International Conference on Migration Health
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Poster Abstracts

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## Poster Group 1 - Access to Care

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Provision of multidisciplinary, post-hospitalisation care to migrants in Catania, Italy

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1Médecins sans frontières, Catania, Italy, 2Medicines Sans Frontiers, Catania, Italy, 3medicins Sans Frontiers, Catania, Italy

Introduction and Objectives
A major gap in the provision of care to individuals in precarious situations, such as the highly vulnerable migrant population in Europe, is post-hospitalisation care: due to bed shortages, pressure exists on hospitals to discharge patients as rapidly as possible, but the living conditions of many vulnerable populations may not be conducive to a good recovery, leading to high rates of re-admission and complications. In July 2017, Médecins Sans Frontières (MSF) launched a pilot project in Catania, Italy, with the aim of providing multidisciplinary post-hospitalisation assistance (provision of medical, nursing, rehabilitative, and psychological care and socio-legal and cultural mediation support) in a protected environment. Migrants who were discharged following emergency or planned hospitalization were assessed and admitted to the MSF center for extended care. Here, we present the lessons learned from this intervention.

Methods
The MSF center was set up as a residential structure with 24 beds, 8 of which were reserved for female patients and 2 for people with reduced mobility. The project team assessed reports from hospital departments discharging patients, and decided on admission based on a list of entry criteria. Routine programme data from the MSF center was analysed retrospectively.

Results
Between July 2017- May 2018, 209 referrals were done from all over Sicily: 62 different cases were finally admitted and followed at the MSF center. Among the 18 nationalities represented, most were Nigerians (29%), followed by Eritreans (16%). Most admissions for post-hospitalisation care (56%) were done for infectious diseases (including tuberculosis and HIV), followed by bone fractures (18%). The multidisciplinary aspect of the project was considered crucial, with mental health and socio-legal support considered key components of the intervention.

Conclusions
The offer of post-hospitalisation care by MSF filled a gap in the existing health system - such efforts should be sustained, and the MSF centre will be gradually handed over to one or more partners. Further monitoring in this pilot project will help identify which patients benefit most from this type of care, and will inform how services should be optimally provided.
Abstract: Access to Care

Accompaniment, Interpreting and Intercultural Mediation in Medical Practice. Salud Entre Culturas (SEC) Project

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The growing flow of immigration into Europe encounters barriers to healthcare in the host country. One of the most significant obstacles is the cultural and linguistic differences in clinical practice that make effective care challenging. Intercultural mediation within the health system provides access to public services for immigrants, supporting their integration and facilitating adherence to and monitoring of treatment.

The implementation of a program of linguistic interpreting and intercultural mediation in the social and health field within the SEC project: Building Bridges: Managing cultural diversity in health services (BB), an innovative program in the Community of Madrid, being the first service of intercultural face-to-face mediation in the medical practice where doctor, patient and a professional mediator specialized in health services work as a team.

BB program was launched in 2006 at the Ramón y Cajal Hospital (Madrid), addressed to health professionals and non-Spanish speaking population involving the following subprograms:
1) Accompaniment, interpreting and intercultural mediation in the medical practice, conducted in-person by professional interpreters and mediators.
2) Theoretical and practical training in intercultural mediation in the sociosanitary field targeted at the immigrant population.

A total of N=5,210 immigrants have benefited up to 2017:
1) N=5,192 have advantaged from the interpreting and mediation service. Data analyzed since 2013 reveals users from N=55 countries with N=25 different interpreting languages, including minority languages such as Wolof (N=79), Bambara (N=68), Peul/Fula (N=43), Maninka (N=23), Pular (N=6) or Swahili (n=5), where doctor-patient interaction would have been unthinkable without BB program.
2) Courses on Intercultural Mediation in the Sociosanitary Field with participants from 12 nationalities (N=18).

During the 2018 campaign, N=555 migrants have benefited from the program. Data analysis is on process.

The growing demand of the BB program justifies the need for intercultural interpretation and mediation projects within the health context, as well as the potential benefits in terms of accessing health services and migrants’ rights.

Intercultural mediation is considered effective in that it helps to overcome linguistic and cultural barriers that affect the quality, effectiveness and equity of health care, as well as its influence on the health status of the target immigrant group.
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10 - Access to Care

Exploring the experiences of migration aware health interventions in Limpopo

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Background

Current policies within South Africa have detrimentally affected the access that cross-border migrant groups have to the country’s public health system. One group of migrants who have historically had limited access to health care are migrant farm workers in the Musina sub-district of Limpopo Province, located along the border with Zimbabwe. In response to increased movement across the border from Zimbabwe in 2008, various international agencies and organisations, such as the International Organisation for Migration (IOM) and Médecins Sans Frontières (MSF) moved into the area to, amongst other things, improve the access that migrants, including migrant farm workers, had to health care. Three specific interventions where implemented by these organisations on farms in the area: a mobile clinic; a Community Health Worker (CHW) programme; and a programme to mobilise peer educators.

Objective(s)

The objectives of this paper is are to (a) explore the experiences that migrant farm workers have of migration aware health interventions; and (b) highlight some of the limitations of such interventions, which look to improve access to health, but only include a short term commitment from implementing actors.

Methods

This paper draws on original research, conducted between 2016 and 2018, including 47 interviews with migrant farm workers, and 20 with civil servants and members of civil society involved in the development and implementation of the interventions in question.

Summary of results

Farm workers reported positive experiences of the interventions and an improvement in the accessibility of health information and care as a result. However, since the exit of the implementing organisations from the area, the programmes have struggled, and an increasing despondency has been indicated by those involved.

Conclusion

This research highlights the importance of migration aware interventions for farm workers and their health. However, it shows that the longevity of such interventions is not guaranteed, even if community members are mobilised and included in the program implementation. The research highlights the importance of understanding the ways in which community members use these programmes, for their own personal development, for the longevity of such interventions.
How to Assure Access to Health Care in a Specific Migrant Population. Experience of Vaud Canton Switzerland

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Background

As asylum seekers (AS) are seen to experience a range of barriers to accessing health care, Vaud canton, through its Department of Ambulatory Care and Community Medicine, established a multidisciplinary network throughout the canton to facilitate access. Costs are mainly supported by Vaud canton and a consortium of health insurances.

In 2017, Vaud welcomed 6369 AS into a population of 794,384.

Objective: Present the different measures implemented by the PMU and analyse their efficacy through the consultations statistics of the last 4 years.

Method:

Seven nurse-led health-centres and a mobile clinic are distributed throughout the canton. Upon arrival in Vaud, every AS has a consultation with a nurse to assess their health needs; according to this assessment, regular follow-up and/or referrals to other services are organised. Nurse consultations addressing physical and psychological health needs are available upon request. Health promotion and vaccinations are offered to every AS. A specific network of general practitioners, including hospital based physicians, is available for referrals. A network of interpreters is available for health care providers. Regular meetings and integrative trainings are organized for the providers of AS health care.

The needs of this population are continually revaluated in this dynamic system of health care delivery, e.g. triage system in times of crisis.

The data, collected following every consultation from 2014 to 2017, was processed internally and using Cognos application.

Results:

Upon arrival to Vaud, 98% (7021/7151) of AS had a health assessment at the health-centre closest to their accommodation. There was an average of 2 (12,406.5/6128) consultations per AS/year. 17% of consultations (4331/25,004) were referred to another health service; 48% (2063/4331) to general practitioners, 12% (514/4331) to psychiatrists, and 11% to emergency facilities (9% somatic and 2% psychiatric). 19% (9626/49,626) of consultations were conducted with an interpreter.

Conclusions:

The measures set up in Vaud allow AS an easier access to care. The majority of situations were managed during a consultation with a nurse, those that required further treatment or investigation were referred to a pre-designated group of specialists. Could this system be applied to other vulnerable population groups and/or throughout the country?
Does a multi-disciplinary, dedicated clinic for refugees decrease the number of unplanned walk-in and emergency room visits?

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Background:
In response to the increased arrival of Syrian refugees to Canada in 2015, an ad hoc clinic for Syrian refugees (AHC) was organized, with the goal of providing one clinical visit to each refugee and subsequent transition to primary care in the community. A year later, the Refugee Engagement and Community Health (REACH) Clinic was created, a multi-disciplinary clinic for all refugees coming to our center, providing primary and specialized care for a duration of one year after their arrival to Canada.

Objective:
Does a clinic dedicated to refugee care decrease the number of unplanned walk-ins and emergency room visits among the refugee population of Saskatoon, Canada?

Methods:
Ethics approval from the University of Saskatchewan was obtained. Retrospective data was collected for refugees arriving to Saskatoon from July 2015 to February 2018. The number of emergency room and walk-in clinic visits for refugees who had access to either clinics (AHC or REACH) were compared with those who did not have access to either. The use of emergency and walk-in clinics was assessed as the primary outcome. Patients were categorized according to their arrival in Canada in relation to the AHC and REACH. For improved statistical analysis, comparison between the three groups was limited to a three-month period. Descriptive statistics were utilized to compare the cohort groups (ANOVA for continuous variables, Chi-square testing for categorical variables).

Results:
There were no statistical differences between the groups in age, sex, or chronic disease status. Most patients in the three groups originated from Syria. Any walk-in or emergency room use occurred in 24.6% of AHC patients, 11.1% of patients who had no clinic connection, and 7.1% of REACH patients, with a p-value of 0.10 (Fisher's exact test).

Conclusion:
There is a trend toward decreased usage of emergency room and walk-in clinics with access to a multi-disciplinary clinic providing ongoing care to refugees, although the limited number of both subjects and primary outcome limits the statistical significance of this study. The continued utilization of such a clinic may provide improved care and as such reduce the urgent visits burden on the health care system.
Workshop on Implementing Social support and Network oriented approaches to improve access and uptake of SRH and mental health services among refugees

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Learning objectives
- Participants will be able to understand the breadth and heterogeneity of the offer of social support among different actors in migration health services
- Participants will be able to describe the current evidence on the use of social support and network oriented approaches in health care, and identify potential applications in migration health
- Participants will be able to articulate how social support and network effects influence access and uptake of SRH and mental health services among refugees
- Participants will be able to analyse and distinguish between different types of support effects, and how different network compositions influence the effectiveness of peer based interventions among refugees.
- Participants will be able to determine the appropriate tools and scales for measuring and evaluating key outcomes of social support/network oriented interventions among refugees
- Participants will be able to define a research agenda and priority areas for research on social support and migration health

Format of the workshop: The workshop will consist of presentations and an interactive session, where participants will be able to discuss key learning points from the presentations in groups and develop an action plan for how they would implement the lessons learned in their current work on migration or in developing an intervention.

Materials: Multimedia device, projector, laptops, flip charts, markers, pens, notepads, reference materials (handouts), name tags, workshop agenda, workshop evaluation forms

Target Audience: Service providers (medical doctors, psychologists, nurses, social assistants, etc.), researchers on migrant health, advocates

Regional Focus: Humanitarian settings, Transit countries

Number of Participants: 30 participants

Language: English

Duration: 30 minutes (45 minutes preferred)
Recently arrived asylum seekers in a German hospital emergency department in 2015/2016: presentation complaints, severity, and changes over time with implementation of primary health care in the local reception center

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Background
Due to increasing numbers of asylum seekers arriving in Germany in 2015 and 2016, a reception center for recently arrived asylum seekers (RAAS) was opened in Freiburg in September 2015. Many RAAS presented to the Interdisciplinary Emergency Department (IED) of the University Hospital in Freiburg to seek medical care. We investigate reasons and severity of presentations to the IED. Additionally, we assess the change in RAAS patient numbers after the implementation of an integrated model for primary medical care (ICM) in the reception center in mid-November 2015.

Methods
From all patients with insurance status of RAAS who presented to the IED between September 2015 and December 2016, demographic data, reason for presentation, and assigned Emergency Severity Index (ESI) were retrospectively extracted from the medical files, and are presented descriptively. Changes in the ratio of treated RAAS per residents in the reception center in a 10 week period before and after implementation of the ICM were analyzed.

Results
300 RAAS presented to the IED during the observation period. The mean age was 27.4 years (SD 11.4) and the majority of patients were male (N=231, 77%). Most common reasons for presentation to the IED were musculoskeletal complaints after physical injury (N=66, 22.0%), and abdominal complaints (N=49, 16.3%). The majority of patients with available ESI score were triaged as non-urgent (ESI >3) (59.4%, N=148/249). After implementation of the ICM numbers of RAAS presenting to the IED decreased from 149 visits in the prior 10-week-period (Ratio: 70/1000 residents in the reception center, 95%CI 61/1000 - 86/1000) to 57 visits in the following 10-week-period (38/1000 residents in the reception center, 95%CI 28/1000 - 50/1000). This decrease was higher for non-urgent presentations (45/1000, 95%CI 35/1000 - 56/1000, before ICM and 19/1000, 95%CI 12/1000 - 28/1000, after ICM) than for urgent presentations (28/1000, CI95% 21/1000 - 30/1000 to 19/1000, CI95% 12/1000-28/1000).

Conclusion
The description of reasons for presentation can help to estimate health needs of RAAS. The implementation of a primary care model with good access for RAAS may lead to a decrease of burden for hospital emergency units in particular for non-urgent presentations.
Abstract:

The effect of health insurance on health-care accessibility during working abroad among migrant workers from Bangladesh, Nepal and Pakistan: A secondary analysis of a cross sectional study

K. Takahashi, Turkey

International Organisation for Migration, Migration Health Division, Istanbul, Turkey

Background: Most migrant workers from South Asia are from low socioeconomic background and work mainly in so called “3D industries”: dirty, dangerous and difficult works, which make them particularly vulnerable to various occupational hazards and health risks. Despite their economic contributions, national health systems in destination countries often do not provide the full complement of health-care services to foreign nationals, limiting their health-care accessibility. As a result, private health insurance is considered one of the key health financing schemes for migrant workers to reduce Out-of-Pocket payment and improve health-care access. However, little is known about its effect on their health-care access.

Objective: The study aimed to examine the effect of health insurance on health-care accessibility during working abroad among migrant workers from Bangladesh, Nepal and Pakistan.

Method: The study used part of quantitative datasets of population-based cross-sectional study conducted under a regional project of the International Organization for Migration (IOM). Study population was international migrant workers who returned to home countries within 12 months and reported being sick during working abroad. Multi-stage sampling was conducted in selected migrant-prone areas in Bangladesh, Nepal and Pakistan. Data was collected through face-to-face structural questionnaire by trained interviewers in 2013.

Results: Out of 533 study population, 152 migrants could not access health-care, and 381 accessed when they became sick in destinations. Health-care access was observed among 87.8% of 180 insured migrants, and 63.2% of 353 uninsured works (Crude OR=4.19; 95% CI 2.51-7.00). After multivariate adjustment for all confounders identified by Mantel-Haenszel (M-H) method (sex, age, religion, education level, country of origin, pre-departure medical check-up, and availability of health related communication materials in destinations), the final logistic regression model shows strong evidence that health insurance increased the odds of health-care accessibility for migrants (OR=2.35, 95%CI: 1.31-4.19).

Conclusion: The study findings suggest the evidence of protective effect of health insurance in improving health-care access in destinations among migrant workers from Bangladesh, Nepal and Pakistan.
Crowdfunding Healthcare for Foreign Domestic Workers

M. Tan, Singapore

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Background

• This is the first case series on internet 'crowdfunding' campaigns for migrant workers' healthcare expenses, focusing on foreign domestic workers (FDW) in Singapore.
• FDW provide important labour in many countries including Singapore, where 20% of households employ FDW.
• Employers are required to purchase health insurance for FDW. Most policies cover a maximum of EUR 20,000 (SGD $30,000) of healthcare expenses.

Methods

• We searched the public archives (2016-2017) of Singapore's English newspapers, news websites and licensed crowdfunding websites.

Results

• Most campaigns were by employers rather than FDW themselves. Such advocacy may reflect their close relationship, as FDWs are often the caregivers of their employers’ children and elderly. Furthermore, employers may have the power and influence to garner campaign support. One employer organised a fundraising event as well.
• Many of the FDW had worked for their employers for more than 10 years. However, some were employed for a shorter duration. This suggests that employers are motivated by other factors like cost, as they are liable to pay for FDW's healthcare.
• All of the illnesses were sudden and/or catastrophic, rather than chronic diseases.
• Many of the FDW were eventually repatriated.

Conclusion

• The use of crowdfunding campaigns for FDW highlights healthcare access issues faced by such workers, who have limited insurance coverage and do not receive government healthcare subsidies.
• FDW are not only vulnerable in the face of illness, but risk losing their jobs and repatriation even after sufficient funds are raised.

<table>
<thead>
<tr>
<th>No.</th>
<th>FDW's country of origin</th>
<th>Medical condition</th>
<th>Amount raised/Total estimated cost (EUR)</th>
<th>Campaign creator</th>
<th>Beneficiary</th>
<th>Employment duration</th>
<th>Outcome after illness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Indonesia</td>
<td>Steven Johnson's Syndrome</td>
<td>14,000/unknown</td>
<td>Employer</td>
<td>FDW</td>
<td>12 years</td>
<td>Repatriated</td>
</tr>
<tr>
<td>2</td>
<td>Philippines</td>
<td>Stroke</td>
<td>32,000/35,000</td>
<td>Employer</td>
<td>FDW</td>
<td>25 years</td>
<td>Repatriated, then visited by employer</td>
</tr>
<tr>
<td>3</td>
<td>Indonesia</td>
<td>End stage renal failure secondary to IgA nephropathy</td>
<td>22,000/35,000</td>
<td>Employer</td>
<td>FDW</td>
<td>Unknown</td>
<td>Repatriated; accompanied home by employer</td>
</tr>
<tr>
<td>4</td>
<td>Philippines</td>
<td>Breast cancer</td>
<td>2,600/unknown</td>
<td>Employer</td>
<td>FDW</td>
<td>7 years</td>
<td>Recovery aided by employer, eventual outcome unknown</td>
</tr>
<tr>
<td>5</td>
<td>Unknown</td>
<td>Hypereosinophilic Syndrome</td>
<td>4,000/26,000</td>
<td>Employer</td>
<td>FDW</td>
<td>8 years</td>
<td>Remained in employment</td>
</tr>
<tr>
<td>6</td>
<td>Philippines</td>
<td>Toxic megacolon secondary to tapeworms</td>
<td>42,000/84,000</td>
<td>Employer</td>
<td>FDW</td>
<td>1 year</td>
<td>Repatriated</td>
</tr>
<tr>
<td>7</td>
<td>Philippines</td>
<td>Stroke</td>
<td>1,300/12,000</td>
<td>Employer</td>
<td>FDW</td>
<td>15 years</td>
<td>Unknown, goal repatriation</td>
</tr>
<tr>
<td>8</td>
<td>Philippines</td>
<td>Road traffic accident and brain tumour</td>
<td>2,600/3,000</td>
<td>FDW</td>
<td>FDW’s two children</td>
<td>20 years</td>
<td>N/A</td>
</tr>
<tr>
<td>9</td>
<td>Philippines</td>
<td>Bone cancer</td>
<td>55,000/87,000</td>
<td>Employer</td>
<td>FDW’s child</td>
<td>6 years</td>
<td>N/A</td>
</tr>
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[TABLE 1. Case series on internet crowdfunding campaigns for foreign domestic workers' (FDW) healthcare in Singapore]
Abstract: \textbf{277 Access to Care}

\textbf{Health System Exclusion Has a Negative Impact on Migrants Health}

\textit{E. Trigo Esteban, Spain$^{1,2}$, C. Canseco Viejo, Spain$^2$, M.J. Rodríguez Maeztu, Spain$^2$, E. Usano Martínez, Spain$^2$, A. Hemanz Guijo, Spain$^2$, C. Escobar Arredondo, Spain$^3$, A. González Orero, Spain$^3$, L. Jandali Habbal, Spain$^3$}

$^1$Hospital Carlos III-La Paz, Tropical and Travel Medicine Referral Unit, Madrid, Spain, $^2$Médicos del Mundo_Madrid, Volunteer at Health and migration department, Madrid, Spain, $^3$Médicos del Mundo_Madrid, Health and immigration project technician, Madrid, Spain

On 2012 the Spanish Government approved RD16/2012 law by which health care in Spain went from being a right of citizenship (universal access) to a right only for insured persons. This legislative amendment directly affects migrant population in non-regular administrative situation residing in Spain (>800,000 peoples). This law blocks regular access to the health system and leaves medical emergencies as the only health-care resource for this group. Médicos del Mundo (MdM) organization, on its mission to promote human development by defending the right to health, developed a project to identify this violation of the health-right and health exclusion promoted by RD16/2012.

To identify violations of the health-right of migrants in non-regular administrative situation in Madrid (Spain) throughout 2017 and provide individual information on access to the health system.

An information and denouncing service has been set up for all those who come to the MdM office requesting information on access to the health system. Sociodemographic data (age, sex and origin countries) and health-care-system-access-barriers were collected in a database. Information, orientation, referrals and follow-up was offered.

154 persons from all ages (58.44% women) have been tended (4 under 18 years; 6 pregnant women). The most frequent countries of origin were Colombia (N=39) and Venezuela (N=12) (Latin-American 70%; Africa 23%; 7% others). The most detected access barrier was lack of information from administrative staff (84.4%); difficulty of access to medication was detected in 9% and 30 persons (19.5%) were denied medical assistance. 8 people were billed for the health care received. About diagnosis, five persons had HIV infection and other two tuberculosis.

- Access barriers to the health system in Spain arising from RD16/2012 have led to a violation of the fundamental rights of migrants in non-regular administrative situation.
- Lack of access to medicines is also a health exclusion and has a negative impact on people’s health.
- The role of social organizations such as MdM is essential to guarantee information to the affected people, to improve the awareness of the general population and to denounce the violation of rights.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{Most frequent origin countries distribution}
\end{figure}
Chronic Viral Hepatitis among Asian migrants. Prevalences, Thoughts and Believes

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Background:

Globally, approximately 290 million people are unaware that they are living with chronic viral hepatitis. Therefore, WHO has set a goal of eliminating hepatitis B and hepatitis C as public health threat. These infections are unevenly distributed around the world, and knowledge, attitudes and practices (KAP) related to viral hepatitis vary widely among countries and cultures.

Spain is considered a low prevalence country for both infections, even lower since the introduction of new antiviral treatments. Some groups of risk living in Spain have been thoroughly studied, like originals from Africa and Latin America. Nevertheless, information about hepatitis prevalence among asians living in Spain is lacking, an emerging migrant group in last years.

Our objective was to estimate both hepatitis B and hepatitis C prevalence among Asian migrants living in Barcelona; and to describe their KAP and eventual stigma.

Methods:

Recruitment was done at 8 Primary Health Centers in Barcelona (Spain). After obtaining their informed consent, asian migrants were offered a rapid diagnostic test (RDT) for hepatitis C and hepatitis B. Participants were included if they were overage, original from a high-prevalence asian country and unaware of their hepatitis status. A x-item KAP questionnaire was voluntarily filled by every participant while they waited for the RDT results.

Results:

Of the 167 participants, 91(54.5%) were women. The median age was 28. Hepatitis C was confirmed in 2 patients (1.2%), one Chinese one Indian, and hepatitis B in 6 (3.6%), one Chinese five Filipino. Nationalities were: Philippines 40.72%, China 29.34%, Pakistan 13.77%, India 12%, Bangladesh 4.2%. Education level ranges from 6.83% uneducated to 26% with higher education. Most were legally working (51.86%). Regarding KAP: 22.15% had never heard of hepatitis;34.3% did not know it was contagious, 485 did not know a treatment existed, 41.2% did not know about vaccination for hepatitis B and a 36.4% would avoid contact with an infected person.

Conclusions:

Both hepatitis C and B prevalences are above national and local figures. Health education about theses infection is much needed in these collectives. Stigma seems to be present around these pathologies and deserves attention.
Barriers and Facilitators for Asylum Seekers from Eritrea and Afghanistan for an Access to Healthcare in the Canton of Vaud, Switzerland, and Proposals for Actions

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Background
In 2015, Switzerland has seen an upsurge in the number of asylum seekers, mostly from Afghanistan and Eritrea. This population depends upon Resami, a health care network, of which the “Policlinique Médicale Universitaire” is a central component. In times of crisis, major issues have been assessed: due to the important number of arrivals the time spent on the comprehensive health assessment has been reduced, thus questioning the quality of our patient-centered care; the emergency department has seen an increase of patients of Afghan or Eritrean origins; the number of missed appointments has raised, as well as acts of violence leading to psychiatric hospitalizations. Based on these findings came the will to optimize health services and improve access to care for this population.

Objectives
1. Explore how Afghan and Eritrean asylum seekers experience healthcare in the canton of Vaud.
2. Assess and evaluate the specific needs of this population.
3. Implement best practice interventions for this population, improve access to care, diminish conflict and tension between asylum seekers and health professionals, and improve the effectiveness and efficiency of care.

Methods
The qualitative study took place from July 2017 to June 2018:

- Twenty interviews, either one-to-one or in groups, with Eritrean and Afghan asylum seekers
- Three focus groups with PMU registered nurses, interpreters, and emergency room caregivers
- Verbatim transcripts, thematic analysis, discussion and recommendations

Summary of results
The main results include access to healthcare in the country of origin, expectations about the living conditions in Switzerland, the effects of migration on health, cultural beliefs on physical health and psychiatry, visits to the emergency department, reasons for missed appointments, peer support as well as the role of caregivers and interpreters.

Conclusion
Our results allow for a better understanding regarding specific needs and health interventions for asylum seekers of Afghan or Eritrean origins. To achieve the third objective, we made recommendations for the stakeholders involved in the health and social care of this population.
### Poster Group 2 - Best Practices

#### Abstract List

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Abstract: The Ethno-Psychiatric Approach to Rehabilitation of Survivors of Torture and Ill-Treatment: the MSF Experience in Rome, Italy

R. Carravetta, Italy¹, L. Guarenti, Italy¹, U. Pellecchia, Luxembourg², R. Van Den Bergh, Luxembourg², O. Costantini, Italy³, L. Borruso, Italy⁴, F. De Bartolome Gisbert, Italy⁴, G. De Maio, Italy⁴

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Background: Among asylum seeker populations arriving in Italy, many (5-35%) have experienced abuse and torture in their country of origin, as well as during migration. Additionally, they face a series of post-migration difficulties while in the asylum process - the trauma rarely ends after the journey, but rather continues in a state of administrative limbo. In the face of such complex patterns of trauma, Médecins Sans Frontières (MSF) has adopted an interdisciplinary, ethno-psychiatric approach to care. Here, we describe this model of care as a “best-practice” approach to rehabilitation of survivors of torture.

Methods: A mixed methods study, building on both the retrospective analysis of program data (2015-2018), and an anthropological assessment through direct observations of day-to-day clinic activities and in-depth interviews with clinic staff.

Results: Between October 2015 and April 2018, 182 patients were admitted, amounting to a total of 7,828 consultations across all disciplines (medical, psychological, physiotherapy, social, and legal). Patients received a median of 27 consultations (IQR 11-54), for a median duration of 196 days (IQR 72-385). Tellingly 20% of all consultations were joint sessions, with more than one professional present. First assessments were systematically performed as group sessions, allowing a transition from the individual to the collective, closer to traditional cultures than the dyadic model of Western clinics. Crucially, patients were not allocated the simple role of a supplicant for help, but were invited to freely express their story, and were accompanied through a delicate process of remembering. In this process, the cultural dimensions, local aetiologies, political events, and power structures that featured in the event of torture were mapped out, as well as current contextual factors that could trigger or reproduce the condition of violence. A crucial element of the MSF approach was building a clinical team sharing a common mind-set towards the management of the patients and methodology of care.

Conclusion: Rehabilitation of survivors of torture required a high per-patient workload. The interdisciplinary approach allowed for the consideration of the various languages, paradigms of reference, and different concepts of suffering related to the culture of the diverse population attending the clinic.
The Work burden of Culturally and Linguistically Diverse (CALD) Patients' Care in Emergency Medical Center in Japan

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Background: Recently, there has been an increase in the number of visitors to Japan due to government-led promotions. In 2017, there was a 19.3% increase in the number of foreigners, totaling to 28,690,000 visitors. Given this increase, healthcare institutions, particularly those in Tokyo, are facing challenges in providing healthcare and responding to the upcoming 2020 Olympics and Paralympics.

Objective: This study aimed to investigate the work burden of emergency room (ER) nurses and emergency medical technicians (EMTs) who provide medical care for culturally and linguistically diverse (CALD) patients and to examine the considerable difficulty imposed on emergency medical centers.

Methods: We analyzed 107 patients' data and examined how ER nurses and EMTs provide medical care. We categorized 27 emergency department medical care skills and analyzed the work burden rate.

Results: Patients' distribution according to nationality was as follows: 75.7% Asian, 10.3% European, and 2.8% Oceanic. In terms of first language, 31.8% were Chinese, 15.0% English, 9.3% Korean, and 9.3% Burmese. Further, 70% lived in Japan and had a Japanese health insurance. The burden rate increased especially when the medical staff needed to communicate with non-Japanese speakers; 87.9% patients could not understand Japanese. However, only 1.9% used telephone interpreter services and 29.9% used patient attendants as interpreters.

Conclusion: CALD patients' care imposes a significant burden. To reduce this burden, information on support devices and the use of telephone interpreters must be provided, along with offering cultural competency training and establishing conditions for medical care. Interpretation by patient attendants is common when the medical staff cannot communicate well with CALD patients. However, in terms of medical safety and maintaining patients' dignity, this is considered undesirable. First, the medical staff cannot judge whether the translation is correct or whether the patients understand them correctly. Second, patients' family or friends can control the negative information received by patients and prevent patients' self-determination. Nevertheless, these results show that the medical staff do not have a complete understanding of risks. Therefore, emergency medical centers in Tokyo must prepare for CALD patients' care during special mass gatherings such as the 2020 Olympics and Paralympics.
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8 - Best Practices

A Model of Transcultural Psychiatric Clinic within the Mental Health Department of Trapani, Italy in the context of Migration across the Mediterranean Sea and the Reception System of the Province

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Introduction: The asylum seeker population suffers from a high prevalence of mental health conditions, but services provided through the Italian national health system (SSN) and inside the reception structures are poorly adapted to the specific needs of asylum seekers arriving from a broad variety of contexts. In 2016, Médecins Sans Frontières (MSF) implemented in Trapani (Sicily) a dedicated service of psychotherapy with a transcultural approach to support the migrants who suffered psychological distress following the migration route and their stay in the reception system. This project consisted of direct provision of care and on-the-job training of mental health professionals of the SSN.

Methods: An ethno-psychotherapy approach was offered, based on a multidisciplinary team (psychiatrists, psychologists, social workers and cultural mediators) with a strong cultural mediation component. The group identity and cultural context of the clients were incorporated in the model of care, and the clients’ theories about psycho-physical suffering were central to the care provided. For this study, a retrospective analysis of routine program data was conducted.

Results: Between January 2017 and March 2018, 422 sessions were carried out and 42 migrants taken in charge, with an average of 15.7 patients being followed per month (of which 2.8 newly admitted per month). Out of 21 total nationalities, the more represented were Nigeria, Gambia, Guinea, Senegal, Ivory Coast and Mali. The Post Traumatic Stress Disorder was the most common diagnosis (9 cases), followed by Generalised Anxiety Disorder (8) and Depressive Disorder (7), then other diagnosis with exclusively single cases. Average number of sessions per client was 10 (minimum 1 - maximum 25) showing an important decrease of symptoms and suffering within a period of psychotherapy of 4-5 months (frequency of sessions was twice-monthly). Improvements in the medical, social, and legal situation of the patients were also observed.

Conclusions: The ethno-psychotherapy clinic run in Trapani has shown to be an effective approach in the pris en charge of the migrant population. As a culturally informed and multi-professional approach, it could be considered as a “best practice” method of care that could be replicated at a larger scale.
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C. Arcas, Spain1, I. Peña, Spain1, M. Navarro, Spain2, R. López-Vélez, Spain1,3
1Ramón y Cajal University Hospital, Salud Entre Culturas, Madrid, Spain, 2Mundo Sano, Madrid, Spain, 3National Referral Unit for Tropical Diseases. Infectious Diseases Department. Ramón y Cajal University Hospital, Madrid, Spain

Background:
The vulnerability of SSAMs to HIV in Europe is disproportionately high, both because they come from regions with high HIV prevalence and because of the barriers they face when accessing health system in the host country. Increasing evidence shows that SSAMs are contracting HIV in their receiving countries, more than what was previously thought. This calls for public health projects aimed at SSAMs.

Objective:
To analytically describe SEC project in the Community of Madrid and the implementation of its culturally adapted ad hoc prevention and diagnosis program: New citizens, new patients (NCNP).

Methods:
NCNP program involves three subprograms:
(1) Knowledge, Attitudes and Practices (KAP) questionnaires: Health promotion and disease prevention strategies are accompanied by KAPs that SSAMs have on HIV before the workshop.
(2) HIV workshops, with professional mediators and culturally and linguistically adapted educational materials.
(3) Rapid diagnostic test.

Results:
During the 2017 campaign, N=359 SSAMs from 23 different nationalities benefited from the program.
(1) N=342 performed KAP questionnaires, highlighting the following results:
- 20.6% did not believe in the existence of HIV.
- 22% were unaware of unprotected sexual transmission, 29% of blood transmission and 49% of vertical transmission.
- Stigma towards people living with HIV is still very strong: almost 50% would not agree to drink from the same glass as a person with HIV and 30% would not agree to shake hands.
(2) N=347 men and N=12 women attended HIV health education workshops. 83% had not received any previous information on HIV in Spain before attending the workshop.
(3) More than half of the participants (57%) had never been tested for HIV. N=174 were tested with a prevalence of 1.7%.

During the 2018 campaign, N=235 SSAMs have benefited from the program and N=120 have been screened. Data analysis is on process.

Conclusions:
NCNP program reveals that SSAMs in Spain share a lack of HIV awareness, significant stigma and a higher incidence than the autochthonous population (0.4%). There is a need for projects specifically dedicated to the SSAM community to provide them with linguistically and culturally adapted health education, HIV screening and access to care.
Migration health: do labels matter?

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Refugee, asylum seeker, migrant or expatriate? There are many labels within migration health.

Migration health considers the wellbeing of mobile populations, their families and the communities affected by migration and as such everyone has a role to play. This interactive workshop will facilitate participants to define and debate the relative importance of these labels with respect to healthcare equity.

These labels matter because different population groups have been exposed to different life events, have different health and social needs, legal rights and protections and expectations with regards to healthcare. But at the same time, labels often overlap: within settings, within families and amongst individuals overtime. For example, a internally displaced person may become a refugee if they cross an international border. Labels have the potential to enable or inhibit access to healthcare and make the development of health policy for mobile populations challenging to develop.

This workshop will debate the importance of correctly defining these groups in primary research and in the development of migration health policy.

This workshop was designed at the Liverpool School of Tropical Medicine during an accredited course on Supporting Education and Learning (SEDA).
A Medical Student Elective in Clinical Tropical Medicine: The Best of East and West

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¹Texas Tech University School of Medicine, Infectious Diseases-Internal Medicine, Lubbock, United States

Training North American medical students in clinical tropical medicine is challenging due to limited expertise and relatively small case volume. Nevertheless, migration, increasing immigration, global travel and tourism maintain the possibility that physicians in North America and Europe will encounter patients and maladies acquired in the tropics.

To address this, a 4 week elective was conducted for 4th year medical students. Eleven students received two weeks of didactic instruction using case-based scenarios and bench parasitology in North America followed by 2 weeks of instruction at a large infectious disease hospital in north India. Expert tropical disease physicians taught students at the Indian institution with hands-on experience evaluating patients at the institution. A wide variety of tropical diseases were seen in a relatively short period of time. Student evaluations rated the experience highly.

This elective represents an educational model to improve the clinical recognition and expertise in clinical tropical medicine and parasitology and supplements curricula for training in migrant health.
New tools for graduate and postgraduate training in international health

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Introduction: Benjamin Franklin once said: “Tell me and I forget, teach me and I may remember, involve me and I learn.” The introduction of unconventional learning materials is not common in all universities. The use of games (gamification) seems to be a good tool to improve learning experiences on scientific contents and life values (honesty, tolerance, empathy, autonomy, respect of rules).

Objective: To evaluate gamification and master lectures as teaching methods in International Health.

Materials and methods: Different games were created or adapted in order to achieve the educational goals of the courses (“Tropical Ladder”, “Tropical Puzzle”, “Secret Code” and “Refugee Escape Room”). The games were developed in three different scenarios: 1) Thirty-five Zoonosis and One Health Master's students (Autonomous University of Barcelona, UAB), the educational goal was the acquisition of basic knowledge regarding malaria and intestinal helminths (4 hours) 2) Twenty-five third year medicine students (UAB) with the objective of acquiring basic knowledge about nematodes (1 hour). 3) Thirty Vall d’Hebron University Hospital (VH) health professionals, with the objective of raising awareness about the social and health challenges that some immigrants face (2 hours). The courses were taught between February and April 2018. Anonymous surveys were used to evaluate: the contents knowledge (before and after the lesson) and students' opinions, and feelings after the activity.

Results: In the three lessons the mean of the knowledge test results improved by two points, but only in one of them (VH's health professionals) all the pupils surpassed the 5/10 score after the lesson. Perception that time goes by quickly, the level of excitement, happiness and sense of efficiency of learning is greater among the gamification courses, but frustration levels are also higher. Table 1.

Conclusions: The teaching tools evaluated in this report improve knowledge in an equal way to traditional methods. However, satisfaction and engagement are higher when gamification is used. This study has several limitations, such as the differences in context and goals presented by the different groups.
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Investigation of a measles outbreak in Hmunpui village, Aizawl west district, Mizoram, India 2015

Z. Sangi, India

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Background: On 13 February 2015, the Integrated Disease Surveillance Project (IDSP) Nodal Officer was informed on the cluster of fever with rashes cases reported in Hmunpui village, Aizawl West District, Mizoram. We investigated the cluster of cases to estimate the extent of the problem and to propose recommendations.

Method: We conduct door-to-door search of IDSP defined measles cases. We collected information on age, gender, time and onset of symptoms, treatment, complications and vaccination status. We collected specimens for IgM Measles specific antibodies. We described the measles cases by time, place and person and vaccine efficacy was also calculated.

Results: We identified 51 cases and detected IgM measles specific antibodies in six of eight sera. The index case was a child of a migrant from the neighbouring state whose vaccination status was not checked. The overall attack rate was 12% and attack rate was highest among those aged 121-180 months (24%) and higher among females (14%). Diarrhoea was the most common complication occurring in 73% of the case-patients. The attack rate was 100% in those children who were not immunized against first dose of measles vaccine. The vaccine efficacy was calculated to be 89% (95% CI 82% - 94%).

Conclusions: Transmission despite high one dose coverage shows the limitations of the single dose vaccination strategy. A second dose of measles vaccine may reduce the measles morbidity and such vaccine could be evaluated in terms of coverage and efficacy. We also recommended mechanism for checking the vaccination status of a migrant should be incorporated ongoing Immunization Programme.
Abstract: Measles vaccination in Europe - failure to harmonize and its consequences for outbreaks and migrant health

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Background: The numbers of cases and deaths caused by the rapid spread of measles have risen to new heights in Europe last year. Disease importation was shown in 15% of the total number cases and countries with historically maintained high measles vaccination coverages have started to report new cases. The European migration phenomenon, extended across the very diverse measles immunization policies is posing serious challenges in deciding when, whom and where to vaccinate.

Objective: We assessed the consequences of the very diverse measles vaccination policies over migrant health.

Methods: In this cross-sectional study, conducted from March to May 2016, an electronic questionnaire was sent to the National Immunization Technical Advisory Groups (NITAGs) or equivalent bodies in each of the 31 EU/EEA Member States.

Results: Validated responses from all 31 EU/EEA NITAGs or equivalents showed that there is no common measles immunization policy for European immigrants. Policies vary from no policy at all (9 of 31, 29%) to vaccination of all comers (2 of 31, 6%), or vaccination of selected cohorts based on vaccination history (17 of 31, 55%) or serum antibody analysis (2 of 31, 6%). Furthermore, there is a very wide range of variation concerning the age of vaccination for MCV1 (11 to 18 months of age) and especially for MCV2 where 16 different recommendations are addressing an age interval starting as early as 15 months, before the first dose has been given in some countries and as late as 13 years of age. In addition, the operational responsibilities for immigrant vaccination and documentation methods are not unified within the EU/EEA.

Conclusions: While measles vaccination of immigrants from outside the EU/EEA is a first country of entry border issue, for which clear vaccination policies should be in place, these are in fact inconsistent to non-existent. Internal migration across EU/EEA poses a different problem-vaccination schedules which are so diverse that a child migrating from one EU/EEA country to another could easily fall through the cracks and not be vaccinated because of being too young in the exit country and too old in the destination country.
Multidrug-resistant Bacteria among Asylum Seekers and Refugees Admitted to Hospital

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Background: Increasing antimicrobial resistance is a serious global health problem. The impact of the current large numbers of refugees and migrants on the spread of multidrug-resistant (MDR) bacteria has been poorly characterized.

Methods: According to the Helsinki University Hospital (HUH) guidelines, refugees and asylum seekers taken to the wards should be screened for methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant Enterococcus (VRE), extended-spectrum beta-lactamase-producing Enterobacteriaceae (ESBL-PE), carbapenemase-producing Enterobacteriaceae (CPE), multiresistant Acinetobacter baumannii (MRAB), and multiresistant Pseudomonas aeruginosa (MRPA). We collected clinical and microbiological data from refugees and asylum seekers admitted to our hospital between January 2010 and August 2017.

Results: The 447 hospitalized refugees and asylum seekers were natives of 41 different countries, mainly from Iraq (46.5%; 208/447), Afghanistan (10.3%; 46/447), Syria (9.6%; 43/447) and Somalia (6.9%; 31/447). Nearly half (45%; 201/447) of them proved to be colonized by MDR bacteria. One third (32.9%; 147/447) had ESBL, one fifth (21.3%; 95/447) carried MRSA, 0.7% (3/447) CPE, 0.4% (2/447) MRPA, 0.4% (2/447) MRAB, and none VRE. Two or more MDR bacteria were found in 12.5% (56/447) of the patients.

Conclusion: Our study shows MDR bacteria carriage to be common among asylum seekers and refugees. Accordingly, these should be considered as one of the risk groups requiring MDR bacteria screening and infection control measures at hospitals.

(Aro T, Kantele A. Multidrug-resistant bacteria among asylum seekers and refugees admitted to Helsinki University Hospital 2010-2017: high rates of methicillin-resistant Staphylococcus aureus. Eurosurveillance 2018, accepted.)
The importance of schistosome screening. Clinical experience from a Portuguese Hospital

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Background:

Schistosomiasis is one of the most prevalent parasitic diseases worldwide, affecting more than 200 million people. Traditionally a public health problem in endemic countries, the new era of migration and the growth of tourism are showing an increasing number of imported cases.

Objective:

In this study we aimed to analyze clinical and epidemiological data from schistosomiasis cases diagnosed in our Hospital since it's opening.

Methods:

A retrospective study was performed using data from all patients with positive serologies for schistosome from 2013 to 2017. A total of 97 positive serologies were included, representing 65 different patients. Medical records were analyzed to collect clinical and analytical information.

Results:

Portuguese travelers represent 10 (16%) and migrants 51 (84%) cases. Of those only 2 didn't live in Portugal and 1 was a refugee. Among migrants, the average length of stay in Portugal was 11 years and 46 (94%) were from Africa. The decision to screen for schistosome was based on presenting symptoms in 20 (33%) patients, was part of routine blood tests in 20 (33%) patients, was performed due to abnormal blood tests or eosinophilia in 12 (20%) patients and abnormal hepatic or colonic biopsies prompted serology in 9 (15%) patients. Regarding other co-mobilities, 12 (20%) tested positive for HBV and 15 (25%) for HIV, 25 (41%) had anemia and 5 (8%) hemoglobinuria. Co-infection with other parasites were more frequent for Strongyloides stercoralis and Ascaris lumbricoides, with 20 (33%) and 16 (26%) cases respectively. Praziquantel was the drug of choice and 30 (49%) have serologic reevaluations.

Conclusions:

Schistosomiasis is a frequent disease among travelers and migrants from endemic areas. Due to the increase number of people in those situations, doctors should be aware of clinical and analytical clues that may prompt the diagnose. A high percentage of patients are asymptomatic by the time of the diagnosis, strategies to prevent the clinical evolution of the disease among migrants could be tested.
Epidemiology of infectious diseases among hospitalised immigrants at a tertiary hospital in Singapore: A Retrospective Cohort study

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Background: Infectious diseases have not been well characterised, especially among the hospitalised immigrants in Singapore. Singapore has a large immigrant population. In 2017 there were 1.3 million immigrants working and among them approximately 74\% were Chinese, 14\% were Malaysians, 9\% were Indians and 3\% were others. Immigrants have been implicated in the importation of infections such as enteric fevers, tuberculosis, viral hepatitis etc., and also identified to be at higher risk of arbovirus infections. Health issues and infections experienced by immigrants may be unique and linked to their country of origin.

Aim: To describe the epidemiology of infectious diseases among hospitalised immigrants and evaluate any association to their countries of origin.

Methodology: A retrospective cohort study

Setting: All immigrants hospitalised with diagnosis of infections or infectious diseases at Khoo Teck Puat Hospital between January 2013 and December 2017 were retrieved from electronic medical records (EMR) using International Classification of Diseases (ICD) codes.

Results: There were 6089 medical admissions of which 1857 (30.5\%) admissions were diagnosed with infections or infectious diseases between January 2013 and December 2017, with a mean age of 41 years and male predominance of 58.5\%. Country of origin was represented by Malaysia (24.2\%), Indian (18.6\%), China (16.1\%), Bangladesh (13.8\%) followed by Philippines, Indonesian, Myanmar and others. Arthropod-borne viral fevers which included dengue fever/dengue haemorrhagic fever/others was the most common reason for hospitalisation (21.6\%), followed by intestinal infectious diseases (18.1\%), genitourinary urinary infections (15\%) and other conditions such as skin & subcutaneous tissue infections, respiratory tract infections, unspecified viral infections, tuberculosis etc. Chinese constitute the majority of the immigrants at 74\%, however they ranked 3\textsuperscript{rd} among the patients hospitalized. Chinese immigrants were hospitalised more frequently with Arthropod-borne viral fevers at 39\% compared to patients from other countries. Among Malaysian's (24.2\%) intestinal infections (18\%), arthropod-borne viral fevers (18\%) and genitourinary tract infections (16\%) were top three diagnoses.

Conclusion: This study reveals Chinese immigrants are vulnerable to Arthropod related dengue fever or dengue haemorrhagic fever compared to immigrants from other countries. Prospective cohort studies should be conducted to assess the relationship.

Background: Enteric fever is a common cause of fever in travellers returning from the Indian sub-continent. We examined the demographic and travel characteristics of Canadian travellers and migrants returning with typhoid fever due to Salmonella enterica subsp. enterica serovar Typhi (Salmonella ser. Typhi) over a 3-year period, and assessed the antimicrobial susceptibility of this organism in our travelling population.

Methods: Data on all returned Canadian travellers and migrants presenting to a Canadian GeoSentinel Surveillance network (CanTravNet) site between April 2015 and March 2018 who were diagnosed with typhoid fever due to Salmonella ser. Typhi were analyzed.

Results: Of 7663 travellers in the CanTravNet database over the reporting period, 50 (0.7%) were diagnosed with typhoid fever due to Salmonella ser. Typhi. Median age of the returned travellers and migrants with typhoid fever was 28 years (range 1 - 64 years; IQR 7 - 41.25 years), with males accounting for 40% of cases (n=20), and females 60% (n=30). Two percent (n=1) travelled for migration and 72% (n=36) for visiting friends and relatives (VFR), with tourists and business travellers accounting for 14% (n=7) and 6% (n=3) of cases, respectively. Eighty percent (n=40) of cases were acquired in the Indian sub-continent, with the most well-represented South Asian source countries being India (n=27, 54%), Pakistan (n=7, 14%), Bangladesh (n=4, 8%), and Sri Lanka (n=2, 4%). Other source regions included Central America (n=5, 10%), South America (n=2, 4%), Africa (n=2, 4%), and Southeast Asia (n=1, 2%). In total, 12 different source countries were represented. Amongst Salmonella ser. Typhi cultured from blood or bone marrow, resistance or intermediate susceptibility was reported in: 1/27 (4%) isolates to third generation cephalosporins, 0/11 (0%) isolates to carbapenems, 4/25 (16%) isolates to trimethoprim-sulfamethoxazole, 22/23 (96%) isolates to fluoroquinolones, and 0/5 (0%) isolates to macrolides.

Conclusions: Over the reporting period, typhoid fever, a vaccine preventable infection, was imported to Canada predominantly by VFR travellers to the Indian sub-continent. Our data support the high rates of fluoroquinolone resistance among isolates of Salmonella ser. Typhi from the Indian sub-continent, with little to no observed resistance to macrolides, carbapenems, or third generation cephalosporins.
Infectious Diseases

Toxicity of benznidazole in Chagas disease treatment in a non-endemic area: A referral centre experience

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Abstract

Chagas disease as an incidence of 38,500 new cases par year, and affects mainly Latin American countries. Migration movements had spread the disease to regions and countries not previously affected. Its principal treatment, benznidazole, has a high proportion of adverse reactions (AR) and treatment discontinuations (TD).

Background

Migration and Chagas disease patients seeking pharmacological treatment in Spain. Spain has had a high number of cases of Chagas disease due to migration. The main treatment, benznidazole, has a high proportion of adverse reactions (AR) and discontinuation of treatment (TD).

Methods

An observational retrospective study was conducted at the University Hospital La Paz-Carlos III from January 2014 to December 2017. Sociodemographic, clinical, and treatment-related data were recorded and analysed.

Results

A total of 496 patients were attended during the study period. 366 (73.8%) were women. Mean age was 42.7 (SD: 9.7) years old. 190 (43.78%) patients were pre-treatment PCR positive. In 352 (71%) cases the treatment was indicated, but only 268 (76.13%) patients were finally administered. 77 (28.7%) patients were lost to follow-up (49 before treatment indication and 28 after it) and 7 (2.6%) were not able to start the treatment because of work-related reasons. Benznidazole was indicated with a mean total daily dose of 305.4 (SD: 36.4) mg/day during a mean of 62.8 (SD: 6.9) days. 158 (58.9%) patients suffer at least one AR, 47 (17.53%) had two and 6 (2.23%) had three. Median time to first AR was 10 days (IQR 5-19 days), being digestive reactions the first to appear (median of 5 days [IQR: 2-6]) followed by dermatological reactions (10 days [IQR: 5-19]). Last reactions were neurological symptoms (18 days [IQR: 6-50]). From a total of 211 AR, most common were dermatological (123 [58.3%]; maculopapular rash, exanthema), neurological (30 [14.21%]; dyseusia, peripheral polyneuropathy and headache), and digestive (21 [9.95%]; abdominal discomfort, epigastralgia). Last frequent AR were analytical disorders (11 [5.0%]). Regarding severity 105 (50%) of AR were grade 1, 70 (33%) grade 2, and 26 (12.3%) grade 3. A total of 60 (22.4%) patients had to discontinue the treatment because of AR.

Conclusion

Benznidazole has a very low tolerability and high rate of TD. Gastrointestinal symptoms and skin reactions are the most frequent, and most of them are graduated as low severity reactions. Development of new alternative drugs is urgently needed.
Abstract: Hepatitis E in Displaced Populations: An analysis of recent outbreaks in Sub-Saharan Africa

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Background: Hepatitis E (HEV) is a common cause of acute viral hepatitis worldwide. Unfortunately, limited data regarding HEV outbreaks and displaced populations exist. Formal disease surveillance can be challenging in this setting, however informal methods may be able to provide additional insights. ProMED is an internet-based reporting system for emerging infectious diseases that provides informal disease surveillance.

Objective: An analysis of ProMED reports was performed to identify trends in HEV outbreaks among displaced populations in Sub-Saharan Africa.

Methods: Keyword “hepatitis E” was utilized in the ProMED search engine from 2010-2018. Information including issue date, country, suspected and confirmed case counts, and fatalities was extracted. Databases were manually reviewed. Records pertaining to “refugee/migrant(s)/internally displaced person(s)” were evaluated. When multiple reports regarding the same outbreak were obtained, the last report pertaining to that outbreak was retained. Outbreaks were considered to be unique based on location of cases.

Results: Thirty-eight of 178 HEV reports from 2010-2018 were identified as pertaining to displaced persons. 25 duplicates were removed, with a total of 14 individual outbreaks recorded. Major outbreaks occurred in Niger, Nigeria, Sudan, and Chad. Over the study period, 14,394 HEV cases were reported. Of these, 9,083 cases were confirmed with 181 confirmed deaths, yielding a case fatality rate (CFR) of 1.99%, compared to a global CFR of ~1% as estimated in the literature. Transmission and subsequent outbreaks may follow the movements of displaced populations geographically. Food insecurity and environmental factors were found to influence outbreak transmission.

Conclusions: HEV is an important cause of acute viral hepatitis outbreaks globally, but surveillance can be challenging in the setting of displaced populations and forced migration. This is the first study to our knowledge that has looked at recent HEV outbreaks in totality in Sub-Saharan Africa. This study demonstrates the need for more complete data on these vulnerable populations, with particular emphasis on pregnancy given the potential for high mortality rates. High case counts may support the future potential utility of vaccination in the outbreak setting. This analysis underscores the importance of water, sanitation, and hygiene measures, as well as improved cross-border communication to prevent future outbreaks.
Abstract: In recent years, Europe has experienced a dramatic increase in migration flows. Limited data is available about the burden of neglected parasitic diseases among migrant populations. The purpose of the present study was to evaluate the prevalence of intestinal and urinary parasitoses in newly arrived asylum seekers.

Methods: A total of 364 newcomers asylum seekers hosted in the ASC of Castelnuovo di Porto (Rome, Italy) were screened for intestinal and urinary parasitoses upon their arrival in Italy between March and October 2017. Each enrolled subject was interviewed through a standardized questionnaire, focusing on socio-demographical data and risk factors for parasitic infections. Parasitological examination of urine and stool samples was performed.

Results: Among 364 migrants who provided a stool sample, 20.6% had at least one intestinal parasite and 4.9% showed mixed infections, with a total of parasite species identified, including seven species of protozoa and six of helminths. The prevalence of both single and mixed infection was significantly higher in migrants coming from Sub-Saharan Africa (23.6%), whereas the prevalence for the other regions varied between 4% for Southern Asians, 9% for Western Asia and 14.3% for North Africans (Chi-square = 10.09; d.f.=4; p=0.0389). The prevalence did not differ significantly by sex, age, socioeconomic data (rural/urban origin, literacy, employment status), neither with the presence of animals inside the house or professional contact with them. The travel route did not affect the prevalence of intestinal parasites (p=0.096), while a significant negative correlation between the length of travel and the prevalence of parasitized subjects was found (p=0.019). No statistically significant correlation between gastrointestinal symptoms and the presence of pathogenic intestinal parasites was observed. Out of 334 valid urine samples, Schistosoma haematobium eggs were found in 2 samples (0.6%) collected from Sub-Saharan migrants, both of them did not show haematuria.

Conclusion: Surprisingly, prevalence rates of intestinal parasitoses were low among asylum seekers, showing a low risk of introduction of parasitic diseases from migrants in hosting countries. The presence of intestinal parasites could be influenced mainly by the duration of migration period, frequently interrupted by economic problems and imprisonment, rather than the original geographical area.
"Placenta-Soup" as Culprit in Human Brucella Melitensis Cases during an Outbreak in a Modern Dairy Cattle Farm

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In October 2015 a Brucella melitensis outbreak caused abortions among parturient heifers in a cattle farm in Israel. More than 500 animals were culled by 2016. Nine human cases of brucellosis were diagnosed during the outbreak, six of them among Thai and Vietnamese migrant workers. Three patients had no occupational exposure and had not consumed dairy products. A community-led "taskforce" augmented public health and occupational interventions.

To determine risk factors for disease among exposed community residents, and to describe the community taskforce’s roles in medical and occupational management of the cases and exposed individuals.

All patients were treated in the community clinic. Symptoms and exposure history questionnaires were completed by patients at diagnosis and 3 and 6 months after presentation. The taskforce included a Thai and English translator who enabled communication between the patients and medical and dairyfarm personnel. All dairy farm staff were screened every 3 months until the end of the bovine outbreak in March 2018. Patients and unaffected exposed individuals were included in a case control study. Comparison between cases and controls characteristics and exposures was performed using chi square test.

Occupational control measures included enhancing protective gear to include face masks and goggles during all contact with birth products, removal and incineration of all placentae together with culled animals, and fencing off the dairy farm from public domain precluding entrance of casual visitors or pets.

Consumption of placenta soup was significantly more common among cases, P< 0.001, and reported by all Thai and Vietnamese patients. Three months after implementation of control measures no additional human cases occurred. Translated questionnaires revealed that the Thai patients experienced a high rate of psychological distress.

Consumption of placenta soup is a previously unreported risk factor for acquiring brucellosis. Community initiatives contributed to the prompt control of the outbreak among residents and should augment conventional control measures.

Brucellosis must feature in the differential diagnosis of fever in South-East Asian work migrants to the Middle East and should prompt a history directed at recent ingestion of placenta. Potentially infected placentae must be treated as a biohazard.
Abstract: The use of Circulating Cathodic Antigen rapid test for early diagnosis of Schistosoma mansoni infection in migrants coming from endemic areas

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Background: Diagnosis of schistosomiasis in migrants coming from endemic areas can be difficult, especially in asymptomatic subjects. However prolonged infections can cause permanent damages, that is the reason why an early diagnosis is necessary.

Objective: To perform an early diagnosis of schistosomiasis in migrants coming from endemic areas and with limited access to sanitary health system, we performed Circulating Cathodic Antigen rapid test (CCA-test) for Schistosoma mansoni in a free and voluntary primary health care center (Opera San Francesco Outpatient Clinic, OSF).

Method: All the migrants coming from endemic areas (as Country of origin or Country crossed during the travel) with risk factor or symptoms for schistosomiasis who attended to San Francesco Outpatient Clinic, after giving their oral assent, were tested with CCA-test since October 2017 to January 2018. Positive subjects were sent to San Raffaele Infectious Diseases Department to perform in-depth analysis and to prescribe therapy. Patients treated with praziquantel were re-tested with CCA-test to evaluate the efficacy of treatment.

Results: Overall 89 migrants were evaluated: 91% males, with a median age of 37 years (ranging from 18 to 70), coming 93% from Egypt, 2% from Morocco, 2% from Pakistan, 1% respectively from Burkina Faso, Senegal and Iran. 34 subjects were positive at CCA-test (94% from Egypt, 3% from Morocco and 3% from Pakistan). 19 positive subjects went to Infectious Diseases Department where travels, symptoms and previous treatments for schistosomiasis were investigated. In 13 CCA-test positive subjects blood tests, stool microscopy and urine analysis were performed: 6 patients had high total IgE values, 6 patients had positive Schistosoma serology, 1 patient had elevated eosinophil counts and 1 microscopic haematuria; no one has positive stool microscopy. 14 of 19 positive CCA-test subjects were treated with praziquantel. Only 6 treated patients come back to OSF and repeated CCA-test two months after treatment, all of them were negative at the second CCA-test.

Conclusion: In non-endemic areas, CCA-test is an useful tool to perform an early diagnosis of schistosomiasis especially in subjects with limited access to sanitary health system.
Abstract: 185

1 - Infectious Diseases

Cutaneous, mucocutaneous and visceral leishmaniasis in Sweden 1996-2016: A retrospective study of manifestations, treatment and outcome

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Background of the Study: Knowledge about management and treatment of leishmaniasis, a rare diagnosis in Sweden, has become important due to increased migration and travel from high-endemic countries to Sweden. Few studies on the clinical findings, treatment and outcome of leishmaniasis in non-endemic regions have been published thus far.

Methods: A retrospective observational study was performed to describe clinical manifestations and treatment outcomes in patients in Sweden 1996-2016 with culture- and/or PCR-verified leishmaniasis and available medical records.

Summary of Results: Cutaneous leishmaniasis (96% of the cases), due to Leishmania tropica (44%), was the most common clinical manifestation among the 156 patients. Most patients were migrants (52%) infected in their countries of origin (during 2013-2016, 34% came from Syria or Afghanistan), followed by Swedish tourists (25%), and returning workers (13%). First-line treatment resulted in cure in 70% of the cases. The most common treatments for cutaneous leishmaniasis and their cure rates were sodium stibogluconate (80%), liposomal amphotericin (52%), cryotherapy (95%) and fluconazole (47%).

Conclusions: The number of leishmaniasis cases diagnosed in Sweden increased due to large numbers of migrants from endemic countries. The cure rate was 70%. Sodium stibogluconate and liposomal amphotericin were the most common treatments, with sodium stibogluconate having a higher cure rate.
Abstract: 126

Comparison of different drug regimens for the treatment of loiasis - a TropNet retrospective study

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Background. Loiasis had long been considered a benign disease until a recent demonstration of an excess mortality in patients with high microfilaremia. Currently three drugs are used for loiasis: diethylcarbamazine (DEC), ivermectin (IVM) and albendazole (ALB). This study aimed at describing different drug regimens and associated outcomes of patients treated at TropNet (European Network for Tropical Medicine and Travel Health) sites.

Methods. Retrospective study on cases of loiasis, treated with either DEC alone, IVM alone, ALB alone, DEC + ALB, IVM + DEC or ALB + IVM. Clinical cure was defined as resolution of compatible signs/symptoms. Parasitological cure was defined as eosinophil count < 450/µL, and negative microfilaremia. Cases with ≥80% reduction of microfilaremia and/or ≥4-fold decrease of eosinophil count were classified as “improved”. Failures were cases with < 80% microfilaremia reduction and/or absence of significant eosinophil reduction.

Results. Eleven TropNet centers from seven countries participated in the study. Of 238 subjects meeting the inclusion criteria out of 293 screened, follow-up data were available for 165. Parasitological failure occurred in 1/21 (5%) ALB + IVM, 3/16 (18%) IVM + DEC, 14/74 (19%) DEC, 25/39 (64%) IVM; clinical failure in 1/15 (7%) ALB + IVM, 4/14 (29%) IVM + DEC, 15/48 (31%) DEC, 12/25 (48%) IVM.

Conclusions. In absence of specific guidelines, reference centers for tropical diseases in Europe use different treatment schedules. ALB 400 mg twice a day for 28 days plus IVM 200 µg/kg single dose might be an option in non endemic areas, also considering the problematic availability of DEC.
**Abstract:**

**Outcome of HIV-patients co-infected with tuberculosis in patients born in Finland compared to migrants**

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**Background:** Tuberculosis (TB) is a major cause of death in HIV patients in Africa and Asia. However, data about the outcome of HIV-TB co-infections in high-income countries with low TB incidence have been limited.

**Methods:** The HIV-cohort at the Helsinki University Hospital including 1849 patients between 1998 and 2015 was analyzed for this study. Data for the study was collected from the InfCare HIV database and from the electronic patient records of the hospital. All new HIV and TB diagnoses were confirmed from the National Infectious Disease Register and the causes of death were obtained from Statistics Finland.

**Results:** Between 1998 and 2015 TB was diagnosed in 61 HIV-patients in the cohort. Among the 61 TB cases, treatment was completed in 43 (70.5%). Thirty patients were native Finns. Ten patients originated from Asia, 15 from Sub-Saharan Africa and four from the area of former Soviet Union. Totally 16 (26.2%) TB co-infected patients died during an average follow-up time of 9.6 years. Fifteen males (39.5%) and one female (4.3%) died. Intravenous drug users and men having sex with men had higher risk for death compared to those with heterosexual transmission of HIV (53.8%, 40.0%, 15.2%). Among co-infected born in Western countries 15 died (46.9%), whereas only one (7.7%) born in Africa and none of those born in Asia, Latin America or Eastern Europe died. None of the deaths were directly related to the previous TB infection. Five patients had HIV as primary cause of death.

**Conclusions:** The number of new HIV-TB co-infections in Finland remains at a low and stable level. Despite good treatment results for both HIV and TB, the all-cause mortality among Finnish males is as high as 54% during follow up. The reason for this very high mortality rate is most likely an accumulation of other risk factors of early death, such as heavy alcohol consumption, smoking, intravenous drug use and psychiatric illness. On the other hand, among HIV-positive females and migrants, TB-infection does not seem to affect their long-term prognosis.
Abstract: **167**

**Infectious Diseases**

**Enquiries to a National Travel Health Advice line regarding travellers visiting friends or relatives**

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**Background**

Studies have shown that people travelling to a foreign country to visit friends or relatives (VFR travellers) are at a higher risk for certain diseases compared to non-VFR travellers. The National Travel Health Network and Centre (NaTHNaC) Telephone Advice Line is a specialist nurse-led service that provides guidance to healthcare professionals with queries regarding travellers, including VFR travellers, with specific healthcare needs. The aim of this study was to review the enquiries for VFR travellers with the aims to identify training needs and facilitate the development of the service.

**Methods**

A retrospective audit was performed using online records for all enquiries taken by advice line advisors from January 2016-17. All calls related to VFR travellers were identified. Information on traveller's demographics, travel destinations and nature of the enquiry were recorded and summary statistics performed.

**Results**

The number of calls related to VFR travel was 2,329/12,075 (12%) over the year. The queries were from GPs (2,095; 90%), pharmacists (93; 4%), travel clinic nurses (61; 3%), occupational health departments (3; 0.1%), military services (3; 0.1%), and other (52; 2%). Almost half of the calls were made 1 week to 1 month before travel (1,050/2,329; 45%). The most frequent length of stay was 1-4 weeks (1,306 calls; 56%). The most popular destination was Africa (50%), specifically West Africa (636/2,329) and East Africa (361/2,329). The nature of the enquiry varied between advice on vaccines (58%), or malaria chemo-prophylaxis (17%), or both (20%).

Out of a total of 2,777 VFR travellers, most were female (1,444; 52%), with 955 (35%) males. The most frequent age group was 21-59 years (1010; 37%), followed by the under 5s (974; 35%). The number of calls about VFR travellers with co-morbidities was 847 (36%) and the number of travellers was 860 (31%). The commonest queries related to pregnancy (240/860; 28%) and breastfeeding (141/860; 16%).

**Conclusion**

Over a one-year period the enquiries regarding VFR travellers formed a significant proportion (12%) of calls. Our findings enable greater targeting of our training and will improve the guidance available on our website with plans for traveller information for specific VFR groups, such as those travelling to West Africa during pregnancy.
Imported schistosomiasis in migrants: 2 years of experience in a teaching hospital in Brescia, northern Italy

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INTRODUCTION
Schistosomiasis, is estimated to affect 200 million people worldwide. We present data of imported schistosomiasis diagnosed in Spedali Civili Hospital of Brescia, northern Italy, in the last two years.

METHODS
We conducted a retrospective study on a cohort of out-patients followed by our clinic over a period of two years (Januray 1st, 2016-December 31st, 2017). Demographic, clinical, and travel-related data were collected and described. Diagnosis was established on the basis of: positive serology for Schistosoma spp and/or a positive parasitological examination of urine, feces and/or histologic examination. Follow-up was scheduled after three months whether a microbiological diagnosis was made, after one year in patients with serological diagnosis. Those with positive histologic exam had a variable follow-up between 3-6 months.

RESULTS
Seventy cases of schistosomiasis were diagnosed. Mean age was 32.3 years old. Most patients (67.1%) came from Sub-Saharan Africa, 28.6% were from North Africa. Median time between first arrival and treatment was 2 250 days. Urogenital schistosomiasis due to S. haematobium and intestinal schistosomiasis due to S. mansoni were diagnosed in 21.5% and 8.5% of cases, respectively. Diagnosis was based on serology alone for 70.0% of patients. Overall, 70.0% of patients had a concomitant infectious disease, where 37.2% C and B hepatitis. Eosinophilia was present in 41.4% of patients. Clinical manifestations were reported in 40.0% of cases: 25.7% had hematuria, 8.5% gastrointestinal symptoms, 2.8% dermatological symptoms and 2.8% bladder carcinoma. All patients received specific treatment with praziquantel at a dose of 40 mg/kg for three days. Not considering 25 patients whose follow-up visit is scheduled in the next months, 62.3% treated patients regularly attended the follow-up: 10 among 49 with serological diagnosis, 12 out of 16 with positive microscopy at baseline, and 6 out of 7 with histologic exam. Among those with symptomatic infection, 57.0% attended follow-up.

CONCLUSIONS
Our study highlights the lack of a well-defined screening strategy. Adherence to follow-up was higher in symptomatic patients or in those with a shorter scheduled control, thus making hard to understand whether treatment was effective and whether serology after a one-year period can be considered a valid tool for follow-up.
Abstract: 180

1 - Infectious Diseases

Performance Characteristics of Diagnostic Assays for *Schistosoma* *spp.* from 2014 to 2017 in Ontario, Canada

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Background:

Differentiating between previous and current schistosomiasis infection in migrants and returned travelers often poses a diagnostic challenge. We evaluated the performance of real-time PCR assays compared to microscopy and serology for the diagnosis of schistosomiasis at our reference laboratory.

Methods:

This study included all specimens submitted to our clinical reference laboratory for pan-*Schistosoma* serology and stool specimens for ova and parasite microscopy between April 1, 2014 and December 31, 2017. A random subset of 100 serum samples with corresponding stool sample submission were evaluated by real-time PCR assays for *Schistosoma mansoni* and *Schistosoma haematobium*.

Results:

There were 8168 *Schistosoma* serology submission and 156,771 stool specimens submitted to our reference laboratory during the inclusion period. Of the serum samples, 638 (7.8%) were serologically positive for pan-*Schistosoma*, 825 (10.1%) were indeterminate, and 6705 (82.1%) negatives. There were 46 stool samples from 29 patients positive for *S. mansoni*, and 1422 (17.4%) serology samples had a co-submission of stool sample within one year prior to or post-submission of serum samples. Using a composite reference standard of serology and stool microscopy, the combined PCR assays for *S. mansoni* had a sensitivity and specificity of 29.1% and 100% respectively with positive predictive value of 100% and negative predictive value of 27.3%. No *S. haematobium* was detected by PCR in the serum samples. There was no cross reactivity of the *S. mansoni* PCR assays to *S. haematobium*, *Plasmodium falciparum*, *Plasmodium vivax*, *Babesia*, or human DNA. Stool positivity was correlated to higher *Schistosoma* serology OD values with a mean of 1.80 (range 0.55-2.9) compared to 0.98 (range 0-3.78) in stool negatives (p=0.0026). Similarly, PCR positivity had higher serologic OD values with mean of 1.67 (range 0.65-2.9) compared to 0.90 (range 0-3.78) in PCR negatives (p=0.0002).

Conclusion:

We reiterate that serology is the most sensitive diagnostic test for schistosomiasis in our population. Serum PCR offered no greater performance than stool microscopy, however, its role in diagnostic parasitology should continue to be evaluated due to its high-throughput and operator-independent nature.
Abstract: Infections Diseases

Malaria in Canadian VFRs and Migrants: Surveillance Report from CanTravNet, April 2013 — March 2018

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Background: Malaria continues to be a top travel-acquired cause of morbidity among ill returning VFRs and migrants to Canada. We examined the demographic and travel correlates of Canadian VFRs and migrants with malaria over a 5-year period to illuminate the characteristics of this disease in our traveling population.

Methods: Data on returned VFR travelers and migrants presenting to a Canadian GeoSentinel Surveillance network (CanTravNet) site between April 2013 and March 2018 who were diagnosed with malaria were analyzed.

Results: Of 4434 VFR travelers and migrants in the CanTravNet database over the enrolment period, 308 (6.9%) were diagnosed with malaria, representing 3.4% of migrants (84/2478) and 11.5% of VFR travelers (224/1956), and, collectively, 64% (308/484) of all malaria cases reported. Median age of VFR travelers and migrants was 32 years (range 1 - 83 years; IQR 19-47 years), with males accounting for 57.8% of cases (n=178), and females 42.2% (n=130). Among VFR travelers and migrants with malaria, 27% (n=84) traveled for migration while 73% (n=224) traveled to VFR. Nigeria was the most common source country, accounting for 57 cases (18.5%), followed by Cameroon (n=32, 10.4%), DRC (n=23, 7.5%), Cote d’Ivoire (n=22, 7.1%), Ghana (n=19, 6.2%), and India (n=19, 6.2%). Plasmodium falciparum was the most well represented species amongst malaria cases in migrants (n=45, 54%) and VFRs (n=169, 75%), followed by P. vivax (n=17 [20%] in migrants, and n=19 [8%] in VFRs). P. ovale accounted for 8% of total cases (n=26), with 12 cases (14%) in migrants, and 14 (6%) in VFRs. Thirty-five cases (11.4%) of malaria in the cohort of returned VFRs and migrants were severe or complicated.

Conclusions: VFR travelers and migrants account for the majority of malaria cases in travelers presenting to CanTravNet sites over 5 years, with severe malaria occurring in over 10% of cases. These data underscore the high potential for malaria-associated morbidity and mortality in VFR travelers and migrants, thus, clinicians should promptly exclude malaria when encountering fever in this population. West Africa continues to be the dominant source region for malaria imported to Canada.
Schistosoma and Strongyloides Screening in Immigrants to North America as Part of HIV Care in Canada

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Background
People who have lived in regions endemic to Schistosoma and Strongyloides are at high risk of chronic infections, even when they have immigrated to non-endemic regions. These parasitic infections can have serious, and in some cases, fatal consequences for people co-infected with HIV. While we have screening guidelines and data regarding parasitic prevalence for immigrant populations, these do not exist for HIV positive populations.

Objectives
Determine the prevalence of chronic parasitic infections in immigrant HIV patients and identify high risk epidemiologic and laboratory characteristics to refine screening methods.

Methods
This retrospective study examined screening serologic and stool analysis for Schistosoma and Strongyloides for all 286 non-Canadian born HIV positive patients initiating care at a centralized HIV clinic in Alberta, Canada between February 2015 and 2018. Chi² and Fisher's exact tests were used to identify variables associated with infection. Ethics approval was obtained through the University of Calgary's ethics review board.

Results
The prevalence of positive serology for Schistosoma and Strongyloides was 16.4% and 5.2%, respectively. Refugees made up a very small proportion (4.2%) of those screened and most patients were from either Africa (59.9%) or Asia (21.4%). Countries of origin within East Africa, Central Africa and Southeastern Asia, were associated with positive Schistosoma serology. Whether a patient was a refugee or had a new diagnosis of HIV was not predictive of parasitic infection. The stage of HIV based on viral load or CD4 count and a patient's anti-retroviral treatment status also showed no correlation. Preliminary results suggest that eosinophilia and hematuria are not robust predictors of infection and that stool analysis for ova and parasites has low sensitivity, making it a poor screening test in this population.

Conclusions
HIV and parasitic co-infection are not uncommon, and parasitic screening should be part of standard HIV care, especially given high rates of global migration. Country of origin is the most significant predictor of parasitic infection reinforcing the importance of a detailed history when embarking on HIV care. The relatively high rate of infections in immigrants suggests existing screening guidelines fail to identify a substantial number of infections in this population.
An Unusual Case of Subcutaneous Abscess in a Somali Refugee

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Case report:
An 18-year-old Somali political refugee presented himself at our emergency department complaining of a painful mass on his right thigh. He had lived in Italy for two months, after a 6 months travel through Yemen, Sudan and Libia. He denied fever or any other accompanying symptom either during his journey or his stay in Italy. He denied any significant past medical event, in particular any history of trauma, open wound or injection at the site of the swelling. The physical examination was unremarkable, except for a soft fluctuating tender mass on the external aspect of his right thigh. Blood tests revealed a normocromic normocytic anemia (Hb 10,2 g/dL) and elevated C-reactive protein (83 mg/L). A CT scan was performed, showing an extended subcutaneous abscess of about 30 cm of length, extending from the sacrum to the proximal diaphysis of the femur, with a maximum thickness of 4 cm. The abscess was surgically drained, revealing seroematic liquid and abundant thick caseous material, which was sent for microbiological examination. On the first day of admission in our ward, the Microbiology department informed us that the material was positive for AFB on microscopic examination and that the PCR for *M. tuberculosis* complex was positive. An antitubercular therapy regimen consisting on four drugs (HRZE) was started and the patient underwent surgical wound cleaning and revision. The patient was discharged after a month and continued to be followed-up as an outpatient in another center (Istituto Villa Marelli, ASST Grande Ospedale Niguarda, Milano, Italy). After antitubercular therapy discontinuation (8 months total) an ultrasound of the right thigh was performed, without any evidence of abscesses.

Conclusions:
Isolated subcutaneous tubercular abscesses are uncommon. Toracic wall abscesses are reported and usually associated to pulmonary tuberculosis. Subcutaneous abscesses in other locations are an exceptional finding and are usually due to haematic seeding from a distant active disease. The case we described is particularly unusual because of the lack of a concomitant active disease. Treatment is poorly defined, in particular the need for surgery.
This case remarks the need to raise awareness for atypical tubercular manifestations in migrants.
Abstract: MIGRATION2018

Infectious Diseases

Epidemiology and treatment outcome of MDR and pre-XDR TB in migrants at two reference Center in the North of Italy: a StopTB Italia study

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1Ospedale Policlinico San Martino, University of Genoa, Infectious Diseases, Genoa, Italy, 2StopTB Italia Onlus, Milan, Italy, 3Emerging Bacterial Pathogens Unit, Division of Immunology, Transplantation and Infectious Diseases, IRCCS San Raffaele Scientific Institute, Milan, Italy, 4Clinical Epidemiology and Medical Statistics Unit, Dept of Medical, Surgical and Experimental Sciences, University of Sassari, Sassari, Italy, 5Regional TB Reference Centre, Villa Marelli Institute/ASST Niguarda Ca’ Granda, Milan, Italy, 6E. Morelli Hospital ASST, Reference Center for MDR-TB and HIV-TB, Sondalo, Italy

The global spread of drug-resistant tuberculosis (DR-TB) represents a major challenge for effective TB prevention, treatment and control. The unprecedented migration flows from high-TB incidence countries to Europe, associated with low socioeconomic status, poor living conditions and limited access to healthcare, is contributing to the burden of TB in selected settings.

This study aimed to evaluate the epidemiology and treatment outcomes of multi-drug resistant (MDR) and pre-extensively resistant (pre-XDR) TB in migrants at two TB-reference Centres in Northern Italy.

MDR- or pre-XDR-TB migrants patients aged ≥18 years admitted at the Villa Marelli Institute (Milan, Italy) and E. Morelli Hospital (Sondalo, Italy) from 01/Jan/2000 to 01/Jan/2017 with available data were selected. Statistical analysis was performed on qualitative and quantitative variables.

Of 116 foreign-born TB cases, 62 patients (53.5%) were from the World Health Organization (WHO) European Region (excluding EU/EEA), 23 (19.8%) from Americas, 10 (8.6%) were from the Eastern Mediterranean, 8 patients (6.9%) from south-east Asia, 6 (5.2%) from Africa, and 7 (6.0%) from Western Pacific region. An increased in diagnosis between the years 2000-2008 and 2009-2017 was noticed, 41 patients (35.3%) vs 75 patients (64.7%), respectively. Overall, 82 (70.7%) patients were MDR-TB while 34 (29.3%) pre-XDR-TB, resistance to fluoroquinolones and amikacin was detected in 22/116 (19.0%) and 12/107 (11.2%) cases. 75 (64.5%) were male. Median (IQR) age was 32 (26-39) years. Main risk-factor for TB was a previous TB contact (33%), while 62/115 (53.9%) patients had a previous history of active TB. Pulmonary TB was diagnosed in 107/116 (92.2%) patients. Smear-positive patients were 86/116 (74.1%). Cure was achieved in 53/116 (45.7%) patients, treatment completion in 42/116 (36.2%), death in 6/116 (5.2%), default in 10/116 (8.6%), and transfer-out in 5/116 (4.3%) cases. Overall treatment success was reached in 95/116 (81.9%) patients.

The majority of the pre-XDR-TB cases came from the European Region (22 cases, 64%), while the Eastern Mediterranean region had the highest prevalence with 5 out of 10 patients (50%). DR-TB is an oppressive issue in migrants coming from high endemic countries. Prevention and control activities targeted to high-risk population are needed to progress toward TB elimination.

The global spread of drug-resistant tuberculosis (DR-TB) represents a major challenge for effective TB prevention, treatment and control. The unprecedented migration flows from high-TB incidence countries to Europe, associated with low socioeconomic status, poor living conditions and limited access to healthcare, is contributing to the burden of TB in selected settings.

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Imported malaria in a Tropical Medicine Reference Unit. Differences between two population groups: travellers and immigrants

M. Aguado Cabañas, Spain1,2, C. Crespillo-Andújar, Spain3, F. De la Calle-Prieto, Spain4, M.C. Ladrón de Guevara, Spain5, P. Barreiro, Spain3, M. Díaz-Menéndez, Spain3, M. Arsuaga, Spain3, M. Lago Núñez, Spain3, E. Trigo Esteban, Spain3

1Rey Juan Carlos University, fourth-year medical student, Madrid, Spain, 2La Paz-Carlos III University Hospital, Tropical and Travel Medicine Referral Unit, Madrid, Spain

Malaria is a global health problem. In 2016, there were 216 million malaria cases in 91 countries (WHO). The African continent supports 90% of the cases. Spain is the fourth largest European country in reporting imported malaria cases (not autochthonous cases). People from endemic areas acquire a certain degree of immunity after repeated exposure to the parasite and it is believed that it is lost when exposure to infected *Anopheles* mosquitoes stops. The risk of severe malaria is increased in children and pregnant women in endemic areas and in travellers from non-endemic areas who do not have immunity to the disease.

To describe clinical and epidemiological characteristics of all the imported malaria cases in our Unit and to compare this data between immigrants and travellers groups.

We performed a retrospective observational study at the Tropical and Travel Medicine Unit, University Hospital La Paz-Carlos III from January 2016 to December 2017. Sociodemographic, clinical, and epidemiological-related data were collected in a database.

See table 1.

**Table 1. VFR=visiting friend and relatives; Immigrants=only migration travel**

**Conclusions:**
- All severe malarias happened in the “travellers” group and all were causes by *P.falciparum*. That confirms that this is a high risk group and likewise *P.falciparum* is the highest risk specie for severity.
- Not taking chemoprophylaxis is related to the risk of acquiring malaria in endemic countries as described in the literature.

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>TOTAL (N=30)</th>
<th>MIGRANTS (N=10);7 VFR;3 immigrants</th>
<th>TRAVELLERS (N=20);17 Spanish;3 Latin-Americans</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENDER, WOMEN, (%)</td>
<td>15/30 (50%)</td>
<td>4/10 (40%)</td>
<td>11/20 (55%)</td>
</tr>
<tr>
<td>AGE (DAYS), MEAN (min-max)</td>
<td>45 (23-75)</td>
<td>52 (29-68)</td>
<td>41 (23-75)</td>
</tr>
<tr>
<td>AVERAGE LENGTH OF STAY (DAYS)</td>
<td>208</td>
<td>92 (VFR)</td>
<td>256</td>
</tr>
<tr>
<td>USE OF CHEMOPROPHYLAXIS</td>
<td>4/30 (13.3%)</td>
<td>0</td>
<td>4/30 (13.3%)</td>
</tr>
<tr>
<td>SEVERE MALARIA</td>
<td>4/30 (13.3%)</td>
<td>0</td>
<td>4/30 (13.3%)</td>
</tr>
<tr>
<td>INITIAL PARASITAEMIA (P. FALCIPARUM &gt; 2%)</td>
<td>1/30 (3.3%)</td>
<td>0</td>
<td>1/30 (3.3%)</td>
</tr>
<tr>
<td>ACUTE RENAL FAILURE (SERUM CREATININE &gt; 3 MG/DL)</td>
<td>3/30 (10%)</td>
<td>0</td>
<td>3/30 (10%)</td>
</tr>
<tr>
<td>DESTINATION, SUBSAHARIAN AFRICA (%)</td>
<td>29/30 (96.6%)</td>
<td>10/10 (100%) Subsaharian Africa (Equatorial Guinea; Cameroon; DRCongo; Uganda; Angola; 1CentroAfrican Republic; 1Mali)</td>
<td>16/17 (94.1%) See below</td>
</tr>
<tr>
<td>PLASMODIUM SPECIE</td>
<td></td>
<td>7/10 P.falciparum 2/10 P.ovale 1/10 mixed (P.falciparum+P.ovale)</td>
<td>15/20 P.falciparum (Subsaharian Africa) 4/20 P.ovale (WestAfrica) 1/20 P.vivax (Peru)</td>
</tr>
</tbody>
</table>

[Clinical and epidemiological characteristics]
Abstract: MIGRATION2018

Tuberculosis among Adult Migrants from Regions with a High Occurrence of Tuberculosis, Athens, Greece, 2014-2015

C.M. Vassalos, Greece1, D. Papaventsis, Greece2, J.G. Koutelekos, Greece3, M. Panagi, Greece2, E. Vassalou, Greece4, E. Vogiatzakis, Greece2, S. Karabela, Greece2

1Greek Health System, Athens, Greece, 2National Reference Laboratory for Mycobacteria, Athens, Greece, 3University of West Attica, Department of Nursing, Athens, Greece, 4National School of Public Health, Travellers’ Health Unit, Athens, Greece

Background: Greece is a country with low tuberculosis (TB)-incidence (< 5/100,000/year). In Athens, the migrant-crisis-hit Greek metropolis, migrants from high-TB-occurrence-regions (MHTBs) make up 5% of the population; MHTBs from the eastern part of Europe (EER) have resided permanently since 1990; an MHTB-influx, mostly from South Asia (SOA) and Sub-Saharan Africa (SSA), has been ongoing since 2010.

Objective: We present available data of TB-testing for Athens’ adult MHTBs to estimate TB-burden among them.

Method: We retrieved data on Athens’ adult foreign nationals from high-TB-occurrence-regions from National-Mycobacteria-Reference-Laboratory’s registries. During 2014-2015, Athens’ adult MHTBs were tested with TB-skin-and/or-TB-blood-test in addition to clinical and laboratory evaluation.

Results: Of the 219 MHTBs [male:113(51.6%); median age:36(range:18-88)], most [202(92.2%)] were from EER, SOA and SSA (Table 1). The 141/219 [64.4%(95%CI:57.8-70.4)] MHTBs had TB-disease/infection (Table 1).

### Table 1. TB status in adult migrants from regions with a high TB-occurrence, Athens, Greece, 2014-2015

<table>
<thead>
<tr>
<th>Regions with a high TB-occurrence</th>
<th>Migrants tested for TB (Total)</th>
<th>Migrants tested for TB (Males:Females)</th>
<th>Migrants with TB (disease/infection)</th>
<th>Migrants with confirmed TB-disease (positive cultures)</th>
<th>Migrants with (+) TB-skin- and/or TB-blood-test plus symptoms consistent with TB</th>
<th>Migrants with latent TB-infection</th>
<th>Migrant TB-contacts tested for TB</th>
<th>Migrant TB-contacts with TB</th>
</tr>
</thead>
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<tr>
<td>Eastern part of European Region</td>
<td>88</td>
<td>21:67</td>
<td>47</td>
<td>17</td>
<td>1</td>
<td>29</td>
<td>31</td>
<td>19 (8 with TB-disease)</td>
</tr>
<tr>
<td>South Asia</td>
<td>77</td>
<td>66:11</td>
<td>54</td>
<td>10</td>
<td>11</td>
<td>33</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>37</td>
<td>22:15</td>
<td>30</td>
<td>10</td>
<td>4</td>
<td>16</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>4:13</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>219</td>
<td>113:106</td>
<td>141</td>
<td>40</td>
<td>17</td>
<td>84</td>
<td>50</td>
<td>33</td>
</tr>
</tbody>
</table>

MHTBs newly-arrived from SSA/SSA were more likely to have TB-disease/infection than MHTBs originating in EER [PR=1.52(95% CI:1.18-1.95), p=0.001; PR=1.31(95%CI:1.03-1.68), p=0.03; respectively]. Of the 17/141 (12.1%) having a positive TB-skin- and/or-TB-blood-test and signs/symptoms-consistent-with-TB-disease, 11 (65%) presented with lymphadenopathy; of the latter, all had recently arrived from SOA/SSA. MHTBs with TB-disease/infection originating in EER were nearly three-times as likely to report being TB-contacts as those arriving from the rest of regions [19/47 vs. 14/94(40.4%vs.14.9%); PR=2.71(95%CI:1.50-4.92); p=0.001]. Of 31 MHTBs originating in EER who were TB-contacts, 8 (26%) had active TB-disease.

Conclusion: MHTBs' high-TB-burden reflected that in their region of origin. When new arrivals from SOA/SSA had a positive TB-skin- and/or TB-blood-test, symptoms-consistent-with-TB such as lymphadenopathy would indicate if they had progressed to TB-disease needing to be promptly reported along with confirmed-TB-disease cases to Athens' health-authorities to implement public-health measures. Health-professionals should be aware that Athens’ permanent residents from EER, possibly being in intra-family/intra-community contact with persons with infectious-TB, continue to be at-risk of developing active TB-disease.
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Infectious Diseases

Cystic Echinococcosis in Immigrants Accessing a Single Referral Center in Lombardy, Italy

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Background: Human Cystic Echinococcosis (CE) is a chronic and complex infection caused by the tapeworm Echinococcus granulosus. The increase in immigration from high CE prevalence countries results in higher numbers of patients with CE seeking medical attention in low prevalence countries.

Objective: We assessed the number, demographics and clinical features of immigrants with CE seen in a single referral center in the north of Italy enrolled in the European Register of Cystic Echinococcosis (ERCE) database.

Methods: All patients born in countries different from Italy, irrespective of their current domicile, were considered in a single group “immigrants or foreign born patients”. Location and stage of parasitic cysts at the first visit within the investigated period were extracted from ERCE. Cyst stages were classified according to the World Health Organization Informal Working Group on Echinococcosis (WHO-IWGE).

Results: As of March 20th 2018, of 399 patients registered in the ERCE, 171 (42.9%) were foreign-born (mean age 39.2 years, range 2.0-80.0). Most of them were from Morocco (n=55, 32.2%), Romania (n=33, 19.3%), Albania (n=11, 6.4%), Ukraine (n=11, 6.4%) and Peru (n=10, 5.8%).

Fifty-eight (33.9%) were diagnosed with CE in Pavia while 63 (36.8%) and 50 (29.2%) had already been diagnosed in other Italian regions or in different foreign countries. Patients who had already been diagnosed with CE were referred to our center for a second opinion or because of complications.

In this cohort, 266 cysts and/or postsurgical cavities were evaluated, 230 (42.0%) located in the liver, 36 (58.0%) extra-hepatic. The majority of patients (n= 111, 65.3%) had a single cyst, 11 (6.4%) patients had multiple localizations.

Conclusion: The majority of the patients registered in ERCE in Pavia were from highly endemic foreign countries such as Romania, Morocco, Albania and Peru. The adoption of an international registry for CE, stretching beyond European territory would improve monitoring of CE across borders.
# Poster Group 5 - Mental Health

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Background: More than 22.5 million refugees are displaced globally, with refugees below the age of 18 years old making up more than 50% of this population. More than 3,600 have been resettled in Pennsylvania as of 2016, 875 in Philadelphia County. Forced displacement, relocation, and resettlement have been shown to have lasting effects on youth. There are demonstrated mental health disparities in refugee adolescents resettled in the US when compared to the general population of youth. The relationship between resilience and protective factors related to youth mental health has been shown to be important in designing appropriate intervention and prevention strategies. Some of the most important determinants of wellness can be related to the post-migration experiences, but may be modifiable after resettlement.

Objective: We investigated the lived experience of adolescent refugees resettled in Philadelphia, PA to explore determinants of mental health, including resilience and protective factors, resource utilization patterns, gaps in services, and existing programs and policies.

Method: Key informants (n=6) and refugee adolescents (n=14) participated in cross-sectional, 45 minute interviews. The key informants were refugee community center staff and youth trauma specialists. The adolescents (age range 15-19 years) came to the US from Burma, Thailand, Syria, and Afghanistan. All interviews were transcribed verbatim, double coded, and thematic analysis was completed using NVivo 12 to facilitate a directed-content analysis approach. This study received approval from the Jefferson University Institutional Review Board, and all participants completed informed consent, with parental permission given for all minors.

Results: Analysis revealed themes in the interview responses, including health and social services, education, assimilation, connectedness, and emotional health. Overarching issues across the data were also identified including vulnerability, resource utilization, and identity. An explanatory model based on this analysis was created that may be useful in informing future investigation and programming.

Conclusion: The data suggests room for fostering of resilience in these youth through better understanding of their specific vulnerabilities, improved utilization and access to health and social services, and the importance of understanding the unique impact of their identity as refugee adolescents on their overall development and daily experiences.
Abstract:

Acculturation and Psychological Well-being among Middle-Eastern Migrants in Australia: The Mediating Role of Social Support and Perceived Discrimination

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Background: Migrant populations have been shown to be highly vulnerable to developing mental illness, with more prevalence rates of mental health problems compared to the majority settled. Middle-Eastern (ME) migrants have been found to have comparatively high rates of mental disorders due to coming from Middle-East as one of the most crisis- and conflict-prone regions in the world and facing many socio-cultural issues post migration. Thus, addressing the psychological well-being (PWB) of ME migrants and its driving and reinforcing factors is crucial.

Objective: The aim of this study is to examine the hypothesized relationships depicted in Figure 1.

Method: A cross-sectional study was conducted in Queensland, Australia. A total of 382 first-generation young adult (aged 20-39 years) ME migrants completed a self-administered questionnaire. The hypothesized model was tested through a two-step process: measurement, and structural model testing. First, Confirmatory Factor Analysis was applied to test the fit of the measurement model and reliability and validity indices were calculated. Structural Equations Modelling was then used to test the structural model. The significance of the mediating effect was tested using bootstrapping method.

Results: Social support had the greatest accumulated total effect on PWB through both a direct and an indirect effect via perceived discrimination. Ethnic acculturation had the second greatest total effect on PWB, with both a direct effect and indirect effects through social support and perceived discrimination. Mainstream acculturation demonstrated both a direct effect and an indirect effect on PWB through perceived discrimination. Perceived discrimination had only a direct effect on PWB.

Conclusions: Considering the largest effect size of social support on PWB, and as social support was influenced by ethnic acculturation, but not mainstream acculturation, developing the ethnic community associations and resources could be an effective option to provide social support to ME migrants and in turn to improve their PWB. Moreover, as both mainstream and ethnic acculturation were found to affect PWB, facilitating the ME migrants' active participation in both ethnic and mainstream societies is important. Moreover, to provide ME migrants with better mental health outcomes, there is still a need to minimize the discrimination against them.
Figure 1. Hypothesized model
Strengthening self-management competencies of Turkish family caregivers of people with dementia
Transnational Living of Migrants with Dementia

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Background of the Study: Migrants from Turkey who came during the recruitment of workers in the 1960s/1970s to Europe now reach the age when their need of nursing care increases. Research shows that in the next ten years the care need of older Turkish migrants in Germany will increase substantially. Elderly migrants are often being cared for by their family members and they do not take up professional support.

Objective: In order to enable family caregivers to continue to take care of their relatives and get access to supporting nursing care services, empowerment is needed. The aim of this project is to analyze the psychosocial burden and the needs of Turkish family caregivers of persons with dementia, and to develop concepts to empower the caregivers' self-management competencies.

Methods: Ten semi-structured interviews with experts and 12 semi-structured interviews with Turkish family caregivers of people with dementia were conducted and analyzed using content analysis.

Summary of Results: The quality of home care is often insufficient because many family caregivers experience health problems and have a lack of knowledge regarding nursing care and medication. Family caregivers are often affected by mental health problems. They seek help at a very late stage because they perceive the dementia of their relative as a taboo in the Turkish community in Germany.

Conclusions reached: Turkish family caregivers of people with dementia have a great burden, so that different instruments have to be developed to empower the self-management competencies of this group. One of them is an innovative self-help group in line with the communication habits of the family caregivers. Another instrument focuses in particular on mother-tongue information to promote health literacy, empowerment and the promotion of self-management skills.

Conclusions: Turkish family caregivers are strongly affected mentally but difficult to reach for help. User oriented outreach support instruments have to be established to strengthen their self-help competencies.
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Self-help needs of Turkish family caregiver of people with dementia in Germany

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Introduction:
The number of people in need of care is constantly increasing in the course of demographic change in western countries. People with a migrant background are also increasingly reaching an age at which the need for nursing care rise. Elderly migrants are often being cared for by their family members who do not take up offers of professional support.

Objective: Relatives are heavily burdened and use little nursing support and no psychological support. Migrants rarely use self-help and thus cannot benefit from its relieving function.

Methods:
A scoping review and ten semi-structured interviews with family caregivers of people with dementia were conducted in January-March 2018 and analyzed using content analysis.

Summary of Results:
The results of the scoping review show that there are only few publications on self-help for migrants with dementia in the international context. The interviews show that Turkish family caregivers do not trust the anonymity of the self-help group and do not have enough time to participate because of their care work. Relatives are more likely to use self-help if they were given practical help and information there and were able to communicate regularly with other people in the same situation.

Conclusions reached:
User-oriented instruments adapted to the everyday life and needs of family caregivers must be developed. In the next step, an interactive self-help instrument in line with the needs of Turkish family caregiver will be developed and validated.

Conclusions:
Further empirical findings are necessary to find out concrete needs of hard-to-reach groups for self-help. Innovative user-oriented instruments to support family caregivers should be developed and validated in line with their empirically researched needs.
Mixed Migration Flows and Mental Health Patterns during the First Reception at the Greek-Turkish Borders

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Background: The issue of migration has become center of interest during the last years, since the tension has been increasing and the legal framework is constantly changing. This heterogeneous migrant population consists of three different groups; refugees, asylum seekers and work immigrants. As a result, various psychosocial and cultural factors are involved with different consequences and effects on the mental health of these migrant groups. Objectives: The objective of this study is to describe the mental health condition of newly arrived migrants at the Greek-Turkish borders in the area of river Evros. Methods: This study is a retrospective observational study of the mental health patterns of newly arrived migrants at Greece during their first reception. Data were collected from 239 semi-stuctional interviews that took place from June 2013 to February 2015 at Evros First Reception Center from the psychosocial team of the Greek NGO Iatriki Paremvasi (Med.In.). Mental health patterns were tested with variables such as demographic information, history of psychopathology, drugs/alcohol abuse, and traumatic experiences. Results: The majority of the participants were male (85.4% 204), 16-30 years old (64.9% 155). Our results revealed that 43.5% (104) had a mental health disorder; the most frequent diagnoses were F40-F48 (according to ICD-10 codes), Neurotic, stress-related and somatoform disorders (31.8%, 76/239) (p=0.000). Among the total sample, the most common disorder was post-traumatic stress disorder [F43.1] (11.3% 27), followed by adjustment disorder [F43.2] (9.6% 23) and acute stress reaction [F43.0] (8.8% 21) (p=0.000). A traumatic experience was reported by 77.9% (81/104) of those who have been diagnosed with a mental disorder (p=0.003). 60.6% (63) of those who had been diagnosed with a mental disorder, had no history of psychopathology (p=0.005). Conclusions: Our survey revealed that mental and psychosocial illness is a significant problem for newly arrived migrants influenced by factors such as traumatic experiences. Providing psychosocial support to this population will not only improve their mental health but could also foster their integration.
Abstract:

Health needs among informal urban settlements in Rome, Italy

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Background: The reception system for asylum seekers and refugees have been expanding in 2017 to reach over 180,000 places. However, pockets of marginalization and informal settlements are increasing across Italy. Migrants living in these settlements experience harsh living conditions, find themselves exposed to abuse and have limited access to health care, water and sanitation. To respond to the considerable needs of this population, MSF (Médecins Sans Frontières) in collaboration with the Local Health Authorities (ASL Roma 2) and the National Institute for Health, Migration and Poverty (NIHMP), carry on a primary health care support and a territorial service orientation in four informal settlements located in Rome.

Methodology: This study analyses routinely collected data of a MSF program carried out from December 2017 to May 2018 in the Urban Settlements within the ASL 2 of Rome. A mobile clinic composed of a medical doctor, a psychologist and cultural mediators provided health care support inside and outside the informal settlements. Information on socio-demographics, diagnosis, treatment, referral and psychological symptoms were collected. Anonymized data were entered in the database and were statistically analyzed.

Results: Between December 2017 and May 2018, 833 medical consultations were carried out with a median age of 26 years old. Among the individuals assessed 80% were male, 69% were from Sub-Saharan Africa, 18% from Europe, 11% from North Africa and 2% from Asia. Among the patients treated, 25% (208) registered skin diseases, followed by 16%, (133) with respiratory disturbs, 12% (100) with musculoskeletal disturbs and 9% (75) with gastrointestinal diseases. In total 14% (117) of the cases assessed reported a psychological need and 51% among those were women. Among the main symptoms recorded there were somatoform disorders (22%) and anxiety (15%).

Conclusion: These results highlight the critical living conditions of migrants excluded by the reception system and provide a valuable insight into people's need for healthcare. In particular, a potential risk of psychological distress has been underlined. The project wants to systematically analyze the population's health needs, identify critical gaps in their access to health care and encourage the most vulnerable categories to use the existing social health services.
Abstract:

Mental Health

Immigration, Acculturation Strategies and Disordered Eating: A Case of Georgian Immigrants

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Background: Eating Disorders are considered to be culturally influenced and acculturation to western culture has been suggested as a risk factor for disordered eating. Individual experience of migration and subsequent acculturation is generally viewed as an important predictor of one's psychological well-being with some acculturation strategies considered healthier, while others associated with poorer outcomes. Multiple studies have linked acculturation strategy of integration with the most favorable adjustment outcomes, while strategy of marginalization - with the poorest mental health outcomes. Within the context of globalization, examining acculturation strategies of immigrant groups in relation to eating behaviors seems particularly relevant.

Objective and Method: A quantitative study was conducted on 253 Georgian women living abroad (UK and USA), with the goal of examining the links between their acculturation strategies and eating patterns. Ethics approval was obtained. The hypothesis suggested that acculturation strategy of integration would be linked with healthiest outcomes, while marginalization - with least healthy outcomes. Measures included Eating Disorder Examination Questionnaire (EDEQ), East Asian Acculturation Measure (EAAM) and Vancouver Index of Acculturation (VIA).

Results: Findings suggested that acculturation strategy of integration was associated with healthiest eating patterns, whereas strategies of separation and marginalization - with far poorer eating outcomes. Correlations between separation and marginalization and most EDEQ scores were statistically significant and positive, e.g.: \( r = 0.30, p < 0.001 \); \( r = 0.28, p < 0.001 \), and to lesser degree yet still significant and negative between integration and eating concern, and shape concern outcomes, \( r = -0.14, p < 0.05 \); \( r = -0.16, p < 0.05 \), thereby suggesting that integration was indeed associated with healthiest patterns, while marginalization and separation - with least healthy ones. Regression analysis further showed that separation and marginalization can be considered predictors of unhealthy eating patterns on four out of five subscales of EDEQ, e.g.: \( \beta = 0.24, p < 0.001 \); \( \beta = 0.22, p < 0.001 \), thereby partially proving the hypothesis.

Conclusion: Findings suggest that lack of integration in a host culture is linked with poorer eating patterns. More research is needed to explore acculturation in the context of eating disorders to develop efficient interventions for at risk immigrant populations.
## Non-communicable Diseases

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Elevated Glucose Prevalence in Newly Arrived Refugees

N. Quadri, United States¹, A. Settgast, United States²

¹University of Minnesota, Departments of Internal Medicine and Pediatrics, Minneapolis, United States, ²Health Partners Center for International Health, Department of Internal Medicine, Saint Paul, United States

Background: Data currently suggests pre-departure prevalence of diabetes in refugee populations is roughly 2-3% and typically diagnosed in symptomatic individuals. Other studies of diabetes prevalence in this population have been estimated between 3-8%. The prevalence is important in recognizing future risk for cardiovascular disease and complications of diabetes. This risk increases over time as lifestyle changes after US arrival as early as one to five years after resettlement.

Objective: To describe the prevalence of elevated glucose in newly arrived refugee patients and correlate associations with demographic data.

Methods: This was a retrospective chart review of the electronic medical record of 2,332 refugee patients from May 2009 to February 2016 looking at markers of elevated glucose (random glucose from basic metabolic panel, hemoglobin A1c) and demographic information (age, sex, language as proxy for country of origin, BMI).

Results: Of the 2,332 newly arrived refugee patients undergoing new arrival screening, 1.8% were positive for elevated glucose defined as glucose > 199 mg/dL. The average positive elevated glucose was 313 mg/dL and the average hemoglobin A1c was 9.4%. About 95% of the positive group were under the age of 65. When compared to other refugee populations in the study, Karen/Burmese speakers had a lower prevalence of elevated glucose (1.1%, p = 0.01) and Bhutanese Nepali speakers had a higher prevalence (4.1%, p = 0.005). Upon comparing BMI categories with elevated glucose prevalence, there is a statistically significant relationship with higher BMI and elevated glucose prevalence (3.7% vs. 1.0%, p < 0.001).

Conclusions: Though the prevalence (1.8%) was lower than other estimates (2.3%), it was in accordance with the varied prevalence from 2.5% to 14% based on country of origin as demonstrated in other studies. Prevalence is likely a gross underestimation for this population due to the assumption of random glucose values vs. utilization of fasting glucose or HbA1c. Given the lack of required diabetes screening pre-departure for refugees, it would prove beneficial to perform routine diabetes screening domestically at arrival for patients > 40 years of age and for those within the BMI category of overweight and obese ranges.
Incidence of Hypertension among Nomadic and Urban Maasai in Northern Tanzania

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Background:
Sub-Saharan Africa is currently experiencing dramatic changes in demographics. Population majorities are becoming younger and once rural communities are now migrating to more urban areas. Changes in cultural, dietary and lifestyle factors have led to an increase in noncommunicable diseases. This study seeks to investigate the prevalence of hypertension in the Masaai, a traditionally nomadic people in southern Kenya and northern Tanzania who, in response to political and societal factors, are moving from rural to urban communities.

Methods:
In this cross-sectional population assessment, the blood pressure of 638 Masaai adults was measured in two urban clinics in Arusha and two rural clinics in Ngorongoro, Tanzania. T-tests were performed to assess for statistical significance between the two locations, gender, and age-matched cohorts (18-30 years, 31-50 years, 50+ years).

Results:
Average blood pressure varied significantly between the two locations. 38\% of patients in rural Tanzania had systolic hypertension (defined as pressure > 129 mmHg) compared to 55\% in the urban population. Within the urban cohort (n=370), there was no statistically significant difference in blood pressure between gender. Similarly, there was no difference between genders in the rural cohort (n=268). There was a trend toward higher blood pressure with age in both regions with average BP being greatest in the 50+ patient populations. There was a statistically significant difference in blood pressure between 50+ age-matched cohort by location (p = < 0.05) but not gender.

Conclusions:
Our results are consistent with earlier data from developing nations and confirm a trend toward more HTN in older and urban populations compared to younger and rural cohorts. As more Masaai transition from the rural, nomadic lifestyle to a more stationary existence in suburban and urban centers, there will likely be a greater need for medical intervention. This reinforces the need for preventing and intervening non-communicable disease in migrant communities in northern Tanzania.
# Poster Group 7 - Paediatrics

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Illness in Pediatric Migrants to Canada: Surveillance Report from CanTravNet, April 2015 — March 2018

S. Kuhn, Canada1,2, M. Libman, Canada3,4, C. Yansouni, Canada3,4, A. McCarthy, Canada5,6, J. Geduld, Canada7, J. Hajek, Canada8, W. Ghesquiere, Canada8, Y. Mirzanejad, Canada8, K. Plewes, Canada8, J. Vincelette, Canada8, S. Barkati, Canada8, P. Plourde, Canada8, C. Greenaway, Canada3, S. Chakrabarti, Canada11, K. Schwartz, Canada11, C. Thompson, Canada11, K. Kain, Canada11, A. Boggild, Canada11,12

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Background: Children represent a vulnerable sub-group of migrants to Canada. There are few data on the spectrum of imported infectious diseases in this group. We describe the imported infections seen in pediatric migrants presenting to a CanTravNet centre over a 3-year period, and their demographic characteristics.

Methods: Data on all pediatric migrants to Canada presenting to a CanTravNet site between April 2015 and March 2018 were analyzed. CanTravNet constitutes the Canadian sites within the GeoSentinel network, a global surveillance network of travel and migrant associated health conditions.

Results: Of 1146 migrants in the CanTravNet database over the enrolment period, 87 (7.6%) were aged under 18 years. Top diagnoses in this population included: malaria (n=26, 29.9%), schistosomiasis (n=21, 24.1%), strongyloidiasis (n=10, 11.5%), cutaneous leishmaniasis (n=9, 10.3%), and giardiasis (n=9, 10.3%). Amongst cases of malaria, P. falciparum accounted for 85% (n=22). Median age of the returned pediatric migrants was 10 years (range < 1-17 years; IQR 5-13 years), with males accounting for 46% of cases (n=40). Source countries of illness in pediatric migrants were diverse (n=36); the Democratic Republic of the Congo was the most well represented source country, accounting for 8 cases (9.2%), followed by Guinea (n=7, 8%), Tanzania (n=6, 6.9%), Thailand (n=5, 5.7%), and Uganda (n=5, 5.7%).

Conclusions: Malaria remains the top specific etiologic cause of illness in pediatric migrants evaluated at CanTravNet sites over a 3-year period, the vast majority of which were caused by potentially life-threatening P. falciparum infection, reinforcing the need for prompt exclusion of malaria when encountering febrile pediatric migrants. Top causes of infections in this population were all parasitic, which has implications for screening guidance. Four of the top 5 source countries for pediatric migrants to Canada were from areas of sub-Saharan Africa endemic for malaria, soil-transmitted helminths and schistosomiasis. Efforts should be made to target this vulnerable population for prevention measures.
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Abstract: Immunization policymaking in the EU/EEA Member States: the complexity behind reality

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Background: With an ever-increasing number of vaccines on the market, boosted by innovation and a worldwide commitment for strengthening efforts towards infectious diseases elimination, the development of national immunization programmes (NIPs) has matured into robust processes where evidence-based methodologies and frameworks have increasingly been adopted. A key role in the decision making and recommending process is played by National Immunisation Technical Advisory Groups (NITAGs). We assessed the current roles and responsibilities of the existing EU/EEA NITAGs in general and specifically in the process of elaborating operational goals and implementation tools for NIPs, using measles as the example of an important vaccine-preventable disease targeted for elimination.

Methods: In this cross-sectional study, conducted from March to May 2016, an electronic questionnaire was sent to representatives of NITAGs or equivalent bodies in each of the 31 EU/EEA Member States.

Results: Validated responses from all 31 EU/EEA Member States showed that while most of the countries (26 of 31, 84%) have already constituted a NITAG, the roles and responsibilities of existing committees differ from providing recommendations for immunization schedules (24 of 26, 92%) or vaccine implementation/scientific assessment (20 of 26, 77%) to direct involvement in risk-benefit analysis (13 of 26, 50%) or recommendations on research and development directions (3 of 26, 11.5%). Further the operational goals and implementation tools of the measles NIP are diverse within the EU/EEA Region.

Conclusions: The roles and responsibilities of existing 26 EU/EEA NITAGs vary across the Region and this is also reflected in the heterogeneity of operational goals and implementation tools currently being used for measles NIPs. Our study supports previous findings about the disparities in NITAGs processes which could potentially also explain the differences in NIPs across Europe.
Migrant health governance: how do countries make decisions for migrant health?

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In May 2018, speaking to an audience of migrant health researchers, policy-makers and activists, Jacqueline Weekers, Director of the Migration Health Division of the United Nations’ (UN) International Organization for Migration (IOM), lamented the ‘appalling lack of political leadership’ on migration. A possible answer to this lack of leadership may come in the form of the Global Compact for Safe, Orderly, and Regular Migration, which is expected to be adopted by UN Member States in December 2018. The compact will have a strong focus on governance and is expected to be the ‘first, intergovernmentally negotiated agreement, prepared under the auspices of the UN to cover all dimensions of international migration’. It offers a significant opportunity to improve the governance on migration, addressing all aspects of international migration, including human rights-related aspects.

The lack of political leadership on migration reflects on health governance. Health is a key dimension of migration, but there is a noticeable lack of research on migration health governance. Particularly, structures and mechanisms of governance for migration health at the national level are rarely explored and have never been comparatively described. A better understanding of similarities and differences between countries is key to inform better planning of migration health governance at an international level, which will be a key component of the Global Compact for Migration.

This discussion will provide examples of migration health governance from countries from both the global north and south, presented by country experts who work within the decision making process. It will explore process of decision-making and health expertise involvement in migration health policy-making, and look at roles of health and non-health sectors, of public and private actors as well as citizens in informing policy.

This panel will be a unique opportunity, particularly for policy-makers, to exchange experience, to explore and compare different formats of migration health governance, and to provide researchers and activists with a better understanding of national models of migration health governance, enabling the identification of good practices.
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Major migrant health problems recorded in a Reception Center (RC) in Greece: the experience of the Hellenic Air Force Medical Forces

P. Savourdos, Greece¹, A. Doumana, Greece², Z. Vladeni, Greece¹, S. Papadaki, Greece³, D. Hatzigeorgiou, Greece⁴
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Background: The number of migrants in Greece has increased significantly during the last three years, so there was an imperative need for civil - military cooperation in order to organize the medical support of the RC's. This study focuses on outlining the major health problems of migrants so as to develop strategies to manage them.

Method: We conducted a retrospective analysis based on the medical information recorded from 02/2016 to 10/2016. The population under study was migrants hosted in RC Schistos, one of the RCs medically supported by Hellenic Air Force. Demographics and health problems were recorded. We listed the migrants who were referred to local or tertiary hospitals for further medical care.

Results: The population at the beginning was 1974 people which reduced gradually to 776 of which 290 men, 378 women (25 pregnant), 102 children and 6 infants. All of them came from Afghanistan. In the 8 month period a total of 7600 individuals were examined and the main diagnoses were: upper and/or lower respiratory infection (45%), gastroenteritis (35%), skin problems (15%), chronic medical conditions (5%). Of those examined 310 patients transported to hospitals via the National Emergency Center services. In women, the main reasons for transfer were: high sustained fever, pregnancy and complications, while there were also recorded cases of violence and attempted suicide. In men, high sustained fever, heart problems and abdominal pain were the main reasons for transfer, but also we had one case of pulmonary tuberculosis as well as many cases of drug and alcohol abuse. None of the 65 Rapid Diagnostic Tests for malaria performed in people with suspected symptoms was positive. An outbreak of 100 cases of scabies has been successfully managed in a short period of time with the support of specialized physicians.

Conclusion: The migrant’s health problems do not differ significantly from that of the general population. The increased frequency observed in some of these can be attributed to difficulties of the long migration travel and to the close proximity in daily living.
Abstract: Hepatitis A mini-outbreaks in Southern Israel involving Thai migrant workers

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In July 1999, Israel was the first country to introduce hepatitis A vaccine as part of its national immunization plan for children ages 18 and 24 months, achieving more than 95% decline in annual HAV incidence. However, close proximity to countries without mandatory vaccination, a highly mobile population, vaccine refusal pockets, and the heavy reliance of the Israeli agricultural sector on work migrants, all provide fertile grounds for reintroduction of HAV into Israel and generation of disease chains among unvaccinated populations. Since 2016, genotype 1A has been identified from the majority of clinical samples from a large HAV outbreak in the center of Israel associated primarily with MSM patients.

We aim to describe 2 outbreaks of HAV in Southern Israel including 4 and 7 patients respectively, which involved native-born Israelis from agricultural communities with a high vaccine refusal rate, and Thai agricultural workers with longterm residence in Israel. Epidemiological characteristics and clinical manifestations of outbreak patients were reported by the primary physicians. Sera from affected individuals were positive for IgM antibodies to HAV. Sera were then transferred to the Central Virology Laboratory for molecular diagnosis and typing. Data concerning age-appropriate vaccine coverage in the affected communities was collected.

In both HAV outbreaks, which involved Israeli citizens-both children and adults, as well as Thai migrant workers living on the same communities, genotype 1B was found in sequenced clinical specimens. The outbreak 1 genotype differed by 2-3% from the outbreak 2 genotype. In the outbreak 1 community, only 22% of 18 month old infants were vaccinated for the first dose of HAV during the outbreak. In outbreak 2 community, only 55% of the children born on 2012 eligible for 2 doses of HAV vaccine by age were appropriately vaccinated for 2 doses of HAV.

Genotype 1B circulates in Israel putting unvaccinated populations in small communities at a risk for future outbreaks. Vaccination with HAV should be a requirement for overseas candidates for work in Israel, and for recent immigrants. There is a need to address the high vaccine refusal/deferral rate in the outbreak communities.
Abstract: Pre-travel Preparation of Travellers Visiting Friends and Relatives Departing from Athens International Airport: A Five-Year Prospective Study

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Background: The number of travellers visiting friends and relatives (VFRs) has increased. Travellers visiting friends and relatives (VFR’s) in their country of origin are at increased risk of acquiring preventable infections compared to other travellers. Risks factors include circumstances of travel, risk misconceptions and poor access to health care.

Objective: The purpose of this study is to assess pre-travel preparation of VFRs departing from Athens airport.

Method: An airport-based study was conducted from 2011 to 2015.

Results: A total of 1519 travellers VFRs were studied who constitute more than 40% of all travellers during the study period. Of those, 7.7% sought pre-travel advice; 70.2% of them were men and 51.5% were 35-49 years of age. The Indian subcontinent was the most common country of origin (57.2%) followed by South East Asia (19.6%). Most common destination was the Indian subcontinent (58.3%). Most travellers VFRs visited urban and rural areas (46.2%) and stayed at local houses (99.4%) for 1-3 months (43.5%). Yellow fever, typhoid fever, meningococcal and poliomyelitis vaccines, were administered to 2.2%, 2%, 0.5% and 0.3% of VFRs, respectively; 24.8%, 17.6%, and 4.8% of VFRs to sub-Saharan Africa received Yellow fever, typhoid fever, and meningococcal vaccines, respectively, whereas 0.3% and 0.1% of those travelling to the Indian subcontinent received typhoid fever and rabies vaccines, respectively. Malaria prophylaxis was recommended to 3.9% of travellers VFRs; 83.3% and 28 % of them travelled to sub-Saharan Africa and to the Indian subcontinent, respectively.

Conclusion: There is an urgent need for improvement of pre-travel preparation of travellers VFRs. Targeted education of this group of travellers is crucial.
Abstract: Tinea capitis in Children from Disadvantaged Communities on the Outskirts of Lisbon, Portugal

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Background: Dermatophytoses affect millions of people around the world, being very common in Africa. Tinea capitis is the most common fungal infection in the pediatric age, it is contagious and has a marked social impact, leading children to restriction of social activities. With the increase in intercontinental travel and immigration, new diseases have spread in the host countries, occurring, too, the increase in the prevalence of this infection in Europe.

Objectives: The aims of this study were to identify the infections caused by dermatophytes (Tinea capitis) in children of African origin living in poor/disadvantaged neighborhoods, and to characterize the parents/tutors knowledge about the disease, in order to propose intervention strategies.

Methods: The study was carried out on Santa Filomena slum, county of Amadora, Portugal. Three diagnostic techniques were used: clinical observation, microscopy, cultural exam of the scalp samples. We also applied a questionnaire to parents/tutors of the children.

Results: A total of 127 children, aged 3-14 years old, participated in the study (44.9% male); 17.3% had active disease, 19.7% were carriers. Only two etiological agents were identified, both of African origin: (1.6% of children had mixed infection): Microsporum audouinii (22%), Tricophyton soudanense (13.4%). The percentage of children with active disease/carriers was higher in the lower age groups (p=0.001) and in those living in households with a greater number of children under 15 years of age (p=0.042). Parents/tutors considered Tinea capitis is: skin spot/aloepecia (41.3%), a disease (13,1%); 22.8% indicated medical treatment is more appropriate but 36.9% considered the use of traditional treatments (lemon, salt, bleach, painting lesions); only 22.5% considered contact with other infants as a form of transmission.

Conclusions: Tinea capitis is a public health problem in this community. The large percentage of carriers shows that many children contribute to the spread of the infection. The identified etiological agents (both of African origin) are related to population mobility. The parents/tutors showed scarce and, sometimes, incorrect knowledge about the disease. To control the infection it is important health education and the involvement of the various partners in the community.
Health promotion in integration for newly arrived migrants in Sweden - a thesis project plan

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¹Mid Sweden University, Department of Health Sciences, Sundsvall, Sweden

Background: Although Sweden has an overall relatively good public health, there are inequities in health. Newly arrived migrants [NAMs] is one group facing these inequities and to promote their health actions on the structural determinants of health are of importance. In the integration of NAMs actors on several different levels in society are involved, and therefore have an important role in affecting NAMs' health. Little is however known about the involved actors view on their roles, responsibility, and possibility to promote NAMs' health.

Aim: The aim is to study how health promotion is regarded through the societal structure of policymaking, governing and exercise of authority from international to the local level as well as how newly arrived migrants themselves experienced health promotion during their time in the establishment program.

Methods: The research project consists of five studies, each focused on a different level and actor in the society, with different study design, data collection methods and method of analysis. The studies are focused on (1) international and national integration policies, (2) regional policymakers' perspectives on their roles in health promotion, (3) local authority officials' view on collaboration in health promotion as well as (4) their view on health promotion in meetings with NAMs, and (5) NAMs' experience of health promotion during their first two years with residence permit in Sweden.

Results: The first result indicates that local authority officials view health promotion as complex but desirable. Their roles and responsibilities are unclear, to themselves and to each other.

Contribution of the studies: This research project will add to the limited knowledge of how health promotion is regarded through the multi-level governance of a society. It also has the possibility to raise the importance of the health perspective on a societal level in integration, a perspective often lacking today.
Health promoting factors for newly arrived migrants - Experiences from rural and urban municipalities

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¹Mis Sweden University, Department of Health Sciences, Sundsvall, Sweden

**Background:** During recent years, a sustainable amount of newly arrived migrants in Sweden is living in the north part of the country. Three different municipality structures exists: rural-, coastal- and large coastal municipality. Some of the characteristics for the northern counties are huge rural area with low population density except the coast were a majority of the inhabitants lives. Local authorities such as employment agency, state insurance company, immigration agency and specialist health and care have their offices in the towns, whereas in the villages the local authorities often are represented at shared offices and distance service through internet. Access to the local authorities for support and aid might influence the newly arrivals opportunities for health. The purpose of this study was to illuminate how population density and location of the municipality influences the local authorities view on health promoting factors for newly arrived migrants.

**Method:** Five focus groups interviews with officials from the Employment agency and the local municipalities were conducted. Twenty-three officials from four out of seven municipalities in the county were included. Interviews were analysed with qualitative content analysis.

**Results:** According to officials in rural areas they provided the newly arrived migrants a holistic approach and high confidence. That opinion was also supported by officials in towns. Besides the holistic view, the lack of authorities in the rural municipalities increased the officials burden. On the other hand a poor infrastructure in the rural areas hampered the newly arrived migrants integration, for example from visiting the authorities full size offices, participating in educations and activities. However, the newly arrived migrants and their families easily got access to the social activities and daily life in villages in rural areas.

**Conclusion:** In two of the three municipality structures, the poor infrastructure is a struggle for newly arrived migrants and health promoting factors.
Local authority officials' collaboration in health promotion activities for newly arrived migrants

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Background
Newly arrived migrants in Sweden is a group facing inequities in health even though the general public health is relatively good. Successful promotion of population health requires awareness of and focus on health from several sectors of society, in governance, policy, and action. Intersectoral collaboration is an important tool for this. The aim of the study was to explore local authority officials' view on collaboration in health promotion activities for newly arrived migrants.

Method
Data were collected through five focus group interviews in the research project Establishment with Health Perspective in 2016. The participants were 23 authority officials working with newly arrived migrants at the Public Employment Services or in the municipalities in a region in the north of Sweden. Data were analyzed by means of inductive latent qualitative content analysis.

Results
The preliminary results show that local authority officials view collaboration in health promotion activities for newly arrived migrants as complex but desirable. The category “unclear roles” described the complexity regarding the respective authorities' roles and responsibilities in health promotion activities. The category “facilitate communication” contained the officials' descriptions of solutions to the complexity. It included solutions such as gathering all authorities within one organization, simplify communication pathways and making information easily available.

Conclusion
This study shows that the officials pointed out limitations and issues in collaboration today, they voiced many factors that could improve the collaboration but they saw no reason why they should not continue to collaborate. The study shows the authority officials' deep commitment to their work and they describe intersectoral collaboration as an important factor for success in promoting newly arrived migrants' health.
## Poster Group 10 - Resettlement / Health Systems

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Geographical Disparities in services available for Canadian immigrants through the available settlement agencies

O.A. Olatunde, Canada

1Dalhousie University, Family Medicine, Moncton, Canada

Background of the study

Canada is a nation that is known to be open to immigrants and thus would need immigrant or settlement agencies to help with their settlement. Immigration could be for economical reasons, family reasons, personal reasons or political reasons. There are 10 provinces and 3 territories in Canada. Most immigrants would need support in the first few weeks or months upon their arrival. They could need help with language, culture shock, accommodation, job search, health needs which include mental health etc.

According to statistics Canada, the 2016 population total population for Canada was estimated to be 35,151,728 with Ontario, Quebec, British Columbia and Alberta having the highest population.

Objective

This study seeks to see the available settlement services for immigrants in Canada. This will be mapped per province and population.

Method

Information on the Canadian Immigration and Citizenship [CIC] website, statistics Canada website was accessed and appropriate documents were downloaded.

Summary of results

In 2015/2016, there is an estimated 323,173 persons that immigrated to Canada and Ontario, Quebec, BC and Alberta making up those with the highest immigrants while Nunavut, Yukon and the NWT making up those with the least immigrants. 1220 agencies were included on the CIC site and majority of these services present in the more populous provinces with the highest immigrant influx. A lot of these agencies offered language training and job search opportunities, help with daily life, services for refugees, women, seniors and youth. There was no standardized settlement process.

Conclusion

The general immigrant population ratio to settlement agencies is about 264:1 which unfortunately does not reflect the content of services provided and might not reflect the client satisfaction since there is no tool to measure this. The government needs to regulate these agencies and ensure adequate funding is available to meet the needs of this group of people. These services should also be transportable to rural areas so as to support rural migrant settlement. There should also be periodic reviews or reports of these agencies. We will seek to formulate a validated measurement tool in the near future.
Barriers for the completion of latent tuberculosis infection screening in asylum seekers, Northern Italy

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Background: Data on the barriers for the completion of the cascade of screening and care for latent tuberculosis infection (LTBI) in asylum seekers (AS) are scanty. LTBI screening practices for AS in Italy follow regional and local rules, and require a strong cooperation between the health system and reception facility (RF) workers.

Objectives: To assess possible barriers for the completion of LTBI screening among AS, either due to refugees' behavior, local health system or RF organization. The study was carried out in Lombardy region, that hosts 13% of AS landed in Italy, with about 4000 migrants re-settled in Brescia province in 2015-2017.

Methods: Systematic cross-sectional survey study among all 46 RF in the area of Brescia. We sent an online questionnaire including 24 multiple choice questions to detect: RF characteristics, internal organization of the healthcare activities (responsibility, consultation planning and supporting) and factors associated to screening failure. The last question was open for suggestions, observations or critical issues.

Summary: We reached 36 (79%) RF and 21 of them (46%) answered to the questionnaire. The workers were employees, with limited support from volunteers (14%). Staff in RF included mainly social educators (90.5%), administrative personnel (66.7%) and psychologists (52%). In 57% of RF a responsible for healthcare activities was present, either psychologist (25%), social educator (16.7%) or healthcare assistant (16.7%). All RF had a medical record for each AS and 95% adopted screening procedures for LTBI. Non-healthcare professionals (social educators and/or cultural mediator) planned for clinical consultations and supported AS for healthcare practices (i.e. accompanying at consultations and supervising drug administration). Systematic barriers in screening completion were declared by 10% of the RF and failure was mainly attributable to a combination of hurdles to accessing healthcare services (33.3%) (including a temporary shortage of tuberculin as stated in open answers) and RF internal organization (19%).

Conclusions: According to RF staff, internal and external organization issues (either in RF or in healthcare services) contribute to screening failure. Promotional campaigns to sensitize non-healthcare workers to the importance of LTBI screening in RF and a reorganization of healthcare delivery system for AS could improve completion rates.
Using Patient Navigators to Improve the Health Outcomes of Resettled Refugees in NYC

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1AIDS HealthCare Foundation, Medicine, Los Angeles, United States

Background
The health of refugees is highly variable, and is ultimately, the convergent result of a number of environmental, genetic, and resource factors taking place in their respective country of origin or refuge. Many refugees live in secondary urban environments for years and have ready access to health care. Intuitively, the sum total of these factors mentioned should lead to adverse health outcomes, but we lack a validated system to assess this risk, as well as a systematic way to mitigate its impact. Recently, there have been a number of patient navigator (PN) programs forming throughout North America. These programs can help refugees with demonstrable risk to maneuver through a foreign and incomprehensible system in order to maximize favorable health outcomes and prevent unnecessary morbidity and mortality.

Objectives:
1. Create an assessment tool that determines risk of adverse health outcomes among refugees based on three criteria:
   a. mental health
   b. chronic physical conditions
   c. country of refuge or origin
2. Design a refugee PN program, which assigns a PN to each refugee demonstrating sufficient risk.
3. Measure the difference in health outcomes between those assigned a PN and those receiving the standard of care.

Protocol:
This program and ensuing analysis is divided into five different sections.
1. Literature review
2. Assessment tool: determining risk of adverse health outcomes, including:
   a. Hospitalizations
   b. Emergency department (ED) visits
   c. Mortality
   d. disability
   e. Poor control of chronic physical conditions (e.g. HIV, diabetes mellitus, hypertension, dyslipidemia);
3. Study design:
   a. Non-randomized interventional trial
   b. Population: refugees resettled by an agency into NYC from May 2018 to October 2019
4. Study implementation:
   a. All refugees resettled in NYC < 90 days by a known resettlement agency will be assessed using the designed risk assessment tool.
   b. If the refugee is determined to be of sufficient risk, that refugee will be assigned a PN.
5. Data analysis:
   a. Analyze clinical indicators and compare with the control group
   b. Analyze AHOs and compare with the control group
   c. Study write up and submission for publication
Health status of newly arrived Burmese resettlement refugees in Japan

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1National Centre for Global Health and Medicine, Tokyo, Japan, 2Tokyo Medical and Dental University Hospital, Tokyo, Japan, 3Takadanobaba Sakura Clinic, Tokyo, Japan

Background: The Japanese government accepted 96 Burmese Refugees from refugee camps in Thailand and slum areas in Malaysia, during 2011-2016, in cooperation with U.N. organizations. The National Centre for Global Health and Medicine has conducted arrival medical screening tests for all those refugees.

Objective: To analyze disease prevalence, nutritional condition, and susceptibility to vaccine-preventable diseases for immigrants and refugees newly arrived in Japan from developing countries.

Method: We analyzed the data collected from health checkups of 96 refugees at entry (59, Refugee camp in Thailand; 37, Malaysian slums). Vaccine records were reviewed, and Kaup and Rohrer indexes were used to evaluate children's nutritional conditions.

Result: According to WHO and Japanese recommendations for routine vaccinations, most of the necessary vaccines should be administered before arriving in Japan. Serum examination revealed positivity for Hepatitis B surface antigen and for Hepatitis C antibody in 3 people (3.2%), respectively. Stool examination results revealed that 24 refugees from Thailand (40.7%) were infected by gastrointestinal parasites (Amebiasis, 16; Giardia lamblia, 5; Ascaris lumbricoides, 3).

A total of 33.3% of refugee children from Thailand aged < 6 years were diagnosed as underweight and 5.6% were categorized as very severely underweight, while 50.0% of children aged between 7 and 13 years were underweight and 8.3% were very severely underweight. Moreover, 37.5% of the Malaysian slum children aged < 6 years were diagnosed as underweight and 12.5% were categorized as very severely underweight. None of the Malaysian slum children aged between 7 and 13 years were underweight or very severely underweight; while 33.3% were normal, 66.7% were obese.

Conclusion: Prevalence rates varied according to the location of temporal refugees. Individuals from a refugee camp in Thailand tended to be under-nourished and have parasitic gastrointestinal infections; this is considered to be an impact of living environmental conditions. Individuals from Malaysian slums tended to be obese. The urban poor in developed countries appear to be especially vulnerable because of their dietary habits, according to the prevalence rates in our findings. These data support the need for pre-arrival and post-arrival health screening and accessibility to catch-up vaccinations.
## Poster Group 11 - Screening / Health Assessment

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Determining Health Conditions Present in Refugees Age 60 Years and Older Arriving in Utah, United States of America

C. Frost, United States1, N. Morgan, United States1, H. Allkhenfr, United States1, S. Dearden, United States1, R. Ess, United States1, W.F. Albalawi, United States1, A. Berri, United States1, S. Benson, United States1, L. Gren, United States1

1University of Utah, Salt Lake City, United States

Over 65 million people are living as refugees around the world. Refugees resettled into high-income countries face a variety of structural and cultural barriers to obtaining health care, which can result in delays in seeking care and negatively impact the successful integration of arriving refugees. Aging populations frequently have increased health care needs. Understanding the health conditions that require attention at the time of arrival is the first step in identifying interventions to assure that structural and cultural barriers are addressed so that refugees obtain necessary care. To identify these conditions, we calculated the prevalence of health conditions on the Domestic Screening Examination conducted in Utah, USA, typically within 30 days of arrival. We evaluated the health conditions of refugees 60 years and older, noted upon arrival between 2012 and 2017. Of the 7017 refugees resettled in Utah between 2012 and 2017, 217 were age 60 years and older. In this population, (n=198, 91%) had at least one positive screen on the Utah-Health Screening Report. The most common positive screens for physical health conditions were in the groupings of ophthalmology (n=136, 62.7%), cardiology (n=96, 44.2%), infectious disease (n=93, 42.9%), and musculoskeletal pain (n=59, 27.2%). Among the mental health indicators, the RHS-I score had the highest prevalence (n=88, 40.6%) and was associated with symptoms of PTSD, depression, and/or anxiety. There was little difference between men and women, with only two categories demonstrating statistically significant differences. Men reported a higher prevalence of torture and musculoskeletal pain.

While remediation for some of the ailments, such as decreased visual acuity, may only require one visit to a practitioner for eye glasses, much of what afflicts this population however, requires longer term care and multiple follow up visits, e.g., chronic diseases - hypertension, arthritis, and low back pain. Complications of these chronic diseases are shown to decrease quality of life and increase mortality rates. Thus, it is of critical importance that receiving communities are well-acquainted with the needs of geriatric refugees suffering from chronic conditions requiring long-term care, and that access to quality healthcare should be a primary objective for those organizations serving them.
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Pre-departure health assessments of refugees: Maximising evidence and benefits

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1Public Health England, Travel and Migrant Health, London, United Kingdom, 2Public Health England, London, United Kingdom, 3Centers for Disease Control and Prevention, Atlanta, United States, 4International Organisation for Migration, Geneva, Switzerland

Pre-departure health assessments (HA) for refugees are a key component of the resettlement process in many countries and are carried out for a number of reasons, such as to ensure the refugee is fit to travel, that they do not pose a risk to others, and that appropriate support is in place during travel and in the resettlement country, amongst others.

Pre-departure HA are required for a number of host countries, including Australia, Canada, New Zealand, the United Kingdom the United States amongst others. Technical instructions from resettlement countries guide healthcare professionals tasked with the pre-departure health assessment of refugees. Guidance is issued by host countries and usually based on best practice although there may be variations explained by country preferences, the policy environment or circumstances of refugee situations.

This panel will bring together representatives from different resettlement countries who have been involved in the production of the pre-departure refugee HA guidance. The speakers will outline the contents and procedures used to produce this guidance, as well as focus on a particular area of the guidance (such as mental health, TB or immunisation). This will provide a platform to present an initiative to harmonise the pre-departure refugee HA, based on the example of TB. This discussion will provide an opportunity to exchange experience between policy-makers and will offer a unique view into the policy-making process for HA in refugee resettlement in different countries.

Proposed short talks

• Chair, Ms. Jacqueline Weekers (Director of the Migration Health Division, IOM): How can we ensure greater coordination and maximise benefits for migrant and host country through pre-migration health assessments?
• Dr. Marty Cetron (Director, Division of Global Migration and Quarantine, CDC): Evidence over time - a potted history of the US Technical Instructions
• Dr. Ines Campos-Matos (Head of Travel and Migrant Health, PHE): Pushing the boundaries - new tools for health assessments: the case of mental health
• Dr. Paul Douglas (Quality Assurance and Quality Compliance Officer, Health Assessment Programmes, Migration Health Division, IOM): How can we minimise variations in health assessments
• Coordinator (Head of TB screening, PHE): Dr. Dominik Zenner
“It never happened to me, so I don’t know if there are procedures”: identification and case management of torture survivors in the reception and public health system of Rome, Italy

C. Spissu, Italy¹, G. De Maio, Italy¹, R. Van den Bergh, Belgium², E. Ali, Belgium², E. Venables, Belgium²³, R. Caravetta, Italy⁴, D. Burtscher, Austria⁴, A. Ponthieu, Belgium², M. Ronchetti, Italy⁵, N. Mostarda, Italy⁵, F. Zamatto, Italy⁷

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Background: Many torture survivors exist within migrant and refugee populations. Their access and linkage to care is contingent on their identification and appropriate referral. However, appropriate tools for identification of survivors are not readily available, and the (staff of) reception systems of host countries may not always be equipped for this task. This study explores practices in the identification and case management of torture survivors in the reception structures and in the public health sector in Rome, Italy.

Methods: A qualitative study was conducted. 28 in-depth interviews with staff of six reception centres and three sub-district teams in Rome were carried out. Data were analysed manually and codes and themes generated.

Results: A non-homogeneous level of awareness and experience with torture survivors was observed, together with a general lack of knowledge on national and internal procedures for correct identification of torture survivors. Identification and case management of torture survivors was mainly carried out by non-trained staff. Challenges included a lack of expertise and sufficient resources in the reception and public health systems, and staff were expected to manage and respond to the specific needs of this population. Participants expressed the need for training to gain experience in the detection and management of torture survivors’ cases, as well support and increased resources at both the reception and public health system levels.

Conclusions: We identify a vacuum of procedures and, in many cases, their concrete implementation in this study. The crucial process of identification and prise en charge of survivors of torture among migrant and refugee populations is relegated to non-trained and inexperienced professionals at different levels of the reception system and public health care sector, which may carry a risk of non-identification and possible harm of survivors. Additional resources and structured interventions are urgently needed, in the form of developing procedures, training, and adapted multidisciplinary services.
Abstract: Post-Migration Health Disparities among Recent Arrival Eritrean Migrants in Switzerland: One Year Cohort Study

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Background: Recently, with the unprecedented migration influx in European countries, public awareness has been gaining momentum with a special focus on the health conditions of immigrants upon arrival at destination countries. The majority of immigrants arriving in Switzerland continue to be from Eritrea, one of the leading refugee generating nations.

Objective: To provide further evidence for our systematic health screening approaches of immigrants and to identify the knowledge gaps for modification and adaptation to the dynamic scenarios it is challenged, especially within first year of arrival. In newly arrived Eritrean immigrants we sought to investigate health disparities on arrival and post integration in Switzerland.

Methods: Asymptomatic newly arrived immigrants were screened for IDs and NCDs (incl. mental and reproductive health) at baseline and at one year follow-up. Blood, urine and stool, and anthropometric measures were collected and analyzed using EpiInfo7 and Stata13 respectively.

Results: At baseline, 59% schistosomiasis, 6% malaria, and 2% HBV were reported. However, no HIV or HCV cases were found. Majority, 89% presented with vitamin D deficiency. The median plasma levels of lipids (cholesterol, HDL, LDL, and Triglycerides), glycated hemoglobin, and other NCD risk factors such as; BMI, blood pressure, smoking and alcohol consumption were within normal ranges.

Discussion: Intramuscular vitamin D3 supplementation resulted in significant improvement of plasma levels (baseline median 30nmol/L to 48nmol/L after 12 months), but remained under WHO recommendations (>50nmol/L). The clinical relevance is unclear, but vitamin D deficiency was linked to change in dietary habits and reduced outdoor activities (UV exposure) in host countries. The high prevalence of schistosomiasis among immigrants from Eritrea raised questions. Migration to Europe involves transit through various countries with differing endemic disease profiles, with a high probability of encountering subclinical diseases along the journey, which may surface only late after arrival and generate high health care costs.

Conclusion: Our study highlights the need of screening refugees and migrants transiting through disease-endemic countries, even if non-symptomatic. Supplementation of vitamin D3 improves plasma levels among Eritrean immigrants but sustainable change requires healthy habit education. Importantly, health education should include sensitization for mental health and chronic illness issues.
Migrant, what assessment and how? A local example of organization on a population of unaccompanied minors

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Background

There are currently around 25,000 Unaccompanied Minors (UM) in France. This population is not well known. They are under the responsibility of the social security service. In the department of Maine-et-Loire a specialized unit exists which offers a unique and coordinated protocol of medical taking care to each UM. This health’s assessment is realized during the first three months after their arrival.

Methods

This epidemiologic, prospective, observational and monocentric study has collected data from 124 files of UM arrived from the 1st of January to the 31st of December 2016. The primary research criterion was the presence of an infectious disease. Secondary criterion were the presence of a non-infectious disease, the initiating of a treatment (infectious or non-infectious) and the number of specialized consultations.

Results

Were included 124 UM, almost 80% of them were having at least one disease which needed taking care. 74.2% were presenting one or more communicable disease(s), 79% were presenting one or more non-communicable disease(s). The main infectious disease observed were schistosomiasis 32.3%, other intestinal parasite 41.1%, latent tuberculosis infection 19.4%, active Hepatitis B 6.4%. 76.6% of the UM received a treatment: 62.9% received at least one infectious treatment. The main ones were treatment against parasites 53.2%, treatment against tuberculosis 18.9%. 55.6% of the UM have benefited from specialized consultations. The mains other diseases were hemoglobine’s abnormalities 40.3%, dental problems 31.4%, psychiatric pathology 11.3%. 57% received at least one vaccine (MMR or dT(c)P).

Conclusions

These results show that a majority of the UM is affected by one or several diseases, emphasizing the importance of a precocious and thorough physical health checkup for this population to allow a better integration. This vulnerable population needs to be sensitized to therapeutic education, health’s promotion and prevention. This coordinated screening and public health pathway, which is locally efficient, would tend to be nationally evaluated.

These results allowed an improvement of the health’s assessment. In 2017, around 80% of the UM - arriving in 2017 - were also presenting a disease. 295% of them had a specialized consultations after the pathway. 99% were vaccinated.
Abstract: Chagas Disease Community Screening Campaigns in a Non-Endemic Area: the Case of Madrid, Spain. Salud Entre Culturas (SEC) Project

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Background:
Chagas disease (CD) is no longer restricted to endemic countries and it is considered an under-diagnosed disease: more than 90% of people infected with *T. cruzi* in Europe are not yet diagnosed. As a consequence of growing immigration, Spain is the most affected country by CD in Europe, and it is estimated that, just in Madrid, 9,200 Latin Americans (LA) live with CD.

Objective:
The implementation of programs with an interdisciplinary approach that include prevention, control and targeted strategies for the LA community residing in Madrid through targeted CD screening campaigns and track the prevalence of *T. cruzi* among this collective.

Methods:
Through a consortium between the SEC project and the NGO Mundo Sano, from 2014 to 2018 five CD community screening campaigns were performed in neighborhoods of Madrid with high LA population rates, complemented with health education workshops. This involved a communication and dissemination plan, an alliance with the administrative authorities of the district where an action was to be implemented and an alliance with the health authorities for the processing of samples and the follow-up of detected cases.

Results:
Up to the 2017 campaign a total of N=1,369 were screened with a prevalence of *T. cruzi* infection of 19.15% (N=264). Of all migrants with a positive *T. cruzi* test identified through these campaigns, 64% (169 of 264) were women of childbearing age (aged 15-45 years). Early detection of CD is crucial in women of childbearing age due to the fact that mother-to-child transmission of *T. cruzi* can be avoided by treating infected women before pregnancy.

2018 screening campaign data analysis is on process.

Conclusion:
The results show that CD is a major public health problem in Spain that requires actions such as selective screening programs to obtain early diagnosis and treatment of the hidden population, especially for women of gestational age to prevent non-vector transmission. Community health activities are necessary to reach at-risk populations and overcome barriers for diagnosis and treatment.
Abstract: 232
7 - Screening/Health Assessment

The Health of Syrian Refugees in Adelaide, South Australia

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Background
Prior to civil war, Syria had a strong health system. The population health profile was transitioning from infectious disease burden to chronic disease. The Syrian conflict has led to mass population displacement and disruption of services. This has resulted in outbreaks of infectious diseases, and limited access to healthcare and nutritious food. There is limited literature on the health issues of Syrian refugees settling in third countries.

Migrant Health Service is the state funded specialist health care service for new arrival refugees in South Australia. All new arrivals seen at Migrant Health Service undergo comprehensive health assessment and screening.

Objectives
This study will review the health issues of new arrival Syrian families seen at Migrant Health Service.

Method
Cross sectional study design.
Study population - all Syrian adults and children who attended Migrant Health Service between 1 January 2016 and 31 December 2016.
Study variables - demographic information, medical history (psychological symptoms, non-communicable diseases and disabilities), anthropometric measures, and investigation results (blood borne viruses, parasitic infections and micronutrient indices).
Quantitative analysis of prevalence of diseases conducted with SPSS.
The study was approved by the SA Health Human Research Ethics Committee (Reference HREC/16/SAH/119).

Results
Migrant Health Service screened 455 people, predominantly consisting of large families (6 to 15 individuals). Prevalence of schistosomiasis was 5.8%, strongyloides 6.9%, and chronic hepatitis B 2.2%. Micronutrient deficiencies prevalent were vitamin B12 (31.9%), vitamin D (62.6%) and iron (49.4%). Over 30% of adults had a chronic disease and 27% of new arrivals were referred for mental health support. 72% of adults had a BMI in the overweight to obese category, whilst 43% of Syrian adult males were current smokers.

Conclusion
The findings highlight several challenges in this population with large family sizes and the presence of infectious diseases, chronic disease, micronutrient deficiencies, as well as risk factors for chronic disease (smoking and obesity). This emphasises the dynamic nature of refugee health and the need for services to recognise and respond accordingly.
Abstract: Results from a screening program for latent tuberculosis infection in migrants and asylum seekers - a single center experience in Pavia, Italy

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Background:
*Mycobacterium tuberculosis* infects 30% of the world population and is responsible of latent tuberculosis infection (LTBI) in most cases. Active tuberculosis occurs in 5-10% of infected people, especially in poor socioeconomic conditions or immunosuppression. Migrants to Italy often come from countries with high LTBI burden and are at higher risk of active disease in the following 5 years due to poor socioeconomic conditions. Isoniazid preventive treatment (IPT) showed a 60-90% efficacy in preventing active disease development. In Italy no standard approach for LTBI screening in migrants has been implemented. A program for LTBI screening in migrants was started at the Infectious Diseases Department of the IRCCS San Matteo Hospital Foundation, Pavia. The program recruits migrants who recently entered Italy, signaled by provincial public health authorities.

Objective:
We aim to assess the demographic and clinical trends and estimate the burden of LTBI and TB in our population.

Methods:
We reviewed records of patients screened from 01/09/2015 to 31/03/2018, who underwent TST (Tuberculin skin test) and/or Quantiferon test according to BCG vaccination history. Positive patient underwent chest X-ray. Subjects with radiological alterations suggestive for TB underwent sputum or BAL collection and subsequent microscopy, culture and PCR test. LTBI was diagnosed when active TB was ruled out in presence of a positive TST/Quantiferon. IPT was prescribed to people with LTBI. Patients with signs of extrapulmonary TB were investigated. LTBI patients underwent a follow-up visit at five weeks to evaluate IPT compliance.

Results:
We screened 726 patients. Figure 1 shows their geographic origin. 97.9% were male. Median age was 22 years. Median time since arrival was 5 months (95% data availability). TST was positive in 234/690 patients (33.4%), Quantiferon test was positive in 25/55 patients (45.5%) dubious in 3/58 (5.4%). 239 patients underwent chest X-ray, 29 collected microbiological samples, 222 (30.6%) were diagnosed with LTBI and receive IPT. 166/228 (74.7%) came to follow-up visit. 7 patients (0.9%) were treated for active TB.

Conclusion:
TB screening should be implemented in migrants. IPT is feasible among asylum seekers with LTBI after their arrival in Italy.

[Figure 1]
Abstract: Understanding Health Care Demands Of Eritrean Migrants on Starting and Destination Spot of Migration

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Background: The increase in global migration over recent years has had substantial impact on public awareness, and raised economic, political, and public concerns in host nations. Likewise, efforts in the public health sector are also on the rise, and several studies on migrants’ health-related issues have reported disease screening and/or clinically relevant findings - with majority investigations focusing on diagnostics of potentially imported infectious diseases (IDs).

To date our current understanding of the actual origin of the diseases reported and the projected trend of diseases acquired along the migration pathways remains highly limited. Questions, such as how the disease was acquired (transmission), where (endemic regions) and under what circumstances (risk factors) it was acquired, how it progressed (predisposition, management, co-morbidities), remain to be elucidated. Importantly, non-communicable diseases (NCDs), including mental health have not been studied so far.

Objective: We are seeking to fill information gaps on natural history of diseases and their progress along the migration course, incorporating a multitude of migrant health and health care provision issues. Furthermore, the actual health care needs of migrants and refugees in developing and developed host countries will be investigated.

Method: In a novel study design, we will assess the health conditions and health care requirements of refugees at the source of migration (home-land), and destination (host) countries. Migrants are screened at both sites for IDs, NCDs, mental health, and women’s/reproductive health. Randomly selected sub-groups will be followed longitudinally in a cohort approach. Over 1,000 participants will be recruited over three years study period (in Eritrea/Ethiopia and Switzerland).

Result: Estimated outcomes include migration-associated disease patterns and health problems encountered along the journeys pathways. Differences in endemic disease profiles “before migration” versus “after migration” will provide data for modeling and predicting health conditions and requirements of migrants during migration to inform on interventions.

Conclusion: The health care needs of migrants need to be assessed before they start their journeys as well as along the transition route. This approach could support establishment of surveillance systems and improved health care services to immigrants and provide relevant data for health-care professionals and policy makers.
Abstract: 124

**Efficacy of ivermectin mass-drug administration to control scabies in asylum seekers in the Netherlands: A retrospective cohort study between January 2014 - March 2016**

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**Background:** Scabies is a skin infestation with the mite Sarcoptes scabiei causing itch and rash and is a major risk factor for bacterial skin infections and severe complications. A Scabies Intervention programme (SIP) was introduced in the main national reception centre based on frequent observations of scabies and its complications amongst Eritrean and Ethiopian asylum seekers in the Netherlands.

**Methods:** We evaluated the treatment outcome of 2866 asylum seekers who received (preventive) scabies treatment before and during a scabies intervention programme (SIP) in the main reception centre in the Netherlands between January 2014 and March 2016. On arrival, all asylum seekers from Eritrea or Ethiopia were checked for clinical scabies signs and received ivermectin/permethrin either as prevention or treatment. A retrospective cohort study was conducted to compare the reinfestations and complications of scabies in asylum seekers who entered the Netherlands before and during the intervention and who received ivermectin/permethrin.

**Results:** In total, 2866 asylum seekers received treatment during the study period (January 2014 - March 2016) of which 1359 (47.4%) had clinical signs of scabies. During the programme, most of the asylum seekers with scabies were already diagnosed on arrival as part of the SIP screening (580 (64.7%) of the 897). Asylum seekers with more than one scabies episode reduced from 42.0% (194/462) before the programme to 27.2% (243/897) during the programme (RR = 0.64, 95% CI = 0.55-0.75). Development of scabies complications later in the asylum procedure reduced from 12.3% (57/462) to 4.6% (41/897).

**Conclusions:** A scabies prevention and treatment programme at start of the asylum procedure was feasible and effective in the Netherlands; patients were diagnosed early and risk of reinfections and complications reduced. To achieve a further decrease of scabies, implementation of the programme in multiple asylum centres may be needed.

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Asylum seekers’ opinions on vaccination and screening policies after their arrival in Greece

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Introduction. Greece has been dealing with an increased number of refugees during the past 5 years. Many professionals speculate about the optimal timing of screening and vaccination in refugees, however refugees’ own perspectives on health issues are not taken into account. In this study, we aimed to investigate asylum seekers’ perspectives on infectious diseases screening and vaccination policies.

Methods. Interviews were conducted within a refugee camp near Athens. Asylum seekers were approached and informed with the help of interpreters; consent forms were acquired. The survey focused on demographic data, vaccination status, screening policies and infectious diseases prevention.

Results. A total of 31 (23 male, 74.2%) refugees (29 Afghans, 1 Iranian, 1 Iraqi) were interviewed. Mean age was 30 years (SD 13.3), 19.4% received primary or secondary education, while 48% received none. Mean time after arrival in Greece was 24 months (SD 9.2). All participants were willing to be vaccinated after arrival, 21 preferred vaccination and screening to be performed at the point of entry. All of them were open to educational campaigns, mostly through courses or brochures. 6 were screened for TB while 17 were screened for scabies. All of them considered screening for infectious diseases to be necessary and important for prevention, collective health and protection. 22 wanted to be screened for HBV/HCV and HIV and expressed concerns about high-risk sexual behavior in the camps. Finally, 20 of them had additional comments mainly focusing on insufficient medical care and skin diseases, mainly scabies.

Conclusion. Participants were willing to communicate their perspectives and concerns, especially regarding access to timely medical care. Overall, interviewees expressed a positive attitude towards vaccination and screening, understanding the rationale behind those policies for infection prevention and protection of public health.

*In the next months, data will be combined with data obtained in asylum seekers in the Netherlands. If this abstract is selected, we will present the data both from the Netherlands and from Greece.

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Background: Migration is a significant and growing global phenomenon of critical importance to citizens, healthcare providers and policy makers. There are some diseases which are particularly common among migrants and that could be detected through a screening program. Before implementing it, several aspects need to be considered:

WHY? Migrants health status may be improved in the long term with the early detection of certain common infectious diseases and other imported diseases through the implementation of an adequate screening program what may be considered as measures to protect refugees’ health. The real situation regarding the impact of specific screening programmes in the migrant population needs to be understood and compared across European countries and regions.

WHAT? There are some characteristics that make diseases suitable for a screening program: being chronic, having an asymptomatic latency period and being potentially severe under certain circumstances. HIV, HBC, HCV, Chagas-disease, strongyloidiasis, schistosomiasis or tuberculosis have these 3 characteristics. Other chronic conditions such as mental health should be also considered. Other aspects that should be also considered are the availability of a high sensitive screening test, an effective and safe treatment and to be a cost-effectiveness strategy.

WHERE? There are screening programmes to control the disease transmission at blood banks, organ transplant or antenatal care programmes. Some screening interventions at primary-care (e.g:Chagas disease) have been demonstrated to be cost-effective strategies and the evaluation of the cost-effectiveness of a single intervention to test several conditions needs to be further evaluated.

WHO? A screening intervention may benefit from moving from general migrant populations to a targeted screening of smaller subgroups where the intervention could be more cost-effective. (e.g: strongyloidiasis screening in immunosuppressed migrants)

WHEN? Some countries require tuberculosis screening for the VISA application, whereas other programs do it at country-entrance or just after the entry.

HOW? Compulsory HIV and tuberculosis screening for migrants is not based on adequate evidence, and represents practical and ethical problems. Screening should be also part of an integrated resource that provides access to full range of health services. Innovations in migrant screening such as a single test for multiple conditions should be encouraged.
Abstract: 220

7 - Screening/Health Assessment

Psychological Assessment of Syrian Asylum-Seeking Adolescents in Athens, Greece, 2017

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1Greek Health System, Nursing, Athens, Greece, 2National School of Public Health, Travel medicine Unit, Athens, Greece, 3Greek Health System, Medicine, Athens, Greece, 4University of West Attica, Nursing, Athens, Greece, 5University of Athens, Medicine, Athens, Greece, 6University of West Attica, Athens, Greece

Background: Refugee children exposed to many adverse experiences are at risk of developing psychological and behavioral problems. More than 20,000 refugee/migrant children are living in Greece with most fleeing Syria during the ongoing conflict.

Objective: To assess the psychological status of war trauma-exposed, accompanied asylum-seeking adolescents from Syria (ASAS) while awaiting relocation from Greece to another European country.

Method: In July/August 2017, 104 parents of an equal number of ASAS [boys:60(58%); age-range:11-17] accommodated in facilities in Athens, Greece, completed the parent-rated Strength and Difficulties Questionnaire (SDQ) in Arabic. Generated scores were quantitatively analyzed.

Results: ASAS had very high scores on the peer problem subscale and slightly raised scores on the hyperactivity subscale with scores on the remaining subscales close to average. Total difficulties’ median score ($x=16$) was borderline. (Table 1).

<table>
<thead>
<tr>
<th>Score</th>
<th>Total Difficulties</th>
<th>Emotional Symptoms</th>
<th>Conduct Problems</th>
<th>Hyperactivity</th>
<th>Peer Problems</th>
<th>Prosocial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>16</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Interquartile range</td>
<td>12-18</td>
<td>1-4</td>
<td>1-3</td>
<td>4-7</td>
<td>3-6</td>
<td>8-10</td>
</tr>
</tbody>
</table>

SDQ Subscales. Emotional Symptoms, Conduct Problems, Hyperactivity, Peer Problems, Prosocial Behaviour. The first four subscales were summed, generating a total difficulties score.

[Table 1. Parent-rated SDQ scores among asylum-seeking adolescents from Syria in Athens, Greece, July/August 2017.]

No difference in SDQ scores among sexes was found. When stratified by age, the 15-17 year age-group had higher score on the peer problem subscale and twofold-higher total difficulties score than the 11-14 year age-group [PR=1.12(95%CI:1.01-1.24) p=0.025; and PR=2.10(95%CI:1.24-3.58) p=0.006; respectively]. (Table 2).

<table>
<thead>
<tr>
<th>SDQ score categories</th>
<th>11-14 year age-group [n=46]</th>
<th>15-17 year age-group [n=37]</th>
<th>Peer problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high</td>
<td>7 (15.2%)</td>
<td>11 (29.7%)</td>
<td>30 (65.2%)</td>
</tr>
<tr>
<td>High</td>
<td>6 (13%)</td>
<td>11 (29.7%)</td>
<td>8 (17.4%)</td>
</tr>
<tr>
<td>Slightly raised</td>
<td>17 (37%)</td>
<td>2 (5.4%)</td>
<td>3 (6.5%)</td>
</tr>
<tr>
<td>Close to average</td>
<td>16 (34.8%)</td>
<td>13 (35.2%)</td>
<td>5 (10.9%)</td>
</tr>
</tbody>
</table>

[Table 2. Scores on total difficulties and peer problems by age of asylum-seeking adolescents from Syria in Athens, Greece, July/August 2017.]

Conclusion: ASAS’ total difficulties -albeit not in the clinical range- were high compared to those adolescents without war experiences. However, they displayed normal social behavior. Being on liminality, ASAS awaiting relocation appeared to have severe peer problems. Inability of establishing healthy peer-relationships was intensified in asylum-seeking mid-adolescents additionally challenged by puberty. To identify refugee adolescents requiring targeted psychological intervention will guide policy-makers/service providers to provide support that would optimize adolescent’s outcomes before relocation.
Abstract: 219 MIGRATION2018

Assessing the Burden of Intestinal Parasites among Migrants Workers Residing Permanently in Athens, Greece, 2015-2017

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Background: Greece is a country with a low intestinal parasites (IP)-prevalence; migrants from regions with a high IP-prevalence (20-50%) make up 10% of the population. In Greece, screening for IP is mandatory for all job seeking food handlers and domestic workers (FHDWs).

Objective: To assess IP-burden in migrant FHDWs permanently residing in Athens, Greece.

Methods: We analyzed data from asymptomatic FHDWs [migrant (n=6,946) -mostly (60%) from the Indian Sub-Continent (ISC)- and Greek (n=3,055)] screened for ova and parasites at Athens’ “Spiliopoulio” Hospital in 2015-2017.

Results: Migrant FHDWs were four-times as likely to harbor IPs as Greek (2.38%vs.0.59%; PR=3.97(95%CI:2.48-6.45); p< 0.001). The highest IP-prevalence (∼9%) was found in African FHDWs. No helminthes were found. Giardia duodenalis was the only pathogenic intestinal protozoan recovered. G. duodenalis-prevalence was twofold greater in FHDWs from ISC than in those from the remaining regions (PR=2.06(95%CI:1.10-385); p=0.02). [Tables 1 and 2].

<table>
<thead>
<tr>
<th>Region of origin</th>
<th>All species</th>
<th>Giardia duodenalis</th>
<th>Blastocystis hominis</th>
<th>Entamoeba coli</th>
<th>Entolimax nana</th>
<th>Entamoeba hartmanni</th>
<th>Iodamoeba bütschlii</th>
<th>Helminths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Sub-Continent</td>
<td>2.09</td>
<td>0.96</td>
<td>0.52</td>
<td>0.19</td>
<td>0.60</td>
<td>0.24</td>
<td>0.07</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>(1.7-2.57)</td>
<td>(0.71-1.30)</td>
<td>(0.14-0.19)</td>
<td>(0.10-0.38)</td>
<td>(0.41-0.88)</td>
<td>(0.13-0.44)</td>
<td>(0.02-0.21)</td>
<td>0.00</td>
</tr>
<tr>
<td>Balkans/Eastern Europe</td>
<td>2.62</td>
<td>0.48</td>
<td>0.11</td>
<td>0.59</td>
<td>0.96</td>
<td>0.43</td>
<td>0.05</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>(1.99-3.45)</td>
<td>(0.25-0.91)</td>
<td>(0.03-0.39)</td>
<td>(0.33-1.05)</td>
<td>(0.61-1.51)</td>
<td>(0.22-0.85)</td>
<td>(0.01-0.30)</td>
<td>0.00</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>1.51</td>
<td>0.38</td>
<td>0.19</td>
<td>0.19</td>
<td>0.38</td>
<td>0.19</td>
<td>0.19</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>(0.77-2.95)</td>
<td>(0.10-1.37)</td>
<td>(0.03-1.06)</td>
<td>(0.03-1.06)</td>
<td>(0.10-1.37)</td>
<td>(0.03-1.06)</td>
<td>(0.03-1.06)</td>
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<tr>
<td>Africa</td>
<td>8.53(6.14-11.7)</td>
<td>0.52</td>
<td>0.02</td>
<td>1.29</td>
<td>4.39</td>
<td>1.81</td>
<td>0.00</td>
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<tr>
<td></td>
<td>(0.14-0.19)</td>
<td>(0.00-0.13)</td>
<td>(0.56-2.99)</td>
<td>(2.76-6.92)</td>
<td>(0.88-3.69)</td>
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<tr>
<td>Greece</td>
<td>0.62</td>
<td>0.16</td>
<td>0.07</td>
<td>0.03</td>
<td>0.20</td>
<td>0.16</td>
<td>0.00</td>
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<tr>
<td></td>
<td>(0.40-0.97)</td>
<td>(0.07-0.38)</td>
<td>(0.02-0.43)</td>
<td>(0.00-0.18)</td>
<td>(0.09-0.430</td>
<td>(0.07-0.38)</td>
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[Table 1. Prevalence % (95%CI) of intestinal parasite species by region of origin, Athens, Greece, 2015-2017]

<table>
<thead>
<tr>
<th>Region of origin</th>
<th>Tested (n)</th>
<th>Parasitized (n)</th>
<th>Single infection (n)</th>
<th>Double infection (n)</th>
<th>Males (n)</th>
<th>Females (n)</th>
<th>Mean age (in years)</th>
<th>Mean duration of residency (in years)</th>
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<tbody>
<tr>
<td>Indian Sub-Continent</td>
<td>4,160</td>
<td>81</td>
<td>74</td>
<td>7</td>
<td>80</td>
<td>1</td>
<td>30.4±7.33</td>
<td>8.79±9.38</td>
</tr>
<tr>
<td>Balkans/Eastern Europe</td>
<td>1,868</td>
<td>46</td>
<td>43</td>
<td>3</td>
<td>17</td>
<td>29</td>
<td>40.0±10.5</td>
<td>16.9±6.21</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>531</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>40.9±7.49</td>
<td>7.13±3.23</td>
</tr>
<tr>
<td>Africa</td>
<td>387</td>
<td>30</td>
<td>27</td>
<td>3</td>
<td>26</td>
<td>4</td>
<td>31.9±6.98</td>
<td>8.35±8.87</td>
</tr>
<tr>
<td>Greece</td>
<td>3,055</td>
<td>18</td>
<td>17</td>
<td>1</td>
<td>7</td>
<td>11</td>
<td>40.1±10.8</td>
<td>Natives</td>
</tr>
</tbody>
</table>

[Table 2. Distribution of workers with intestinal parasites by region of origin, parasitism, sex, age, duration of residency, Athens, Greece, 2015-2017]

Conclusion: IP-prevalence among migrant FHDWs -albeit higher than that in Greeks- was substantially less than that in regions of origin because of sanitation improvement. That permanently residing FHDWs did not harbor helminths could be attributed to worms’ loss over time due to helmith ageing and absence of reinfection in a non-endemic urban environment. High G. duodenalis-infection prevalence in permanent residents from ISC, possibly due to intra-community transmission, raises concerns; health authorities/professionals need to regularly follow-up and treat them to reduce the risk of infection-spreading to the public.
## Poster Group 12 - Vaccination

### Abstract List

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<th>Authors</th>
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<tr>
<td>S6</td>
<td>Vaccination Seroprotection rates of vaccine-preventable diseases</td>
<td>Chernel</td>
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</table>
Abstract: Seroprotection rates of vaccine-preventable diseases among newly arrived Eritrean refugees in Switzerland: a cross-sectional study

C. Staehelin, Switzerland1, A. chernet, Switzerland2,3, V. Sydow, Switzerland2,3, R. Jan Piso, Switzerland4, F. Suter-Riniker, Switzerland5, S. Funez, Switzerland6, B. Nickel, Switzerland2,3, D. Paris, Switzerland2,3, N. Labhardt, Switzerland6,7
1Inselspital, Bern University Hospital, Department of Infectious Diseases, Bern, Switzerland, 2Swiss TPH, Basel Universit, Medicine, Basel, Switzerland, 3University of Basel, Basel, Switzerland, 4Cantonal Hospital of Olten, Medical Clinic, Olten, Switzerland, 5University of Bern, Institute for Infectious Diseases, Bern, Switzerland, 6Swiss TPH, Basel Universit, Basel, Switzerland, 7University of Basel, Division of Infectious Diseases and Hospital Epidemiology, Basel, Switzerland

Background: According to 2016 WHO/UNICEF[1] country estimates Eritrea has overall high vaccination coverage with coverage for 3 doses of diphtheria/tetanus/pertussis and polio vaccine of 95%, for 2 doses measles vaccine of 85%, and for 3 doses Hepatitis B vaccine of 85%.

Objective: If confirmed, such high coverage would imply that routine basic vaccination of newly arrived Eritreans could be safely omitted. Hence, the aim of the study is to assess vaccination rate among newly arrived Eritrean refugees.

Methods: We used stored serum samples from two cross-sectional studies that screened newly arrived Eritrean refugees for infectious diseases[2],[3]. Consenting refugees aged 16 years and older who registered in one of three selected Swiss cantons (Basel-Stadt, Basel-Land, Solothurn) were enrolled. Antibody titers against the following vaccine-preventable diseases were measured (applied thresholds for seroprotection in brackets): diphtheria (> 0.1 IU/ml), tetanus (> 0.1 IU/ml), measles (> 150 mIU/ml), rubella (only for women, > 11 IU/ml), varicella (> 50 mIU/ml), hepatitis B (antiHBc Index > 0.9 and antiHBs > 10 IE/L). All serologies were conducted at the Institute for Infectious Diseases, University of Bern.

Results: In samples of 128 study participants (18/14% women) with a median age 26 years, IQR 21 - 32), rates of seropositivity were as follows: diphtheria 75.9%, tetanus 45.8%, measles 81.0%, rubella in women 77.8%, varicella 95.2%, anti-HBc 25.6% and anti-HBs 18.4%.

Conclusion: Vaccination coverage for vaccine-preventable infections, except for varicella (for which no WHO/UNICEF data are available) were lower than expected. The high rate of positivity for varicella-zoster virus is surprising as varicella epidemics among adult refugees in refugee centers are frequent, indicating low herd immunity upon arrival in Switzerland. This observed high rate may therefore partly be due to recent exposure en route or within Switzerland, but this cannot be verified. In general, the strategy proposed by the Federal Office of Public Health to offer basic immunization to all newly arrived refugees[4],[5], including newly arriving Eritrean refugees, is justified.

Abstract: 88

POSITIVE SEROLOGY FOR T. CRUZI IN A SAMPLE POPULATION OF EL SALVADOR AND HONDURAS MIGRANTS RESIDENT IN METROPOLITAN AREA OF MILAN (MAM)

R. Grande, Italy1, A. Piliasas, Italy1, R. Morlando, Italy2, M.R. Gismondo, Italy3, S. Antinori, Italy4, L. Galimberti, Italy4, S. Fadelli, Italy5, M. Adamoli, Italy5, E.A. Olivieri, Italy5, A.M. Villa, Italy5

1ASST FBF Sacco L. Sacco Teaching Hospital, Clinical Microbiology, Virology and Diagnosis of Bioemergency, Milan, Italy, 2Università Milano Bicocca, Biology, Milan, Italy, 3Università Milano L.Sacco Teaching Hospital, Clinical Microbiology, Virology and Diagnosis of Bioemergency Lab, Milan, Italy, 4University of Milan L.Sacco Teaching Hospital, Tropical and Infectious Diseases University Ward, Milan, Italy, 5Opera San Francesco Milano, Outpatients Clinic for Not Guaranteed People, Milan, Italy

Background: The El Salvador community in MAM is the largest in Italy. Previous issues evaluated seroprevalence for T. cruzi antibodies in asymptomatic populations of South and Central America migrants residents in Europe and USA.

Objectives: to improve data collected in previous surveys about the seroprevalence for T. cruzi antibody in Central American migrants living in MAM, especially El Salvador and Honduras community.

Methods: serum samples from 198 subjects (177 females and 21 male) were collected from September 2017 to May 2018 and tested for serological evidence of T. cruzi antibodies. The median age of the participants was 34 years (range 10-76). Two different serological methods were performed for every sample: an EIA test based on antigens extracted by a listate of T. cruzi strains (Chagatest ELISA Lisado Weiner Germany) and an other EIA assay using recombinant antigens (Chagatest ELISA Recombinant Weiner Germany). People included in the sample population were asymptomatic subjects living in the MAM, migrants from El Salvador (98,5%), and Honduras (1,5%).

Results: Four out of 198 samples tested positive (1 male and 3 females) to both EIA assays (2%). One sample resulted undetermined (female) and two others resulted discordants (females). Discordants results were assayed with another test (LDBio WB Chagas IG France). Both resulted negative. All the positive samples were collected by Salvadorans people.

Conclusions: Our preliminary results confirm that also among Salvadorans living in MAM screening for CD (Chagas disease) should be implemented.
<table>
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<td>145</td>
<td>13.01</td>
<td>The pregnancy outcomes among newly arrived women</td>
</tr>
<tr>
<td>184</td>
<td>13.02</td>
<td>Screening for TORCH infections in pregnant women</td>
</tr>
</tbody>
</table>
The pregnancy outcomes among newly arrived Asylum-Seekers in Italy

L. Fontanelli Sulekova, Italy1,2,3, M. Spaziante, Italy1,3, M. Lopalco, Italy1,4, P. Zuccalà, Italy1,3, S. Vita, Italy1,2,3, G. Ceccarelli, Italy1,2,3
1'Sapienza University' of Rome, Department of Public Health and Infectious Diseases, Rome, Italy, 2Migrant and Global Health Research Organisation, Centro di ricerca sulla salute globale e delle popolazioni mobili (Mi-HeRO), Rome, Italy, 3Sanitary Bureau of Asylum Seekers Center of Castelnuovo di Porto, Rome, Italy, 4Auxilium Società Cooperativa Sociale, Senise, Italy

Background: Asylum seekers are assumed to be a highly vulnerable group in terms of sexual and reproductive health. About a quarter of all refugees and internally displaced persons worldwide are women of reproductive age. Their forced migration background has a significant impact on their overall health and pregnancy outcome.

Objective: The aim of the study was to describe pregnancy outcomes classified as one of the following: miscarriage, self-induced abortion, voluntary pregnancy termination (VPT), live-birth (eutocic/dystocic delivery), and 'lost to follow up' in newly arrived migrants.

Methods: The population comprised of female asylum seekers in reproductive age 15-49 years (according to WHO), hosted in the Asylum Seeker Center (ASC) of Castelnuovo di Porto (Rome, Italy) between 1st June 2016 and 1st June 2018. Information about pregnancy was collected from clinical records.

Results: Among 996 migrant women hosted in the ASC during the study period 154 (15.5%) were pregnant on arrival or got pregnant during their stay. The age of migrants ranged between 14-42 years with mean age of 24.8 years. From the studied population 78 (50.6%) women were dropped-out because they either left voluntary the ASC or were transferred to another facility before the outcome of pregnancy was known. From the 76 women who lived in the ASC during the entire course of pregnancy 24 (31.6%) had eutocic delivery, 7 (9.2%) dystocic delivery, 12 (15.8%) miscarriage, 14 (18.4%) self-induced abortion and 19 (25%) underwent VPT. Women who delivered were significantly older compared to those having abortion (p=0.046). There was a significant trend where women with lower education levels preferred self-induced abortion to VPT (p= 0.045). High abortion rates were registered among Nigerian women when compared to women from other countries (miscarriage 50%, self-induced abortion 93%, VPT 79%) (p< 0.0001).

Conclusion: The asylum-seeker population is a dynamic group subjected to frequent relocation around the host country or abroad. The present study identified a subgroup with high abortion rate. Further insights should be obtained into why the rates of the particular group are so high and what additional programmes should be developed in order to address the reproductive health needs of migrant groups.
Screening for TORCH infections in pregnant women: results from a focus group study

M. Spaziante, Italy1,2, L. Fontanelli Sulekova, Italy1,2,3, M. Lopalco, Italy2,4, P. Zuccalà, Italy1,2, G. Ceccarelli, Italy1,2,3, S. Vita, Italy1,2,3

1’Sapienza University’ of Rome, Department of Public Health and Infectious Diseases, Rome, Italy, 2Sanitary Bureau of Asylum Seekers Center of Castelnuovo di Porto, Rome, Italy, 3Migrant and Global Health Research Organisation, Centro di ricerca sulla salute globale e delle popolazioni mobili (Mi-HeRO), Rome, Italy, 4Auxilium Società Cooperativa Sociale, Senise, Italy

Background: Asylum seekers represent a highly vulnerable group and their reproductive health is often affected by their social condition. In clinical practice in Italy pregnant women are screened in order to rule out any infection that could affect the pregnancy outcome.

Objective: The aim of the present study was to assess the seroprevalence of TORCH infections in newly arrived pregnant migrants.

Methods: The study enrolled female asylum seekers from East Africa (EA) and West Africa (WA) (according to United Nation Static Division) aged 15-49 hosted in the Asylum seeker Center (ASC) of Castelnuovo di Porto (Rome, Italy) between 1st June 2016 and 1st June 2018. Clinical records were retrospectively reviewed and serological data about Toxoplasma gondii, Rubeo virus, Cytomegalovirus (CMV), Hepatitis B virus (HBV), Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV) and Treponema pallidum were retrieved.

Results: 146 women from EA (56.8%) and WA (43.2%) were pregnant on arrival or got pregnant during the stay in the ACS, 82 of them underwent serological screening. The age of migrants in EA and WA group were similar, respectively 23.5 yo (range 19-41 yo) and 24 yo (19-40 yo). Both groups showed a prevalence of CMV IgG of 100%, while nobody presented HCV antibodies. In WA women a prevalence of Rubeo IgG of 100%, of HBsAg of 9.3%, HIV 5.7% and Syphilis 0% was found. In EA women a prevalence of Rubeo IgG of 84%, of HBsAg of 3%, HIV 3.5% and Syphilis 3.4% was found. Interestingly, significant differences in the prevalence of anti-Toxoplasma gondii IgG in the two groups, 20% in WA vs. 71% in EA (p=0.02) were found.

Conclusion: Pregnant women population is a particularly fragile population and our study reported high prevalence of TORCH infections in women from East Africa and West Africa that could contribute to this vulnerability. Surprisingly, women from WA showed a very low prevalence of anti-Toxoplasma IgG. Education during the antenatal period may be strategy for primary prevention of toxoplasmosis and infection screening should be considered as a priority, in order to provide treatment or periodic follow up and basic components of safe motherhood programs.
<table>
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<tr>
<th>97</th>
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<td>An analysis of the challenges of healthcare</td>
<td>Liz Joseph</td>
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<td>14.03</td>
<td>Morbidity in immigrants to Israel from Sub-</td>
<td>Eli Schwartz</td>
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</table>
Abstract:

Emigration of Nigerian Medical Doctors: Need for Policy Review

P. ETEIKE, Nigeria1,2

1Federal Medical Centre Owerri Imo State Nigeria, Obstetrics and Gynaecology, OWERRI, Nigeria, 2Federal University of Technology, Public Health, Imo Ste, Nigeria

Background: The overall health indices of Nigeria still rank among the lowest globally. Contributing to this is the poor medical doctor-patient ratio in Nigeria. Emigration of Nigerian doctors en masse for any reason will certainly worsen these situations.

Objectives: The study assessed the nature and magnitude of emigration of Nigerian doctors, and as well identified some major contributing factors.

Methods: The survey was done in 3 Tertiary Medical Centers in the Southeastern part of the country; the Federal Medical Centre Owerri (FMCO), Imo State; Federal Medical Centre Umuahia (FMCU), Abia State and Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi from January to May, 2018. A total of 669 medical doctors randomly selected from different cadres and specialties were interviewed using semi-structured questionnaires. The data were analyzed with SPSS version 20.0.

Results: As much as 89.7% (600/669) of the respondents indicated interest of emigration and 96.5 % (579/600) admitted making plans to emigrate within the next 6 months - 1year (23.8%, 138/579), 2-5 years(72.5%, 420/579), and > 5 years (3.6%, 21/579). United Kingdom (UK) was on top of the preferred destination countries (69%, 414/600), followed by the United States of America [USA] (13.5%, 81/600), Saudi Arabia (9.5%, 57/600), while Australia, Canada, Germany and Netherlands (2%, 12/600 each) had the least. The reasons for emigration were: career and professional advancement (77.0 %, 462/600), seek better pay package (71.5%, 429/600), poor facilities and work environment (45.5%, 273/600), safety and security (40.5%, 243/600) and to join family or relative in the destination country ( 3.0%, 18/600). Some (55%; 330/600) accepted coming back later to work in Nigeria with the following top 3 conditions: improved facilities and work environment (94.6%, 312/330), comparable salary and benefit (89.1%, 294/330) and improved safety and security measures (56.4%, 186/330).

Conclusion: The medical doctor-patient ratio in Nigeria is likely to worsen in the nearest future. However, if the government could make and implement policies that would address some of the working conditions, Nigeria may become one of the health tourist countries in the future.

Key Words: Emigration, Nigeria, Medical doctors.
An analysis of the challenges of healthcare provision for refugees in Greece

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¹Imperial College London, London, United Kingdom, ²N/A, Athens, Greece, ³Sydney Children’s Hospital Network, Sydney, Australia, ⁴University of the West of England, Bristol, United Kingdom, ⁵University College London, London, United Kingdom

Background:
The closure of the Former Yugoslav Republic of Macedonia border in March 2016 left up to 60,000 refugees in Greece, the majority of whom are from Syria, Iraq and Afghanistan; most were fleeing intractable conflict. There is limited academic literature which explores healthcare access for refugees in Greece. Here we explore the main challenges faced in healthcare provision for refugees in Greece from the perspective of health providers.

Methods:
We performed i) a desk-based literature review to identify initial themes and ii) semi-structured key informant interviews (KIIs) during March and April 2018. Interviews were transcribed, and thematic analysis was performed to identify key emerging themes.

Results:
16 KIs were performed: 11 were from non-governmental organisations (NGOs) and 5 from international organisations. There was a paucity of academic literature exploring healthcare access for refugees in Greece. Key emerging themes from the KIIs were 1) Socio-cultural differences 2) Understanding the Greek health system and 3) Changes to available healthcare provision over the time period. A lack of translators, poor coordination among health providers and changes to ECHO funding of the health response were seen as key issues.

Conclusion:
Practical and logistical challenges to provide healthcare to refugees was noted and on a macro-level, policy and funding changes also had an impact. Changes to ECHO funding led to major NGOs pulling out of Greece reducing some health services. The planned integration of refugees into the Greek health system has been slow but remains important to prevent a parallel health system for refugees forming in Greece.
Morbidity in immigrants to Israel from Sub-Saharan Africa

Shira Rabinowicz, MD 1,2, Eyal Leshem MD 2,3 and Eli Schwartz, MD 2,3

1Department of Pediatrics A, Edmond and Lily Safra Children’s Hospital, Sheba Medical Center, Ramat Gan, Tel Hashomer, Israel, 2Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel and 3The Center for Geographic Medicine and Tropical Diseases, Sheba Medical Center, Ramat Gan, Tel Hashomer, Israel

Introduction: Two major communities of immigrants from Sub-Saharan Africa live in Israel, the Ethiopian Jewish community who mostly arrived from 1981-1999, and a community of refugees from Eritrea and Sudan who crossed the Sinai border from 2007-2012. We describe the morbidity of immigrants from Sub-Saharan Africa to Israel treated in our Tropical Medicine institute.

Methods: All immigrants from Sub-Saharan Africa who were referred to the tropical institute at Sheba Medical Center during 2008-2018 were included. Demographic and disease details were recorded.

Results: Overall 32 patients were examined due to suspected illnesses imported from their countries of origin or acquired during their migration or when visiting friends and relatives (VFR) at home. Thirty patients were born in Ethiopia and 2 in Eritrea. The mean age was 40.6 years, and 20 (62%) were males. Eleven (34%) had visited their home country (VFRs) prior to consultation.

Prolonged abdominal pain or diarrhea were the most common clinical symptoms (13 patients, 41%). In non-VFR patients, the average interval between immigration to Israel and presentation to the tropical clinic was 17.5 years compared with an average interval of two years after VFR travel. Schistosomiasis was diagnosed by serology in 12 patients (37%): seven were asymptomatic and five patients suffered from long term complications of chronic schistosomiasis, including portal hypertension and hematochezia. Eight (25%) patients had proven strongyloidiasis, and nine (28%) suffered from chronic gastrointestinal symptoms and were treated successfully with wide-spectrum anti-helminthics without a definitive diagnosis.
Overall, 18/21 patients with blood count results had eosinophilia and all were treated with anti-helminthics. Additional diagnoses included suspected onchocerciasis (n=2), human immunodeficiency virus (n=1), tuberculosis (n=1), Madura foot due to nocardiasis (n=1) and acute diarrhea (n=1, VFR). Not included in this analysis were 2 children born in Israel to immigrants from Eritrea who were diagnosed and treated for tinea capitis in our clinic.

**Conclusion:** Helminthic infections, presenting as chronic gastrointestinal symptoms, eosinophilia or chronic manifestations of schistosomiasis were the most common diagnoses among immigrants from Sub-Saharan Africa treated in our clinic. Not uncommonly, patients were referred many years after they immigrated and suffered prolonged symptoms and sometimes with severe morbidity, such as portal hypertension and gastrointestinal bleeding that required recurrent hospitalizations. In immigrants from hyper-endemic countries, a proactive approach should be recommended including screening for helminthic infections, wide range deworming during the migration process, and rapid referral to specialized centers if patients are symptomatic.