



Perspective

Perspectives on tuberculosis in migrants, refugees, and displaced populations in Europe

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ABSTRACT

Finding and treating all forms of tuberculosis (TB) (latent, drug-susceptible, drug-resistant, multidrug-resistant, and extensively drug-resistant tuberculosis) among migrants, displaced populations, and refugees are important challenges facing TB control programs in Europe. Many of these populations live in poor conditions, with limited access to healthcare and TB services. Ever-increasing armed conflicts in Europe and other parts of the world continue to exacerbate rates of migration to and within Europe, with considerable implications for health services. TB in Europe is more prevalent in migrants from high TB-endemic areas, as well as those with social risk factors, including poverty and poor housing or homelessness. We provide our perspectives on recent data on TB in Europe from the World Health Organization, the European Centre for Disease Prevention and Control, the United Kingdom Health Security Agency, and other 2023-2024 reports. Despite advancements in TB screening and prevention strategies, and treatment regimens including community-based and integrated multi-disease approaches, significant challenges remain. These include variations in national policies, resource limitations, and barriers to accessing healthcare. To help address these challenges, there is a need for clearer guidance through national policies, enhanced surveillance, and proactive community engagement. There is also an urgent need for more investment into TB health services in Europe for refugees, migrants, and other displaced populations.

Introduction

Tuberculosis (TB) remains a significant global public health issue. Overall, 10.8 million people develop active TB annually, of which an estimated 1.4 million die [1]. The disease is particularly concentrated in low- and middle-income countries. Migrants, displaced populations, and refugees to Europe, many of whom are from TB-endemic areas, are likely to have latent TB infection (LTBI), serving as a reservoir for potential active TB cases [2–4]. Many of these populations live in poor conditions, with limited access to health care and TB services specifically. Rising levels of armed conflict in Europe and other parts of the world continue to exacerbate rates of migration to and within Europe. The resultant implications for health services for displaced and migrant populations are considerable [5]. We provide personal perspectives based on our clinical experience and recent data on TB in Europe from the World Health

Organization (WHO), European Centre for Disease Prevention and Control (ECDC), the United Kingdom Health Security Agency (UKHSA), and other 2023-2024 reports.

Literature reviewed

To develop our viewpoint, we searched publications between 2018-2024 on PubMed using keywords including “Tuberculosis”, “TB”, “Latent TB”, “LTBI”, “migrants”, “refugees”, “displaced populations”, “Europe”, “screening”, and “treatment”. Official TB and infectious disease publications from the WHO, ECDC, and UKHSA were also reviewed. Data on screening strategies, treatment regimens, barriers, facilitators, outcomes on screening strategies, community-based approaches, integrated screening approaches, treatment strategies, barriers, facilitators, and outcomes and challenges were used to develop our perspectives.

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Table 1
TB in migrants and refugees in Europe - Status quo and challenges.

European countries with high TB cases in foreign-born individuals	Over 50% of TB cases detected in the United Kingdom, Germany, and Sweden occur in foreign-born individuals. There is high TB prevalence in migrants from sub-Saharan Africa, South Asia, and Eastern Europe.
TB screening strategies	1). Pre-entry screening: Required in countries like the UK and Norway; includes chest X-rays and interferon-gamma release assay/tuberculin skin tests. 2). Community-based programs: Mobile clinics and outreach initiatives target underserved migrant populations. 3). Integrated approaches: Combine LTBI screening with HIV and hepatitis assessments.
Treatment approaches	1). Traditional regimens: 6-9 months of isoniazid monotherapy, limited by adherence issues. 2). Short-course therapies: Rifamycin-based 3-4 month regimens with improved adherence and safety. 3). Directly observed therapy programs: Ensure adherence in high-risk cases but a resource-intensive.
Challenges	1). Policy barriers: Lack of harmonized guidelines across Europe. 2). Improve surveillance and cross-sectoral collaborations across Europe. 3). Access issues: Language barriers, fear of deportation, stigma. 4). Develop policies to protect legal rights to access health care. 5). Resource limitations: Insufficient funding for large-scale screening programs for LTBI and active TB programs.
Prevention strategies	1). Policy coordination: Align national and regional guidelines. 2). Community engagement: Involve migrants in designing culturally appropriate programs. 3). Enhanced surveillance: Improve data systems for tracking LTBI trends and treatment outcomes. 4). Development of new effective TB vaccine

LTBI, latent tuberculosis infection; TB, tuberculosis.

Status quo, challenges, and a way forward

TB in Europe is more prevalent in people with social risk factors, such as homelessness, poverty, and poor housing, and in migrants from high TB-endemic countries [6–11]. Table 1 summarizes the status quo and challenges of detecting and managing TB in migrants, refugees, and displaced populations in Europe.

Epidemiology of tuberculosis in migrants and refugees in Europe

Migrants and refugees account for a significant proportion of TB cases in Europe. Recent WHO and ECDC data highlight that over 50% of TB cases in European countries such as the UK, Germany, and Sweden, occur in foreign-born individuals [1–3]. The prevalence of LTBI among these populations varies widely, with estimates ranging from 15–45%, depending on the country of origin and the length of stay in Europe. Across high-income countries, as per the Organization for Economic Co-operation and Development (OECD), a median of 52% of TB cases occur in foreign-born individuals, who are at their highest risk of developing TB disease within the first 5 years of migration [12,13]. Molecular epidemiological studies indicate that most of these cases occur as a result of LTBI reactivation, often acquired overseas [11–14]. Within the UK, overseas-born migrants have a 14-fold higher TB incidence than UK-born individuals [15,16]. Accurate data on TB in displaced populations due to the Ukraine-Russia conflict are unavailable at present, although concerns have been raised considering the high multidrug-resistant TB burden in those regions; watchful surveillance is required for all forms of TB within refugee camps and host countries [5].

Current TB screening strategies

The World Health Organization’s “End TB Strategy” and the UN Sustainable Development Goals, emphasize the importance of targeted screening and treatment of LTBI, as well as screening for active TB to achieve TB control targets [1]. Indeed, across Europe, many high-income and low-TB-incidence countries have prioritized LTBI screening and treatment in recent migrants [17].

The UK is considered a low-TB-incidence country (7.75 per 100,000 population) but with high incidence in urban areas such as Newham (41.3 per 100,000), Leicester (38.9 per 100,000), and Brent (37.4 per 100,000). Recent studies [9,10] have shown that implementation of infectious disease screening, including TB, in migrant populations is not comprehensively performed in UK primary care health services. All of Europe’s health services face unique challenges in providing health services for migrant and displaced populations. Balancing public

health priorities with ethical considerations, such as equity and non-discrimination, is always at the fore. Additionally, the continuing focus on detecting active TB can overshadow addressing LTBI as part of a broader TB control approach.

Countries such as the UK and Norway mandate TB screening as part of their visa applications or upon arrival [9,10]. Pre-entry strategies primarily rely on chest X-rays and follow-up interferon-gamma release assay or tuberculin skin test for suspected cases. Community-based approaches such as mobile clinics and outreach programs target underserved populations, addressing barriers such as transportation and stigma. These initiatives have been particularly successful in areas with high concentrations of migrants, such as urban centers. Integrated multi-disease screening, which combines LTBI screening with HIV and hepatitis B/C, is also being used. More investment is required to expand these since they enhance cost-effectiveness and may improve uptake among migrants, refugees, and displaced populations as a large qualitative study confirms that integrated screening for infections is feasible, positively viewed by, and acceptable to, migrants and healthcare professionals [18].

Traditionally recommended treatment regimens for LTBI consist of 6–9 months of isoniazid monotherapy and they are limited by poor adherence and hepatotoxicity. Since the new shorter 3- and 4-month regimens using rifampicin/rifapentine combined with isoniazid have shown higher completion rates and lower adverse event profiles in trials [19], it is prudent that health services now find the significant resources to change to these regimens with directly observed therapy. However, several operational and logistical challenges need to be overcome. There is variation in national TB services guidelines across Europe, which lead to inconsistencies in screening and treatment programs. Healthcare access issues including language barriers, fear of deportation, and cultural stigma, all prevent migrants from seeking care. Resource issues such as limited funding and infrastructure, continue to hamper the up-scaling of comprehensive screening programs for LTBI and active TB not only in Europe but worldwide [16,20].

More than ever, the development of new TB vaccines is a priority, and it represents an important unmet medical need. The only currently available vaccine is the century-old bacille Calmette-Guérin. While this vaccine has efficacy in protecting against severe TB disease, such as TB meningitis, in infants and young children, it is largely ineffective in adolescents and adults, among whom most transmission and disease occurs [21]. Recent studies have shown that over 25 years, delivering a new TB vaccine that is 50% effective in preventing disease among adolescents and adults would avert up to 76 million new TB cases and 8.5 million deaths. Over the same period, every US \$ 1 invested in the delivery of such a vaccine could generate an economic return of US \$ 7 [22].

Conclusion

Important issues facing Europe's health services for migrants, refugees and displaced populations include detection of all forms of TB. Armed conflicts continue to exacerbate rates of migration to and within Europe. Significant challenges remain in reducing TB burden. This is despite advancements in screening strategies, availability of new TB prevention and treatment regimens as well as the introduction of community-based and integrated multi-disease approaches. Such challenges include variations in national policies, resource limitations, and healthcare access barriers. While progress is being made in LTBI management among migrants and refugees in Europe, increased efforts are required to harmonize management guidelines across Europe to facilitate more cohesive approaches. Inconsistent policy implementation can undermine the effectiveness of regional efforts, while stigma and discrimination continue to impede access to care. There remains a need for increased investments into TB health services in Europe for refugees, migrants, and displaced populations [16,20]. The need for new effective TB vaccines is now greater than ever before [23].

Declarations of competing interest

The authors have no competing interests to declare.

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