<table>
<thead>
<tr>
<th>Rank</th>
<th>Worldwide Cause</th>
<th>DALYs† (millions)</th>
<th>High-income countries†</th>
<th>Cause</th>
<th>DALYs (millions)</th>
<th>Low- and middle-income countries</th>
<th>Cause</th>
<th>DALYs (millions)</th>
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<tr>
<td>1</td>
<td>Unipolar depressive disorders</td>
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<td>2</td>
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<td>23.7</td>
<td>Alzheimer's and other dementias</td>
<td>4.4</td>
<td>Alcohol-use disorders</td>
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<td>3</td>
<td>Schizophrenia</td>
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<td>Schizophrenia</td>
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<td>Alzheimer's and other dementias</td>
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<td>Schizophrenia</td>
<td>1.6</td>
<td>Epilepsy</td>
<td>7.3</td>
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<td>6</td>
<td>Drug-use disorders</td>
<td>8.4</td>
<td>Bipolar affective disorder</td>
<td>1.5</td>
<td>Alzheimer's and other dementias</td>
<td>6.8</td>
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<tr>
<td>7</td>
<td>Epilepsy</td>
<td>7.9</td>
<td>Migraine</td>
<td>1.4</td>
<td>Drug-use disorders</td>
<td>6.5</td>
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<td>8</td>
<td>Migraine</td>
<td>7.8</td>
<td>Panic disorder</td>
<td>0.8</td>
<td>Migraine</td>
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<td>9</td>
<td>Panic disorder</td>
<td>7.0</td>
<td>Insomnia (primary)</td>
<td>0.8</td>
<td>Panic disorder</td>
<td>6.2</td>
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<td>10</td>
<td>Obsessive–compulsive disorder</td>
<td>5.1</td>
<td>Parkinson's disease</td>
<td>0.7</td>
<td>Obsessive–compulsive disorder</td>
<td>4.5</td>
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<tr>
<td>11</td>
<td>Insomnia (primary)</td>
<td>3.6</td>
<td>Obsessive–compulsive disorder</td>
<td>0.6</td>
<td>Post-traumatic stress disorder</td>
<td>3.0</td>
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<tr>
<td>12</td>
<td>Post-traumatic stress disorder</td>
<td>3.5</td>
<td>Parkinson's disease</td>
<td>0.5</td>
<td>Epilepsy</td>
<td>2.9</td>
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<tr>
<td>13</td>
<td>Parkinson's disease</td>
<td>1.7</td>
<td>Post-traumatic stress disorder</td>
<td>0.5</td>
<td>Multiple sclerosis</td>
<td>1.2</td>
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<tr>
<td>14</td>
<td>Multiple sclerosis</td>
<td>1.5</td>
<td>Multiple sclerosis</td>
<td>0.3</td>
<td>Parkinson's disease</td>
<td>1.0</td>
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</table>

*Data from ref. 1. Examples of MNS disorders under the purview of the Grand Challenges in Global Mental Health initiative.

†World Bank criteria for income (2009 gross national income (GNI) per capita): low income is US$995 equivalent or less; middle income is $996–12,195; high income is $12,196 or more.

‡A disability-adjusted life year (DALY) is a unit for measuring the amount of health lost because of a disease or injury. It is calculated as the present value of the future years of disability-free life that are lost as a result of the premature deaths or disability occurring in a particular year.
Grand Challenges in Global Mental Health (top 5)

1. Integrate screenings and core packages of services into routine primary health care

2. Reduce the cost and improve the supply of effective medications

3. Provide effective and affordable community-based care and rehabilitation

4. Improve children’s access to evidence-based care by trained health providers

5. Strengthen the mental health component of the training of all health care personnel
Grand Challenges in Global Mental Health (other priorities)

1. A life course perspective, especially including children
2. A system-wide approach including family and community
3. Understanding environmental influences, such as poverty, violence, war, migration, and disaster
4. Evidence-based interventions
The Significance of Global Migration

3% of the world’s population, or 214 million people, are migrants, and the numbers are increasing.

Leads to brain drain and brain gain.
Types of Migrants

► Voluntary labor migrants who are either temporary, seasonal, circular or settled labor migrants

► Forced migrants who fled political violence and may either be resettled refugees or returnees

► Women and girls who have been trafficked

► Other important migration patterns include:
  • female migrants (an increasing trend)
  • married migrants who go with their families.
Kosovo

► 21.4% of Kosovo’s population is living outside Kosovo.

► Every third or fourth household has a family member living abroad.

► 16 municipalities have more than 20% of population living and working abroad.

► Reason for migration in 2011:
  ▪ Family reunion- 46%
  ▪ Employment- 35%
  ▪ War 1998-99- 8%
  ▪ Education training-1%
  ▪ Other- 4%
  ▪ Not known- 6%
## Kosovars’ Migration Destinations

<table>
<thead>
<tr>
<th>10 leading countries</th>
<th>%</th>
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<tbody>
<tr>
<td>Germany</td>
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</tr>
<tr>
<td>Switzerland</td>
<td>22.94</td>
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<tr>
<td>Italy</td>
<td>7.26</td>
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<tr>
<td>Austria</td>
<td>5.61</td>
</tr>
<tr>
<td>Sweden</td>
<td>5.14</td>
</tr>
<tr>
<td>USA</td>
<td>3.53</td>
</tr>
<tr>
<td>France</td>
<td>3.25</td>
</tr>
<tr>
<td>England</td>
<td>2.79</td>
</tr>
<tr>
<td>Belgium</td>
<td>2.07</td>
</tr>
<tr>
<td>Slovenia</td>
<td>1.78</td>
</tr>
<tr>
<td>Other</td>
<td>10.38</td>
</tr>
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</table>
Remittances are the largest source of external financing for Kosovo

25% of households in Kosovo receive remittances

Despite the significant role of migration in Kosovo’s economic, political and social landscape, policies to maximize its contribution to economic development are minimal at best.
Gender
► 57% male and 43% female Kosovar migrants (2011)
► In recent years, females dominate emigration with 53% female and 47% male

Age
► 25-44 years comprised 47% of the migrant population, which is the main reproductive age in terms of fertility and labor force
► 0-14 years comprised 17% of migrants, which reflects family migration
What is Known about Migration and Mental Illness
Associated with Migration

- Individual stress
- Prolonged separation of family members
- Changes in family roles
- Increases in family tension and conflict
- Family breakup

- Limited social network
- Racial, ethnic, and religious discrimination
- Traumas, poverty, and harsh living and working conditions
- Workplace injuries
Migrants’ Vulnerability to Mental Illness

• Those with workplace injuries, substance abuse, and physical illnesses.

• The elderly may face problems of isolation and lack of access to care which may complicate their treatment.

• Refugees and forced migrants have high rates of PTSD.

• A recent meta-analysis of studies amongst labor migrants found a 20% mean for anxiety disorders (including but not limited to PTSD).

• Some child migrants had elevated rates of mental health and education problems and psychotic symptoms.
Migrants’ Vulnerability to Mental Illness

- Children of immigrants in Europe reported higher rates of domestic and auto accidents, believed related to issues of poor housing and inadequate daycare

- Higher suicide rates were found in several immigrant populations

- Some studies showed acculturation as associated with increased depression, distress, alcohol and drug use

- Wives of migrants who remain in the sending country demonstrate more mental health problems, which is accounted for by changes in gender roles

- Migrants were shown to have higher rates of substance abuse than those in their country of origin, as well as higher rates than the local population
What is Known About Migration and NCDs
Migration’s Health Transition and NCDs

- Migration has been viewed as a “health transition”

- Many migrants take available jobs that are unattractive to locals and face poor conditions without adequate safety measures

- Without regulation, migrants face injury and illness from unsafe working conditions, as well as higher levels of occupational stress

- Environmental conditions where migrants work can involve carcinogens which may lead to higher rates of cancer
Migration’s Health Transition and NCDs

- Economic and employment stresses are shown to contribute to higher levels of alcohol use.

- Financial uncertainty, long working hours, and insecure legal status cause elevated levels of reported stress which can contribute to cardiovascular disease.

- Migrants may also acquire higher rates of “lifestyle diseases” associated with the receiving country, such as cardiovascular disease, diabetes, and hypertension.

- Migrants that moved to industrialized regions from rural areas or developing countries were found to have a higher prevalence of obesity and serum lipid levels.
  - This change is often characterized by changes in diet and behavior associated with decreased physical activity.
Migration’s Health Transition and NCDs

• Many migrants have difficulty accessing health services in the receiving country, due in part to legal status, and to cultural differences in help seeking for health problems.

• With a lack of healthcare access to treat chronic conditions, migrants were found to have a higher mortality rate than the local population, due to cardiovascular disease.
Migration’s Health Transition and NCDs

• Newly arrived migrants were less obese than the local population, but assumed similar levels over time

• Migrants from rural to urban areas have been shown to have higher rates of diabetes than the rural non-migrant counterparts
Common Mental Illness and Physical Comorbidities Among Migrants

Pre-migration mental health risk factors include:
- female gender
- history of mental disorders
- history of alcohol and substance abuse
- coming from a remote and poor environment
- traumatic events.

Post-migration mental health risk factors include:
- older age
- illegal status
- traumatic events
- unstable living and working conditions
- lower economic status
- inadequate social support
- detention
- unemployment
- acculturative stress
- isolation
- discrimination

Physical health risk factors for migrants post-migration include:
- poverty
- mobility
- difficult living and working conditions
- cultural isolation
- environmental hazards
- language and cultural barriers
- impaired access to health care
Common Mental Illness and Physical Comorbidities

A growing global literature demonstrates:
1. that those with mental illness have higher rates of physical illness and lower access to treatment;
2. that those with pain have higher rates of anxiety and depressive disorders.
Conceptual Frameworks
<table>
<thead>
<tr>
<th>Lifespan Approach</th>
<th>In-Utero to Early Childhood</th>
<th>Mid-Childhood to Adolescence</th>
<th>Late Adolescence to Young Adult</th>
<th>Mid to Late Adulthood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fetus and children of migrants; Fetus and children who will later become migrants</td>
<td>Children and adolescents of migrants; Adolescents preparing to migrate</td>
<td>Migrants; Siblings &amp; parents; Spouses</td>
<td>Migrants; Sibling &amp; parents; Spouses; Returned migrants</td>
</tr>
<tr>
<td></td>
<td>Exposures to neglect, malnutrition, toxicants, maternal stress/depression</td>
<td>Exposures to separation anxiety, malnutrition, toxicants, maternal stress/depression, abuse, substances</td>
<td>Exposure to high stress, family separation, violence and trauma, substances</td>
<td>Exposure to poverty, malnutrition, family separation, reunification</td>
</tr>
</tbody>
</table>
Integrative Framework to Inform NCD Research and Training

**Migration**
- **Migration Type**
  - Voluntary: temporary/seasonal/circular
  - Forced migration
  - Human trafficking

**Environment**
- Toxicants
- Dietary Change
- Poor living/working conditions
- Barriers to care

**Social and Cultural**
- Urbanization/poverty
- Acculturation
- Muslim religion
- Stigma

**Risk/Protection**
- **Individual**
  - Genetics/epigenetics
  - Age/gender/prior history
  - Injuries/stress/isolation
  - Sedentary lifestyle
  - Resilience

**Family**
- Separation/loss/conflict
- Communication/support
- Belief system/familism
- Access to services
- Resilience

**Community**
- Available health services
- Social support
- Resilience
- Discrimination

**Diseases**
- **Mental Illness**
  - Depression/Anxiety/PTSD
  - Subst. Abuse/Alcohol
  - Suicidality
  - Child develop. disorders

**Physical Comorbidities**
- Cardiovascular disease
- Cerebrovascular disease
- Cancer
- Diabetes

**Interventions**
- **Treatment**
  - Access to services
  - Help seeking
  - Primary Care
  - Patient & family educ.

- **Prevention**
  - Engagement & retention
  - Common modifiable risks
  - Resilience focused
  - Community-based
  - Multi-level/time-focused

- **Implementation**
  - Community collaboration
  - Non-traditional settings
  - Culturally appropriate
  - Sustainability
  - Provider knowledge
Research Questions
Chronic NCDs

• What are the most prevalent mental health and health problems amongst migrants and their families?

• What mental and physical health problems are comorbid and how do they impact one another?
Migration, Social, & Envir. Determinants

• How does migration impact mental illness and physical comorbidities?
• What are the environmental, structural, and socio-cultural determinants of mental illness and physical comorbidities?
• Which of these determinants are modifiable? In what ways?
Individual, Family, and Community Determinants

• How does migration impact individuals, families, and communities in ways that change risk and protection for mental health and physical comorbidities?

• What are the lifespan determinants of risk and protection and intervention opportunities?
Interventions and Services

• How can interventions be developed to fit with the conditions of migration?
• What dimensions of individual, family, and community experience are important in impacting the delivery and implementation of treatment and prevention?
• What types of interventions in what types of settings can effectively treat or prevent mental illness and physical comorbidities?
• How can mental health and health interventions be combined, for example, in primary care settings?
Fogarty UIC
Global Mental Health and Migration Research & Training Program
The Need to Develop NCD Research in Low-Income Countries

• Migrants and their family members across the lifespan are exposed to multiple environmental, structural, sociocultural, familial, and individual risks that increase their vulnerability to chronic non-communicable diseases (NCDs)

• Despite the extraordinarily high and growing rates of migration globally, healthcare systems in both sending and receiving countries have not yet developed the capacities to respond to the chronic NCDs associated with migration
NCDs

Mental Illness:
- Depression
- Substance abuse
- Anxiety

Medical Illnesses:
- Cardiovascular disease
- Cerebrovascular disease
- Diabetes
- Cancer
**Overall Program Purpose**

**Focuses** on chronic NCDs across the lifespan in the areas of mental illness (e.g. depression, anxiety, PTSD, and substance abuse) and physical comorbidities (e.g., cardiovascular and cerebrovascular diseases)

**Improves** the abilities of policymakers, practitioners, and educators in Kosovo and Tajikistan to deal with migration-associated mental illness and physical comorbidities for their adult and child citizens both at home and abroad

**Develops** a cadre of research experts and national research centers of expertise that can contribute regionally and globally to addressing the problem of chronic NCDs in migration-impacted populations
Principles for Capacity Building and Sustainability

- Long-term commitment
  - National
  - Institutional
  - Trainee
- Re-entry grants for trainees
- Diversified program themes
- Mentoring and networking
- Dual appointments for faculty
Fogarty International Center
Science for Global Health

Principles for Capacity Building and Sustainability (2)

- South-to-South collaboration
- Sustained linkages
- Contribution of resources from all partners
- Leverage resources for added support
- Connectivity via modern IT systems
- Centers of excellence in home countries
- Mutual benefits known to all
University of Illinois at Chicago

International Center on Responses to Catastrophes, Department of Psychiatry

Center for Global Health, College of Medicine

Center on Psychiatric Disability and Co-Occurring Medical Conditions, Department of Psychiatry
<table>
<thead>
<tr>
<th>Name</th>
<th>Role(s)</th>
<th>Research/Training Concentration Areas</th>
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</thead>
<tbody>
<tr>
<td>Stevan Weine</td>
<td>Program Director, Migration &amp; NCDs</td>
<td>Research methods; migrant mental health; qual methods</td>
</tr>
<tr>
<td>Dan Hryhorczuk</td>
<td>Program Deputy Director, Risk &amp; Resilience</td>
<td>Research methods; epidemiology; environmental health;</td>
</tr>
<tr>
<td>Lisa Razzano</td>
<td>Program Deputy Director, Interventions</td>
<td>Mental health; comorbidities; adherence; EBPs; diverse populations</td>
</tr>
<tr>
<td>Maria Caserta</td>
<td>Lead Trainer, Diagnostic Assessment</td>
<td>Mental health treatment; clinical assessment; lifespan health issues</td>
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<tr>
<td>Sue Pickett</td>
<td>Lead Trainer, Family Science</td>
<td>Research methods; EBPs; homelessness; family issues in mental health</td>
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<tr>
<td>Rajiv Sharma</td>
<td>Lead Trainer, Epigenetics</td>
<td>Epigenetics; schizophrenia; psychopharmacology; research design</td>
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<tr>
<td>Marcia Edison</td>
<td>Lead Trainer, Global Health</td>
<td>Curriculum and evaluation development; implementation, and dissemination</td>
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<tr>
<td>Linda Forst</td>
<td>Lead Trainer, Occupational Health</td>
<td>Injury epidemiology; comorbidities; occupational health disparities;</td>
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<tr>
<td>Tim Johnson</td>
<td>Lead Trainer, Survey Research</td>
<td>Research methods; survey development; statistical &amp; eval.</td>
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<tr>
<td>Tonda Hughes</td>
<td>Lead Trainer, Alcohol and Substance Abuse</td>
<td>Substance use; mental health; survey construction; population research</td>
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<tr>
<td>Arlene Miller</td>
<td>Lead Trainer, Cross-Cultural Methods</td>
<td>Cross-cultural methods for psychosocial and biobehavioral health research; health promotion</td>
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<tr>
<td>David Henry</td>
<td>Lead Trainer, Prevention</td>
<td>Normative social influence, peer networks, prevention, child/adolescent development</td>
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<tr>
<td>Judith Levy</td>
<td>Lead Trainer, Aging</td>
<td>AIDS, drug abuse, aging across the life course</td>
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<tr>
<td>Laurie Ruggiero</td>
<td>Lead Trainer, Medical Illness Prevention</td>
<td>Behavioral and psychosocial aspects of diabetes prevention and self-management</td>
</tr>
<tr>
<td>Ed Mensah</td>
<td>Lead Trainer, mHealth</td>
<td>mHealth and health informatics, especially in LMIC</td>
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Collaborative Development of the NCD Research Training Plan

• April 2011 – initial planning by Ferid Agani, Mahbat Bahromov, and Stevan Weine
• September 2011 – initial submission
• June 2012 – Istanbul meeting
• September 2012 – resubmission
• November 2013 – fundable score
• June 2014 – award notification
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<th>Partner research institutions (Main foreign collaborators)</th>
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<tr>
<td>Tajik State Medical University (Salohidin Miraliev)</td>
</tr>
<tr>
<td>Tajik Postgraduate Medical Institute (Zukhra Mirzoeva)</td>
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<tr>
<td>Academy of Medical Sciences (Abdusamad Dustov)</td>
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<tr>
<td>PRISMA Research Center (Mahbat Bahromov)</td>
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| Partner research institutions  
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<tr>
<th>(Main foreign collaborators)</th>
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| Faculty of Medicine, U. Prishtina  
| (Isuf Dedushaj) |
| Department of Psychology, U. Prishtina  
| (Dashamir Berxulli) |
| National Institute of Public Health of Kosovo  
<p>| (Isme Humolli) |</p>
<table>
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<tr>
<th>Training Advisory Group</th>
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</table>
| **David Eisenman**  
(UCLA) |
| **Suzanne Feetham**  
(U. Wisconsin-Milwaukee) |
| **Stevan Hobfoll**  
(Rush) |
| **Ferid Agani**  
(MOH, Kosovo) |
| **Ferid Agani**  
(MOH, Kosovo) |
| **Avdulla Alija**  
(U. Prishtina, Kosovo) |
| **Salomiddin Isupov**  
(MOH, Tajikistan) |
| **Khurshed Kunguratov**  
(Republican Psychiatric Hospital, Tajikistan) |
Visiting Researcher Training

- 10 month non-degree training for postdoctoral researchers to improve research knowledge and skills

- Match researchers with a U.S. mentor to develop a pilot project that the program will fund in their home country

- Provide support to researchers and assist them in developing collaborative networks and partnerships at their home research institutions
Mentored Research Training

• Each visiting researcher selects two mentors who each meet with the trainee on a weekly basis.

• By the first semester’s end, each visiting researcher will have a proposal ready for implementation that will lead to pilot data suitable for publication and for a follow-up grant proposal.

• Mentors and the UIC Leadership Team and country coordinators will review proposals and suggest additional reading and methodological input that will allow refinement of aims and methods, and will lead to a full six-page research proposal that is organized like the R03 NIH application.
Mentored Research Training & In-Country Research Training

Build research capacity at 7 partner institutions by supporting 10 one-year mentored research projects and by training an estimated 250 participants per year (both live and on-line) who are either academics, educators, practitioners, policymakers, or stakeholders on pertinent research methods, issues, and infrastructure.
Chicago - Pristina - Dushanbe Network

Develop and sustain a diverse network of researchers from the U.S., Kosovo, and Tajikistan dedicated to sharing knowledge and skills through convening annual meetings, trainings, and dissemination.
CONTACT

Stevan Weine M.D.
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smweine@uic.edu
(312) 355-5407