

The role of entry-screening procedures in the identification of MDR-TB cluster cases amongst patients arriving in Europe from the Horn of Africa, 2016-17

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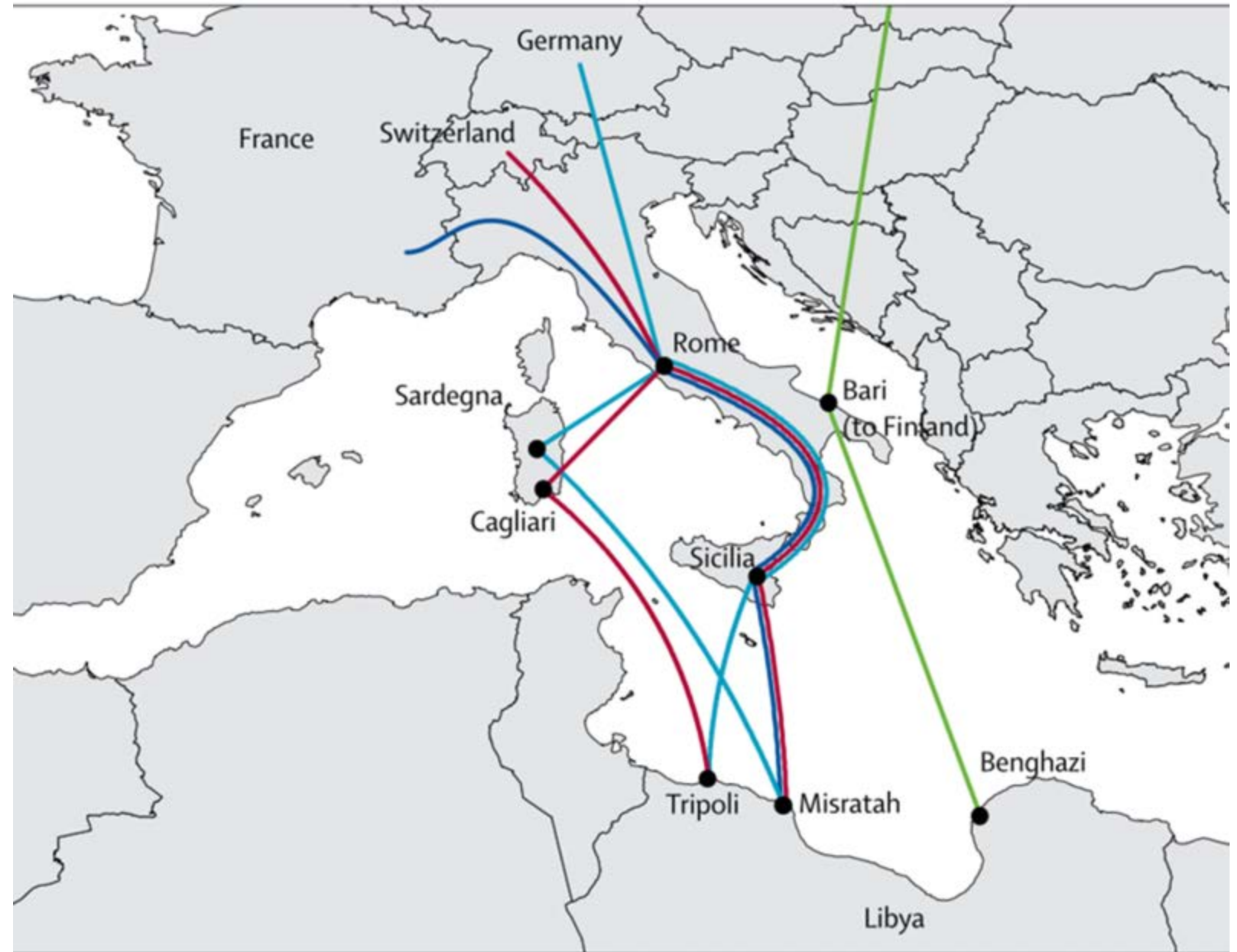
Background

In **April and May 2016**, the Swiss and German National Mycobacterial Reference Laboratories independently triggered an **outbreak investigation** after four patients were diagnosed with **multidrug-resistant tuberculosis (MDR-TB)**.

Outbreak investigations identified a **cluster of 36 MDR-TB cases** among migrants in 2016-17 in **eight European countries**.

Migration routes
of patients with
multidrug-resistant
Mycobacterium tuberculosis
arriving in Europe
from the Horn of Africa

Walker TM et al (2018). *Lancet Infectious Diseases*. 18:431-40



Objectives

Identify in how far **migrant TB entry screening procedures** in countries affected by the MDR-TB cluster were able to **detect cluster cases**.

If cluster cases were **not detected by screening**, clarify the reason **why**.

Methods

We conducted an **email-based short survey** amongst national epidemiology contact points of countries known to be affected by the MDR-TB cluster to:

- describe country migrant entry **TB screening procedures**;
- identify the **screening status** (screened vs not screened) of cluster cases;
- document the **occasion of their diagnosis**.

Results

Six out of eight national epidemiological contact points responded to the survey by email.

Country	Cluster cases	Responses with screening info	
Austria	2	na	
Finland	1	1	100%
France	2	1	50%
Germany	19	19	100%
Italy	2	2	100%
Sweden	1	1	100%
Switzerland	8	8	100%
United Kingdom	1	na	
	36	32	89%

Country	TB Screening Mandatory?	Description
Finland	no	voluntary screening by interview offered to migrants from countries with high TB incidence.
France	no	screening highly recommended for asylum seekers originating from high incidence countries
Germany	yes	age \geq 15 years (if not pregnant): screening by chest X-ray age < 15 years: skin test or interferon gamma
Italy	no	screening performed in some regions
Sweden	no	voluntary screening by interview offered to migrants from countries with high TB incidence.
Switzerland	yes	Symptom screening by interview

Full review:

Kunst et al (2017). Tuberculosis and latent tuberculous infection screening of migrants in Europe: comparative analysis of policies, surveillance systems and results. Int J Tuberc Lung Dis 21(8):840–851.

Cases per country (total = 36)

Finland 1 France 2 Germany 19 Italy 2 Sweden 1 Switzerland 8 Austria 2 United Kingdom 1

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Finland 1 France 2 Germany 19 Italy 2 Sweden 1 Switzerland 8 Austria 2 United Kingdom 1

Screening status

**Screened
(27; 75%)**

Germany 19 Switzerland 8

**Not screened, identified when symptomatic
(5; 14%)**

Finland 1 France 1 Italy 2 Sweden 1

**Screening status
unknown
(4; 11%)**

France 1 Austria 2 UK 1

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Occasion of diagnosis

Identified through screening (13; 48%)

Germany 10 Switzerland 3

Identified in contact tracing (2; 7%)
Identified when symptomatic (12; 44%)

Germany 9 Switzerland 5

Description of MDR-TB cluster cases not identified upon screening

Germany (n=9)

- 7 pulmonary, 1 pleural, 1 bone
- None reported TB symptoms at time of screening
- 1 pulmonary TB case was pregnant and did not receive an X-ray.

Switzerland (n=5)

- 3 pulmonary, 1 pleural, 1 lymphatic intrathoracic
- 1 did not report TB symptoms at time of screening
- 3 reported symptoms not deemed sufficient for further medical investigation (2 were extrapulmonary TB cases)
- 1 was referred for chest X-ray, which was deemed normal

Conclusion

Systematic entry screening programmes, where mandatory, **contributed to MDR-TB cluster case identification** for migrants with active disease.

However...

- sensitivity of the screening methods used for identifying TB varied
- only half of those screened were diagnosed as a result of screening.

It remains essential:

- to provide easy, barrier-free access to host-country health systems after arrival;
- to ensure health care workers are aware of the possibility of TB in persons originating from high incidence countries.

Acknowledgements

