



CASE STUDY

The Impact of Primary Health Care on Tuberculosis: a Quasi-Experimental Evaluation and Modelling Study Based on a Nationwide Cohort of 7.3 Million Brazilians

WHY DID WE DO IT?

Universal Health Coverage (UHC) is one of the WHO “End TB Strategy” priority interventions, and could be achieved – especially in Low- and Middle-Income Countries - through the expansion of Primary Health Care (PHC). We evaluated the effects of one of the largest PHC programs in the world, the Brazilian Family Health Strategy (FHS), on Tuberculosis morbidity and mortality using a nationwide cohort of 7.3 million individuals over a 10-years study period, and used such estimations for the mathematical modelling of future TB scenarios.

WHO

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WHAT

Paper/outcome available from:
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3861558

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HOW DID WE DO IT?

- Large individual-level datasets provided by the Ministry of Social Development (MSD) and the Ministry of Health (MoH) were linked into the 100 Million Brazilians Cohort.
- We selected individuals fully exposed and not exposed to PHC during the study period.
- TB-specific outcomes (incidence, mortality, cure and case-fatality rates) were analysed.
- We used multivariable Poisson regressions, adjusted for all relevant demographic and socioeconomic variables, and weighted with inverse probability of treatment weighting (IPTW), to estimate FHS effects.
- We also performed a wide range of stratifications and sensitivity analyses.
- We developed microsimulation integrated with compartmental models to forecast future TB scenarios.

SO WHAT?

FHS exposure was associated with lower TB incidence (22%), lower mortality rates (28%), and higher TB cure rates (4%). FHS associations were stronger among the poorest individuals.

Influence:

MSD and MoH supported the data collection, linkage efforts and the creation of the 100 Million Brazilians Cohort, and the National TB Control Programme was interested in the study. A systematic activity of advocacy of the results, involving health managers and policy-makers, is currently underway.

WHAT DID WE LEARN?

Even during the COVID-19 public health emergency, the use of previously collected data - provided by a long-lasting and structural support of MoH and MDS - and of previously consolidated methods allowed to develop a robust evaluation study on PHC and TB.