

# ZOONOTIC TUBERCULOSIS



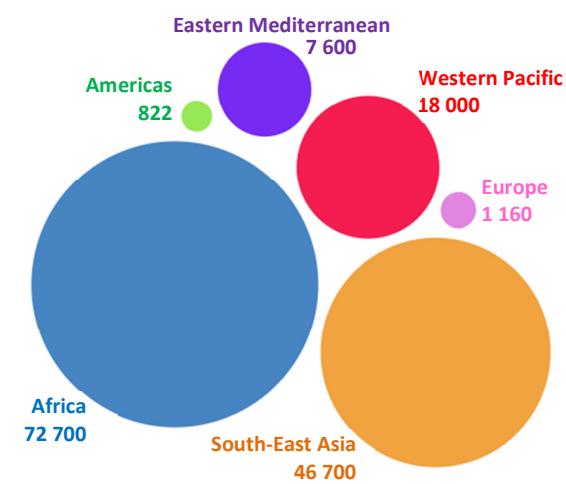
## WHAT IS ZOONOTIC TB?

- Zoonotic tuberculosis (TB) is a form of tuberculosis in people caused by *Mycobacterium bovis*, which belongs to the *M. tuberculosis* complex.
- It often affects sites other than the lungs (extra-pulmonary), but in many cases is clinically indistinguishable from TB caused by *M. tuberculosis*.
- Within animal populations, *M. bovis* is the causative agent of bovine TB. It mainly affects cattle, which are the most important animal reservoir, and can become established in wildlife. The disease results in important economic losses and trade barriers with a major impact on the livelihoods of poor and marginalized communities.

## BURDEN

- In 2016, there were an estimated 147 000 new cases of zoonotic TB in people globally, and 12 500 deaths due to the disease. The African region carries the heaviest burden, followed by the South-East Asian region.
- The true burden of zoonotic TB is likely to be underestimated due to a lack of routine surveillance data from most countries.
- Bovine TB is endemic in animal populations in many parts of the world.

## NUMBER OF NEW CASES IN 2016 BY REGION



## RISK FACTORS

- While the most common route of transmission of *M. bovis* to humans is through contaminated food (mainly untreated dairy products or, less commonly, untreated meat products), airborne transmission also poses an occupational risk to people in contact with infected animals or animal products, including farmers, veterinarians, slaughterhouse workers and butchers.

## KEY CHALLENGES

- The laboratory procedures most commonly used to diagnose TB do not differentiate *M. tuberculosis* from *M. bovis*. This leads to under-diagnosis of zoonotic TB.
- Zoonotic TB poses challenges for patient treatment and recovery. *M. bovis* is naturally resistant to pyrazinamide, one of the four medications used in the standard first-line anti-TB treatment regimen. As most healthcare providers initiate treatment without drug susceptibility testing, patients with zoonotic TB may receive inadequate treatment.
- Zoonotic TB in humans is often initially extrapulmonary and may be misdiagnosed, and therefore initiation of treatment can be delayed.



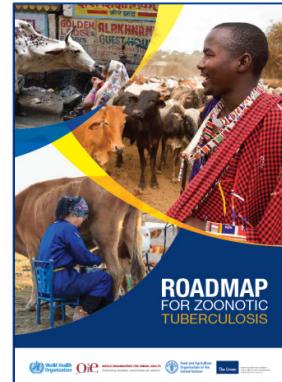
**TIMPIYAN LESENI**  
**Zoonotic TB Survivor**  
 Maasai community,  
 Kenya

*"I suffered from abdominal TB as a consequence of cultural traditions of drinking unpasteurized milk. I am now working to educate my community - the Maasai people - on how to fight zoonotic TB, through my civil society organization, Talaku."*

# 10 PRIORITIES FOR ZOONOTIC TB



The World Health Organization (WHO), the World Organisation for Animal Health (OIE), the Food and Agriculture Organization of the UN (FAO) and the International Union Against Tuberculosis and Lung Disease (The Union) launched the first-ever roadmap for tackling zoonotic TB in October 2017. The roadmap is centered on a *One Health* approach, recognising the interdependence of human and animal health sectors to address the major health and economic impact of this disease. It articulates clear immediate actions that all stakeholders can take to address this issue across different sectors and disciplines, and defines milestones for the short- and medium-term. The roadmap calls for concerted action from government agencies, donors, academia, non-governmental organizations and private stakeholders across political, financial and technical levels. Ten priorities for action are defined, which will also bring substantial benefits for the control of other zoonotic and foodborne diseases:



## IMPROVE THE SCIENTIFIC EVIDENCE BASE

1. Systematically survey, collect, analyse and report better quality data on the incidence of zoonotic TB in people, and improve surveillance and reporting of bovine TB in livestock and wildlife.
2. Expand the availability of appropriate diagnostic tools and capacity for testing to identify and characterize zoonotic TB in people.
3. Identify and address research gaps in zoonotic and bovine TB, including epidemiology, diagnostic tools, vaccines, effective patient treatment regimens, health systems and interventions coordinated with veterinary services.



## REDUCE TRANSMISSION AT THE ANIMAL-HUMAN INTERFACE

4. Develop strategies to improve food safety.
5. Develop capacity of the animal health sector to reduce the prevalence of TB in livestock.
6. Identify key populations and risk pathways for transmission of zoonotic TB.



## STRENGTHEN INTERSECTORAL AND COLLABORATIVE APPROACHES

7. Increase awareness of zoonotic TB, engage key public and private stakeholders and establish effective intersectoral collaboration.
8. Develop and implement policies and guidelines for the prevention, surveillance, diagnosis, and treatment of zoonotic TB, in line with intergovernmental standards where relevant.
9. Identify opportunities for community-tailored interventions that jointly address human and animal health.
10. Develop an investment case to advocate for political commitment and funding to address zoonotic TB across sectors at the global, regional and national levels.

## ZOONOTIC TB MUST BE PRIORITIZED IN THE GLOBAL HEALTH AGENDA

The UN Sustainable Development Goals (SDGs) emphasise the importance of multidisciplinary approaches to improving health. In the context of the SDGs, WHO's End TB strategy calls for diagnosis and treatment of every TB case. This must include people affected by zoonotic TB. Zoonotic TB in people cannot be fully addressed without controlling bovine TB in animals and improving food safety. Through a **One Health** approach, together we can save lives and secure livelihoods.

### References

- Olea-Popelka F, et al. Zoonotic tuberculosis in human beings caused by *Mycobacterium bovis*—a call for action. Lancet Infect Dis 2016
- Global Tuberculosis Report. WHO, 2017
- Roadmap for Zoonotic Tuberculosis. WHO, OIE, FAO and The Union, 2017

For more information, please access <http://www.who.int/tb/areas-of-work/zoonotic-tb/en>