INTRODUCTION TO HIPRC

Monica S. Vavilala, MD, Director, HIPRC
Professor & Vice Chair of Anesthesiology & Pain Medicine
Professor of Pediatrics
University of Washington
HIPRC MISSION

To reduce the impact of injury and violence on people’s lives through research, education, training and public awareness.
FROM PREVENTION TO REHABILITATION
30 YEAR IMPACT

- Fire retardant pajamas
- National highway speed limits
- Bicycle helmet laws
- Seat belt and child passenger restraint laws
- Apartment window guards
- Smoke detectors
- Violence/penetrating injury programs
- Distracted driving legislation
INTERDISCIPLINARY FACULTY

Faculty Composition
- 16 Core Faculty
- 70 Associate Faculty
- 22 Departments
- 7 UW Schools

- Medicine
- Public Health
- Nursing
- Pharmacy
- Social Work
- Engineering
- Law
DISCIPLINES

- Alcohol & Drug Abuse Institute
- Allergy & Infectious Disease
- Anesthesiology & Pain Medicine
- Biobehavioral Nursing & Health Systems
- Biostatistics
- Cardiology
- Emergency Medicine
- Epidemiology
- Geography
- Geriatrics
- Global Health
- Health Services
- Industrial & Systems Engineering
- Law
- Mechanical Engineering
- Medicine

- Neurological Surgery
- Ophthalmology
- Orthopaedics & Sports Medicine
- Otolaryngology
- Pathology
- Pediatrics
- Pharmacy
- Public Health
- Pulmonary & Critical Care
- Psychiatry
- Nursing
- Radiology
- Rehabilitation Medicine
- Social Work
- Surgery
- Urology

N=32
RESEARCH FOCUS

- Traumatic Brain Injury
- Safe & Active Transport
- Injury Care
- Violence Prevention
- Global Injury
METHODS CORE

- Education
- Methods Core
- Data Management
- Data Collection
- Data Analysis
TRANSFORMATIVE RESEARCH

PROJECT

- ED Alcohol Brief Intervention
- Imaging in ICU
- Pediatric TBI Guidelines Adherence & Outcomes
- Firearm Violence Research
- Nutrition in Trauma Patients

IMPACT

- Reduced Admission Rates
- Reduced Imaging Costs
- Interdisciplinary Care Pathway & Increased Evidence-Based Care
- Brief Violence Intervention Reduces Injuries
- Redefine NPO Status & Improve Outcomes
TRAINING & CAREER DEVELOPMENT

Mentorship

- Research Mentoring
  - Project Development
  - Data Gathering
  - Data Analysis
  - Dissemination of Results

Career Mentoring

- Post-training Decisions
- Grant Applications
- Job Applications
- Ongoing Professional Development

Formal Training Programs

- INSIGHT
  - High School
  - Post-secondary

- Graduate Injury Courses
  - Global Injury
  - Macy Modules

- Post-doctoral Fellowships
  - T-32
  - Other Fellows

Career Development for Researchers

- Works-in-Progress
  - Weekly

- Journal Clubs
  - Monthly

- Methods Seminars
  - Quarterly

Career Development for Public Health Professionals

- Child Protective Services
- ACEs, Suicide Prevention

- School Personnel
- TBI, Violence Prevention

- Athletic Trainers
- TBI, RTL Best Practices

- Lawyers
- Needs Assessment

- Law Enforcement
- Injury Policy

- EMS
- Prehospital Care
PIPELINE TRAINING

Research and Career Mentorship

High School Students

Undergraduate Students

Graduate Students

Post-doctoral Fellows

Injury Researchers

Public Health Practitioners

Injury Control Research and Activities

iHeal Injury-Related Health Equity
POLICY OUTREACH

Dr. Beth Ebel at distracted driving law signing with Gov. Jay Inslee.

Dr. Fred Rivara and Dr. Monica Vavilala at a gun violence press conference with Seattle Mayor Jenny Durkan.

Dr. Sam Arbabi teaches bleeding control to Lt. Gov. Cyrus Habib at Stop the Bleed Legislative Day.
## COMMUNITY OUTREACH

<table>
<thead>
<tr>
<th>Category</th>
<th>Programs/Initiatives</th>
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</table>
| **Motor Vehicle Safety**         | - WA State Distracted Driving Legislation  
                                  | - Booster Seat Informational Website (boosterseat.org)                             |
| **Traumatic Brain Injury**       | - Concussion Prevention for Coaches & Student Athletes  
                                  | - Pre-Hospital TBI Care for First Responders  
                                  | - Return to Learn Guidelines for WA School Districts                             |
| **Violence Prevention**          | - Suicide Prevention Website & Presentations  
                                  | - Firearm Injury Intervention for Patients  
                                  | - Safe Storage Firearm Lockbox Giveaway Events                                    |
| **Trauma & Emergency Preparedness** | - Stop the Bleed Trainings  
                                         | - Geriatric Trauma Guidelines                                                     |
| **Substance Abuse**              | - PTSD Intervention in Trauma Care Setting                                          |
| **Home & Recreational Safety**   | - Fireworks Injury Prevention Social Media Campaign  
                                  | - WA Drowning Prevention Network                                                   |
COMMUNITY PARTNERS
WEBSITE & SOCIAL MEDIA

WWW.HIPRC.ORG

@HIPRC
WHY HOSPITALS SHOULD BE INVOLVED WITH VIOLENCE PREVENTION

Frederick P. Rivara, MD, MPH
Seattle Children’s Guild Endowed Chair in Pediatric Research
Vice Chair & Professor, Department of Pediatrics
University of Washington
What do we mean by violence?

- Assault
  - Fatal
  - Non-fatal
- Child abuse
- Sexual assault
- Intimate partner violence
- Elder abuse
- Suicide
- Unintentional shootings
How big is the problem: Fatalities

In 2016, there were:

- 19,911 homicides
  - 1750 child abuse deaths
  - 40% of female homicides are IPV
- 44,965 suicides
- 495 unintentional firearm deaths
How big is the problem: ED visits and Hospitalizations, 2016

- Assaults: 1.5 million ED visits, 140,000 hospitalized
- Sexual assaults: 88,000 ED visits, 5,000 hospitalized
- Child abuse: 1.6 million ED visits, 5,000 hospitalizations
- Suicide attempts: 500,000 ED visits, 316,000 hospitalized
- GSW: 116,000 ED visits, 30,000 hospitalizations
How big is the problem: cost

- Medical care costs: $9 billion annually
- Work lost costs: $27 billion annually
Examining risk of recidivism for GSW patients: Study design
Arrests for **violent or firearm-related** crimes during 5 years after 2006-2007 hospitalization

25% of people hospitalized in 2006-07 for firearm-related injury were arrested for violent or firearm-related crime over next 5 years
Increased likelihood of being **hospitalized for firearm injury** within 5 years after 2006-07 injury hospitalization compared to people with other hospitalizations.

Individuals hospitalized for firearm injury in 2006-07 were 30 times more likely to be re-hospitalized for another firearm injury than people admitted for non-injury reasons.
Increased likelihood of death due to firearm within 5 years after 2006-07 injury hospitalization compared to other hospitalizations

**Increased likelihood of death due to firearm within 5 years after 2006-07 injury hospitalization compared to other hospitalizations**

**Graph:**
- **Y-axis:** Increased likelihood of death
- **X-axis:** Reason for 2006-07 hospitalization
  - Accidental injury
  - Firearm injury
  - Suicide attempt
  - Overdose
  - Assault injury

**Bar chart:**
- Firearm injury has the highest increase in likelihood of death, with 10 on the y-axis.
- Accidental injury has the lowest increase, with 2.

**Text:**

*Individuals hospitalized with firearm injury in 2006-07 were 11 times more likely to die due to a gun over next 5 years than people admitted for non-injury reasons.*
Brief Interventions with Harborview’s Trauma Patients

- RCT of one counseling session during hospital stay:
  - 366 patients got BI + usual trauma care
  - 396 patients got usual trauma care

- 74% met DSM criteria for alcohol dependence
- mean standard drinks per week = 44
Brief Interventions at HMC: reductions in standard drinks per week

Brief Intervention group reduced Alcohol by 21 drinks per week vs. 2 for control group
Effects of brief intervention on re-injury

- 47% reduction in re-injury requiring hospitalization at HMC for Brief intervention vs. Controls
- Savings of $3.81 for every $1 spent on screening and intervention
HELPING INDIVIDUALS WITH FIREARM INJURIES: A RANDOMIZED TRIAL

Ali Rowhani-Rahbar, MD, MPH, PhD
Associate Professor of Epidemiology, School of Public Health
Violence Prevention Section Leader, HIPRC
University of Washington
Background

• “Wraparound” programs for trauma patients at healthcare settings
• 2009: National Network of Hospital-based Violence Intervention Programs
  • Trauma informed care
  • “Teachable moment”
• Interrupt the costly cycles of violent injury by transforming medical treatment into a catalyst for positive life changes
Significance

- Research on the effectiveness of these programs is critically needed to build robust empirical support for policy and practice.
Approach

- Helping Individuals with Firearm Injuries (HiFi)
  - Ongoing RCT conducted among GSW patients presenting to HMC.
  - Study participants receive either an intervention or treatment as usual.
- The unit of randomization is the calendar week
  - Study staff assign GSW patients to one of the two groups based on the week in which they present to HMC.
## Enrollment and Follow-up Timeline

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<th>2016</th>
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Intervention

MI  CTI  MDT
**Pre-CTI** (Motivational Interview): Develop a trusting relationship with patient.

**Phase 1 (Transition):** Provide support & begin to connect patient to people and agencies that will assume the primary role of support.

**Phase 2 (Try-Out):** Monitor and strengthen support network and patient’s skills.

**Phase 3 (Transfer of Care):** Terminate CTI with support network in place.
Measures

- Using several administrative databases and self-reported surveys:
  - Criminal justice involvement including arrests and convictions
  - Healthcare utilization including hospitalizations and ED visits
  - Depression
  - Posttraumatic stress
  - Substance use
  - Life satisfaction
  - Social support
  - Physical and mental health-related quality of life
  - Exposure to violence
Challenges & Solutions

24/7 coverage by study staff
Support Specialist caseload
Translate to major savings

Transportation
Address change

Voucher
Use of clinics

Cost
SES
Systems Avoidance

Distrust for institutions
Apprehension of authorities
Support Specialist experience
Conclusions

• With sufficient support, feasible and rewarding
  • “I would have no clue what to do without you. I didn’t even know these services exist.”
  • “The counselor you referred us to is great and has been making a huge difference!”
  • “I wish there were more programs like this.”

• Raising awareness about HVIPs
  • Enhanced communication among those involved in the implementation and evaluation of these program
  • Continued advocacy to harness additional sources of funding to contribute to the sustainability of HVIPs
  • Positively impacting lives of those affected by violence, and saving costs