

MEHO

WP 7- Infectious Diseases

Update

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What should be done?

- Report on infectious disease surveillance systems in respective European countries
- Report on immigrant specific infectious disease data
- Report on data analysis of infectious diseases

Course of actions

- National level
 - Describe migrant population in respective countries
 - Describe infectious disease surveillance systems
 - Identify and select data with available information
 - Analyse and describe data
 - Give recommendations
- International level
 - Compare data (indicators, results)
 - Give recommendations

Ideal Indicators

- Incidence rate ratios/differences for migrant vs. native population for all relevant infectious diseases
- Comparable over different European countries
 - Definition of migrant population in different countries should be preferably the same
 - Case definitions should be comparable

Problems to solve

- Identify relevant infectious diseases in national statutory surveillance systems
- Identify indicators for migrant status/ethnicity in statutory surveillance systems
- From absolute counts to incidences
- Adjust for underreporting – is it possible?

At hand in national surveillance?

| | Germany | Netherlands | UK | France | Italy | Finland |
|-----------|---------|-------------|----|--------|-------|---------|
| HIV/AIDS | + | - | + | + | + | - |
| TB | + | + | + | + | + | + |
| Hepatitis | + | + | + | + | + | + |

Childhood vaccination coverage and vaccination coverage among adult migrant population

| Coverage with vaccines against ... | Germany | Netherlands | UK | France | Italy | Finland |
|------------------------------------|---------|-------------|----|--------|-------|---------|
| Hepatitis B | | | | | | |
| Measles | | | | | | |



Incidence for vaccine-preventable diseases

Problems to solve

- Identify relevant infectious diseases in national statutory surveillance systems
- **Identify indicators for migrant status/ethnicity in statutory surveillance systems**
- From absolute counts to incidences
- Adjust for underreporting – is it possible?

Migrant indicators available in national surveillance

| | Germany | Netherlands | UK | France | Italy | Finland |
|-----------|---------|-------------|----|--------|-------|---------|
| HIV/AIDS | A,B | ? | - | ? | A | - |
| TB | B | ? | A | A | A | A |
| Hepatitis | - | ? | - | ? | ? | - |

A = country of origin, B = nationality

Problems to solve

- Identify relevant infectious diseases in national statutory surveillance systems
- Identify indicators for migrant status/ethnicity in statutory surveillance systems
- **From absolute counts to incidences**
- Adjust for underreporting – is it possible?

Migrant indicators available in national registries

| | |
|-------------|--|
| Germany | Country of birth of parents and grandparents |
| Netherlands | Country of birth of the parents |
| UK | Country of birth and ethnic group |
| France | No information |
| Italy | To be explored |
| Finland | Nationality |

Problems to solve

- Identify relevant infectious diseases in national statutory surveillance systems
- Identify indicators for migrant status/ethnicity in statutory surveillance systems
- From absolute counts to incidences
- Adjust for underreporting – is it possible?

Estimated underreporting

| | Germany | Netherlands | UK | France | Italy | Finland |
|-----------|---------|-------------|----|--------|-------|---------|
| HIV/AIDS | | | | | | |
| TB | | | | | | |
| Hepatitis | | | | | | |

Possible solution

- Use another independent source of data to assess the sensitivity of two systems
- Time trends of incidence rate ratios/differences for migrant vs. native population for relevant infectious diseases
 - Assumes that the underreporting bias is constant over time and similar in subpopulations

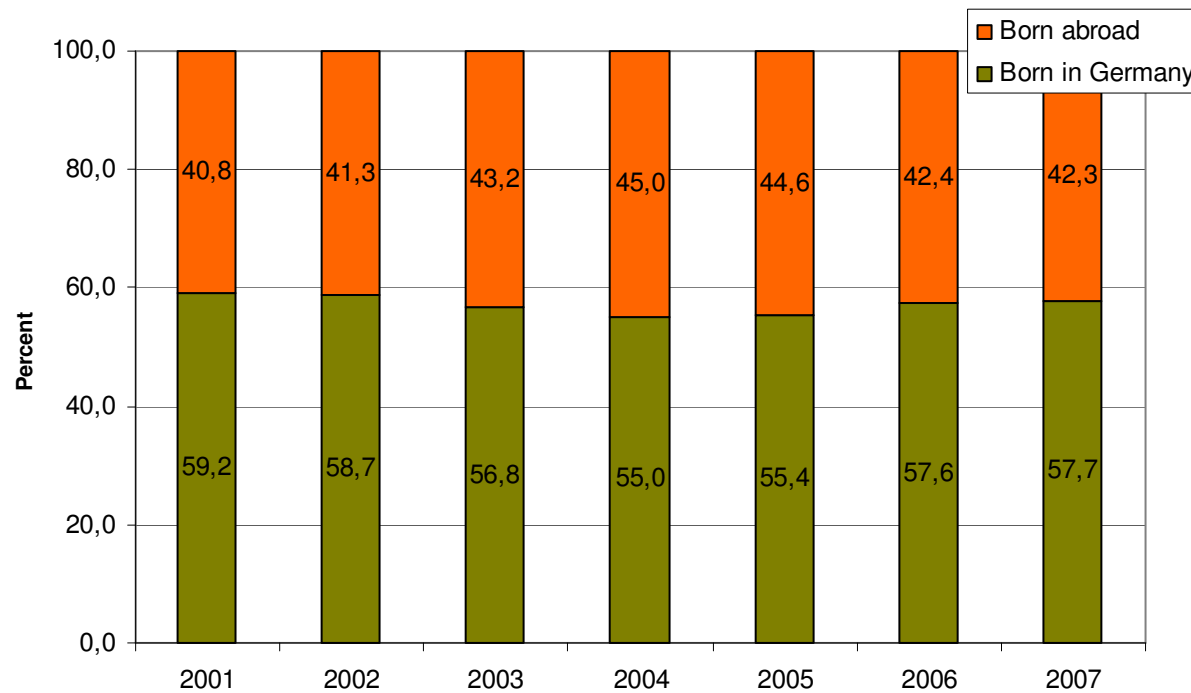
Additionally

- Analyse other available epidemiological data on national level
 - Example: Vaccination coverage among children with migration background in a district of Bavaria. Germany

Data

- Robert Koch Institute, Germany
- 2001-2007
- Migration status for
 - Tuberculosis - country of birth and citizenship
 - HIV - country of origin and information on assumed country of infection acquisition

Proportion of tuberculosis cases according to country of birth



Source: Robert Koch Institute, Germany

Percent of tuberculosis cases according to country of birth

| Years | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|------------------------|--------|--------|--------|--------|--------|--------|--------|
| Countries | N=7564 | N=7667 | N=7162 | N=6532 | N=6024 | N=5397 | N=1749 |
| Bosnia and Herzegovina | 1.00% | 0.80% | 0.70% | 0.70% | 0.80% | 0.70% | 0.60% |
| India | 1.10% | 1.50% | 1.90% | 2.00% | 2.20% | 1.70% | 1.50% |
| Romania | 1.10% | 0.90% | 1.00% | 1.20% | 1.00% | 1.30% | 1.50% |
| Pakistan | 1.20% | 1.00% | 1.20% | 1.00% | 1.20% | 1.20% | 1.10% |
| Vietnam | 1.30% | 1.20% | 1.10% | 1.10% | 1.40% | 1.60% | 1.30% |
| Afghanistan | 1.30% | 1.10% | 0.80% | 1.00% | 1.00% | 1.10% | 0.70% |
| Poland | 1.70% | 1.40% | 1.70% | 1.50% | 2.00% | 1.60% | 1.90% |
| Kazakhstan | 2.60% | 3.20% | 3.70% | 3.80% | 3.70% | 2.20% | 3.50% |
| Russia | 3.00% | 4.70% | 5.20% | 5.50% | 4.60% | 3.80% | 3.30% |
| Serbia | 3.10% | 3.00% | 2.70% | 2.00% | 2.20% | 2.40% | 1.80% |
| Turkey | 6.20% | 5.90% | 6.10% | 6.70% | 6.30% | 6.50% | 6.20% |
| Other countries | 23.70% | 21.30% | 20.00% | 21.10% | 20.90% | 21.90% | 24.90% |
| Germany | 52.70% | 54.00% | 53.90% | 52.40% | 52.70% | 54.00% | 51.70% |

Source: Robert Koch Institute, Germany

Percent of tuberculosis cases according to the WHO classification

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---------|--------|--------|--------|--------|--------|--------|--------|
| Germany | 59,20% | 58,70% | 56,80% | 55,00% | 55,40% | 57,60% | 57,70% |
| AFRO | 4,10% | 4,40% | 5,00% | 5,40% | 5,80% | 5,10% | 5,50% |
| CIS | 7,30% | 9,70% | 10,60% | 11,10% | 10,30% | 7,60% | 8,80% |
| PAHO | 0,70% | 0,60% | 0,50% | 0,60% | 0,60% | 0,80% | 0,60% |
| SEARO | 3,00% | 3,30% | 3,80% | 4,40% | 4,40% | 4,30% | 3,90% |
| WPRO | 2,60% | 2,20% | 2,60% | 2,60% | 2,60% | 3,00% | 2,50% |
| EURO | 17,50% | 16,40% | 16,20% | 16,30% | 16,10% | 16,80% | 16,60% |
| EMRO | 5,60% | 4,70% | 4,50% | 4,50% | 4,80% | 4,90% | 4,50% |

Source: Robert Koch Institute, Germany

Thank you very much