Johns Hopkins University-Pakistan Fogarty International Collaborative Trauma and Injury Research Training Program (JHU-Pak ICTIRT)

Johns Hopkins International Injury Research Unit
Johns Hopkins Bloomberg School of Public Health and School of Medicine
Aga Khan University Medical College

www.jhsph.edu/IIRU
Outline

• Last things first
• The first 10 years
• Shared challenges
• Next 5 years
Last Things First…

1. What matters most is most difficult to measure
2. The journey of training program: 
   Education...Mentorship...Experience... Excitement
3. Long-term training is actually.... quite long-term
4. Eventually it is about the local institutions
5. Academic isolation is a real thing with significant capacity consequences
Background

• First 5 years of experience with the (previous) JHU-Aga Khan University (JHU-AKU) ICTIRT Program (2005-2010)
  • Focus on Aga Khan University

• Current, experience with the JHU-Pak ICTIRT Program (2011-2016)
  • Expansion to other parts of the country - KMU

• The **overall goal** was to strengthen research capacity on trauma and injuries in Pakistan through sustainable capacity development.
Objectives

1: to develop a **core group of researchers** with a special focus on North-West Pakistan;
2: to **promote research** around key national priorities in Pakistan;
3: to impact **national policy** on injury and trauma in Pakistan;
4: to create an Eastern Mediterranean Regional **Center of Excellence** at Aga Khan University (AKU).
• Under previous ICTIRT programs (2005-2016):
  – Development of capacity for injury research in Pakistan
    • 26 researchers trained from Aga Khan University (AKU), Khyber Medical University (KMU) and Ministry of Health
    • Sponsored over 63 workshops where 4,300 health practitioners and other stakeholders were trained
  – Development of data systems and research tools
    • Establishment of road traffic surveillance system in Karachi, first local trauma registry software and pilot project to set a national emergency surveillance system
• Under previous ICTIRT programs (2005-2016):
  – Profound impact on institutional research priorities at AKU and KMU
    • AKU sponsored National Research Symposia on trauma and injury
    • Established first academic department of Emergency Medicine
    • Established “Violence and Injury Research Group” and “Suicide Prevention Interest Group”
  – National impact
    • Injuries are one of the priority areas of the National Commission on Non-Communicable Disease
  – Regional and international linkages
Long-term Training

- Provided advanced training to 26 trainees
- First 2 Associate Professors of EM!
- Director of the largest public sector hospital
Outputs

• Published **scientific papers** as a result of the Fogarty Grant;
  – Over 100 papers published by program-supported personnel
  – In the past 3 years produced 6 papers a year
  – Special issue of *BMC Emergency Medicine*
    • 13 papers on unique nation-wide ER surveillance
• Successfully applied for **2 NIH supplementary grants** to support in the field of HIV and trauma;
• Written two **joint proposals** to non-NIH donors for research on emergency care
AKU Impact

- Establishment of the **first academic department of Emergency Medicine** in South Asia
- Establishment of **first WHO Collaborating Center** on Emergency Medicine and Trauma
- Pakistan’s **first formal residency training program** in EM
- Incorporation of Injury Training as part of **Masters of Health Policy and Management**
  - Also first injury prevention course at AKU as part of curriculum
- A **new MPH track** on Injury/Trauma at KMU in Peshawar
- Helped establish **first formally trained EMS system** for city of Karachi
National Impact

• Expanded the program to Peshawar, Pakistan (Khyber Medical University);
• Actively involved in disaster response in Pakistan;
• Exerted impact on national and state policy
  • Injury and trauma in national health policies
• First ever Road Traffic Injury Surveillance system in largest city of Karachi
  • 5 centers; over 300,000 patients in data
• Pakistan National Emergency Department Surveillance System
  • 7 centers; 6 cities; 250,000 patients registered
  • Largest database on emergency visits in LMICs
Regional Impact

- Trauma Registry System
  - Locally developed and tested for implementation
  - Won best innovation award in World Injury Conference
- Trauma and Emergency System Appraisal Tool development
  - In partnership with World Health Organization
  - Being piloted in Djibouti, Iraq and Pakistan
- Participation in international networks and societies
1. Exploring The Relationship Between **Intimate Partner Violence** During Pregnancy And Stillbirths: A Community Based Matched Case Control Study In District Thatta **PI: Khaul Khatlani**

2. Burden of **out of hospital cardiac arrest** and the association of type of transportation with survival **PI Minaz Mawani**

3. Association of **Post traumatic stress disorder** with work performance of Emergency Medical service personnel **PI Salima Kerai**

4. Prevalence of **child abuse** and its associated factors among children aged between 11-17 years old in Karachi, Pakistan **PI Maryam Lakhdir**

5. Association of **attention deficit hyperactive disorder (ADHD)** with unintentional injuries among children age 4-11 years, a matched case control study in Karachi, Pakistan **PI Hasana Qadri**

6. Factors Influencing the Formations & Implementation of **Needle Stick Injury** Prevention Guidelines & Programs in Tertiary Healthcare Settings of Karachi, Pakistan **PI Haris Ahmed**

7. An exploratory analysis of public sector rehabilitation services for **physical disabilities** in Karachi, Pakistan **PI Naveed Ahmed**
**Recruiting Potential Researchers**
- Clinician Researchers (Role Models; Incentives)
- Full-time Researchers (Funding; Career; Impact)

**Holding on to the trained researchers**
Funding, Post-training opportunities esp. doctorate level training, long-term mentorship and academic connectivity/isolation, immediate environment

**Developing and retaining experienced researchers**
Academic isolation; ability to sustain a large team; dependence on multiple small projects with risk of quality science and stature in scientific community

**Sustaining Systems of Research**
Institutional capacity esp finance, ethics committees, human resources in the complex reporting environment; High degree of risk averseness, sustainability and revenue
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Background

- **Pakistan**: injuries cause over 130,000 deaths and 7 million DALYs lost annually
  - Most common causes of injuries are RTIs (36%), exposure to inanimate mechanical forces (28%), falls (23%) and intentional self-harm and interpersonal violence

- **Afghanistan**: injury mortality is 128 per 100,000 and causes 8,633 per 100,000 DALY losses
  - Females: 91% of deaths are due to unintentional injuries (21% falls, 18% RTIs and 14% burns)
  - Males: 63% of injury deaths are caused by unintentional injuries (20% RTI); war-related deaths (18%) are common cause of intentional injuries

1 GBD, 2013
2 Afghanistan Mortality Survey, 2010
Goal: to strengthen research capacity on trauma and injuries in Afghanistan and Pakistan through a model of north-south-south capacity development

Approach: close collaboration between institutions
- Johns Hopkins University (JHU), Baltimore, USA
- Aga Khan University (AKU), Karachi, Pakistan
- Aga Khan University Programs in Afghanistan (AKUPA)
- Afghanistan Public Health Institute (APHI)

Each institution has: experience and expertise in research and long history of collaborative work
Specific Aim 1

- To develop core group of researchers focused on trauma and injuries at Afghanistan Public Health Institute
  - Long-term training program for trainees from Afghanistan within one of three masters degrees at AKU (clinical research, epidemiology & biostatistics, health policy & management)
  - Short-term training workshops at Afghanistan Public Health Institute
  - Quarterly webinars from JHU
• To create first **doctoral training program** on injury research at Aga Khan University
  – The PhD program will serve Pakistan and the region with in-depth injury research capacity and academic growth needed at AKU and will focus on:
    • Strengthening advanced research knowledge and skills
    • Enhancing research ethics skills
    • Focusing on strategic research relevant to the region
    • Emphasizing critical communication
    • Teaching pedagogical skills in injury and trauma education
To promote research around key priorities for trauma and injuries

- Enhance production of relevant research in trauma and injuries around three themes:
  - Development and evaluation of hospital-based and system-wide interventions that will improve access to injury services and outcomes
  - Exploration of child injury and trauma
  - Development of an implementation science agenda around injury and trauma
• To establish a **regional policy forum** on injury and trauma in western Asia
  
  – Develop a *Regional Forum* in collaboration with the Ministries of Health and Regional Office of the World Health organization (EMRO) for an annual policy dialogue on injuries
JHU-AFPak ICTIRT Program
Program management

• Executive Committee
  – Drs. Adnan A. Hyder and Junaid A. Razzak: co-PIs of the program from Johns Hopkins University
  – Dr. Nadeem Ullah Khan: co-PI from Aga Khan University
  – Dr. Parvaiz Nayani: SFI from Aga Khan University Programs in Afghanistan

• Technical Advisory Group
• International Advisory Committee
• Core Faculty
• Resource faculty
• Program coordinators
THANK YOU!
Thank you!