

# Subclinical Tuberculosis in Children: Diagnostic Strategies for Identification Reported in a 6-year National Prospective Surveillance Study

---

30. Tuberkulose-Symposium in Bern

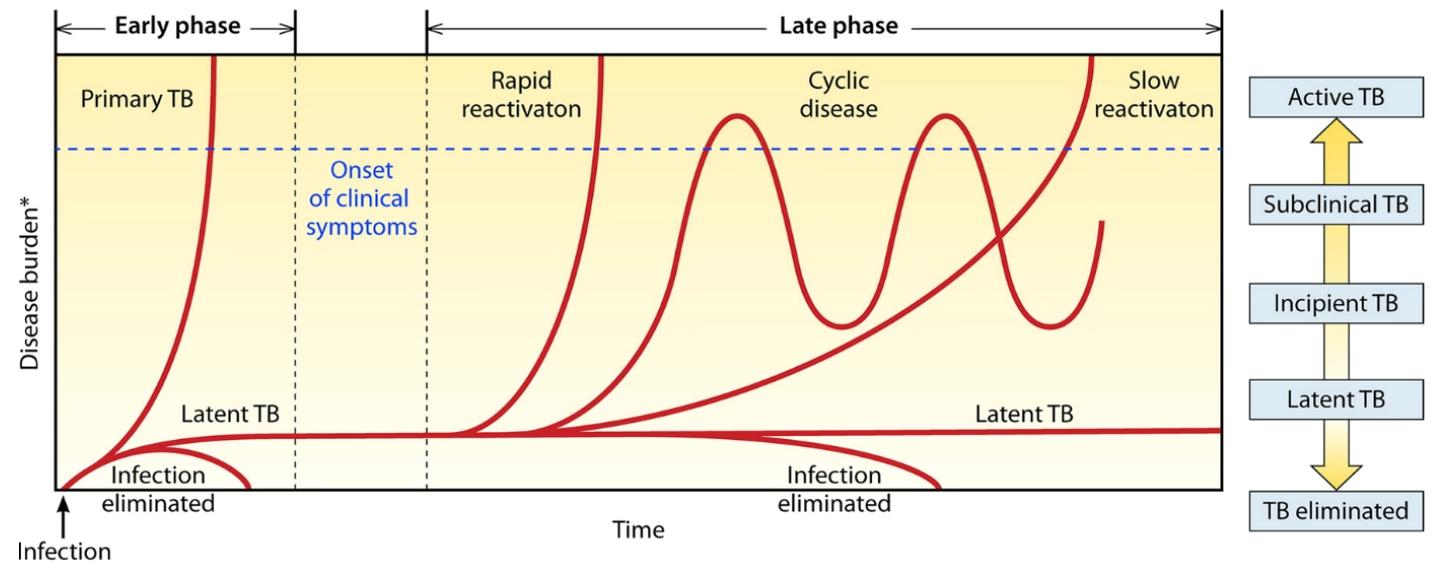
24.03.2022

Nora Fritschi, MD, PhD student in clinical research  
University children's hospital Basel, Switzerland



# Background: Clinical presentation of tuberculosis (TB)

- Historically TB was dichotomised in a latent (asymptomatic, non-contagious) and an active (symptomatic, contagious) disease stage.
- A newer understanding emphasized a continuum between latent and active TB.
- Data about the diagnostic strategy in children with subclinical (asymptomatic) TB is limited.



\*Rising TB burden implies an increase in abundance of TB and pathogen biomarkers, compartment-specific changes in immunological responses, and a decrease in the probability of disease resolution in the absence of treatment.

Drain, P. K., et al. (2018). "Incipient and Subclinical Tuberculosis: a Clinical Review of Early Stages and Progression of Infection." *Clinical Microbiology Reviews* **31**(4): e00021-00018.

# Definitions

---

## **Inclusion criteria:**

Children < 16 years

AND

with culture- or molecular-confirmed TB disease from  
*M. tuberculosis*, *M. africanum*, *M. bovis*, *M. caprae* or “*Mycobacterium complex*”

OR

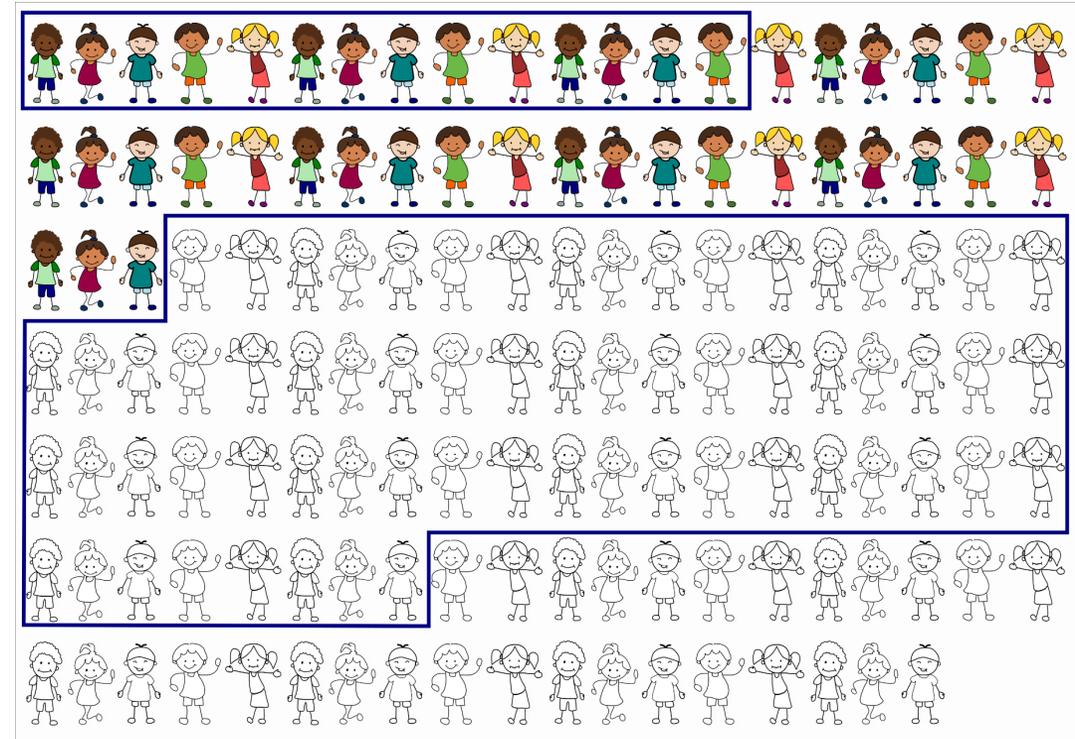
for whom treatment with at  $\geq 3$  anti-mycobacterial drugs had been initiated.

## **Subclinical TB:**

A child was considered having subclinical TB if the treating physician either reported the child as asymptomatic and/or reported none of the symptoms (including other) listed in the questionnaire (including an open question on “other symptoms”) as being present.

# Results: Baseline characteristics

- N = 138 children
- Male: 76 (55%)
- Foreign-born: 64 (47%)
- Confirmed by culture or molecular assay: 80 (58%)
- Subclinical TB: 43 (31%)
- Confirmed by culture or molecular assay: 80 (58%)

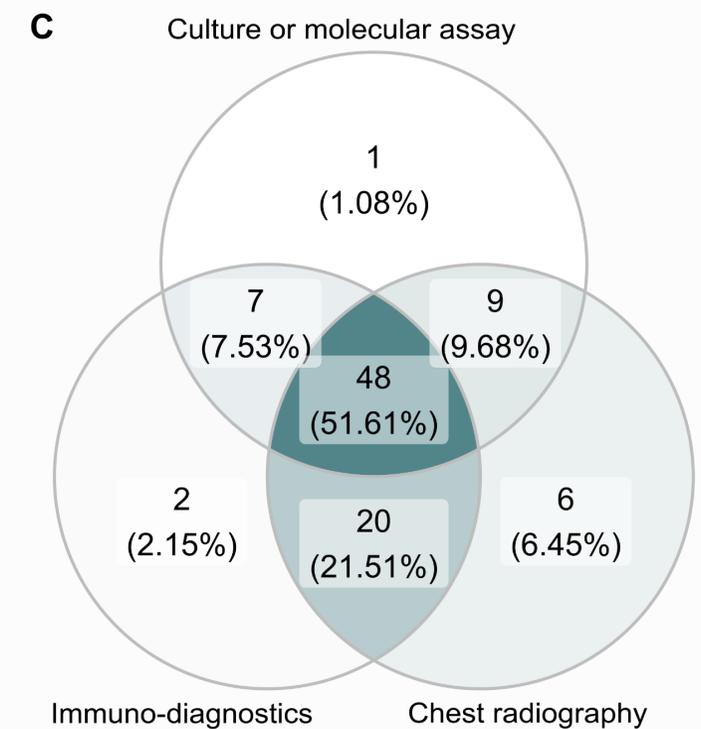
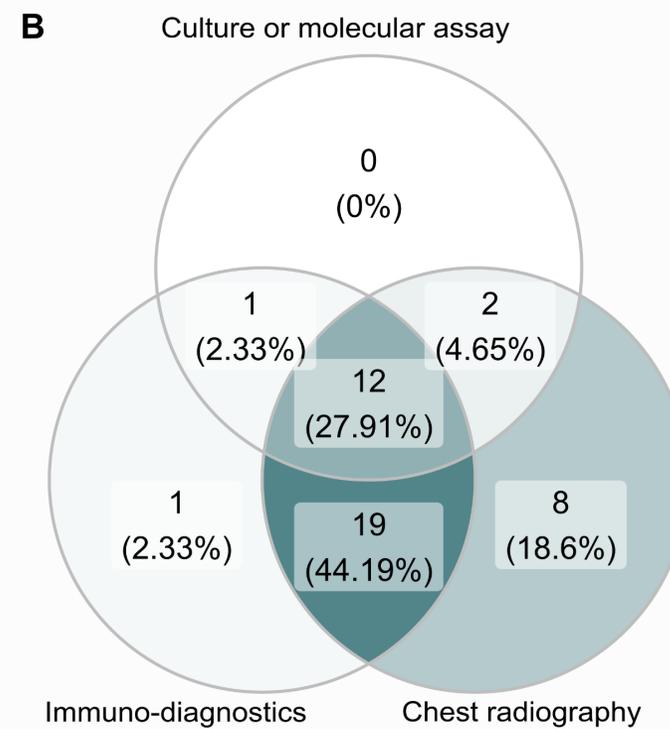
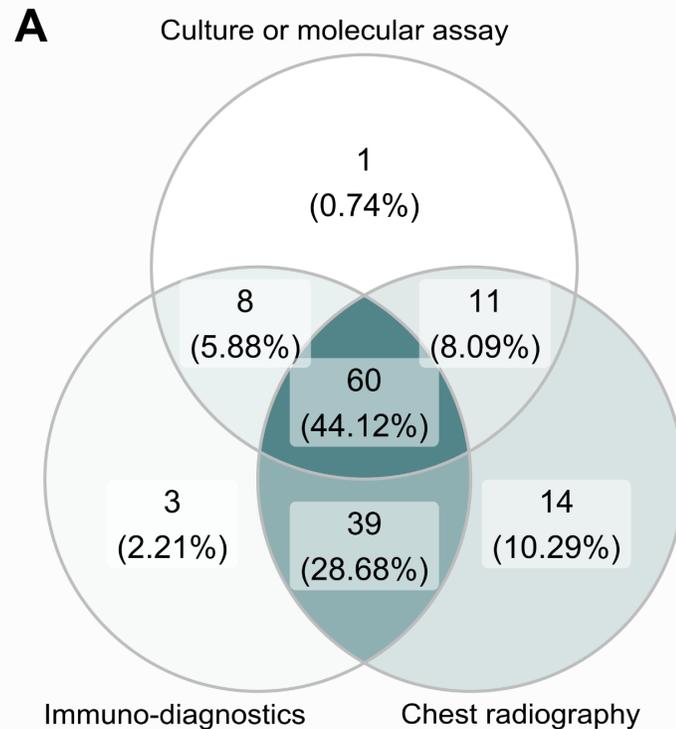


# Results: Subclinical TB

## all children

## subclinical TB

## symptomatic TB



# Conclusion

---

- A notable proportion of children in our cohort had subclinical TB.
- This highlights the importance of non-symptom based TB case finding in exposed and refugees from high-TB-prevalence settings.

# Thanks to

---

- the Swiss Paediatric Surveillance Unit  SWISS PAEDIATRIC SURVEILLANCE UNIT
- all paediatric clinics of Switzerland for supporting our study and taking care of children with TB ins Switzerland
- and all Co-Authors



Dr.med. Nora Fritschi



Dr.med. Ante Wind



Prof. Dr.med. Jürg Hammer



PD Dr.med. Nicole Ritz PhD