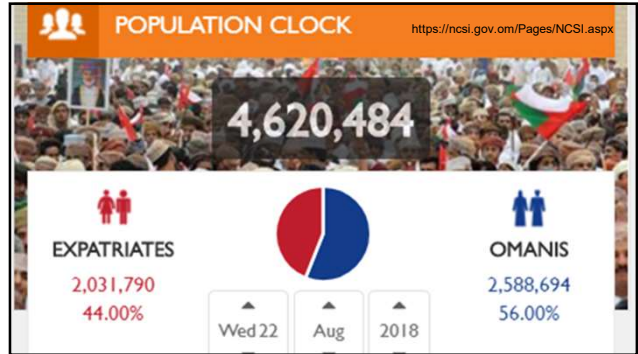


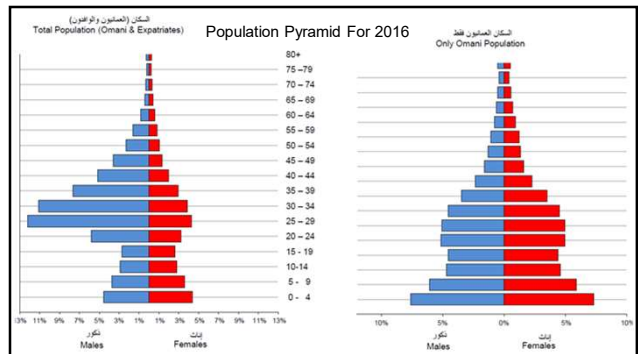
Protocol Based Screening of Migrants in Oman

Seif Al-Abri and Eskild Petersen



Objectives

- Discuss the pre-departure and the post-arrival screening
- Discuss the results and implications of screening of migrants with emphasis on TB and malaria
- Discuss how to establish a cost-effective, and sustainable approach to screening migrants



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Do Migrants Pose a Communicable Diseases Risk to Host Countries?

If You Are a Member of the National Taskforce for Screening of Migrants In Your Country:

1. What diseases will you include in your screening?
2. What methods will you use?

GCC Pre-departure screening

Health Ministers' Council for GCC States passed a resolution of initiating a pre-departure expatriates health screening program in 1995

Pre-departure screening takes place in the country of origin

Ensure that expatriates migrating to the GCC are physically and psychologically fit and able to perform the job they are hired for.

Ensure that the expatriates are declared free of infectious diseases that could threaten the health security and safety of the Gulf community.

What do we do in Oman? Pre-departure Screening
Post-arrival screening

Pre-arrival Screening

Approved medical centres abroad

GCC database

Ministry of Health Oman database

Royal Oman Police database

Pre-arrival Screening for GCC



What to Test for?

Where to Do the Medical Checkup?

Whom to Test?

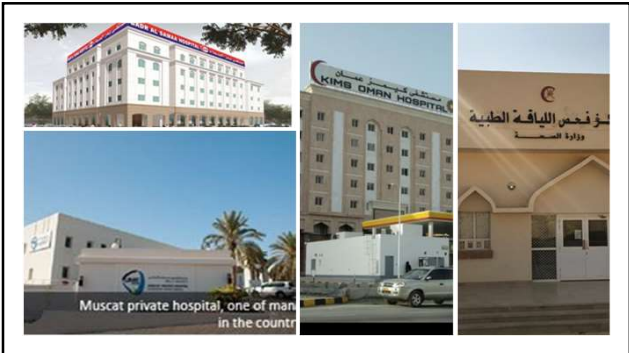
- All?
- Specific categories/professions?
- Specific Age groups?
- Specific Nationalities?

Where do we do the medical check up in Oman?

- Medical fitness centers
- Licensed private centers
- Primary health care

What Do We Test for in Oman?

- HIV
- HBV
- HCV
- Syphilis
- TB
- Malaria (selected persons only)
- Food Handlers: stool





What Are The Requirements For A Screening System At A National Level, Oman?

- Ministerial regulations
- Department of environment and occupational health
- Framework and operational plan for medical fitness
- National e-surveillance system
- E-link between MoH, Royal Oman Police and Ministry of Manpower

What Are the Requirements for a Screening System at a National Level?



What Are the Requirements For a Screening System at a National Level?

- Statutory body
- Regulations, Policies and procedures
- Accountability and governance
- Surveillance; HIS/networking between all stakeholders
- Training

Will You Offer Vaccination to Migrants?

- For which diseases?
- For whom?
 - Specific age groups?
 - Specific categories of migrants?
 - Specific nationalities?
- Who should pay for it?

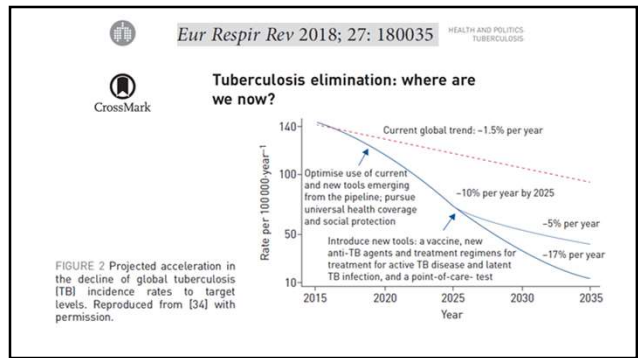
Oman: Will You Offer Vaccination to Migrants?

- National EPI vaccines free to children
- MMR: Measles, Mumps and Rubella
- HBV
- Typhoid for food handlers

Oman: Will You Conduct A Follow-up Screening For Migrants?

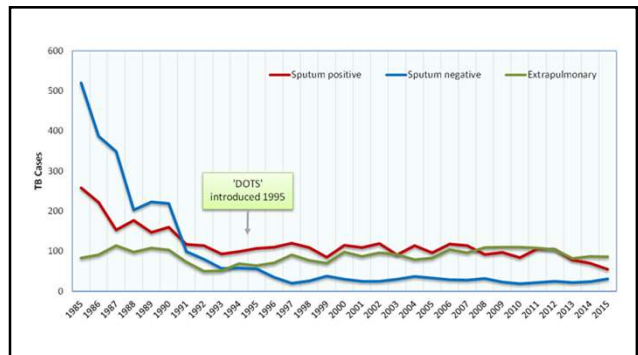
- Every 2 years for category One
- HIV, HBV and HCV
- TB screening
- Every 4 years for category Two
- TB and HIV

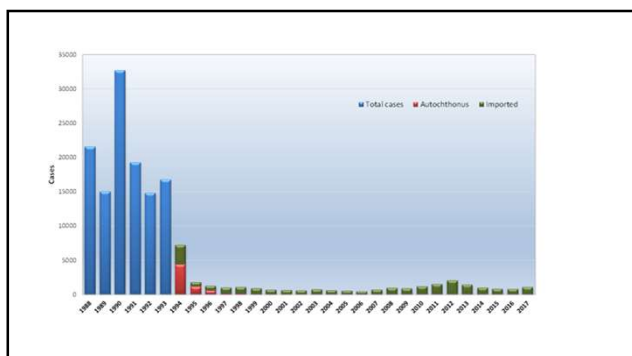
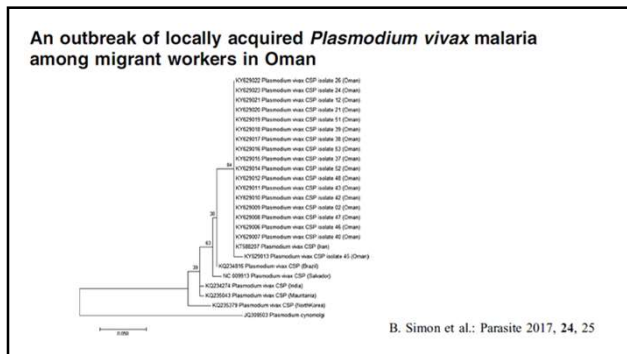
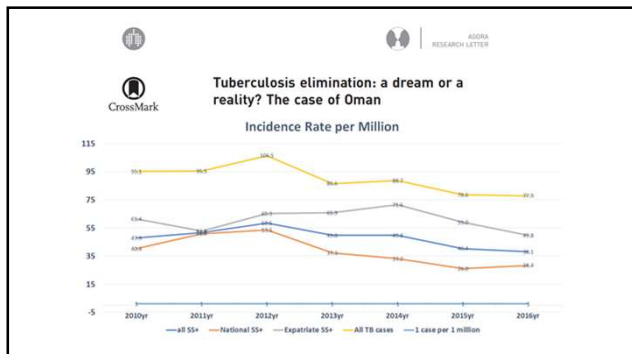
Will You Conduct a Follow-up Screening for Migrants?



Will You Conduct A Follow-up Screening For Migrants?

- For whom?
- For what?
- When?
- Will you offer treatment?





Should We Screen Migrants to Oman for Malaria?

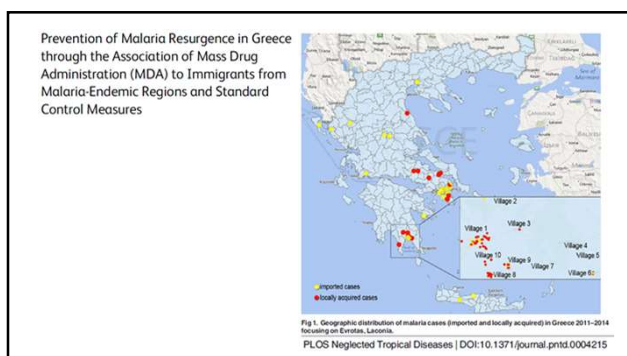
Should we screen migrants from specific countries based on endemicity?

What tests should we use? microscopy, Rapid Diagnostic tests or molecular methods (PCR, LAMP)

Should we just ensure surveillance and handle outbreaks when they occur ?

Oman, Screening of Migrants for Malaria, 2017

- 43566 tested
- 11 countries
- First time visitors
- Within 4 weeks of arrival
- Medical fitness centers
- Microscopy



PLOS NEGLECTED TROPICAL DISEASES MDA to Immigrants to Prevent Malaria Resurgence in Greece

Table 3. Reported malaria cases by year of onset and case classification, Evrotas and other regions in Greece, 2009–2014.

Year of symptom onset	Evrotas		Other regions in Greece	
	Locally acquired	Imported	Locally acquired	Imported
2009	6	0	1	44
2010	1	0	3	40
2011	36	21	6	33
2012	10	17	10	56
2013	0	0	3	22
2014	0	0	0	38

PLOS Neglected Tropical Diseases | DOI:10.1371/journal.pntd.0004215

Oman: What Are The Main Challenges For Screening Of Migrants?

- Sustainability
- Cost esp for new technologies: IGRA and Gene-Xpert
- Resources for screening for malaria
- Follow up of migrants with TB
- Vaccination

PLOS NEGLECTED TROPICAL DISEASES MDA to Immigrants to Prevent Malaria Resurgence in Greece

Table 1. Characteristics of the target immigrant population at Evrotas (n = 1094), for 2013 and 2014.


Immigrants characteristics	Number	Percentage
Male gender	1094	100%
Age	Range 18–63 (median: 28.5)	NA
Country of origin		
Pakistan	952	87%
Bangladesh	58	5.3%
Afghanistan	75	6.8%
India	3	0.3%
Iran	1	0.1%
Unknown	5	0.5%
Education (mean years in school)	6.9	NA
Duration of stay in Greece (months, median)	38.3	NA

PLOS Neglected Tropical Diseases | DOI:10.1371/journal.pntd.0004215

What Is Next?

- IGRA and treatment of latent TB
- PCR or LAMP for malaria screening
- Serosurvey for migrants from measles endemic countries
- Integration of migrants health in national diseases elimination strategic plans
- Establishment of Public Private Mix

What Are the Main Challenges for Screening of Migrants?



In conclusion

- Oman and GCC countries have established a systematic process for screening of migrants
- Screening probably needs to stratify risk based on the disease prevalence in the country of origin, e.g TB & malaria
- Screening will never be 100% effective, and a well functioning surveillance program is needed