Screening and treatment of infectious diseases in MIGRANTS in Europe

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Migration in Europe
- Major demographical shifts in recent years in terms of internal and external migration
- Migrants may come from countries where health and vaccination systems have broken down or are inadequate
- They experience disparities in access to care, poverty, exclusion
- They face a disproportionate burden of infectious diseases

Lancet-UCL Commission on migration and health
- Systematic review and meta-analysis on mortality outcomes in international migrants globally: 316 studies
- Overall mortality advantage to international migration across almost all the ICD-10 disease categories when migrants compared to host population
- Migration can be healthy
- Increased mortality: infectious diseases

TB in migrants
- Wide variation: Sweden (85% of TB cases in migrants); Norway (85%), UK (75%)
- 60% migrants with active TB present within 6 years but rates high for many years
- TB disease occurs at a younger age in migrants than in the host population: highest notification rate in 25-44 year age group, with men over-represented
- Risk of extra-pulmonary TB is increased two-fold in migrants
- It is acknowledged that we will not make targets for TB elimination if we don’t address inequalities in access to screening and treatment in diverse migrant populations in EU/EEA

EU/EEA TB: steady decline, but increasing in migrants

Latent TB in migrants
- Focus now on incorporating latent TB screening into migrant screening programmes targeting high-risk migrants
- Growing awareness that tackling TB in Europe will require improving our approach to screening and treatment for LTBI in migrants

Latent TB is an asymptomatic phase of TB which can last for years: a quarter of the global population infected
Highest rates of reactivation 1-2 years after arrival to settlement country
A significant proportion of MDR-TB cases in EU/EEA result from reactivation of latent infection

Migrant
Native
Unknown

Sweden
Norway
Cyprus
Malta
Netherlands
Iceland
United Kingdom
Denmark
Luxemburg
Italy
France
Greece
Austria
Germany
Ireland
Finland
Spain
TOTAL
Slovenia
Estonia
Czech Republic
Portugal
Latvia
Lithuania
Slovakia
Romania
Bulgaria
Poland
Hungary
Belgium

26.8% of TB cases occurred in persons of foreign origin (range 0.3–100.0%)
- Wide variation: Sweden (89% of TB cases in migrants); Norway (88%), UK (75%)
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MDR-TB in migrants in the EU/EEA

- MDR-TB is more prevalent among migrants
- Wide variation: Austria/Netherlands/Norway see most MDR-TB cases are in migrants; Eastern European countries MDR-TB is in the host population
- We need to consider movement of internal EU migrants (35.1 million)
- Low detection and inadequate treatment of MDR-TB are major drivers of the European epidemic

Antimicrobial resistance among migrants in Europe

- Rates of AMR rising globally; concerns migration contributing to antibiotic resistance
- Growing evidence that travel results in an increased risk of persons being colonised with an antibiotic-resistant bacterium
- Systematic review and meta-analysis to identify and synthesise data on AMR carriage or infection in migrants to Europe

Systematic review and meta-analysis results

- 23 articles reporting on AMR in 2319 migrants
- Pooled prevalence of any AMR carriage or infection: 25.4% (95% CI: 10.1 – 31.8)
- AMR higher in:
  - Refugees and asylum seekers (33.0%, 18.3 – 47.6) than other migrant groups (6.6%, 1.8 – 11.3)
  - High-migrant community settings (33.11%, 11.1 – 55.1) than hospitals (24.3%, 16.1 – 32.6)
- Although pooled prevalence rates for antibiotic resistant bacteria (meticillin-resistant Staphylococcus aureus and multidrug-resistant Gram-negative bacteria) were high in migrants, resistance was mostly acquired during transit or in high-migrant community settings following migration to Europe, rather than from the migrants’ countries of origin
- AMR was found to be higher in refugees and asylum seekers compared to other migrant groups, and in high-migrant community settings (transit camps, detention centres), highlighting the need for improved conditions, access to care, and infection prevention and control

Proportion HIV diagnoses among migrants in the EU/EEA 2015 (n= 25 785)

- HIV is an important consideration for migrants in Europe
- Migrants face a disproportionate burden
- Huge regional variations

Vaccine-preventable diseases in migrants

- Migration may be associated with increased risk of vaccine-preventable diseases
- Data suggest migrants are an underimmunised group in Europe
- Nakken et al: 2126 asylum-seeking children to Denmark found 30% were not immunised in accordance with Danish national schedule, 22% not vaccinated for MMR
- Migrants may present with uncertain status, lack of documents indicating previous vaccination, re-vaccination in multiple settings along the migration trajectory as they pass through Europe
- Health-care providers in settlement countries are often unclear as to what approach to take

Pooled immunisation coverage of EU/EEA migrants

8 meta-analyses: 80,432 migrants in EU/EEA countries
- Pooled immunisation coverage was low, with pooled immunisation coverage below the herd immunity threshold (HIT) for many vaccine-preventable diseases

<table>
<thead>
<tr>
<th>VPD</th>
<th>Pooled coverage</th>
<th>95% CI</th>
<th>HIT</th>
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<tbody>
<tr>
<td>MMR</td>
<td>80%</td>
<td>73-87%</td>
<td>93-96%</td>
</tr>
<tr>
<td>Mumps</td>
<td>85%</td>
<td>78-87%</td>
<td>75-86%</td>
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<tr>
<td>Rubella</td>
<td>85%</td>
<td>76-87%</td>
<td>63-86%</td>
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<tr>
<td>Diphtheria</td>
<td>55%</td>
<td>29-73%</td>
<td>63-86%</td>
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<tr>
<td>Tetanus</td>
<td>65%</td>
<td>46-76%</td>
<td>86-86%</td>
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<tr>
<td>Polio type 1</td>
<td>87%</td>
<td>95-98%</td>
<td>60-60%</td>
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<tr>
<td>Polio type 2</td>
<td>85%</td>
<td>92-97%</td>
<td>60-60%</td>
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<tr>
<td>polio type 3</td>
<td>85%</td>
<td>82-93%</td>
<td>60-60%</td>
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Large measles outbreak ongoing across Europe

- Large multi-country outbreak of measles ongoing with a risk of spread and sustained transmission in susceptible populations. Over 41,000 cases in the first 6 months of 2018.
- Role of migrants is unclear: lack of data on migrant status, but UK-EU internal migration an important consideration.
- Not clear what different EU countries are doing with regards to vaccination strategies targeting migrant populations.

Why are migrants disproportionately affected by infectious diseases?

- Country of origin: higher burden of disease
- Transit experience (camps/detention facilities)
- Socio-demographic factors: poverty and destitution
- Discrimination, racism, xenophobia
- Inequities in access to health-care services and screening: delays
- Some groups may be underimmunised
- Screening dropout levels of adherence?

How effective are migrant screening programmes in the EU/EEA?

- A systematic review exploring the effectiveness of screening targeting migrants in the EU/EEA to 2018 (248,402 migrants) for all infections.
- Most target single diseases only – predominantly active TB with CXR but more recently latent TB.
- Most screening in EU/EEA happens on or soon after arrival.
- Programmes target a narrow subset of migrants: asylum seekers/ refugees.
- We didn’t include data from pre-departure screening programmes.
- Latent TB had the highest prevalence across all infections: median 15.02% (0.35-31.81).

Screening outcomes

- Uptake to screening programmes by migrants was high across all migrant groups: approx. 80% of migrants offered screening accepted (median 79.50% [range: 18.62-100.00]).
- Uptake particularly high in primary health-care settings (96.77% [76.00-100.00]).
- However, considerable drop out before diagnosis made:
  - TB: 24.62% (1.54-78.99) never returned for results.
  - Latent TB: 26.67% (0.16-67.18).

Treatment outcomes

- High treatment completion for infectious diseases in migrants: >80%.
- Data highly heterogeneous, masking important disparities between infections: latent TB: 54% did not complete treatment.
Screening and treating migrants for latent TB

The effectiveness and cost-effectiveness of screening for latent tuberculosis among migrants in the EU/EEA: a systematic review

- The effectiveness of latent TB screening is currently limited by: large pool of migrants with infection, poorly predictive tests, long treatment, and a weak care cascade
- Only 14% of migrants who needed treatment ultimately completed it: drop-out at every stage of the screening and treatment pathway
- Similar findings in large US/Australian/Canadian studies >> high loss to follow up post screening and individuals saying no to treatment
- Lots of unanswered questions around latent TB implementation in migrant screening programmes

MDR-TB treatment adherence in migrants

- This study support the idea that migrants may well have high adherence rates to treatment
- Meta-analysis to assess and compare adherence rates within migrants populations and in comparison to non-migrant populations (258 migrants vs 174 non-migrants)
- Adherence among migrants was 71% [95% CI 58-84%], comparable to host populations and approaching global targets (75%) >> but non-adherence of 20% far too high
- Care should be tailored toward social risk factors for poor adherence, as opposed to migrant status

Barriers to screening and treatment in European countries

- Individual barriers
  - Fear of screening provider’s judgment
  - Discrimination and fear of racism
  - Health tourism stigma
  - Misery about breaches in confidentiality
  - Lack of professionalism
  - Limited financial resources
  - Insufficient information and explanation of screening
- Culture and individual mindset
  - Low perception of risk
  - Missing tradition of preventive health-seeking behaviour
  - Fear of disease-related stigma and social rejection
  - Fear of disease-related consequences
  - Misconceptions of diseases
- Structural and service barriers
  - Poor management, weak referral systems
  - Incoherency of screening (screening in different settings for different diseases)
  - Multiple steps for screening test
  - Lack of appropriate confidential space
  - Funding
  - Difficulty of communication with laboratory for result queries
  - Lack of time
  - Lack of staff training and support

Migrants face unique barriers

- Fear of approaching health services – is it free and confidential?
- Undocumented migrants
- Lack of knowledge on how to navigate a new and different health system
- Screening/healthcare considered a low priority
- High levels of social stigma in their own communities around attending screening

Entitlement to free statutory health care in Europe

- A more restrictive approach to health care access has developed across Europe
- Undocumented migrants only have access to emergency healthcare
- There is clear evidence to suggest these more restrictive policies deter migrant groups and deter them from seeking health care

Yield of detecting active TB among migrants 350/100,000 – ranged widely by:
- Host country (likely reflecting migrant type)
- Migrant type (highest in asylum seekers)
- Incidence in country of origin
- Screening setting
- Cost effectiveness highest among migrants from high (>120/100,000) incidence countries
- Migrant patients had similar or better TB treatment outcomes when compared to the host population
- Acceptance of screening high (85%)
Availability of ART for undocumented migrants, 2016

Affordable and equitable access to healthcare is essential for successful screening and treatment

Many countries have screening guidelines, but they are not implemented well in migrant populations

- Cross-sectional study exploring UK General Practitioner testing practices for Hep B 2006-2013
- Hep B screening delivered to only 9627 (12%) of 82,561 migrants in whom testing was recommended in UK national guidelines in one area of the UK (Bristol)
- Clinicians cited lack of knowledge and lack of resources as key barriers to implementing Hep B screening in primary care

Vaccination guidelines and approaches vary widely

- Only 6 (19%) of 32 countries had migrant-specific guidelines on vaccination: focused on refugees and children so often did not considering the wider group of migrants nor adults/adolescents
- Guidelines poorly implemented in practice, according to experts, with few examples of in-country initiatives targeting migrants
- 10 (31.3%) of 32 countries reported charging certain newly arrived migrants for vaccinations


http://www.euro.who.int/en/health-topics/communicable-diseases/

**ESCMID Study Group for Infections in Travellers and Migrants – ESGITM**

https://www.escmid.org/research_projects/study_groups/travel_and_migration/

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Germany: “In Germany, implementation of guidelines is an issue of federal states and finally the local authorities. It depends on local number of staff, number of refugees, available resources and systems.”

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“...migrants should be vaccinated according to immunisation schedule of country in which they intend to stay for more than a week, with priority given to MMR and polio vaccines, and that refugees and asylum seekers should have non-discriminatory, equitable access to vaccination irrespective of their legal status”

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ID screening/vaccination in migrants: facilitators

- well-trained and dedicated screening staff
- culturally sensitive and appropriate services
- trust and respect for the judgement of staff

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- emphasis on improving drop out and ensuring adherence/treatment completion
- strong coordination
Conclusions

- Although many migrants are healthy, we need to consider multiple infections and vaccination needs targeting key nationalities and particular migrant sub-groups
- Consideration must be given to a wider group of high-risk migrants circulating in Europe with a longer-term view on improving their health
- Screening at point of entry for TB is not enough; some migrant at risk several years after arrival, there are other infections to consider plus catch-up vaccination
- More emphasis must be placed on developing innovative and sustainable strategies to facilitate linking migrants to screening and care in emergency departments to explore and assess what works best, considering the often unique needs of migrants
- There are clear clinical, public health, and human rights arguments for promoting access to an acceptable level of free health care to migrants

Multi-disease testing approach

- UK/Netherlands/Settlement countries: multi-disease testing offering migrants one blood test for all infections (latent TB, HIV, Hep B and C) at one appointment, then support linkage to care
- Unclear to what extent is it feasible and cost-effective
- Cross-sectional study to explore whether it can be rolled out in emergency departments
- Migrants restricted from accessing primary care use A&E as their source of primary health care

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