# Constructing TB cascades to inform programme improvement

Introduction

- Treatment coverage: 54%
  New data for 2017: 68%

- Estimated losses from TB care cascade
  - 5% at test access
  - 13% at diagnosis
  - 12% at treatment initiation
  - 17% successful completion
  - Similar with HIV co-infection

- Programme monitoring has focused on treatment outcomes
  - Monitoring of case identification and diagnosis is poor
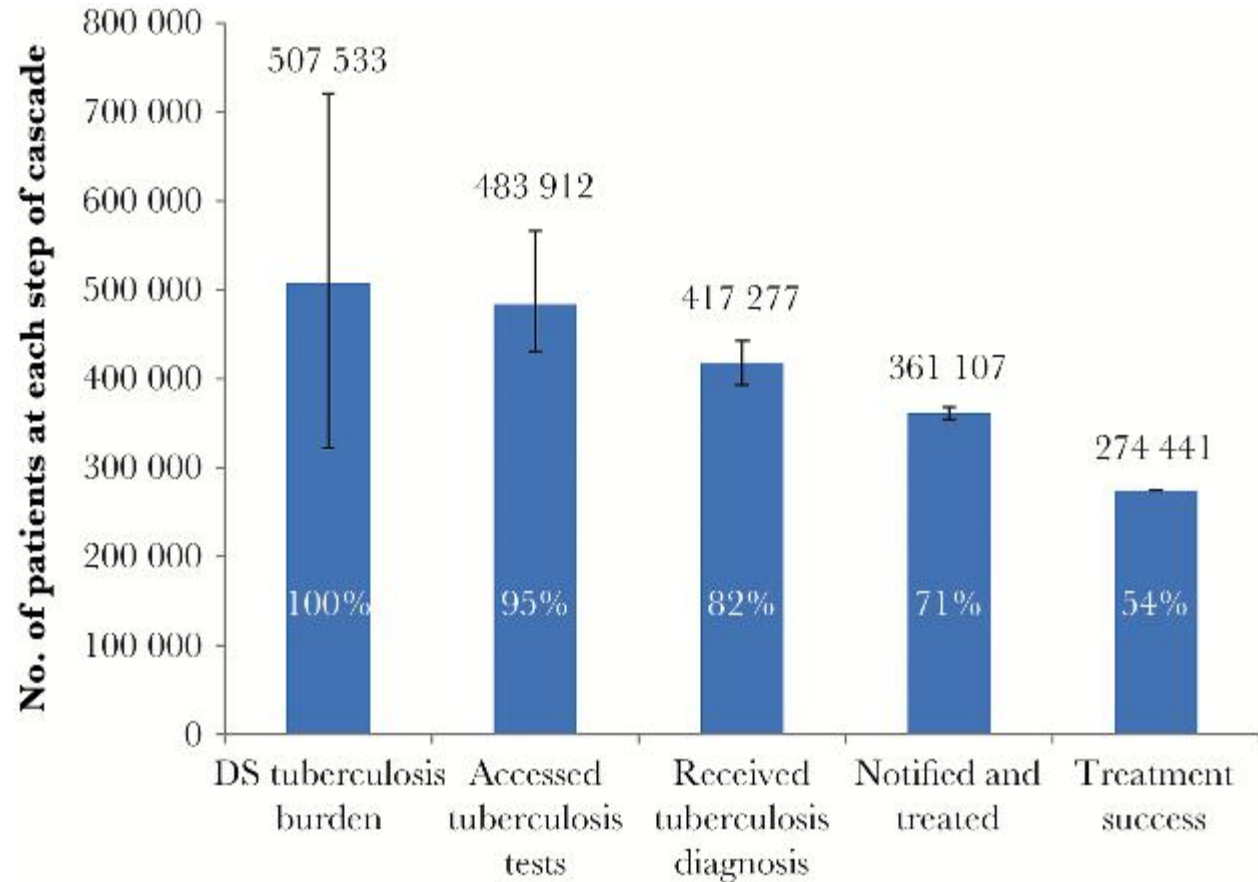
From: The South African Tuberculosis Care Cascade: Estimated Losses and Methodological Challenges. J Infect Dis. 2017;216(suppl_7):S702-S713.

Purpose

- Implementation of the TB module of TIER.net is underway
    - Potential to close some existing monitoring gaps
    - Potential to improve integration of M&E for TB & HIV

- Aim: to construct a TB care cascade to explore whether an integrated information system can improve programme monitoring
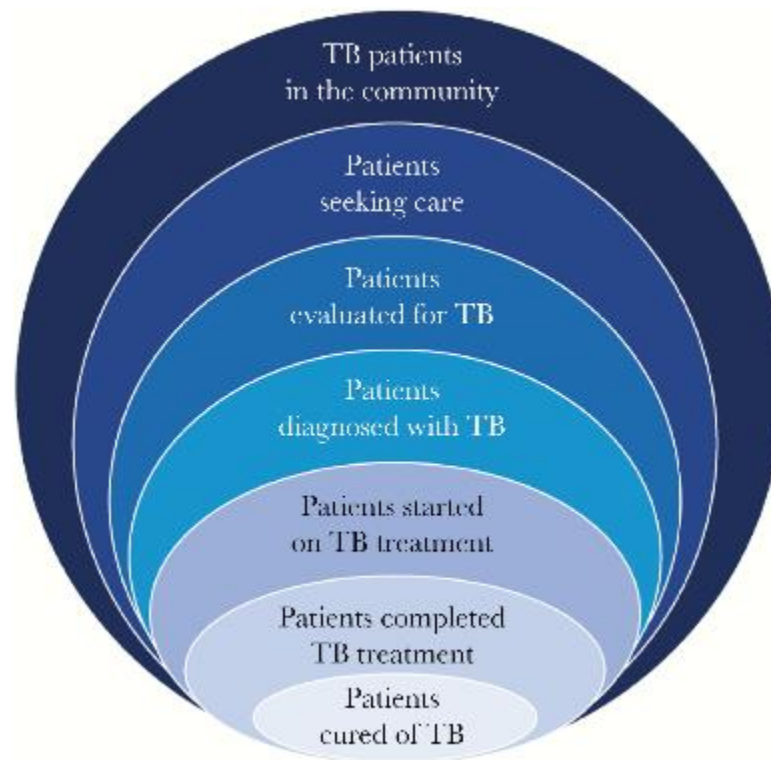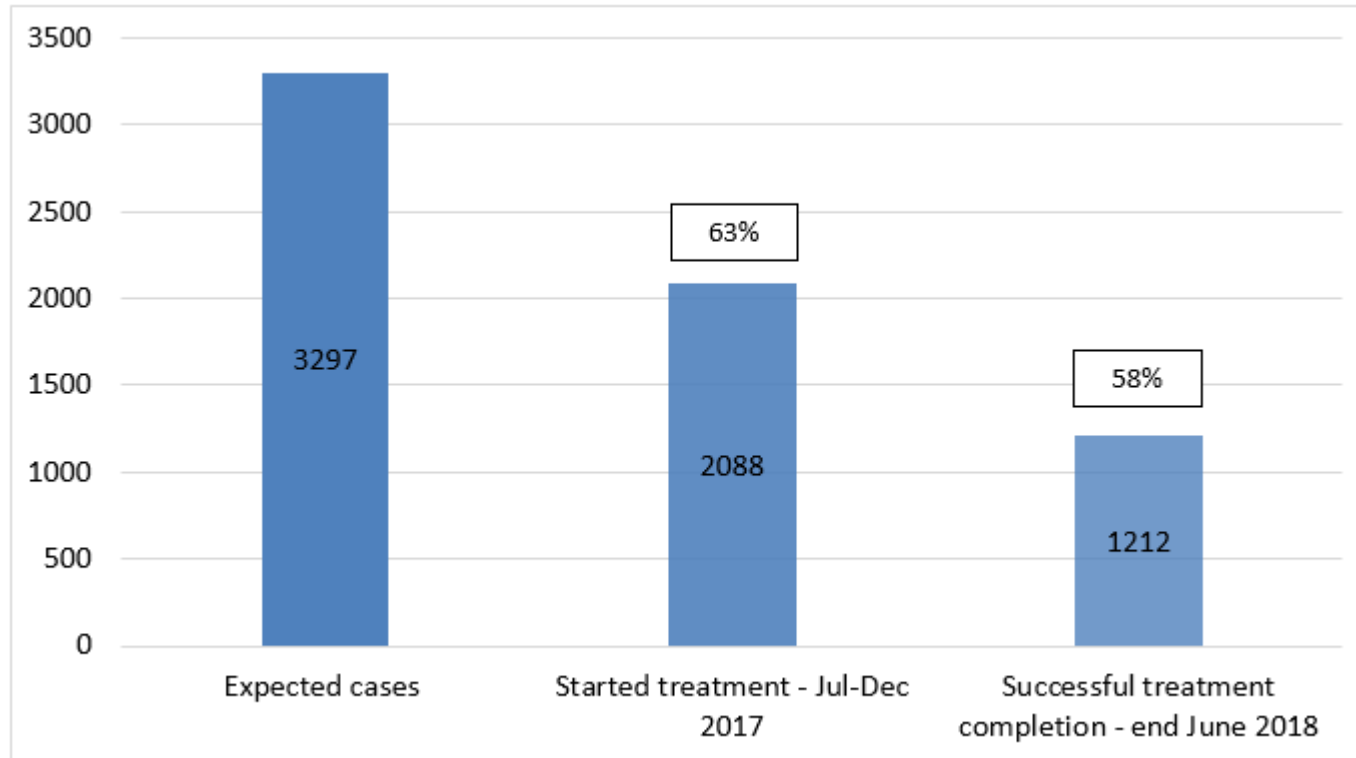
Methods & data sources

- July – December 2017

- Johannesburg Sub-district D
  - Soweto
  - Best coverage of Tier.net TB module (2% difference between Tier & ETR)

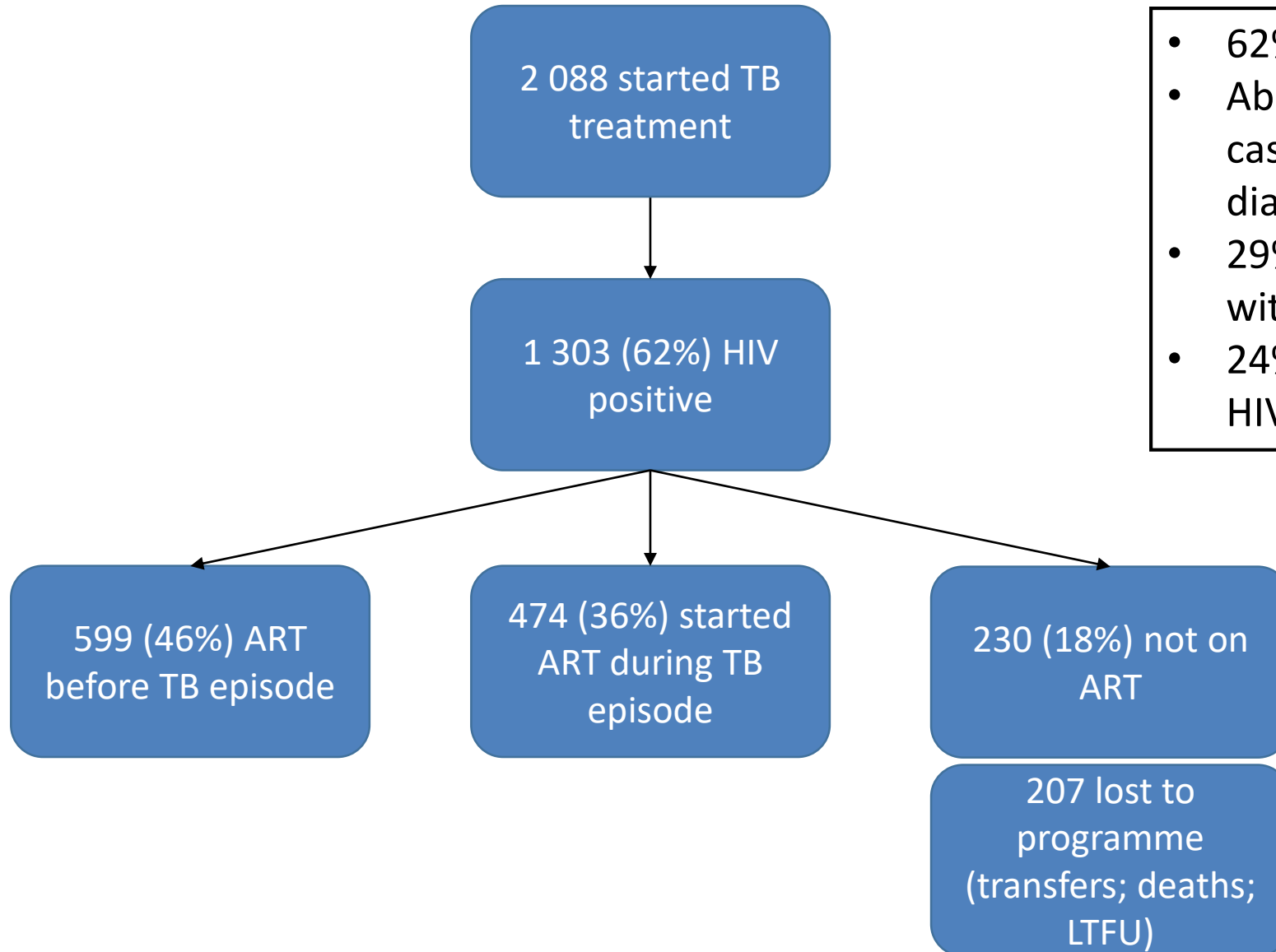| Data source	
WHO: Global TB Report 2016	Incident cases
Tier.net	Presumptive TB
	TB treatment
	HIV co-infection
NICD TB Dashboard (district level)	Microbiologically confirmed pulmonary TB

All TB cases

147 children under 15 years old started treatment (7%)

- 63% of expected cases started treatment
- 58% of these completed treatment- however, system is still being implemented & more time may be needed to accurately record outcomes

HIV co-infection

2 088 started TB treatment

→

1 303 (62%) HIV positive

- 599 (46%) ART before TB episode
- 474 (36%) started ART during TB episode
- 230 (18%) not on ART
 - 207 lost to programme (transfers; deaths; LTFU)

- 62% co-infection
- About half of the HIV positive TB cases were on ART at the time of diagnosis
- 29% of overall TB case finding from within ART programme
- 24% of children under 15 years old HIV co-infected

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HIV co-infection

- 100 178 people were on ART during study period- 0.6% of people on ART developed TB in 6 months
  1195/ 100 000
  - 2% were started on TB treatment within one week on ART
  - 55% between 8 and 28 days
  - 28% between 28 days and 3 months
  - 6% more than 3 months

- 3 had started IPT; none had completed IPT

- All but 6% of the people on ART who started TB treatment did so in the first 3 months
- More than half were in the first month on ART

Micro-confirmed pulmonary TB
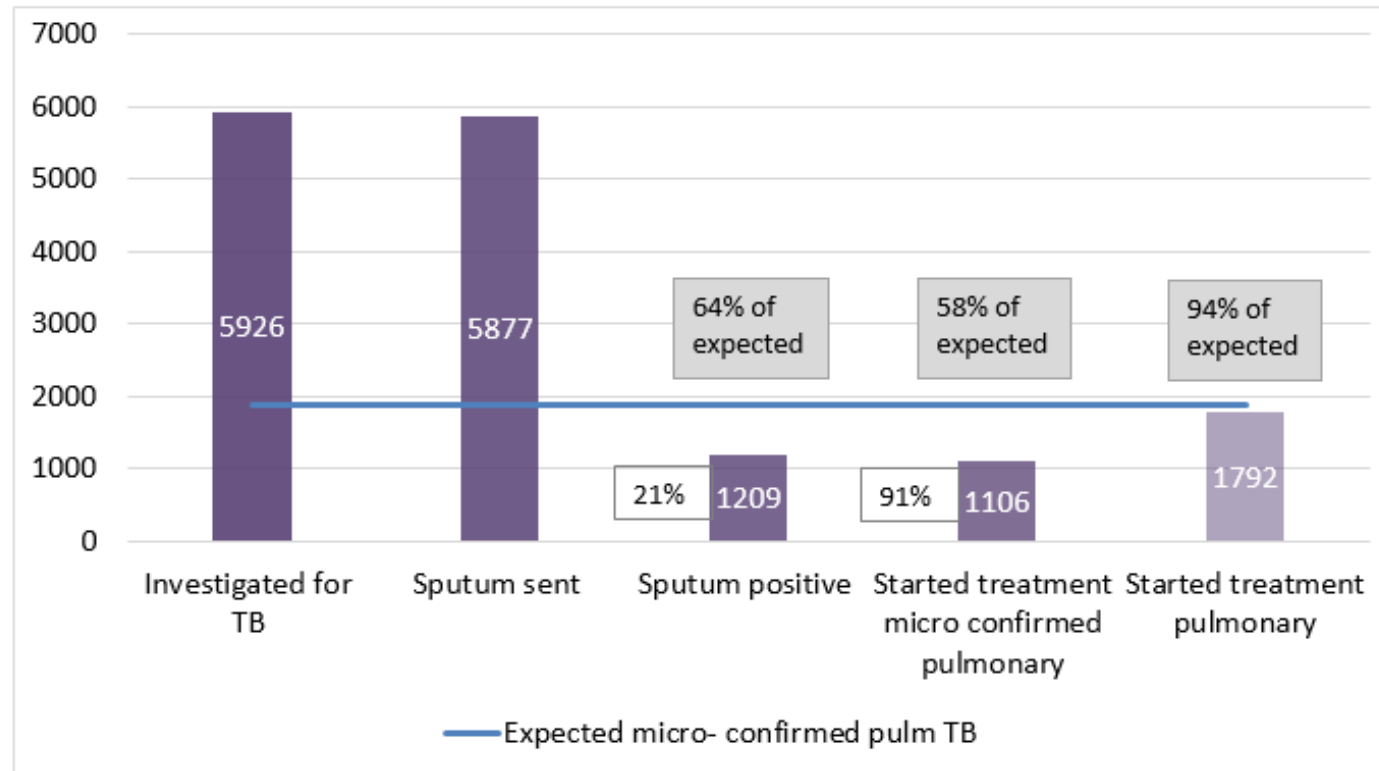
58% of people with positive sputum samples tested by the NHLS people were started on treatment- however, capturing of microbiological tests in Tier may be incomplete

Johannesburg sub-district D; July- Dec 2017

NHLS TB Dashboard
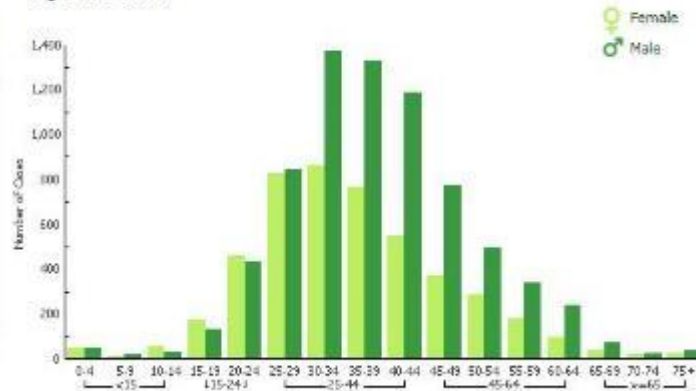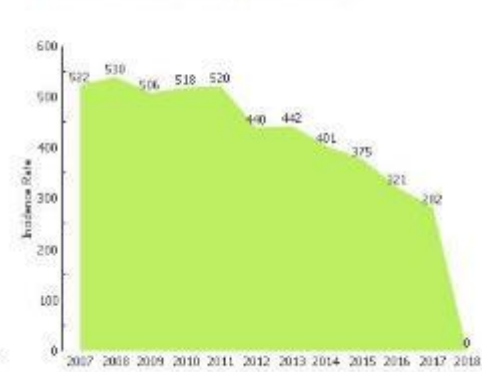
Gaps in the TB cascade

- 63% of expected cases started TB treatment
  - Similar in HIV positive and negative cases
- Appears to be alignment with estimates in literature that case-finding gaps are significant after contact with the health services
  - 58% of estimated microbiologically-confirmed, pulmonary cases started treatment
  - These patients have made contact with the health services and are a critical area for intervention
- There are gaps in the monitoring of people being investigated for TB despite use of the TB module of TIER.net
  - Those that are recorded in the TB identification register appear to be followed and started on treatment (91% of positive tests)
  - However, there are clearly many sputum tests that are not recorded in the register

Way forward

- NHLS has expanded alerts to DS TB
  - Johannesburg with the District Department of Health has list of clients with positive sputum results Jan-Jun 2018
- Requires matching to lists of clients started in the TB module
- Missing clients will be tracked and traced
- Need to determine the reasons that clients have not started treatment
  - Sub-district and facility level analysis
  - Data collection during the tracing process

Conclusions

- An integrated HIV/TB data system allows improved understanding of the movement of clients through the TB programme
    - In our population, about half of co-infected cases were already on ART
    - The ART programme contributed about a third of all new TB cases
    - Most started TB treatment within one month of starting ART
- The TB module of TIER.net has the potential to strengthen monitoring of possible TB
    - This has not yet been realised and relies on improved use of case-identification registers and data flow in facilities

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Acknowledgements

Thank you to:

Anova Health Institute, Johannesburg

The Johannesburg Health District

Our funders:

PEPFAR/ USAID

Thank you

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