



INTERNATIONAL INJURY RESEARCH UNIT

The Department of International Health

The Department of International Health's mission is *to understand health problems and develop affordable means of disease reduction and health protection in underserved populations of the world.* To achieve this mission the Department conducts research, educates scientists and health professionals, guides health policy and public health practice, and builds institutional capacity that can result in sustained, improved health for all.

Globally, over 5 million deaths are caused by injuries annually, and injuries are amongst the top 10 causes of death in all age groups in low- and middle-income countries. Over a million people die and over \$500 billion are lost to the global economy each year just from road traffic injuries. Current estimates indicate that existing injury interventions are potentially some of the most cost effective in the health sector. At the same time, minimal investments for injury prevention and control, lack of intervention analysis, and poor human and technical capacity are critical challenges in addressing this burden, especially in low- and middle-income countries.

International Injury Research Unit (IIRU)

Recognizing these challenges, a committed group of faculty have joined together with a strong focus on responding to the global burden of injuries. The International Injury Research Unit (IIRU) seeks to implement the mission of Department by *understanding the burden of injuries and developing affordable means of injury reduction and safety promotion in underserved populations of the world.* To achieve the implementation of this mission, IIRU will assist the Department to adopt a *health systems approach to injury prevention*, especially in low- and middle-income countries. IIRU will promote strategic research, conduct intervention trials, provide economic analysis, evaluate existing policies, monitor new programs, and assist in capacity development.

IIRU faculty work within the Department of International Health, but also have strong linkages with other parts of the Bloomberg School of Public Health and Johns Hopkins University. IIRU is affiliated with the Johns Hopkins Center for Injury Research & Policy.

Program of Work

The work of the International Injury Research Unit currently focuses on the following four key areas in strong collaborations with partners:

1. Promotion of Strategic Research

There is a dearth of literature, especially in low- and middle-income countries, documenting the magnitude of the burden and risks for injury. As a consequence, injuries continue to be a low priority for health planners and policy makers in these countries. To address this gap, IIRU is working to understand and document the burden, risks, as well as the perceptions and beliefs of communities related to injuries and disabilities.

→ Studies on community perceptions and beliefs on injuries in Bangladesh and Malaysia. *An in-depth exploration of childhood drowning in Bangladesh: examining community perceptions and practices. Social Science & Medicine. Volume 68, Issue 9, May 2009, Pages 1720-1727*

(Cont. on back)



Workers commute everyday on this dangerous route in extremely unsafe conditions in Pakistan. 2007 Naveed Khan, Photoshare



A billboard in Gaborone, Botswana, promotes safe driving. © 2007 Lee Mantini, Courtesy of Photoshare

Department of International Health Faculty Currently Affiliated with IIRU:

Adnan A. Hyder, MD MPH PhD (Associate Professor) – Director

Prasanthi Puvanachandra, MD MPH (Research Associate) – Lead Faculty, Public Health/Statistics

Nhan T. Tran, PhD MHS (Assistant Scientist) – Lead Faculty, Health Systems/Field Trials

Timothy Baker, MD MPH (Professor) – Health Planning/Injury Prevention

David Bishai, MD PhD (Associate Professor) – Health Economics/Cost-Effectiveness

Abdul Ghaffar, MD MPH PhD (Associate) – Health Policy/Health Management

Richard H. Morrow, MD MPH (Professor) – Epidemiology/Quality Assurance

Kent Stevens, MD MPH (Assistant Professor) – Trauma Surgery/Outcomes

Antonio Trujillo, PhD (Assistant Professor) – Elderly Injuries/Econometrics

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➔ Development and testing of surveillance systems in Bangladesh, Egypt, Malaysia, Pakistan, and Uganda. *Childhood unintentional injuries surveillance in developing countries: a multi-country pilot study. Bull World Health Organ* 2009;87:345–352

➔ Development and testing of instruments for disability measurement in Uganda

2. Implementation of Field Trials and Evaluation Studies

Although there are intervention strategies for the prevention of injuries that are used in high income countries, very few have been successfully adapted and tested in low- and middle income countries. IIRU is collaborating with local researchers to conduct field trials of interventions in order to understand the effectiveness and process of implementing injury interventions in LMIC settings. Additionally, IIRU works to monitor and evaluate the impact of existing public health programs in conjunction with local partners.

➔ Field trial of visibility enhancement materials for the prevention of motorcycle crashes in Malaysia. *Engaging policy makers in road safety research in Malaysia: a theoretical and contextual analysis. Health Policy*, 2008; Oct 18

➔ Intervention study of drowning prevention interventions in Bangladesh. *Childhood drowning in low- and middle-income countries: Urgent need for intervention trials. J Paediatr Child Health*. 2008 Apr;44(4):221-7

➔ Evaluation of childhood road safety education programs in Malaysia

3. Economic and Policy Analysis

To provide decision makers with increased tools and evidence for the allocation of resources and planning of health programs, IIRU conducts economic analyses to document the economic burden of injuries as well as to evaluate the cost-effectiveness and benefit-to-cost ratio of interventions for injury prevention. IIRU also works to strengthen the research-policy interaction in low- and middle-income countries.

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SCHOOL of PUBLIC HEALTH

DEPARTMENT OF INTERNATIONAL HEALTH



An automobile accident in Kenya. © 2003 Sammy Ndwiga, Courtesy of Photoshare

➔ Cost-effectiveness analysis of interventions for injury prevention globally. *Modeling the cost effectiveness of injury interventions in lower and middle income countries: opportunities and challenges. Cost Eff Resour Alloc*. 2006 Jan 19;4(1):2

➔ Engaging policy makers in road safety research in Pakistan and Malaysia. *Integrating ethics, health policy and health systems in low- and middle-income countries: case studies from Malaysia and Pakistan. Bull World Health Organ*. 2008 Aug;86(8):606-11.

➔ Return on investment analysis for public health authorities in the Middle East

4. Research Capacity Development in LMIC

To ensure the long-term sustainability of its work, IIRU works with research institutes, academic institutions, and other partners in low- and middle-income countries to develop the capacity of local researchers to carry out injury research. This is done through the joint organization of conferences, training workshops as well as through formal exchanges with universities in low- and middle-income countries. Recognizing the need to view injury prevention under a multi-sectoral lens, IIRU also engages with non-academic professionals, the governmental sector, and the private sector.

➔ Johns Hopkins-Aga Khan University Fogarty International Collaborative Trauma and Injury & Research Training Program. *Deliberate self-harm and suicide: a review from Pakistan. Int J Inj Contr Saf Promot*. 2008 Dec;15(4):233-41

➔ Internet-based, long distance training for professionals in low and middle income countries. *MENTOR-VIP: piloting a global mentoring program for injury and violence prevention. Academic Medicine*. Vol. 84, No. 6 / June 2009