 23% compared to Females
- Re-treatment had a 50% increased risk of LTFU compared to newly treated
- Participants taking treatment in Sub district A, B, C and E had between 28-54% lesser risk of LTFU compared to Sub district G participants
- Compared to the HIV negative, HIV Pos and not on ART had more than double the risk of LTFU, whereas the risk increased by 56% in those with unknown HIV status
- Putting an HIV Pos client on ART decreased the risk of LTFU by 29%



Predictors of All Course Mortality outcome

Significant by: Age group, Sub district, History of TB treatment, Origin at registration, HIV status, site of TB disease. Regimen type, and Means of diagnosis

- Odds of death advanced with age: Compared to those aged between 20 and 49 years, death decreases by 65% in the <10 years age group, but more than doubled in ages of >50 years
- Odds of death higher in Sub districts D and G than the rest.
- Odds of death increased by 35% in retreatment clients vs New
- Odds of death increased by 33% in transferred in from within the district vs the Newly registered
- Odds of death was higher in HIV Pos not on ART (557%), Unknown HIV status (149%) and HIV Pos on ART (48%) compared to the HIV Negative
- Extra-Pulmonary TB increased the odds of death by 27% vs Pulmonary TB
- 9 Months long treatment increased odds of death by 32%
- Those on children Regimen had 77% lesser odds of death vs adult Regimen
- Clinically and X-Ray confirmed had 79% and 51% higher odds of death compared to Laboratory confirmed

Conclusions

- Johannesburg Health District fell short of WHO's 90% treatment success target between 2017 and 2018.
- LTFU and death major factors in unfavorable outcomes.
- First three months of treatment critical for intervention.
- Specific risk factors identified: Age, gender, history of TB treatment, sub-district, HIV status, etc.

Recommendations

- Implement interventions targeting identified risks for LTFU and mortality.
- Initial 3 months of TB treatment in the district vital to improve its increase. Consider observed treatment.
- Focus on high-risk patients to improve treatment outcomes.
- TB/HIV collaboration efforts in the district; HIV Pos not on ART and unknown HIV status.

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Thank You

Q&A