The United Nations Agency for Migration and UMN Capacity Building Collaborative: The Global is Local

Mile Wide and an Inch Deep

Goals
- Overview of the US refugee resettlement system
- Describe the UMN/IOM collaboration as an example of leveraging academic partnership in refugee health
- Aviation medicine and management of refugees with complex medical conditions during transport

Humans move, that is what we do--not new.

Humans and mobility
- Human migration
  - Approximately 1 billion persons live outside their country or region with more than 200 million people considered “international migrants” by the UN.
    - 3% of the world’s population
    - 5th most populated country in the world

https://www.nationalgeographic.com/video/shorts/590074435948/
What has changed?
Political and Environmental Instability

85% of all Refugees live in this area

Human displacement

Refugees

Medical Needs and Supplies

• Two phases of displacement
  • Acute Displacement
  • Chronic Displacement
  • Grey area: evolution from acute to chronic

Refugee Definition
Person outside his or her country of nationality who is unable or unwilling to return because of persecution or a well-founded fear of persecution on account of
• race,
• religion,
• nationality,
• membership in a particular social group, or
• political opinion.

Medical Needs and Supplies

• Two phases of displacement
  • Acute Displacement
  • Chronic Displacement
  • Grey area: evolution from acute to chronic
Acute Displacement

- Breakdown in Systems
- Public Health
  - WASH, diarrheal disease, VPD, infectious disease/outbreaks, acute malnutrition
- Ongoing care of chronic disease/s
  - Cancer, DM, heart disease

Chronic Displacement

- How long is chronic?
- Where do refugees live?
  - Formal refugee camps
  - Urban areas (increasingly)
- UNHCR has “3 durable solutions”
  - Repatriation
  - Integration
  - Third Country Resettlement

Resettlement at a glance

<table>
<thead>
<tr>
<th>Year</th>
<th>Refugees resettled</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>74K</td>
</tr>
<tr>
<td>2015</td>
<td>82K</td>
</tr>
<tr>
<td>2016</td>
<td>126K</td>
</tr>
<tr>
<td>2017</td>
<td>65K</td>
</tr>
<tr>
<td>2018</td>
<td>51K</td>
</tr>
</tbody>
</table>

Top countries of origin for refugees resettled globally:
2. Myanmar
3. Syria

Source: UNHCR

Estimated Annual International Arrivals, U.S.A. 2016

- Refugees: 60,000
- Non-immigrant admissions
  - Temporary/Seasonal and Duration: 4.2M
    - Mexico (1.5M)
    - China (155K)

Source: U.S. Department of Homeland Security
Estimated Annual International Arrivals, U.S.A. 2017

Non-immigrant admissions

- Temporary Workers and Families: 3.7 M
- Students Visa: 1.9 M
- Others: 175 M

Refugees: 110,000

Source: U.S. Department of Homeland Security

Estimated Annual International Arrivals, U.S.A. 2018

Non-immigrant admissions

- Temporary Workers and Families: 3.7 M
- Students Visa: 1.9 M
- Others: 175 M

Refugees: 110,000

50,000

Source: U.S. Department of Homeland Security

Estimated Annual International Arrivals, U.S.A. 2019

Refugees: 45,000

25,000

Source: UNHCR

Refugee Resettlement Facts 2019

IOM AT A GLANCE

WHO WE ARE

The International Organization for Migration is the leading intergovernmental organization in the field of migration.

OUR MISSION

Migration for the benefit of all

- 1951 Founded as the Provisonal Intergovernmental Committee for the Movement of Migrants from Europe (PICMME)
- 1952 PICMME becomes the Intergovernmental Committee for European Migration (ICEM)
- 1980 ICEM becomes the Intergovernmental Committee for Migration (ICM) during the Indochinese refugee crisis
- 1989 ICM becomes the International Organization for Migration
- 2017 IOM joins the UN system
Key IOM Activities

IOM works across the following areas:

- Labour Migration
- Human Development
- Immigration and Border Management
- Migration Assistance
- Emergency, Post-crisis and Disaster Risk Reduction
- Migration Health
- Refugee Resettlement
- Migration Policy and Migration Law Research

What is the Connection between the US Refugee Admissions Program (USRAP) and IOM?

- Resettlement Support Centers (Case Processing, Cultural Orientation)
- Refugee Health Services (MHD)
- Transportation Arrangements to the United States (OPS and POEs)
- Promissory Notes (Loan Collection)

Memorandum of Understanding (MOU) between PRM and IOM

Challenges of the Refugee Health Assessment

- Up to 3 day road trip to Addis Ababa
- 5-7 days stay in the transit center
- 3 day trip back
- Almost 2 weeks for one medical exam
- Over 30% of refugees undergo re-medical exams

Refugee Health Activities—Key Role of IOM

- Required overseas medical exams: panel physicians/IOM
- Refugee-specific follow up on SMC cases and pre-departure “Fit to Fly”
- Medical Movements to the US
- Involves pre-arrival medical exams

Resettlement: time for health interventions?
**Scope of Refugee Health Assessment**

An evaluation of the physical and mental health status of migrants made prior to departure, with primary focus on:

- Investigating admissibility on medical grounds
- Assessing fitness to travel and medical travel requirements
- Assessing health needs and related resettlement needs in the country of destination
- Improving the health of refugees who are undergoing resettlement
- Facilitating integration of refugees with specific health needs

**USRAP Refugee Health Timeline**

- Pre-Embarkation Check (PEC) and Departure
- Pre-arrival Settlement and Placement Services
  - Pre-arrival health
  - Housing
  - Food and other needs
- Medical Examination
- Outprocessing
- Travel support
- Post-arrival services

**Medical Resettlement in USRAP**

<table>
<thead>
<tr>
<th>Cohort</th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
<th>FY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departures</td>
<td>69,990</td>
<td>84,929</td>
<td>46,994</td>
<td>22,482</td>
</tr>
<tr>
<td>SMC* Cases</td>
<td>8,544</td>
<td>9,222</td>
<td>6,624</td>
<td>4,496</td>
</tr>
<tr>
<td>Medical</td>
<td>789</td>
<td>1,192</td>
<td>597</td>
<td>745</td>
</tr>
<tr>
<td>Escorts</td>
<td>85</td>
<td>1,448</td>
<td>2,108</td>
<td>3,041</td>
</tr>
</tbody>
</table>

**USRAP Medical Movements**

- 83% departure countries in FY2018
- 20% of departing refugees had significant medical conditions
- 3% with medical conditions required travel assistance by IOM escorts
- 800 IOM medical movements a year

**USRAP Medical Movement Support Model**

- Providing continuum of care and safe resettlement for refugees with significant medical conditions (10-20% of USRAP pipeline).
- Network of USRAP case officers and other USRAP medical personnel.
- Electronic medical information exchange with overseas resettlement support centers, resettlement agencies, US states and cities.
- Telemedicine and clinical consultations with overseas and US based clinicians.
- Enhanced case specific coordination with the US receiving agencies and clinics.
- Training for IOM and non-IOM physicians and as well as IOM Operations.
- Webinar for US resettlement agencies on best practices in receiving medical cases.

**Decision - Medical escort**

- Refugees with significant medical conditions (SMC likely to require significant treatment or have risk of clinical deterioration during travel).
- Medical device requirements (e.g., supplementary oxygen, indwelling urinary catheters, etc.).
- Mobility assistance (stretcher, carry-on passenger).
- Behavioral, cognitive, or intellectual impairments requiring supervision and ADL assistance.
- Food allergy without adequate family support.
- Stabilized major psychiatric illness.
Typical Medical Conditions/Travel Requirements

Oxygen

- Hypertensive heart disease with (congestive) heart failure
- Chronic ischaemic heart disease
- Essential (primary) hypertension
- Chronic obstructive pulmonary disease
- Anaemia
- Mitral (valve) insufficiency
- Rheumatic heart disease

Oxygen saturation is 95% or greater?

- No

Oxygen saturation is 92% or less?

- Yes

Additional Tests (Walking or Advanced hypoxic challenge) confirmed need for suppl. oxygen?

- Yes

SpO2 6MWT < 85%

- Yes

Can airline provide the oxygen?

- No

Patient is a child or continuous flow needed?

- No

POC

- Pulse

Aircraft oxygen

- Extra space needed for interventions/equipment?

- No

Extra Seat

- Economy Seat

Are 3 flat seats available?

- Yes

Business seat close to horizontal?

- Yes

Stretcher

- Yes

UMN Collaboration

- History
  - Minnesota history or refugee resettlement
  - Refugee health center of excellence
  - UMN faculty and community professionals with extensive experience in resource-limited settings
  - Recent history of exchange
History of the collaboration

- Resident physicians (Medicine, Pediatric, Med/Peds serving refugees) ~ 2012
- International Rotations
- Special projects, e.g.
  - Splenomegaly (Matt Goers MMWR)
  - Interpreter module (Hope Pogemiller)
  - Development of SOPs (e.g. HIV SOP)
- Hosting IOM physicians in Minnesota
- Informal clinical consults

UMN Collaboration—Opportunity to Scale Up

- Purpose: Improve health of US bound refugees
- Scope/vision
  - Augment clinical services provided by IOM to refugees
  - Expand public health role/opportunities/training
  - Assist with development of SOPs for specific health conditions
  - Increase educational opportunities

Philosophy

- We respond to identified needs (be that IOM or CDC), we do not have a specific agenda
- Sustainability (or capacity that will remain if programming ceases)
- Evidence-based
- Pedagogically sound—adult learning theory

Scaling up

- SME contributions
- Leadership and interdisciplinary training
- Field trainings
- CALS training
- Nursing and other (e.g., laboratory) capacity building

University of Minnesota/IOM Collaboration Activities

- Online education
  - IOM staff will have access online training materials from the University of Minnesota Global Medicine Program. Specific IOM online training platform

Scaling up

- Interpreter use and training
- Technical assistance
- Online learning platform/s
- Physical examination standardization, training and evaluation
University of Minnesota/IOM Collaboration Activities

- **Supplement current IOM training activities**
  - Subject matter experts (across the health professions) to augment existing regional conferences. For talks, workshops, exercises.
  - Large training for all panel physicians
    - Dar es Salaam
    - Kampala
    - Amman
    - Kuala Lumpur
    - Accra

- **Subject matter expert site visits for training, networking and systems review**
  - Individual, or small groups, of subject matter experts at UMN or MN-based agencies to travel to specific IOM country sites for education, protocol development and systems reviews.

- **Field/bedside teaching for IOM physicians**
  - E.g. tropical dermatology, pediatrics

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University of Minnesota/IOM Collaboration Activities

- **US based leadership and public health training**
  - Cohorts of IOM health professionals hosted in the US (Minnesota) for leadership, public health, and medical (and survival) training.

- **Comprehensive Advanced Life Support Training (CALS)**
  - Collaborate with CALS to conduct advanced life support training with IOM staff with an IOM specific curriculum. The location, number of participants and agenda/curriculum will be developed and approved by both parties prior to conducting.
    - Arusha
    - Bangkok
    - Amman
    - Kampala

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Right Hand-Left Hand

GLOBAL CALS Essentials
Comprehensive Advanced Life Support Rural Emergency Team Education For The Majority World

- Emergency Medical Education
- Rural / Remote Locations
- Hands-on Scenarios
- Team Training
- Interactive Discussions
Nursing Capacity Building

- Developing nursing leadership (un)
- Interprofessional work
- Communication

Technical Assistance
Expanding on Physical Examination Component
Improving Diagnosis in Refugees

Physical Exam Guidelines for the Refugee Health Assessment

The Physical Exam Project
- Goals
  - Standardize the minimum basic physical exam for the refugee
    health examination
  - Develop a set of guidelines (checklist)
- Activities
  - Physical exam guidelines
    (checklist)
  - Master Trainer trainings
  - Site visits and quality control

Master Trainer Trainings
- Prevent physical exam guidelines
  - Practice physical exam skills
  - Practice feedback and communication
  - Strengthen interprofessional relationships
Main thing we do...intangible but sustainable

- Create human dialog, connections, networking, opportunities for both IOM and Minnesota and other faculty/staff
- IMPROVE CONTINUUM OF CARE
  - Medical education, improved leadership and mentoring skills, institutional cultural change, improved communication and cross-discipline collaboration
- CANNOT BE TAKEN AWAY

Key Staff and Examples of Faculty

E.g. Of Faculty Participating (all with extensive refugee or Africa/Asia experience)

<table>
<thead>
<tr>
<th>Key Staff and Examples of Faculty</th>
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<tbody>
<tr>
<td>Miguel Ruiz (former COS, Regions Hospital)</td>
<td>Other key personnel</td>
</tr>
<tr>
<td>Pat Walker (Refugee Guru)</td>
<td></td>
</tr>
<tr>
<td>Steve Osagie (Trauma ED, developed ED in Ethiopia)</td>
<td>Eric Mann—Project administrator and coordinator</td>
</tr>
<tr>
<td>Georgi Kroupin (Refugee Psychology)</td>
<td>Molly McCoy—Original administrator, awardee</td>
</tr>
<tr>
<td>Bindi Hoffman (psychology, mental health)</td>
<td>Young faculty/trainers who can develop programming/projects</td>
</tr>
<tr>
<td>Laura Spro (public health, subject of expert)</td>
<td>Alex Brown</td>
</tr>
<tr>
<td>Nan Doh (gastroenterology specialist)</td>
<td>Priyanka Anand</td>
</tr>
<tr>
<td>Troy Lund (pediatric oncologist)</td>
<td>Arun Kumar Chandran</td>
</tr>
<tr>
<td>Anna Farook (Dean, Medical School Curriculum)</td>
<td>Doris Duke Fellows</td>
</tr>
<tr>
<td>Beth Hurdle-Peterson (HR, Director UMN Global Health)</td>
<td>• Alex Brown</td>
</tr>
<tr>
<td>Sharyn Probst (Director, Center for Global Health and Social Responsibility)</td>
<td>• Priyanka Anand</td>
</tr>
<tr>
<td>Clinical staff from refugee clinic</td>
<td>Arun Kumar Chandran</td>
</tr>
<tr>
<td>Minnesota Department of Health Staff</td>
<td></td>
</tr>
</tbody>
</table>
Who really will benefit from this relationship?

Equity
Exchange of ideas
Bilateral learning
Networking
Communication

Friendships
Opportunities
Experience
Caring for vulnerable
Improving Health

Why is this applicable?

• Lesson learned, do the right thing for the sake of the right thing...hopefully you will eventually get funded...
• Model for improving health of vulnerable migrant populations prior to, during and after arrival
• Academic partnership in migration health is rare...it offers opportunities for the non-profit world AND for the academic world to mutually benefit while improving care
• It is in the differences that the greatest learning and discoveries are found

Aviation medicine and in-flight emergencies are a perfect example of how academic work, migration medicine AND ISTM/Travelers Health Intersect!!!!

Take your kid to work day

It is time for parents to teach young people early on that in diversity there is beauty and there is strength

Maya Angelou

Too many people to thank
Epidemiology

- 3 billion people travel by commercial airlines annually
- Medical issues occur during air travel 350 times per day
- 1 in every 14,000 to 40,000 travelers
- Of these events, only 3% require diversion of the aircraft
  - The usual suspects:
    - Gastrointestinal issues
    - 24H problems
    - Exacerbation of respiratory disease
    - Cardiovascular events
    - Neurologic issues
    - Allergic reactions
    - Psychiatric problems

Most common symptom complaints:
- Pre-syncope & syncope 37.5%
- Respiratory distress 12%
- Nausea / vomiting 9.5%

NomostFEAREDcomplaints:
- Obstetrical-emergencies 0.5%
- Cardiac arrest 0.3%

What Happens in the Air?

- Commercial airlines cruise at 35,000 ft / 10,000 m (Mt Everest = 8848 m)
- Aviation regulations require all aircraft to pressurize to 8,000 ft / 2400 m
- Cabin air is drawn from outside, heated, filtered and recirculated resulting in very low humidity (approx. 10%)

What Happens in Seat 44B at Altitude?

- Expansion of trapped gases within the body
- The air is very dry
- Sympathetic nervous system stimulation
- Decreased PiO2
  - Tissue hypoxia
  - Increased minute ventilation (increased resp rate and tidal volume)
  - Peripheral vasodilation
  - Pulmonary vasoconstriction
  - Increased cardiac output (increased heart rate and stroke volume)

Summary

- Prevention & Preparation is the best medicine
- Gas expands as it goes up ➔ less dense ➔ less oxygen
- Oxygen is a drug
- Reassess your patient after every intervention
- Congenital heart disease present with a high degree of variability
- Attend to hydration status in-flight
Case Scenario

- 9yo M HIV positive
- Bilateral “pneumonia” with pleural effusions
- Bilateral iatrogenic pneumothorax s/p chest tube
- O2 Sat low 90’s on room air
- Can we move him on a commercial flight from Dar to Cleveland?

Case Scenario

- Pt looks alert, afebrile, wasted, eat well, in general fair condition, not pale, not dyspneic, no Jaundice, no lower limb edema, RR 38, PR 89, SPO2 96% on room air, Temp 36.2 C, Hb 11.2 g/dl, and PLT is 422,000
- bilateral chest tube draining chyle fluid. CT scan done on Mar 4th and 6th showed resolved Rt pneumothorax and reduced Lt pneumothorax.
- Abacavir 300mg, ABC 300mg BID 2, 3TC 150mg BID 2, LPV/r 125mg BID 2, and Tabs Cotrimoxazole 960 Mg.