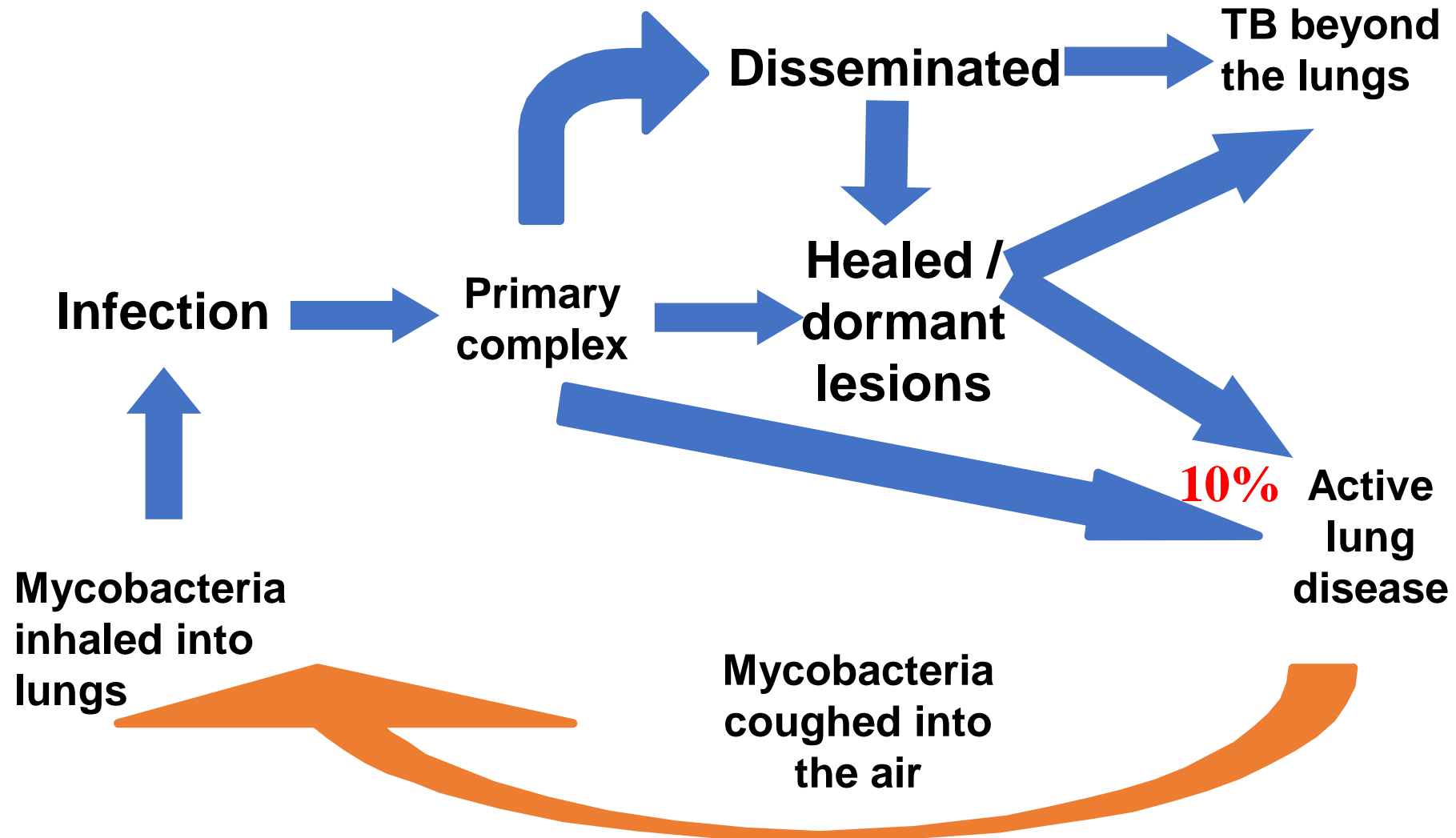


How models can contribute to UHC – TB

Epidemiological Perspective on ENDING TB

Infection-Disease-Transmission



Opportunities for prevention to END TB

- Find and effectively treat infectious TB cases
- Reduce risks of transmission from undiagnosed infectious cases
- Reduce risk that latent infection will become active

Find and effectively treat infectious cases

- Find
 - Enhance passive case detection
 - Targeted active case finding
 - General – community wide active case finding
- Effectively treat
 - DOTS
 - Adherence enhancement
 - Combination tablets

Reduce risks of transmission from undiagnosed infectious cases

- Improved social conditions
 - Less crowding
 - Better ventilation
- Increased social distancing
- Vaccine

Reduce risk that latent infection will become active

- Preventive therapy
 - Targeted
 - General community
- Vaccine
- Improved constitutional resistance to re-activation
 - General health
 - Treat or prevent specific risks: HIV, diabetes, renal failure, cancer, silicosis

Major success of DOTS

- Improved outcomes in patients who commence treatment for TB
 - Better treatment completion
 - Earlier conversion to non-infectious state
 - Reduced deaths (in patients on treatment)
 - Better data on treatment outcomes
 - Less emergence of drug resistance
- Some dramatic examples of success

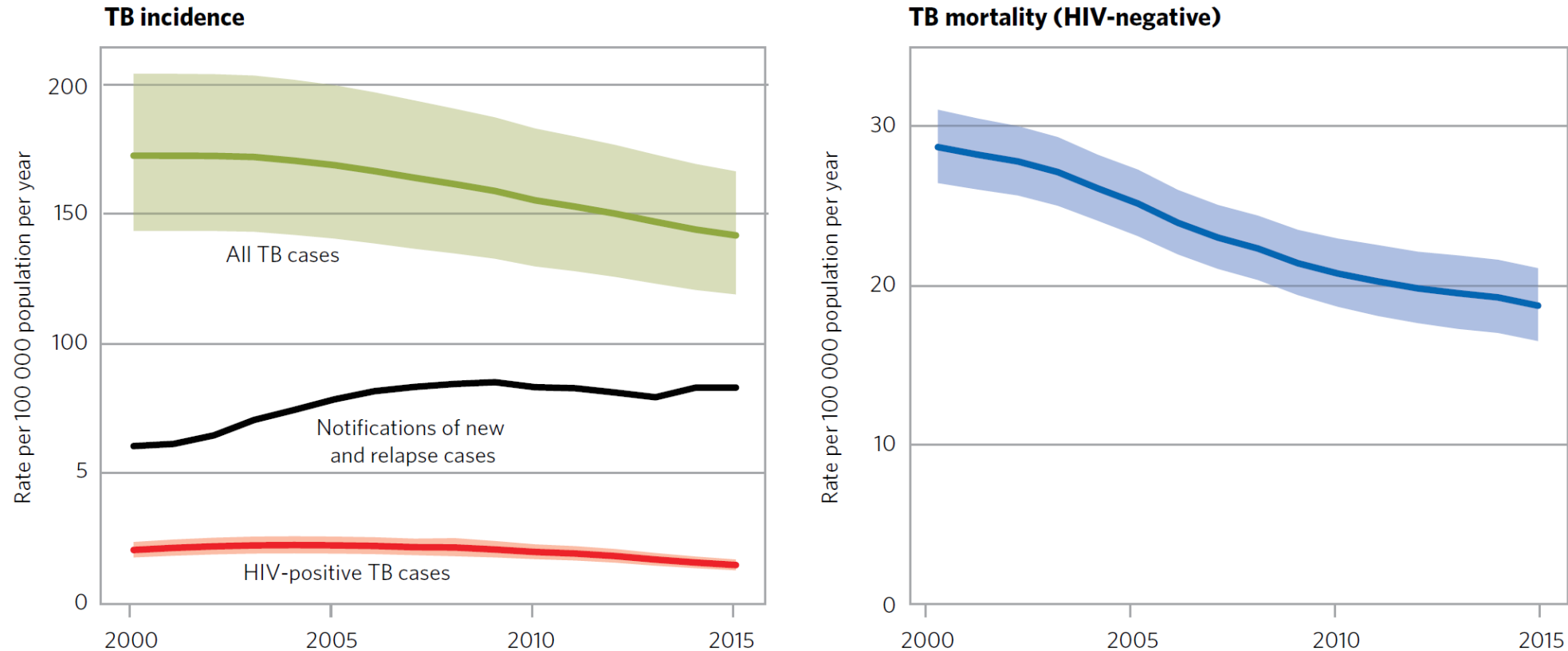
Limitations of passive case finding

- Many patients with TB
 - Do not have “typical” symptoms of TB
 - Delay or do not seek health care
- Many health systems suffer from structural weakness
 - Difficult for patients with TB to navigate the cascade of care

Actual global trends

FIG. 3.6

Global trends in estimated TB incidence and mortality rates, 2000–2015. The **black** line show notifications of new and relapse cases, for comparison with estimates of the total incidence rate. Shaded areas represent uncertainty intervals.



Active case finding

- Now widely recognised value in both high and low burden settings
- Mainly targets high risk groups:
 - Contacts
 - PLHIV
 - Homeless, prisoners, other congregate settings
 - Medical high risk groups (diabetes, renal disease, cancer etc)
- Conventional approach
 - Symptoms and/or radiology as first stage screening tool

Limitations of current approaches to active case finding

- High risk groups
 - In high burden settings, most people with TB are not in “high risk” groups
 - Hence, little impact on prevention of transmission
- Symptom-based screening
 - Many people with TB do not have typical, or even any, symptoms
- X-ray screening
 - Accessibility
 - Radiation
 - Reliability and validity of interpretation



Active Case finding for Tuberculosis (ACT3)

Population: all persons aged ≥ 15 years

Intervention: annual screening for TB, regardless of symptoms, by testing a single spontaneously expectorated sputum using Xpert MTB/RIF

Comparison: usual care, that is, passive case finding

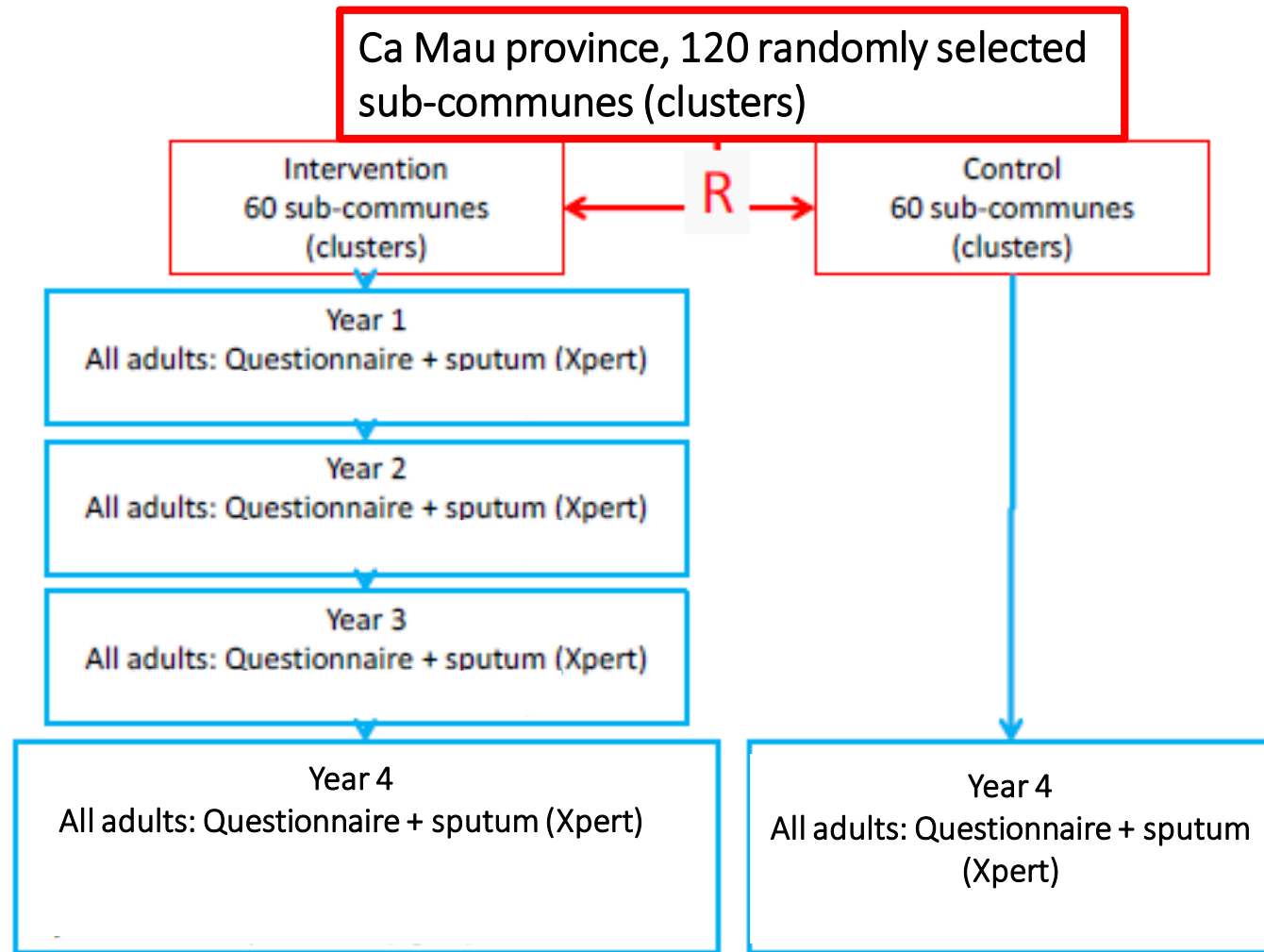
Outcome: prevalence of TB in fourth year



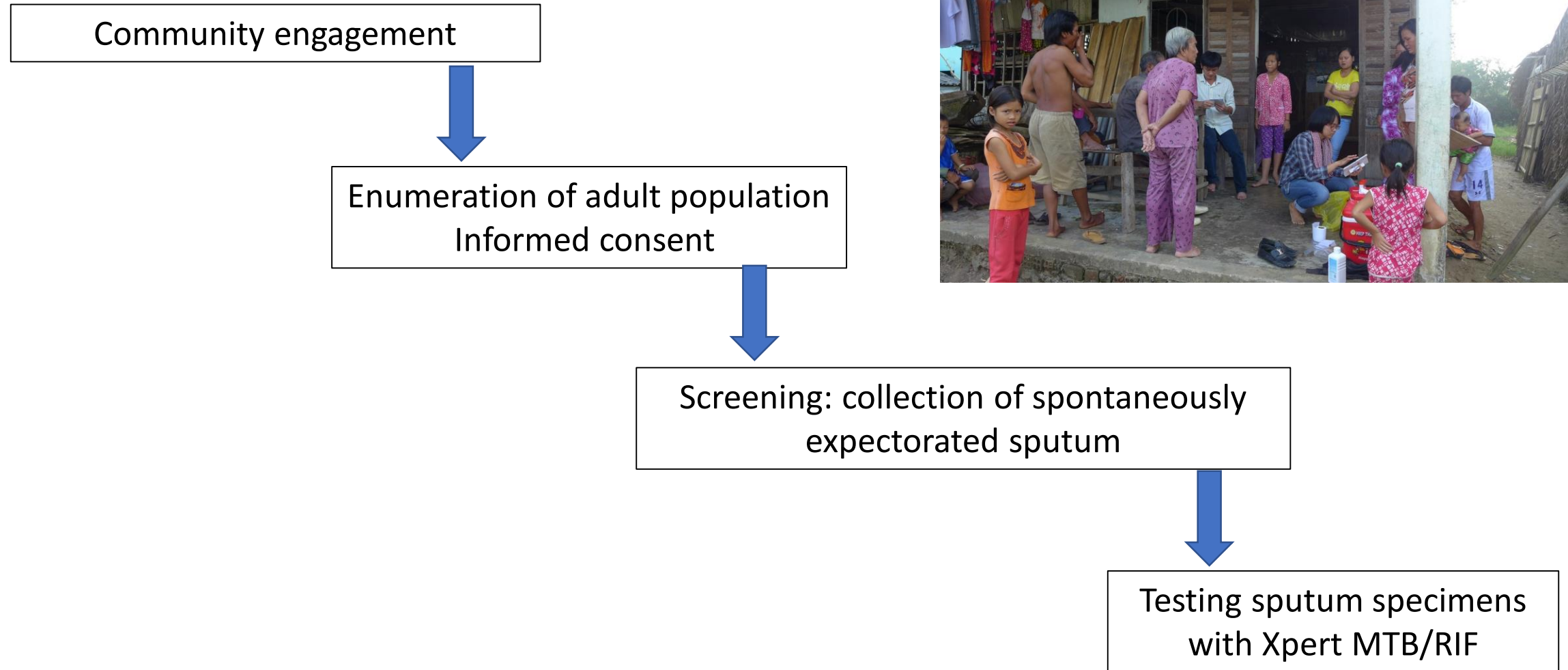
Setting: Ca Mau

Population:	1.23 million
Districts:	9
Communes:	101
Sub-communes Ap	948
Main industries:	fishing, shrimp farming, forestry and rice cultivation
TB cases reported	114 / 100,000
AFB+ cases	80 / 100,000

Cluster randomised controlled trial



Procedure for screening intervention in sub-communes



Sputum Collection

Hướng dẫn cách lấy mẫu đờm


Dành cho người tham gia sàng lọc

- 

1. Xúc miệng sạch bằng nước trước khi lấy đờm
- 

2. Mở nắp cốc đựng đờm có dán nhãn
- 

3. Hít vào thật sâu
Thở ra thật mạnh 2 lần
- 

4. Hít vào thật sâu
Khạc thật sâu từ trong phổi
- 

5. Nhổ đờm vào cốc
- 

Đậy chặt nắp cốc đưa lại cho cán bộ y tế

Ghi chú



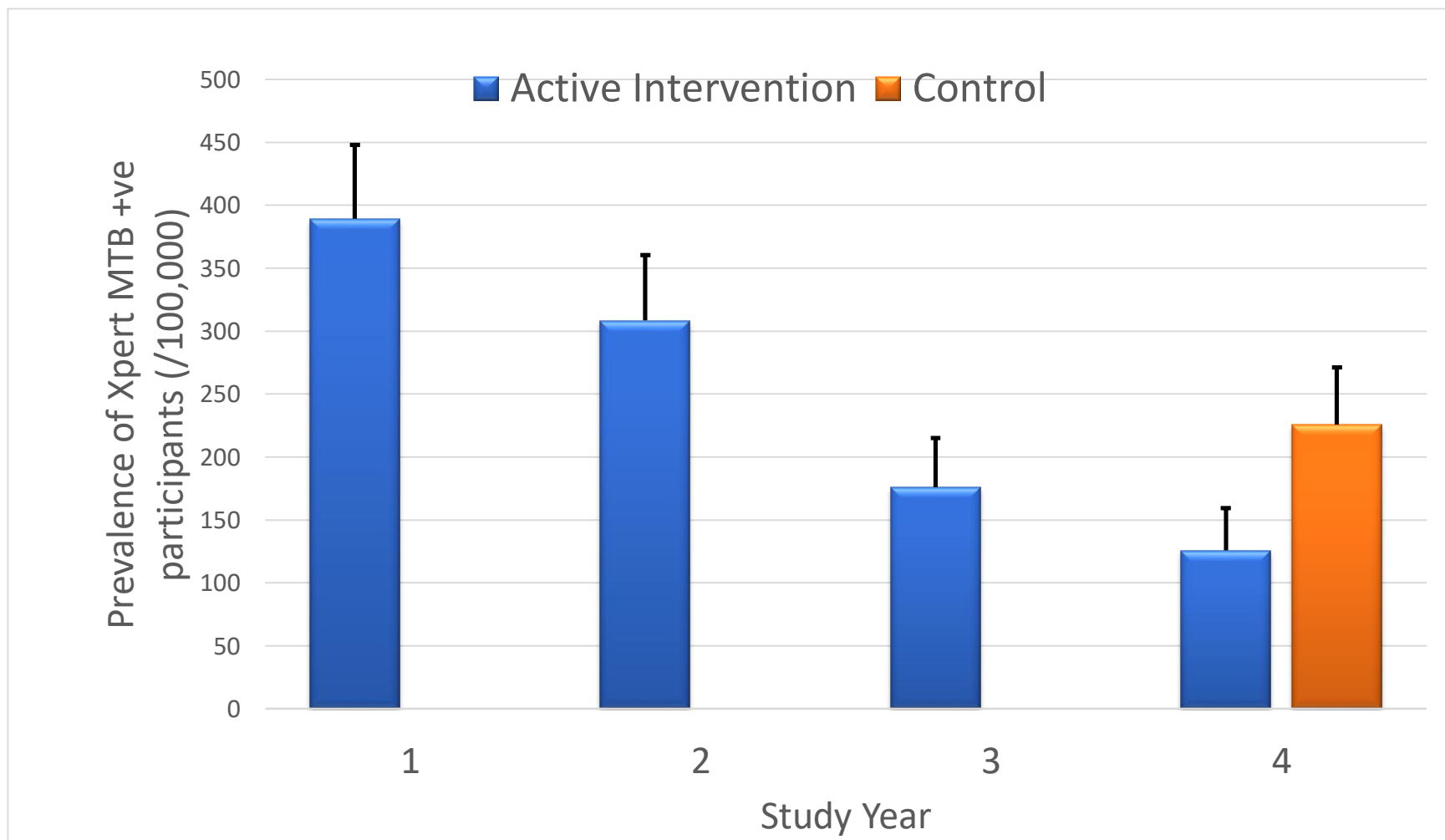
Đờm phải lấy từ phổi



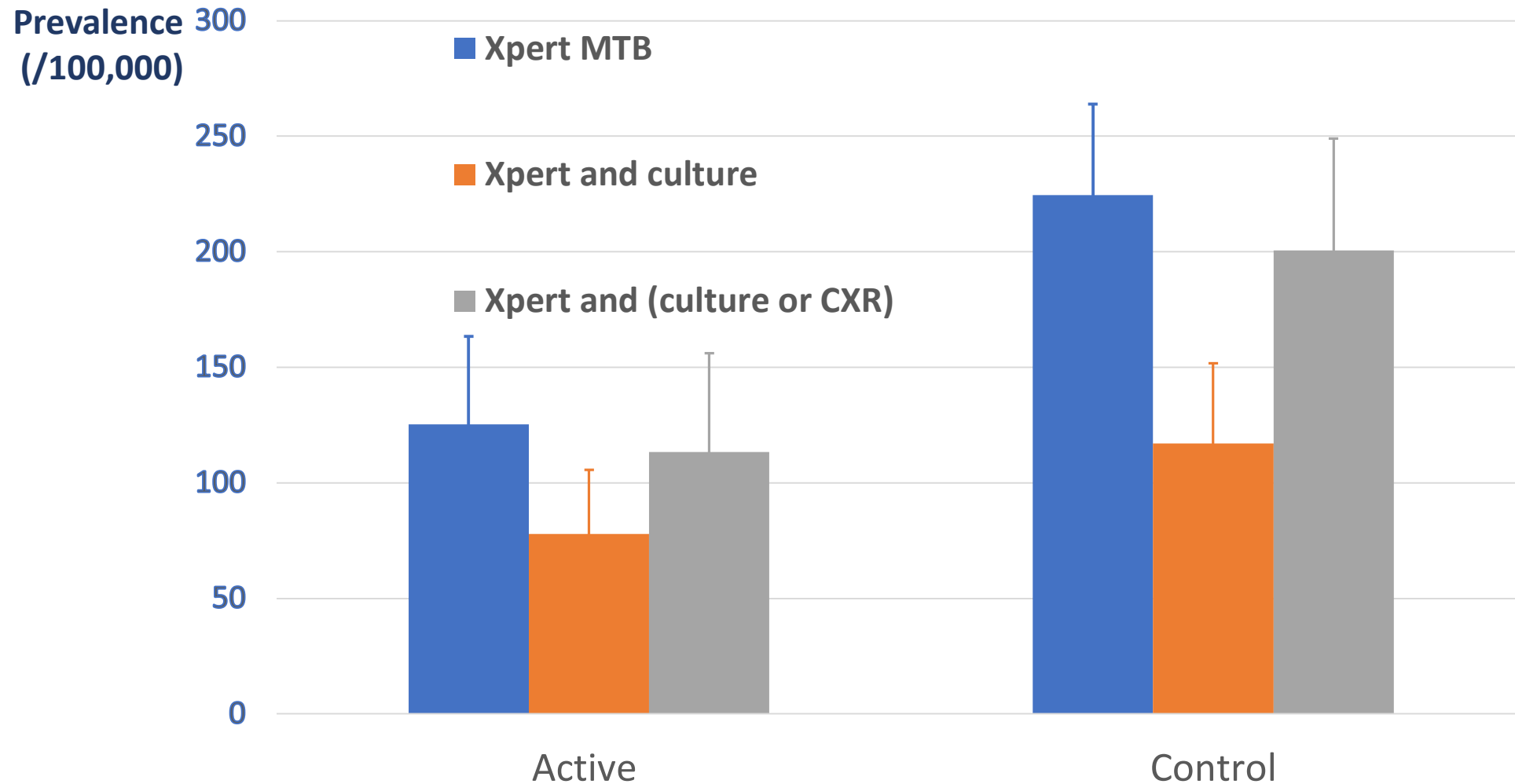
KHÔNG phải là nước miếng hay dịch tiết từ mũi



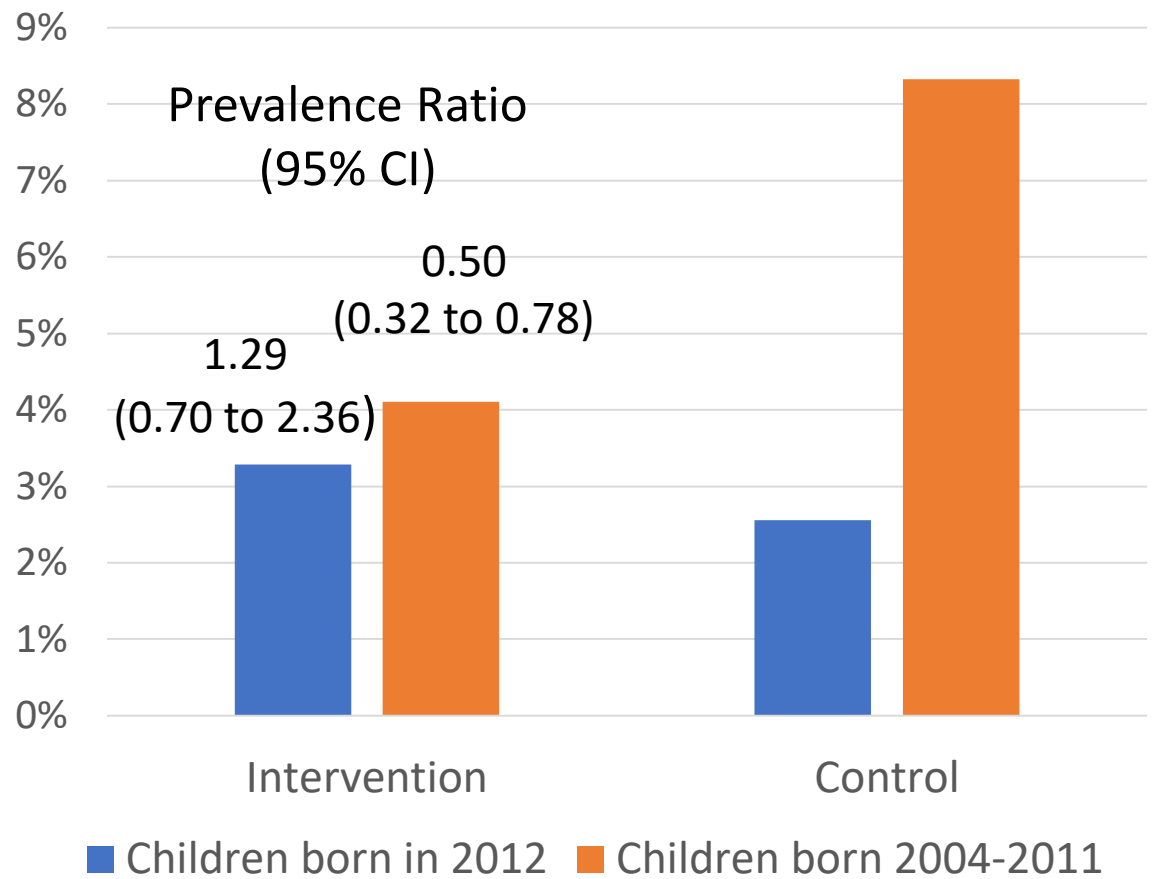
Prevalence of Xpert MTB positive by year and group



Prevalence of TB by group, year 4



Prevalence of +ve IGRA in children, by intervention status



Conclusion

- Community-wide active case finding may play a role in strategies for the elimination of TB
- The appropriate methods and timing require further assessment
- The long term impact of active case finding is not known
 - How long do we need to continue?
 - How much would this cost?
 - When does it become cost saving?



