

A close-up photograph of a microscope's objective lenses, showing the lens with the markings '6.3/0.16' and '160/-'. The background is a soft, out-of-focus blue.

swissTB

Swiss Foundation for Tuberculosis Research

# Swiss TB\* award 2019

In the name of the scientific committee

Prof L.P.Nicod

Service de pneumologie

CHUV-Lausanne

\*SwissTB is a member of [StopTB Partnership](#)

# Swiss TB Committee

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- 
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## 2010 SwissTB Award

Dr. Claudia Sala -

## 2009 SwissTB Award

Dr. Wilfried Weber -

## 2008 SwissTB Award

Nicole Scherr and Dr. Srinivas Honnappa

## 2007 SwissTB Award

Dr. Corinne Loeuillet -

## 2006 SwissTB Award

Dr. Claudia Tueller und Dr. Reto Guler -]

## 2005 SwissTB Award

Drs. Liem Nguyen, Anne Walburger, Giorgio Ferrari, Anil Koul -

## 2004 SwissTB Award

Dr. Andreas Diacon -

## 2003 SwissTB Award

Prof. Dr. Gaby Pfyffer -

## 2002 SwissTB Award

Maria Olleros -]

## 2015 SwissTB Award

Dr. med., Dr. nat. med. Jan Rynbiker -

## 2015 SwissTB Award

PhD Giulia Manina -

## 2014 SwissTB Award

PhD Sònia Borrell -]

## 2014 SwissTB Award

PhD Olga T. Schubert -

## 2013 SwissTB Award

Dr. Lukas Fenner -

## 2013 SwissTB Award

PhD Ruben C. Hartkoorn -

## 2012 SwissTB Award

Dr. Alexandre Harari -]

## 2011 SwissTB Award

Dr. Neeraj Dhar -

# Laureates of SwissTB

## 2018 SwissTB Award

The 2018 SwissTB Award goes to two scientists: Dr. Andrej Trauner, Swiss TPH, and Dr. Anna Rominski, Institut für Medizinische Mikrobiologie Universität Zürich

## 2017 SwissTB Award's Special Prize

Kathrin Zürcher gets a special prize of CHF 1'000 for her publication: "Tuberculosis Mortality and Living Conditions in Bern, Switzerland, 1856-1950"

## 2017 SwissTB Award

Dr. Paul Murima and Dr. Michael Zimmermann -

## 2016 SwissTB Award's Special Prize

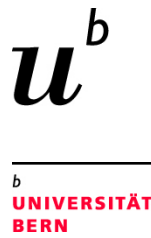
Christian Schürer gets a special prize for the amount of CHF 1'000 for his dissertation: "Der Traum von Heilung" (Historisches Seminar, University of Zürich). -

## 2016 SwissTB Award

Dr. Mireia Coscolla

# Swiss TB awardees 2019

- **Frau Kathrin Zürcher und Frau Marie Ballif**
- [Drug susceptibility testing and mortality in patients treated for tuberculosis in high-burden countries: a multicentre cohort study.](#)
- Zürcher K, Ballif M, Fenner L, Borrell S, Keller PM, Gnokoro J, Marcy O, Yotebieng M, Diero L, Carter EJ, Rockwood N, Wilkinson RJ, Cox H, Ezati N, Abimiku AG, Collantes J, Avihingsanon A, Kawkitinarong K, Reinhard M, Hömke R, Huebner R, Gagneux S, Böttger EC, Egger M; International epidemiology Databases to Evaluate AIDS (IeDEA) consortium.
- Lancet Infect Dis. 2019 Mar;19(3):298



Swiss TPH



Universität  
Zürich<sup>UZH</sup>

# Drug susceptibility testing and mortality in patients treated for tuberculosis in high-burden countries: a multicentre cohort study

Kathrin Zürcher, Marie Ballif, Lukas Fenner, Sonia Borrell, Peter M. Keller, Joachim Gnokoro, Olivier Marcy, Marcel Yotebieng, Lameck Diero, E. Jane Carter, Neesha Rockwood, Robert J. Wilkinson, Helen Cox, Nicholas Ezati, Alash'le G. Abimiku, Jimena Collantes, Anchalee Avihingsanon, Kamon Kawkitinarong, Miriam Reinhard, Rico Hömke, Robin Huebner, Sebastien Gagneux, Erik C. Böttger, Matthias Egger, on behalf of the International Epidemiology Databases to Evaluate AIDS (IeDEA)

28. Tuberkulose-Symposium, 27.3.2019, Magglingen Switzerland

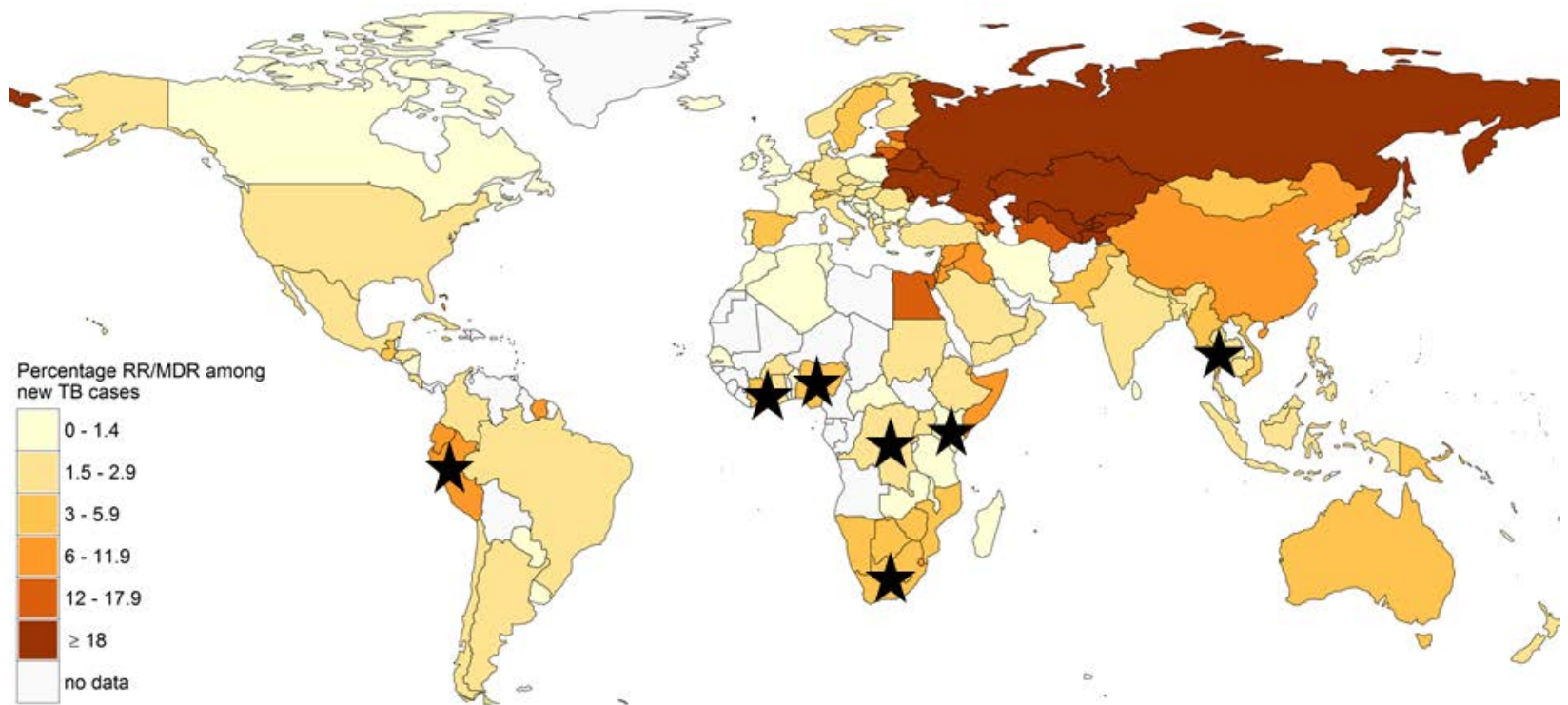
# Aim

**We compared results of resistance testing done at HIV clinics or TB clinics in low- and middle-income countries with results from phenotypic drug susceptibility testing done at the Swiss National Center for Mycobacteria (Zurich), and examined mortality by treatment adequacy.**

# Methods

## Patient recruitment and data collection

Clinical data and *Mycobacterium tuberculosis* isolates from 634 TB patients ( $\geq 16$  years) stratified by HIV and drug resistance status in 7 countries



# Results

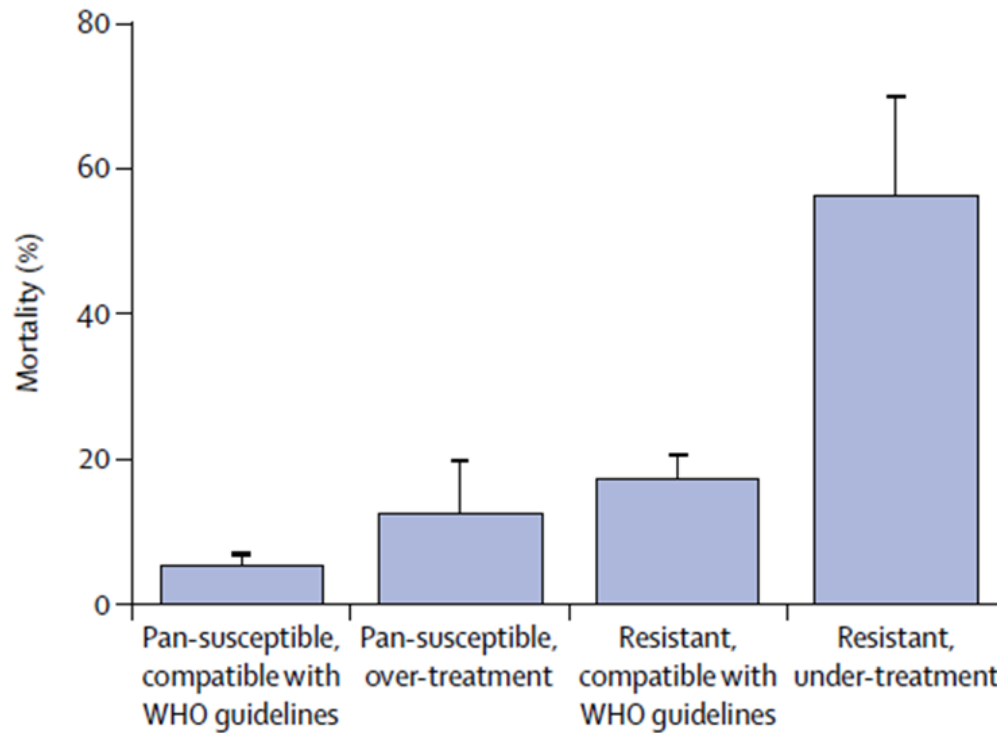
## Concordance and discordance of DST results

Concordance / discordance of DST results n=634 (%)		Reference laboratory	Local laboratories
<b>Concordance</b>	<b>513 (80.9%)</b>	Pan-susceptible Mono-resistance MDR Pre-XDR and XDR	Pan-susceptible Mono-resistance MDR Pre-XDR and XDR
<b>Discordance potentially leading to under-treatment</b>	<b>23 (3.6%)</b>	MDR Pre-XDR and XDR	Pan-susceptible MDR
<b>Discordance potentially leading to over-treatment</b>	<b>67 (10.6%)</b>	Pan-susceptible Pan-susceptible Mono-resistance MDR	Mono-resistance MDR MDR Pre-XDR or XDR
<b>Other discordance</b>	<b>31 (4.9%)</b>	Pan-susceptible Mono-resistance INH, MOX IHN, PZA	EMB, SM Pan-susceptible Mono-resistance MDR



# Results

## Mortality during TB treatment by treatment adequacy



	No. of patients	No. of deaths (%)	aOR (95% CI)*
Pan-susceptible, adequate treatment **	336	20 (6.0)	1
Pan-susceptible, over-treatment	23	3 (13.0)	3.31 (0.82-13.45)
Any resistance, adequate treatment **	200	36 (18.0)	4.66 (2.16-9.14)
Any resistance, under-treatment	14	8 (53.1)	19.32 (5.59-66.73)

\* adjusted for sex, age, sputum microscopy, and HIV status

\*\* compatible with WHO guidelines

# Conclusions

- Discordant DST results contributed to inadequate treatment and excess mortality
- Access to detailed resistance testing at treatment initiation needed to improve treatment outcomes

Published: Zürcher & Ballif et al., Lancet ID, 2019

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## Drug susceptibility testing and mortality in patients treated for tuberculosis in high-burden countries: a multicentre cohort study

*Kathrin Zürcher\*, Marie Ballif\*, Lukas Fenner, Sonia Borrell, Peter M Keller, Joachim Gnokoro, Olivier Marcy, Marcel Yotebieng, Lameck Diero, E Jane Carter, Neesha Rockwood, Robert J Wilkinson, Helen Cox, Nicholas Ezati, Alash'le G Abimiku, Jimena Collantes, Anchalee Avihingsanon, Kamon Kawkitinarong, Miriam Reinhard, Rico Hömke, Robin Huebner, Sebastien Gagneux\*, Erik C Böttger\*, Matthias Egger\*, on behalf of the International epidemiology Databases to Evaluate AIDS (IeDEA) consortium†*

# Acknowledgements



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TB working group and leDEA team

*u<sup>b</sup>*

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Swiss TPH



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Universität  
Zürich UZH

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