

Western University

Scholarship@Western

---

Africa Western Collaborations Day 2020  
Abstracts

Africa Western Collaborations Day

---

2020

## Using a One Health Approach to Address the Challenges Posed by Tuberculosis at the Human-Animal Interface in Kajiado County in Kenya

Joel Zhang

*University of Western Ontario, [jzhan892@uwo.ca](mailto:jzhan892@uwo.ca)*

Timpiyian Leseni

*Talaku Community Based Organization, Kajiado County, Kenya*

Francisco Olea-Popelka

*University of Western Ontario, [francisco.olea-popelka@schulich.uwo.ca](mailto:francisco.olea-popelka@schulich.uwo.ca)*

Follow this and additional works at: [https://ir.lib.uwo.ca/awc\\_abstracts](https://ir.lib.uwo.ca/awc_abstracts)



Part of the [Medicine and Health Sciences Commons](#)

---

### Citation of this paper:

Zhang, Joel; Leseni, Timpiyian; and Olea-Popelka, Francisco, "Using a One Health Approach to Address the Challenges Posed by Tuberculosis at the Human-Animal Interface in Kajiado County in Kenya" (2020).

*Africa Western Collaborations Day 2020 Abstracts*. 9.

[https://ir.lib.uwo.ca/awc\\_abstracts/9](https://ir.lib.uwo.ca/awc_abstracts/9)

## Using a One Health approach to address the challenges posed by Tuberculosis at the human-animal interface in Kajiado county in Kenya.

Joel Zhang<sup>1</sup>, Timpiyian Leseni<sup>3</sup>, Francisco Olea Popelka<sup>1,2</sup>

<sup>1</sup> Department of Pathology and Laboratory Medicine & <sup>2</sup> Department of Epidemiology and Biostatistics, Schulich School of Medicine & Dentistry, Western University, London, Ontario, Canada.

<sup>3</sup> Talaku Community Based Organization, Kajiado County, Kenya.

**Background:** Tuberculosis (TB) remains the most important infectious disease globally, with an estimated morbidity of 10 million people each year and a mortality of 1.5 million. While the bacteria *Mycobacterium tuberculosis* (*M. tb*) is the primary agent causing TB in humans, *Mycobacterium bovis* (*M. bovis*), the causal agent of TB in bovines and other animals, also can be transmitted to humans orally via raw milk or dairy products, the ingestion of undercooked meat containing *M. bovis*, or via inhalation of aerosolized particles containing *M. bovis* from infected animals or other persons. The World Health Organization (WHO) estimates that the highest burden of Zoonotic Tuberculosis (ZTB) occurs in African countries where the prevalence of TB in animals is high and in which socio-cultural-economic factors facilitate the transmission of *M. bovis* from animals to humans.

**Targeted community and emphasis:** This project will be implemented in the Kajiado County in Kenya, focusing specifically on socio-cultural-economic factors increasing the risk of both TB and ZTB in members of the Maasai community.

**Project goal and objectives:** The overarching goal of my MSc Thesis project is to contribute to the improvement of the knowledge, attitudes, and practices regarding the prevention, detection/diagnosis, and treatment of both TB and ZTB in the Kajiado county in Kenya, with an emphasis in the Maasai community due to their close relationship to the animals they share their lives with.

**Approaches and activities:** Collaboration and partnership with Talaku - a local Community Based Organization founded by a ZTB survivor (Timpiyian Leseni). Talaku's mission is to bring awareness for TB and ZTB within the Kajiado county in Kenya and works in close collaboration with the Kajiado County Health management team, the TB coordinators in Kajiado, and the National TB Program. During a two-year period, we will work towards:

- 1) Developing a breadth of educational tools and material specifically designed to address the TB and ZTB challenges faced by this community,
- 2) Mapping of health facilities which act as entry points for understanding the dynamics of TB and ZTB in Kajiado, and
- 3) Implementing a public health and awareness campaign targeting veterinarians, farmers, nurses, physicians, community health workers; people affected by TB and ZTB, family members/caregivers, and the community at large

**Impact and relevance:** At the completion of this project, we expect to have contributed to improve the community knowledge and understanding of TB and ZTB, improve available services for TB and ZTB patients including early diagnosis and better treatment for people suffering from ZTB. As a result of this project we will provide key information to local leaders and government to focus interventions and resources to 'hot spot' areas, advocate for further support where gaps are identified by providing equipment, human resources, antituberculosis drugs, and to create a platform for information sharing that will contribute to policy and decision making. This will enable the designing of strategies to address the challenges posed by TB and ZTB on this particular community.