Communicable Diseases and Asylum in Belgium

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Antwerp, September 15th 2017





"In spite of the common perception of an association between migration and the importation of infectious diseases, there is no systematic association." WHO, 2017.



"Infectious diseases in migrants are not a significant burden for the host country but well a potential threat to the refugees themselves". ECDC, 2015.

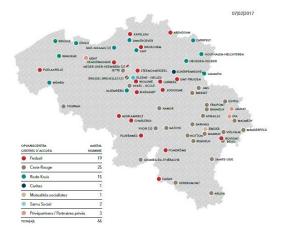


1. PROFILE ASYLUM SEEKERS 2017



fedasil

Reception centers in Belgium



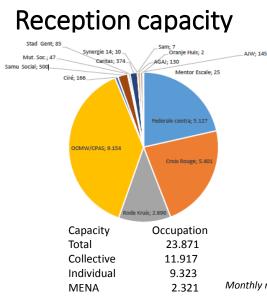
66 collective centers

- 19 Fedasil
- 15 Rode Kruis
- 25 Croix Rouge

92 collective centers 1/16

26 centers closed in 2016 - 2017







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Monthly report July 2017
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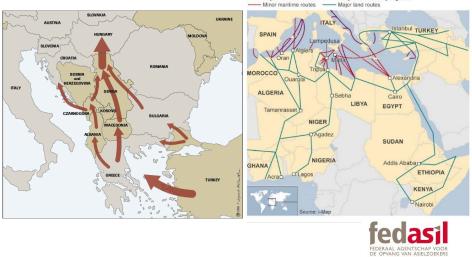
Origin countries asylum appliers July 2017







Migration routes before and after EU/TK deal





Resetllement



Turkey, Jordan, Libanon, Congo: short procedure

Relocation



Italy and Greece hotspots Normal procedure



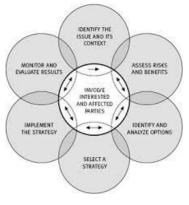


2. COMMUNICABLE DISEASES





- Newly arrived migrants are priority group for screening
- Risk identification & screening in view of probability & urge
- Common denominators e.g. tbc
- Additional individual screening of newly-arrived migrants according country of origin & migration history
- Surveillance
- Continous alert and reporting
- Risk communication



2000 Health Canada "Decision-making Framework"



Infectious diseases to consider according to country of origin

Disease	Indicator	Syria	Afghanistan	Iraq	Eritrea	Somalia
Diphtheria [3]	Cases reported to WHO in 2012, 2013, 2014	0, 0, and NA	0, 0, 0	3, 4, and 5	8, 0 and NA	65, 7 and NA
Typhoid fever	Risk of typhoid	✓	✓	~	✓	✓
Cholera*	Risk	No recent outbreak	Recurrent outbreaks	On-going outbreak in Baghdad Babylon, Najaf, Qadisiyyah, and Muthanna.	NA	Recurrent outbreaks
Hepatitis A [†]	Risk	High endemicity	NA	High endemicity	High endemicity	High endemicity
Hepatitis E [‡]	Risk	NA	NA	High endemicity	NA	High endemicity
Helminthiasis§	Risk of soil transmitted helminthiasis (ascaris, whipworm, hookworm)	+	++	+	++	++
	Risk of urinary schistosomiasis	~	Non-endemic country	~	~	~
Leishmaniasis**	Risk of cutaneous leishmaniasis	~	1	~	~	~
	Risk of visceral leishmaniasis	~	~	✓	~	✓

European Centre for Disease Prevention and Control. Infectious diseases of specific relevance to newly-arrived migrants in the EU/EEA – 19 November 2015. ECDC: Stockholm; 2015.



Infectious diseases to consider according to country of origin

Disease	Indicator	Syria	Afghanistan	Iraq	Eritrea	Somalia
Hepatitis B ⁺⁺	Prevalence of chronic hepatitis B	Intermediate prevalence: 5.6%	High prevalence: 10.5%	Low prevalence: 1.3%	High prevalence: 15.5%	High prevalence: 12.4%
Hepatitis C ⁺⁺	Prevalence	High prevalence: 3.1%	High prevalence: 1.1%	High prevalence: 3.2%	High prevalence: 1%	NA
HIV	Prevalence	Low	NA	Low	Low	Low
Malaria ^{§§}	Risk of malaria	Malaria-free	Risk of <i>P. vivax</i> >> <i>P. falciparum</i>	Malaria-free	Risk <i>of P.</i> falciparum >> P. vivax	Risk <i>of P.</i> falciparum
Measles*	Incidence per 100 000 in 2013 and 2014	1.84 and 2.68	1.41 and 1.75	2.09 and 3.02	0.77 and 0.02	2.17 and 9.12
Polio***	Cases reported to WHO in 2012, 2013 and 2014	0, 35 and NA	46, 17, and 28	0, 0, and 2	0, 0, and 0	1, 195 and 5
Tuberculosis ^{†††}	Incidence/100 000	Low: 17	High: 189	Low: 25	High: 40 to 499	High: 285
Antimicrobial resistance	Risk of carriage of multidrug-resistance Gram-negative bacteria	NA	NA	NA	NA	NA
Rabies	Risk level for humans contracting rabies	High	High	High	High	High

European Centre for Disease Prevention and Control. Infectious diseases of specific relevance to newly-arrived migrants in the EU/EEA – 19 November 2015. ECDC: Stockholm; 2015.



Reported infectious diseases in Fedasil Centres in 2016

Tuberculosis	72 (on 121)	
Scabies	345	
Hepatitis A	1	
Rubella, diphteria, tetanos	0	
Measles	3	
Mumps	4	
Varicella	134	
MRSA	8	
LBRF	0	
Pertussis	0	







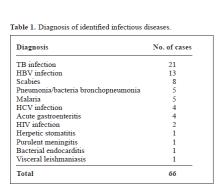
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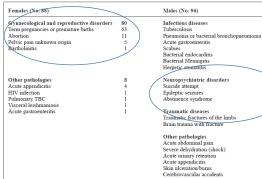
Reported infectious diseases in migrants in Sicily 2011

N=24,861 people -106 landings

First triage at the pier

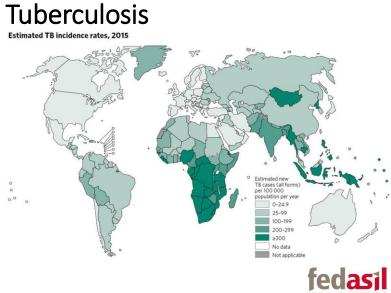
Helicopter interventions Table 2. Clinical cases requiring urgent transportation by helicopter rescue





Prestileo, T., Dalle Nogare, E. R., Di Lorenzo, F., Ficalora, A., Spicola, D., Imburgia, C., & Corrao, S. The burden of infectious diseases on the migrant population in Sicily: a mini review.

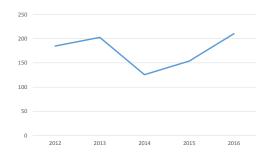




Tuberculosis in Belgian asylum seekers

Detection rate in 2016: 210,1/100.000 persons(32/15.231)

- Increase a.o. to 2015: 153,7/100.000 en 2014: 125,8/100.000
- Similar to 2013 (202,6/100.000)

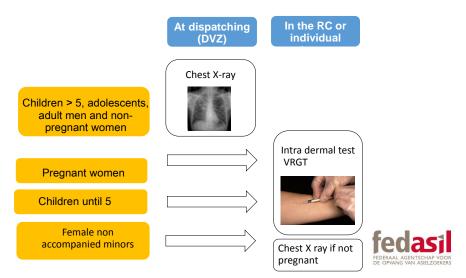




Tuberculosis screening



Screening tbc at arrival: 95% coverage



Tuberculosis screening 6 and 12 months after arrival

CHECK-LIST for TUBERCULOSIS PERIODIC SCREENING 1

Please check all new asylum seekers / new migrants (aged 5 years and older) regularly on symptoms and / or risk factors for Tb at least 6 months and 12 months after arrival in Belgium and whenever it seems appropriate. You can use the checklist below to perform this periodic screening.

How to use the checklist:

For any symptom or positive risk factor → add the corresponding score (number of points). If you arrive at 4 points or more, → please refer for further examination (Rx thorax min).

Α.	Presence of one of the key symptoms	Score	
	Chronic cough (> 3 weeks)	+ 2 p.	
	Hemoptysis (coughing up blood <breathing passages)<="" td=""><td>+4 p.</td><td></td></breathing>	+4 p.	
В.	Presence of other symptoms?	Score	
	Moderate fever (of unknown origin)	+1 p.	
	Night sweats	+1 p.	
	Weight Loss and Loss of Appetite	+1 p.	
	Prolonged tiredness and / or loss of energy	+1 p.	
	Pain in the chest when breathing or coughing	+1 p.	
С.	Presence of risk factors?	Score	
	Immunodepression following an illness (HIV), a treatment etc	+1 p.	
	History of Tuberculosis in the family	+1 p.	
TOTAL	Total number of points =		
Conclusion	If total score = or> 4 points → refer to Rx thorax!		



Scabies

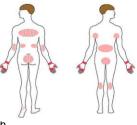
Epidemiology

- Agent: Sarcoptes scabiei
- Link with overcrowded areas, poverty, water shortage
- Clinical sypmtoms (up to six weeks after contact!)
- Itching, worst at night
- Red papula and burrow track , inflammation and scratching signs
- Often surinfection
- Between fingers, toes, wrists, armpit, groin, buttocks, ...

Treatment:

- Local: 5% permethrin ointment (Zalvor®) on dry skin shower after 8 t 12n
- change clothes
- Ivermectine (Stromectol[®])
- Anthistamines







Scabies

Diagnosis:

- Clinical (localisation!)
- Epidemiology
- Microscopy
- Prevention and control:
- Isolation?
- Treatment of room mates and family all at the same time!
- Wash clothing, bedding, towels ... at 60° (scabies mites live for 48-72 hours)
- Alternative: closed plastic bags in freezer (min. 3 5 days); thorough vacuum cleening, bleech and hot water
- Staff protection (gloves)





Measles

Epidemiology:

- Elimination in EU in 2015?
- Outbreak measles since October 2014 all over EU
- Refugees: > 10 cases in Calais (FR)
- 53 cases in Germany (Berlin) 3 cases in Elsenborn (BE)
- Incubation 10-14 days
- · High mortality rate in children & elderly

Prevention and control:

- Vaccination
- Isolation?
- · Mandatory notification
- Vaccination of all residents in the reception centre within 3 days







Measles – Multistate (EU) – Monitoring European outbreaks Opening date: 9 February 2011 Latest update: 8 September 2017

Epidemiological summary

This week, updates are provided for Caech Republic, Germany, Greece, Ireland, Italy and Romania. According to national public health authorities, meades caused 42 deaths in EU countries in 2016 and 2017. In 2016, 12 deaths occurred in Romania and one in the UK. In 2017, deaths were reported from Romania (21), Italy (3), Bulgaria (1), Germany (1), Portugal (1), Spain (1) and France (1).

All EU/EEA countries have reported measles cases this year, except for Latvia, Liechtenstein, Malta and Norway.

Epidemiological summary for EU/EEA countries, with updates since last week,

The <u>Czech Republic</u> has reported three cases since the previous report on 5 August 2017. In 2017, as of 3 September, the Czech Republic has reported 136 measles cases. During the same period in 2016, the Czech Republic reported five cases.

Germany has reported six cases since the previous report on 1 September 2017. In 2017, as of 6 September, Germany reported 866 measles cases. During the same time period in 2016, Germany reported 233 cases.

Since May 2017 and as of 3 September, Greece reported 100 measles cases. During the last three years, Greece reported around one case per year.

Ireland has reported one case since the previous report on 1 September 2017. In 2017, as of 2 September, Ireland has reported nine measles cases. During the same period in 2016, Ireland reported 43 cases.

 $\frac{11 \text{ mV}}{100}$ has reported 116 cases since the previous report on 1 September 2017. In 2017, as of 5 September, Italy reported 4 444 cases, including three deaths. Of these cases, 234 are healthcare workers. The median age is 27 years; 88% of the cases were not vaccinated, and 7% received only one dose of vaccinate. J 2015, Italy reported 861 cases.

Romania has reported 45 cases since the previous report on 1 September 2017. Since 1 January 2016 and as of 1 September 2017, Romania reported 8 982 cases, including 33 deaths. Of these, 1 969 cases were reported in 2016, and 7 013 cases were reported in 2017.

Spain notified through TESSy one death due to measles that occurred in June 2017 in a 76-year-old unvaccinated man.

ECDC links: Heades web oute | ECDC Communicable Disease Threats Reports (CDTR) | ECDC rand risk assessment anoping outbreak of meades in Romania, risk of spread and epidemiological astudion in EU/EEA countries, 3 March 2017 Sources: NADonal Public Health Institutes | Ministeries of Health | medu

From this week, ECDC will report the measles outbreaks in Europe on a monthly basis.

ECDC assessment

Needes outbacks continue to occur in EU/EEA countries. There is a risk of spread and sustained transmission in areas with susceptible populations. Vaccination with at least two doses remains the most effective measure. ECDC published a <u>radid risk</u> accessment on 8 March 2017.

Measles last week...

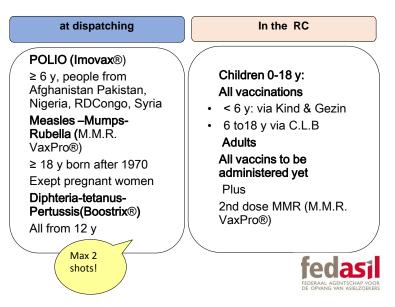


Vaccination measles, mumps & rubella

- All newly arrived <u>born after the year 1970</u> from all countries without proven immunity:
- 2 doses (M.M.R. VaxPro®) with interval > 4 weeks
- NOT : (potentially) pregnant women

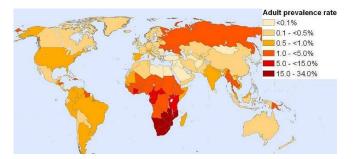


Vaccination policy 2017



HIV

- Majority of people living with HIV (25,8 million) in sub-Saharan Africa
- Overall HIV prevalence in the general adult population estimated to be 4.8%. (UNAIDS, 2014)
- Migration is changing the epidemiology of HIV infection





Core principles on HIV testing (ECDC)

- HIV testing includes ensuring that testing is voluntary and confidential and tahat informed consent is given.
- It is recommended that access to treatment, care and prevention services is ensured for those who test positive. This should apply to all individuals at risk or infected with HIV, including irregular migrants
- Despite this, migrants in many settings across Europe face legal, administrative, cultural and linguistic barriers to accessing HIV testing



Hepatitis A-B-C

Hepatitis A:

- Not a chronical disease
- · Not associated with migration
- Testing for kitchen employees

Hepatitis B:

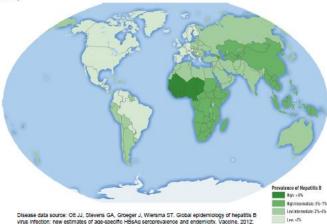
- · World wide 350 milion people infected
- Chronic HBV (HBsAg) more than 6 months detectable

Hepatitis C:

- ± 130 à 150 milj. chronic infections worldwide (4x prevalence of HIV virus!)
- Evolution to fibrosis/hepatocarcinoma
- · New DAA: restricted access for aslylum seekers



Hepatitis **B**



Prevalence of chronic hepatitis B virus infection among adults (Yellow Book 2016, CDC)

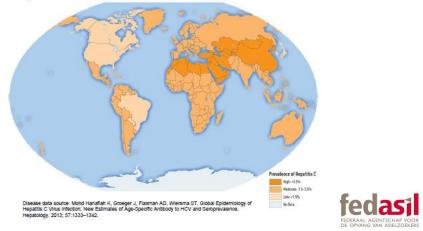
Disease data source: Off JJ, Stevens GA, Groeger J, Wiersma ST. Global epidemiology of hepatitis virus infection: new estimates of age-specific HBsAg seroprevalence and endemiolty. Vaccine. 2012; 30(12):2212–2219.



No Bate

Hepatitis C

Prevalence of chronic hepatitis C virus infection among adults (Yellow Book 2016, CDC)



HIV/HCV co-infection in African immigrants

Region/Country	Prevalence of	HCV(%)in HIV infected immigrant		
	Sample size (%)	HIV	HIV/HCV	
Central Africa				
Chad	2557	35 (1.4)	9 (0.4)	25.7
Central Africa total West Africa	2557 (180)	35 (1.4)	9 (0.4)	25.7
Burkina Faso/Ivory Coast	567	44 (7.8)	20 (3.5)	45.5
Nige r/Ma li	3475	53 (1.5)	19 (0.5)	35.8
Nige ria /Ghana	951	57 (6%)	22 (2.3)	38.6
West Africa total	4993 (35.2)	154 (3.1)	61 (1.2)	39.6
Hom of Africa (East Africa)				
Eritrea	797	18 (2.3)	9(1.1)	50.0
Somalia	2012	40 (2)	12 (0.6)	30.0
Ethiopia	715	37 (5.2)	11 (1.5)	29.7
East Africa total	3524 (24.8)	95 (2.7)	32 (0.9)	33.7
North Africa				
Nile River Region				
Egypt	617	4(07)	1(02)	25.0
Sudan	1898	16 (0.8)	5(0.3)	31.3
Maghreb Region				
Maghreb countries**	616	5(0.8)	1(02)	20.5
North Africa total	3131 (22)	25 (0.8)	7 (0.3)	28.0
Total	14205	309 (2.3)	109 (0.8)	35.3

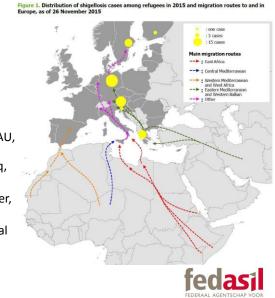
*Correspondence to the Total no of Immigrants. *"Tunis, Algeria, Morocco.

Daw, M. A., El-Bouzedi, A., Ahmed, M. O., Dau, A. A., Agnan, M. M., Drah, A. M., & Deake, A. O. (2016). Prevalence of human immune deficiency virus in immigrants crossing to Europe from North and Sub-Saharan Africa. *Travel medicine and infectious disease*, 14(6), 637.



Shigellosis

- Every year in Europe
- > 6000 cases
- Refugee crisis:
 - > 70 cases in GR, AU, GE...
 - < Afghanistan, Iraq, Syria, Ethiopia...
- Clinical symptoms: fever, abdominal pain
- Increasing antimicrobial resistance



LBRF (Louse-borne relapsing fever)

Epidemiology:

- Agent: Borrelia recurrentis
- Transmission: via cloth or body louse
- (Pediculus humanus corporis)
- > boat refeugees < Somalië, Eritrea, Ethiopia.

Clinical manifestations:

- Incubation: 4 to 8 days (2 to 15 max)
- Sudden onset: high fever, headache, meningeal symptoms, nausea / vomiting, muscle and joint pain ... for 5 days
- Fever episode 5 to 7 days
- 1 to 5 relapses after 2 weeks
- Mortality:10 to 40% without treatment, 1 to 5% with treatment





LBRF
 (Borrelia recurrentis)

 Trench fever
 (loopgravenkoorts)(Bartonella quintana)
 Epidemic typhoid fever
 (vlektyphus) (Rickettsia prowazekii)



LBRF (Louse-borne relapsing fever)

Diagnosis

- Thick and thin periferal blood smear (Giemsa)
- Serology or Borrelia PCR
- DD Malaria, meningitis, typhus, leptospirosis ...

Therapy:

Antibiotherapy: Doxycyclin, Penicillin caution: Jarisch - Herxheimer reaction

Prevention and control: Information & sensitisation to patients and caregivers

Ciervo, A., Mancini, F., di Bernardo, F., Giammanco, A., Vitale, G., Dones, P., ... & Rezza, G. (2016). Louseborne relapsing fever in young migrants, Sicily, Italy, July–September 2015. Emerging infectious diseases, 22(1), 152.



LBRF in Klein Kasteeltje (2015)

- · Hospitalisation of feverish young man
- Diagnosed in Brussels hospital
- 'Gezondheidsinspectie' involved
- Screening room mates
- Inspection and therapy with shampoo for head lice
- Inspection for cloth lice
- destroyment of all cloths and bed linen,
- wash at 60 °C, steam, freezer at -18°C, closed plastic bag for 5 days
- Surveillance room mates
- 1 had lice and fever but diagnosis could not be confirmed





Cutaneous diphteria

Epidemiology:

- Agent: Corynebacterium diphteriae, corynebacterium ulcerans and corynebacterium pseudotuberculosis
- 7 import cases reported of cutaneous toxine producing diphteria in the EU (EDCD) in 2015
- Infection through skin injury
- · Clinical symptoms:
 - Chronic, poor healing wounds
 - co-infection staphylo / strepto
 - Gray or gray brown membrane
 - Minority !: Toxin Producing → Risk of Myocarditis, Nephritis, Polyneuropathy and Paralysis





Cutaneous diphteria

Diagnosis:

- Culture (gram + germs)
- Toxin detection via PCR \rightarrow reference lab, UZ Brussel

Treatment:

- Penicillin, Amoxicillin, Erythromycin, Azithromycin
- If systemic toxin reaction: Purified equine diphtheria antitoxin (DAT)

Prevention & control:

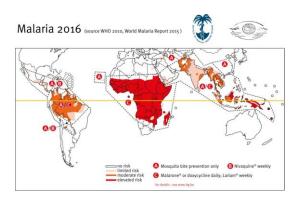
- Isolation of the patiënt
- · Antibacterial profylaxis for contact persons
- Vaccination





Malaria

- No routine screening
- Caution with migrants who travelled in endemic regions for the last (3) months
- Incubation 7-30 days or more
- potential medical emergency
- Plasmodium parasite, via Anopheles
 mug
- Symptoms: fever, muscle ache, vomiting
- Diagnosis: EDTA tube > & microscopy Controle thrombocytes
- Referral to hospital
- The Ashgabat Statement Preventing the re-establishment of malaria transmission in the WHO European Region (2017)





Varicella

Epidemiology:

- Belgium/EU: 95% immunity at the age of 12
- Newly arrived migrants 50%?
- Mini-outbreaks in several reception centers
- Incubation period: up to 21 days!

Groups at risk:

- Pregnant women (congenital malformations 2%, perinatal transmission → neonatal varicella: pneumonia, encephalist→ high mortality rate)
- Immunocompromised persons
- Newborns < 1 month of age

Prevention

Vaccination? \rightarrow staff people if pregancy plans



Varicella protocol in collective RC

1/ relative **isolation** of affected person/family until measurements are taken (most contagious *before* symptoms)

2/ hygiene measurements

3/identification and removal of people at risk

- = non immune pregnant women & Immunocompromised people
- Anamnese
- Isolation if serological status unknown or negative
- Detection of varicella IgG
- If no immunity \rightarrow transfer to other reception place

4/ Profylaxis with aspecific immunoglobulines IV (Multigam®) after direct contact with people at risk (IgG and IgM negative)

5/ Limit movements in collective reception centres: no designations of pregnant women/ immunocompromised people for 3 weeks

6/ Quarantine if total number exceeds 10 cases in 2 weeks



3. CANCER AND INFECTIOUS DISEASES





Cancer and infectious diseases

- Studies have reported that cancer incidence and mortality of nearly every major cancer type is lower than native populations of European host countries
- The precise level of risks varies strongly between different migrant groups, because of the differences in the degree of exposure to specific risk factors
- Infectious agents are responsable for almost 22% of cancer deaths in the developing world and 6 % inindustrialized countries (WHO, 2009).

World Health Organization. (2009). Global health risks: mortality and burden of disease attributable to selected major risks. World Health Organization.

Cancer and infectious diseases

- Many studies in some groups of migrants also find more incidence and mortality rates for other cancer related to infectious disease (Arnold et al. 2010).
 - stomach cancer (helicobacter)
 - nasopharyngeal cancer (EBV as cofactor)
 - hepatic cancer (HBV and HCV)
 - Kaposi's sarcoma (HIV)
 - cervical cancer (HPV) (anal, penile, vaginal)
 - Lymphomas: Hodgkin, non-Hodgkin,

Arnold, M., Razum, O., Coeberg, J. (2010). Cancer risk diversity in non-western migrants to Europe: An overview of the literature. European Journal of Cancer, 46(14):2647-59.



fedasi

Conclusions

- Migrants (particularly children) are at risk of developing infectious diseases in the same way as other EU populations
- May in some cases may be more vulnerable
 - ightarrow limited access to healthcare
 - ightarrow vaccination status
 - \rightarrow immune status
 - →countries visited/conditions
- War and bad living conditions cause elevated risk of communicable diseases and outbreaks





Conclusions

- Assuring proper living conditions and acces to healthcare in refugee reception centres is important to keep situation under control
- Preventive measurements (vaccination / screening...) are important for host community and guest
- Access to health care is a fundamental right and also reduces the budget





Recommended reading

- WHO 2011. European Observatory on Health Systems and Policies Series. *Migration and health in the European Union.* <u>http://www.euro.who.int/en/health-topics/health-determinants/migration-and-health/migrant-health-in-the-european-region/migration-and-health-key-issues#292117</u>
- ECDC 2015. European Centre for Disease Prevention and Control. Infectious diseases of specific relevance to newly-arrived migrants in the EU/EEA – 19 November 2015. ECDC: Stockholm; 2015.

https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/Infec tious-diseases-of-specific-relevance-to-newly-arrived-migrants-in-EU-EEA.pdf

• UNICEF 2017. Child alert: the Central Mediterranean Migration Route. A Deadly Journey for Children. <u>https://www.unicef.org/media/files/UN053732.pdf</u>