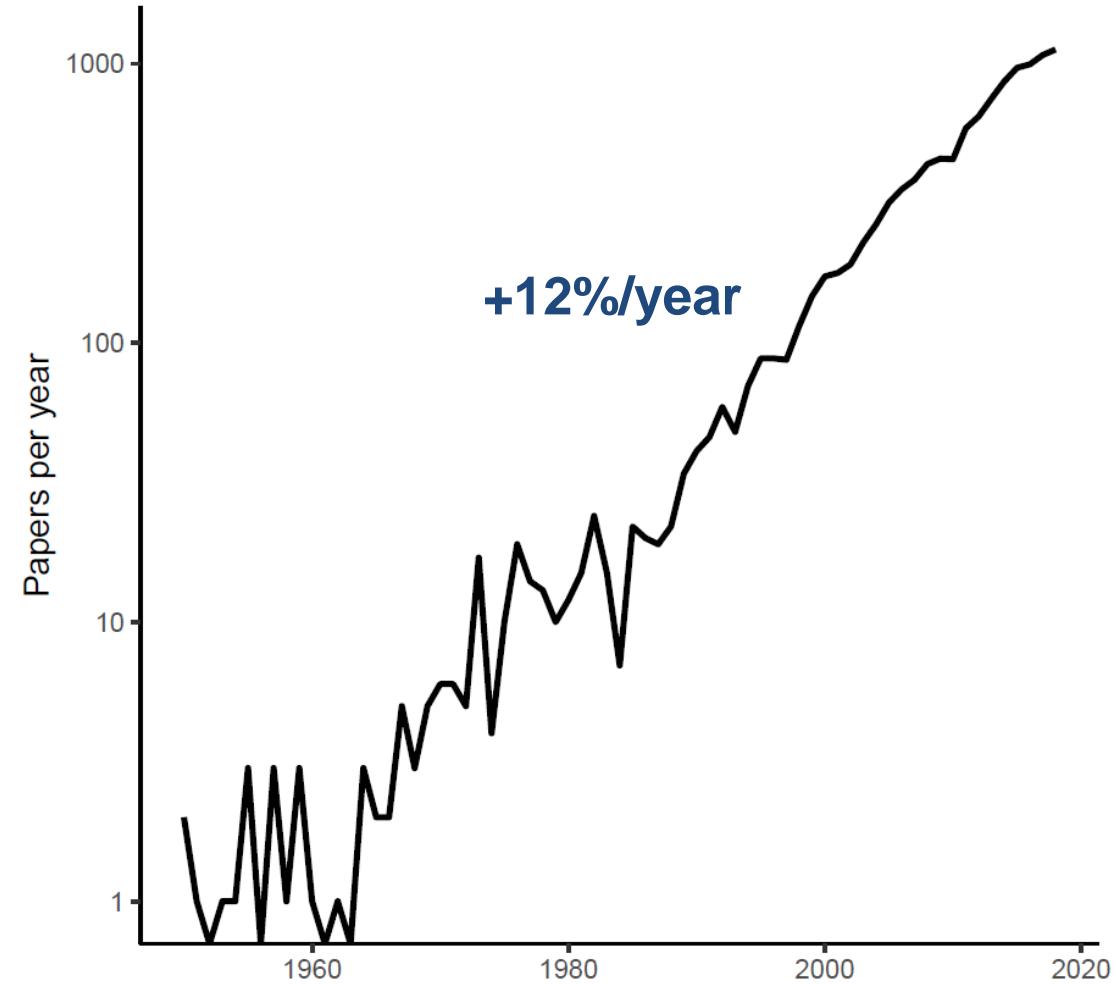
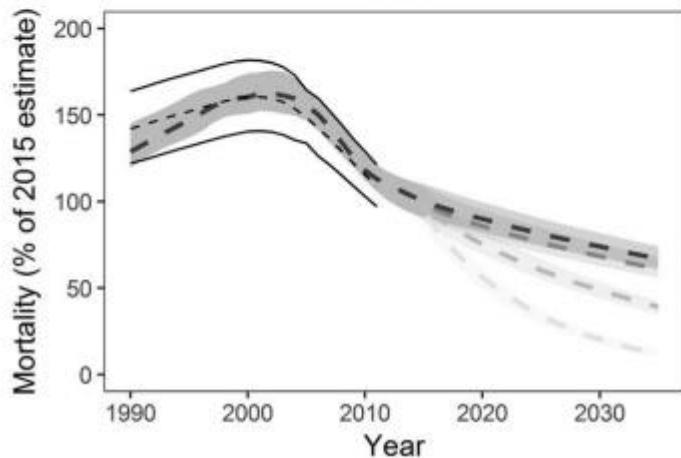
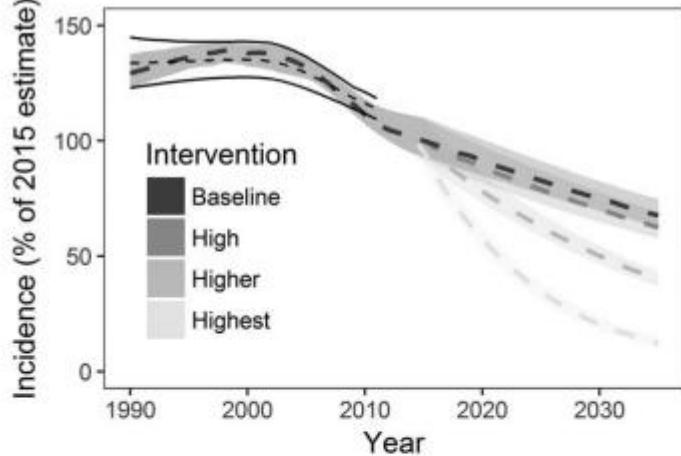


(TB OR tuberculosis) AND (model OR modelling)



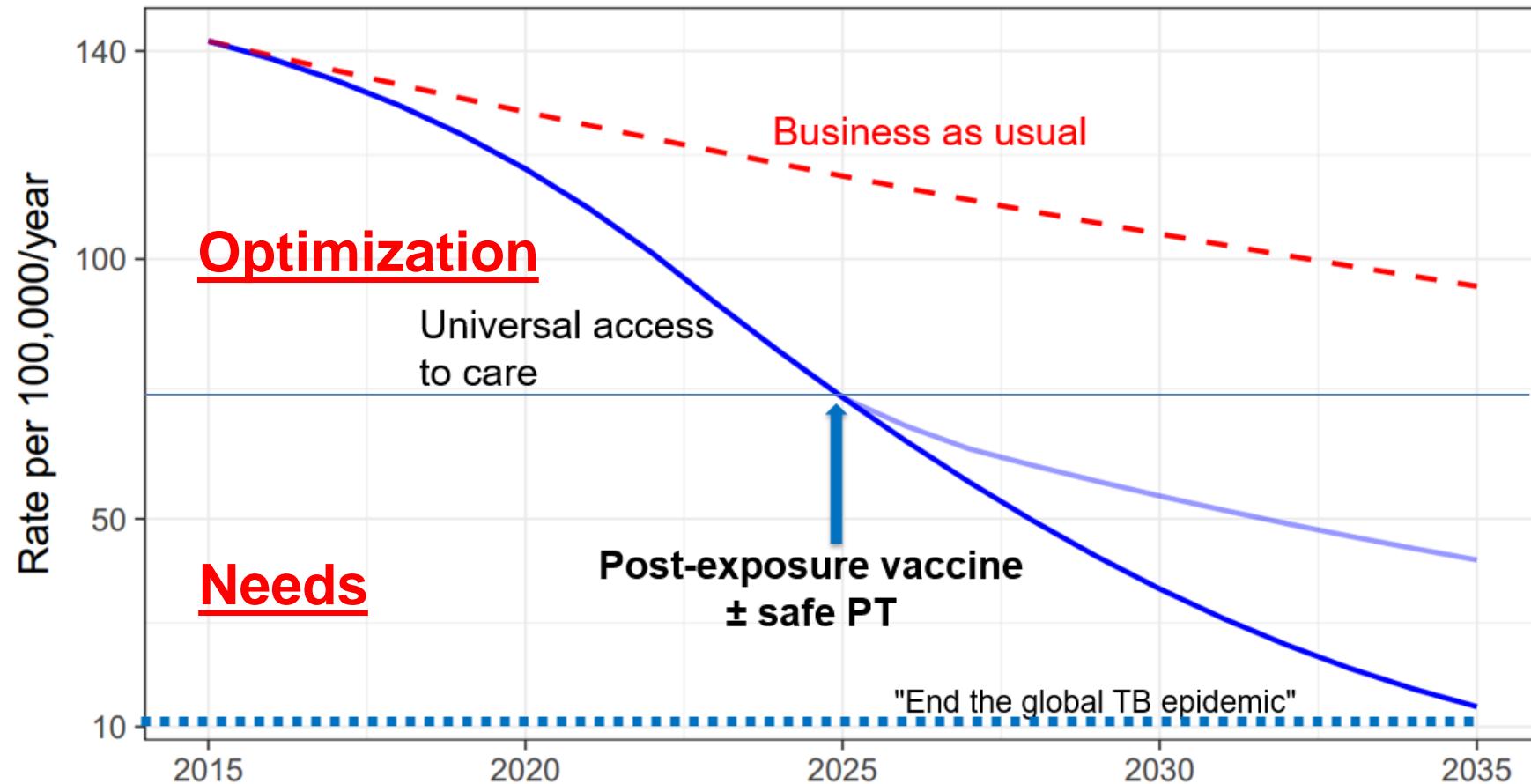
# The role of modelling in global TB policies

Philippe Glaziou  
September 2019

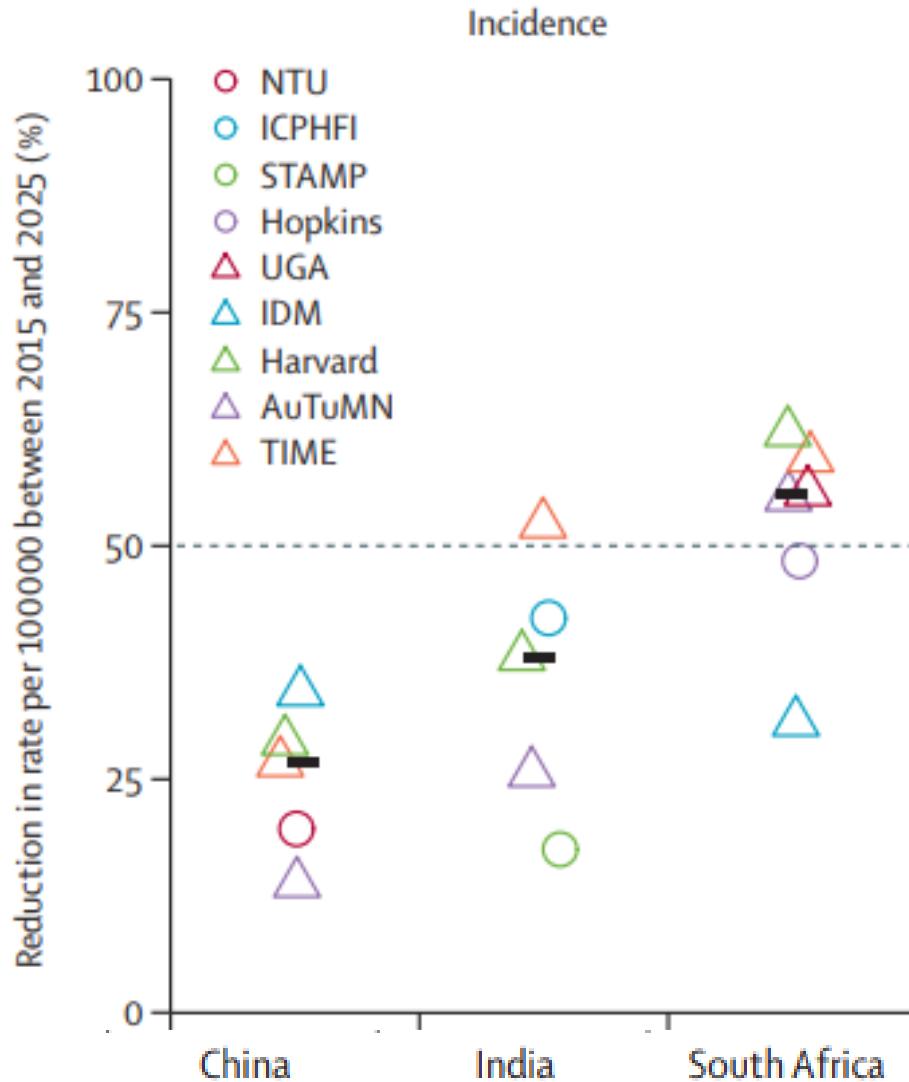


TBMAC, 2014

# Ending the TB epidemic



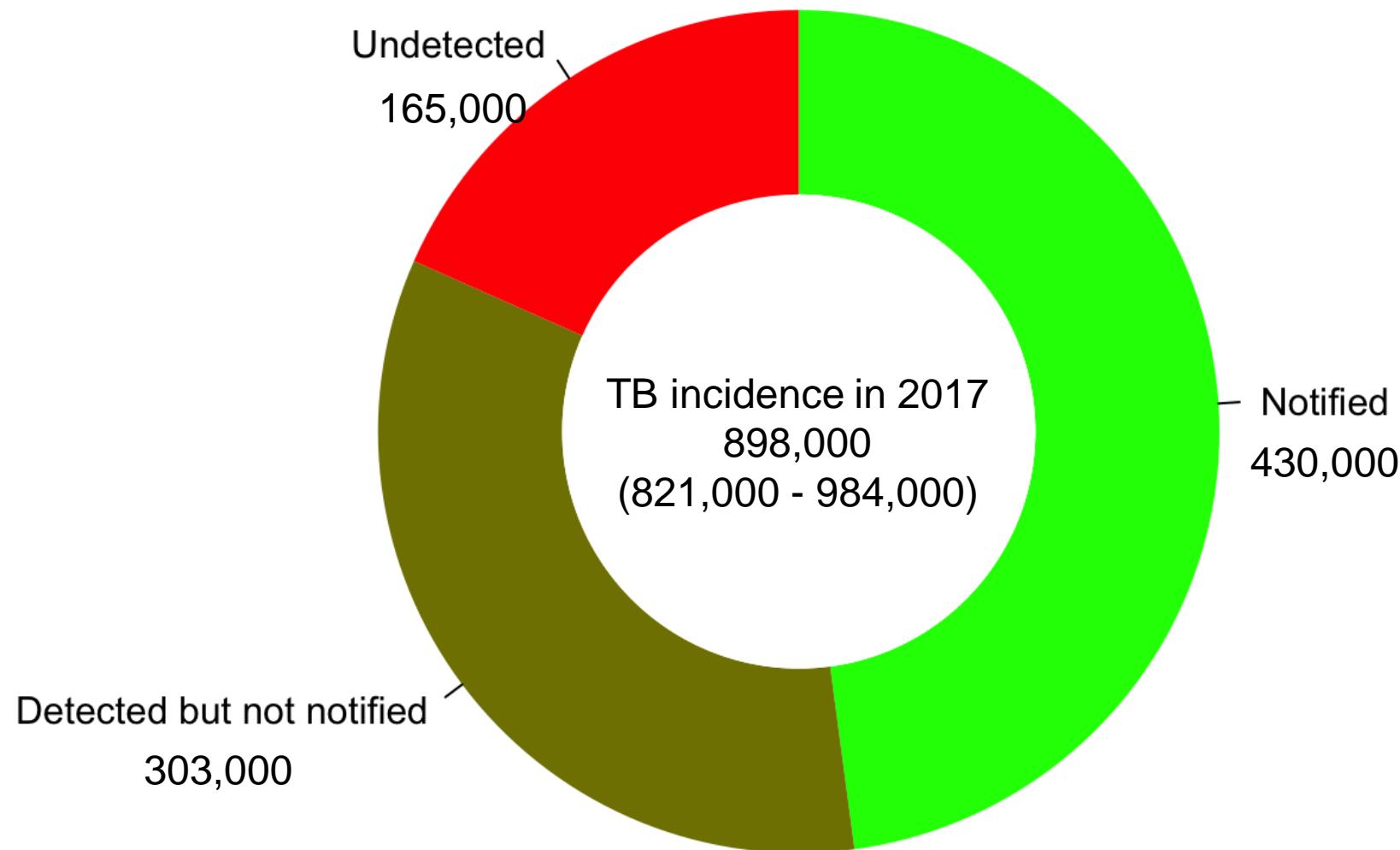
# Crossvalidation of country models



The variation in some model results emphasizes existing uncertainties and key directions **for further data collection**

# Further data collection example

## How many cases are treated (Indonesia 2017)?



# Guidance for country-level TB modelling

# Global demand for country-level modelling



World Health  
Organization



TB Modelling and  
Analysis Consortium

INT J TUBERC LUNG DIS 23(4):387–395  
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<http://dx.doi.org/10.5588/ijtld.18.0660>

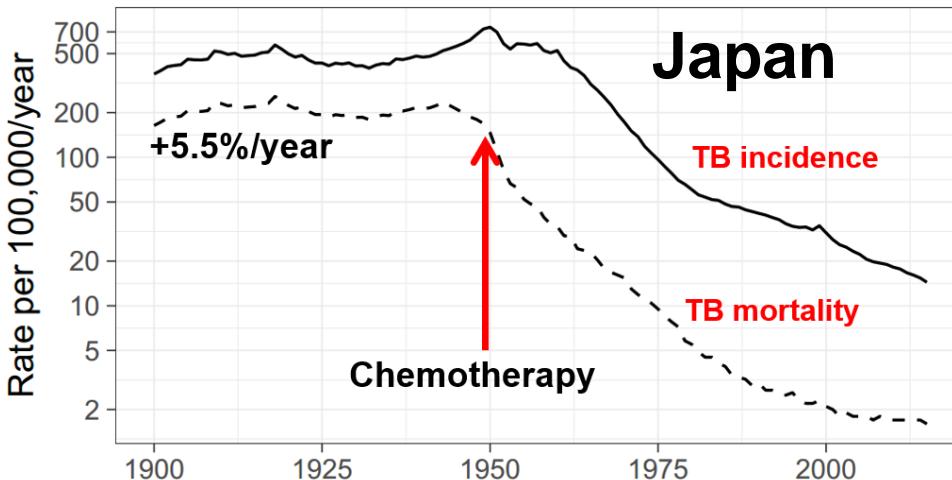
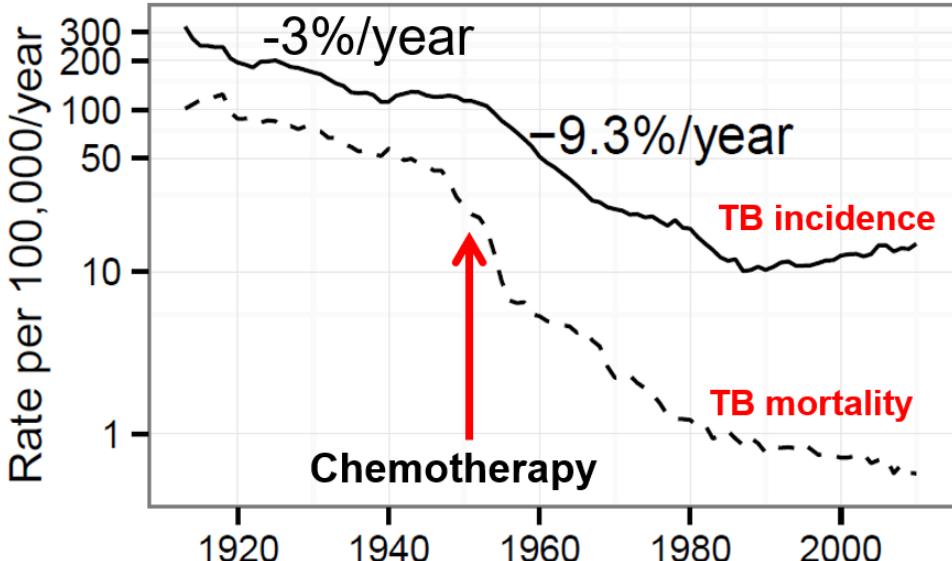
**PERSPECTIVES**

**Improving the quality of modelling evidence used for  
tuberculosis policy evaluation**

N. A. Menzies,<sup>\*†</sup> C. F. McQuaid,<sup>‡§</sup> G. B. Gomez,<sup>¶</sup> A. Siroka,<sup>#</sup> P. Glaziou,<sup>#</sup> K. Floyd,<sup>#</sup> R. G. White,<sup>\*§</sup>  
R. M. G. J. Houben<sup>\*§</sup>

# Policy needs: multisectorial action

England & Wales



Risk factor	Relative risk <sup>^</sup>	Exposed (million in 2017)	Attributable TB cases (2017)
Under-nutrition	3	734	1,900,000
HIV infection	20*	36	880,000
Cigarette smoking	2	1,047	830,000
Diabetes	3	460	790,000
Alcohol abuse	3	407	490,000

<sup>^</sup>Lancet 2010;375(9728):1814-29

\*WHO Global TB Report 2018

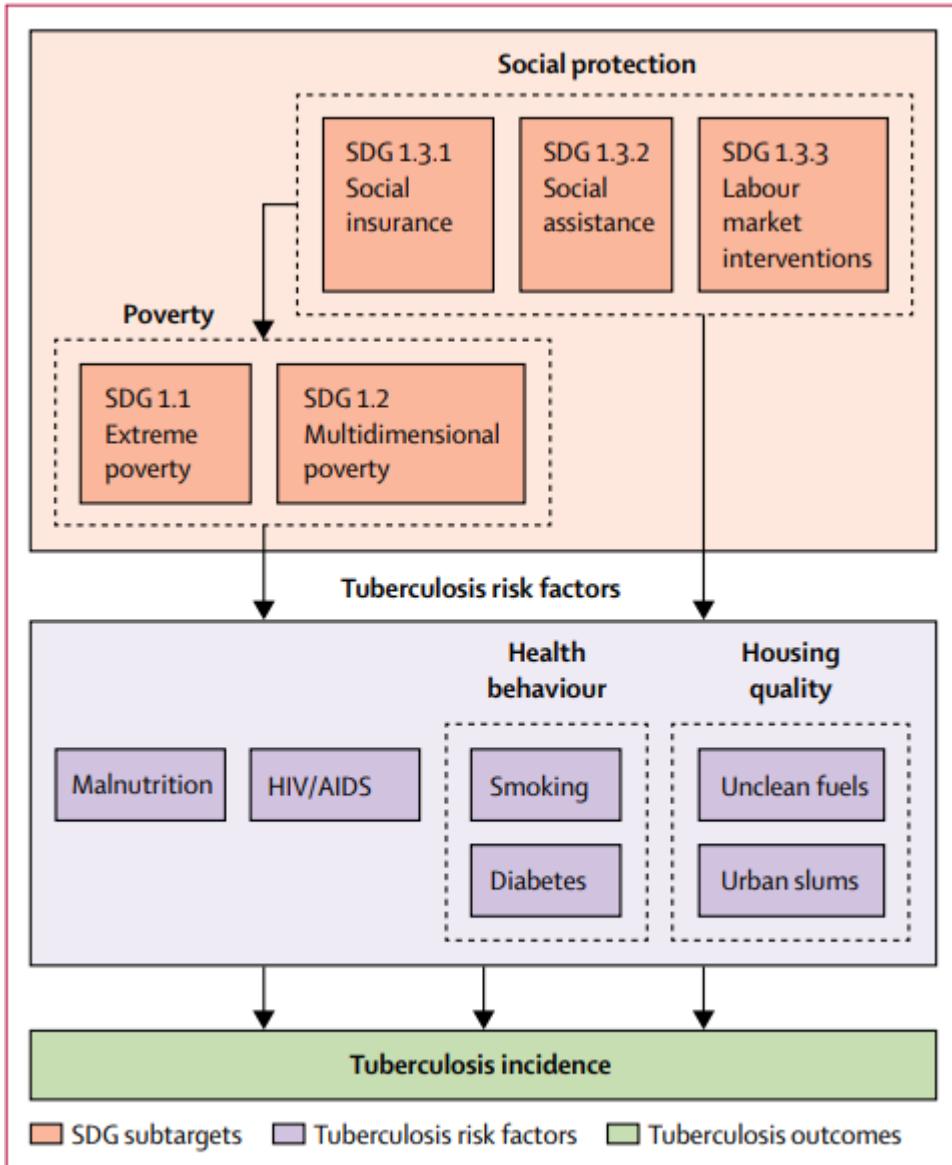
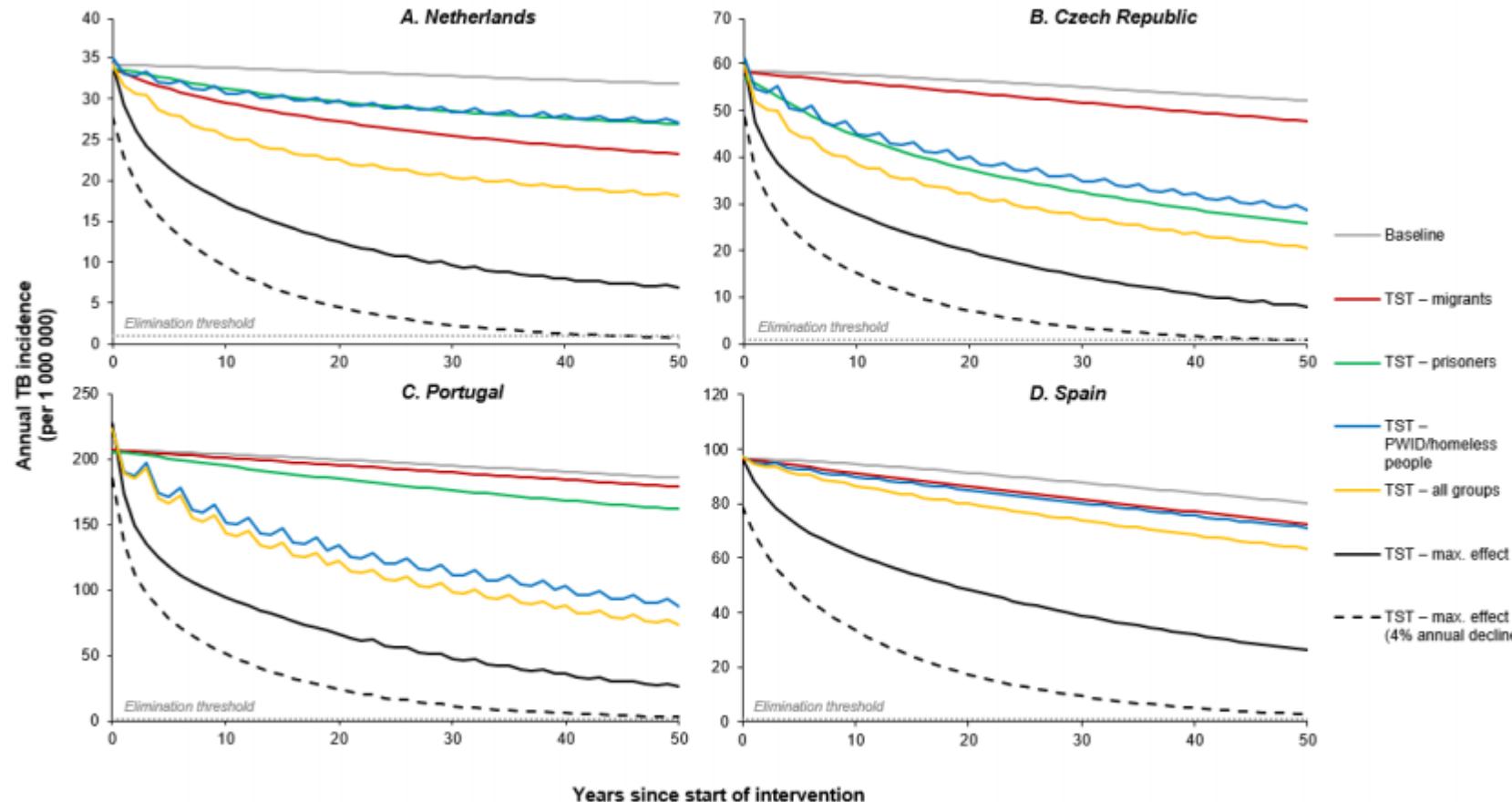


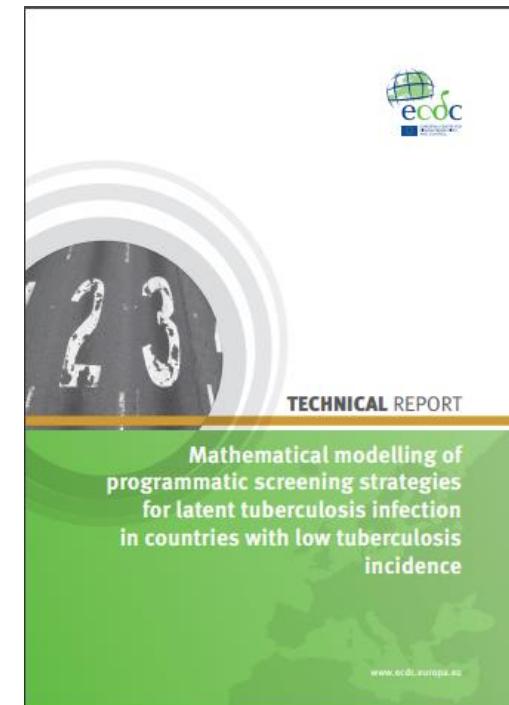
Figure 1: Conceptual framework linking SDG 1 indicators to tuberculosis incidence

	Expected annual proportional decrease
Pathway A: social protection for all (100% coverage)	8·7%
Pathway C: poverty elimination (100% eliminated)	2·0%
Pathway A and Pathway C: social protection and poverty elimination	11·1%
Pathways B + C: social protection via poverty elimination	1·8%
Pathway A and Pathways B + C: total effect of social protection	9·1%

# Needs - LTBI treatment in the EU: none of the modelled countries will reach elimination by 2050



LTBI = latent tuberculosis infection; TB = tuberculosis; TST = tuberculosis skin test.





# New vaccines

- Adolescents and adults, PoD
- Neonates and infants, PoI
- PoR?

## WHO Preferred Product Characteristics for New Tuberculosis Vaccines

DEPARTMENT OF IMMUNIZATION,  
VACCINES AND BIOLOGICALS

Family, Women's and Children's Health (FWC)



World Health  
Organization

# Value proposition analysis: what is the public health value of the M72/AS01E vaccine candidate<sup>^</sup>?

