



# HARBORVIEW

## INJURY PREVENTION & RESEARCH CENTER

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UNIVERSITY of  
WASHINGTON



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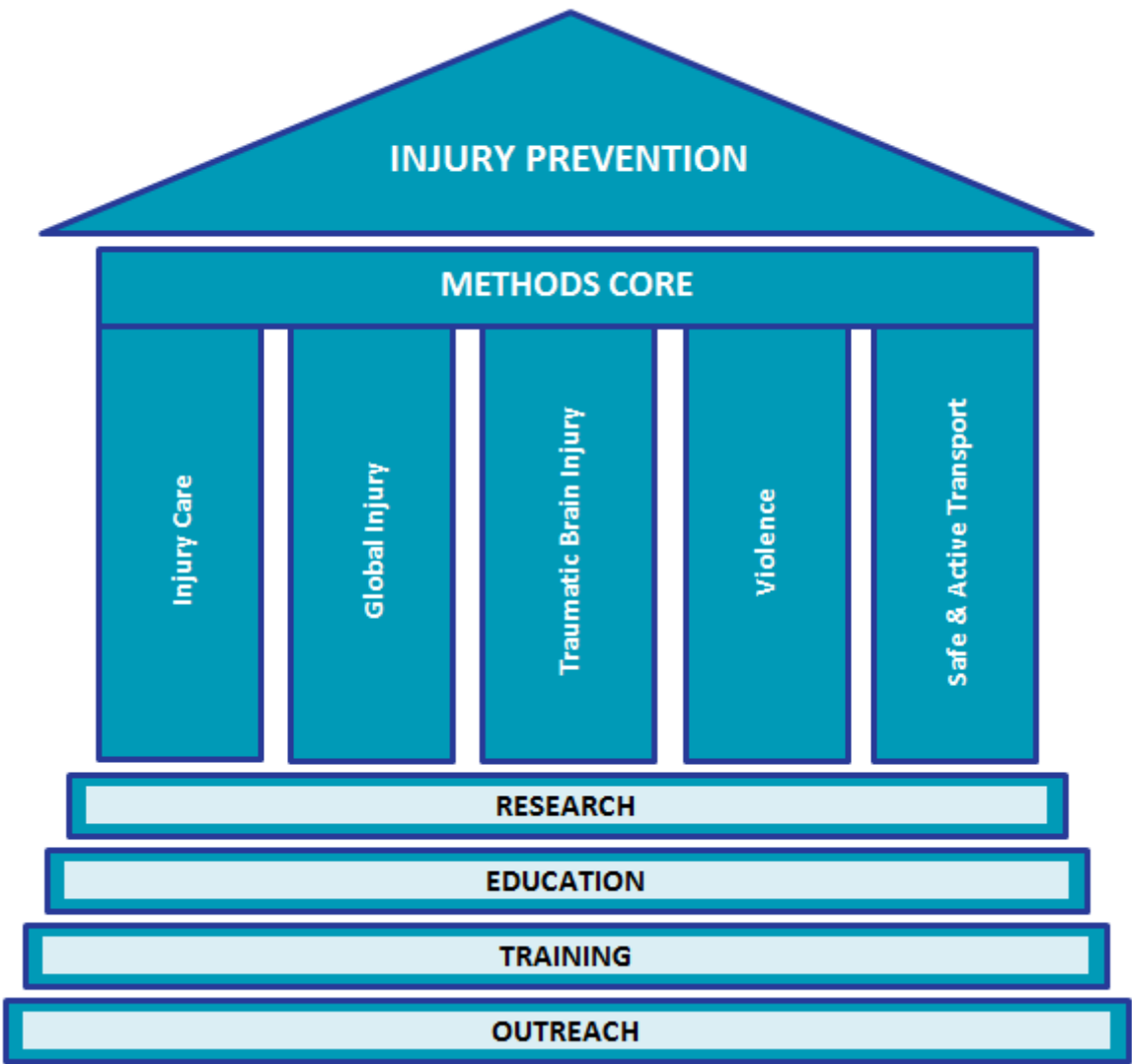
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Check our website, [www.hiprc.org](http://www.hiprc.org), for more information.

INJURY AREAS FROM PREVENTION TO REHABILITATION



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Harborview Medical Center (HMC)





## Letter from the Director



In April 2014, we embarked on a mission that would strengthen the Harborview Injury Prevention and Research Center (HIPRC) to achieve the goal of reducing the injury burden via research, education and outreach. The developed scientific vision addresses the major public health challenges in injury and includes major work themes in traumatic brain injury, safe and active transport, injury care, violence, and global injuries. Each of these sections is led by international experts in these areas and represents the interdisciplinary profile of the Center (see below).

For those of you who have had a chance to visit HIPRC, I am sure you have felt the energy around the place. From weekly Work In Progress (WIP) seminars given by experts in injury control, including our own faculty and trainees, to weekly Journal Clubs led by each section leader, we have not only increased the level of activity but also the number of faculty and community partners who collaborate with us. We are proud to have 18 core faculty who are committed to the center and also to our mission as well as 45 associate faculty who collaborate at various levels with HIPRC. We are unique in that our members represent 33 distinct clinical and research units at the University of Washington, making HIPRC a truly interdisciplinary collaborator.

We inaugurated a successful summer program at HIPRC with 13 high school, undergraduate, and medical students from all over the country. Each worked on a project, caught a glimpse of clinical bedside medicine and was mentored by HIPRC faculty and T-32 fellows. Applications for summer 2015 are already coming in and we look forward to our second annual summer student program next summer.

We welcome scientific, educational and outreach collaborations from our partners within and external to the University of Washington. The growth in the number of faculty and planned projects in the area of injury control reflects the interest in working in the space of injury control. Although our website is under construction ([www.hiprc.org](http://www.hiprc.org)), information on how to collaborate with us and join an existing research section is available. HIPRC members are highly productive, averaging 14 peer-reviewed publications per month. With active federal funding in all our major work areas, we are well positioned to continue as a center of excellence in injury control. Whether you are interested in adult or pediatric injuries, we welcome your collaboration, as our activities are across the lifespan.

HIPRC gratefully acknowledges the support of the University of Washington Schools of Medicine and Nursing, and Harborview Medical Center. As Center director, I extend my personal welcome to you to participate in our sections, journal clubs and work in progress sessions and to develop collaborations. Please visit our website and sign up to receive our weekly bulletins to learn more.

Monica S. Vavilala, MD  
*Director, HIPRC*



**Injury Care  
Section**

**Lead: Dr. Saman Arbabi**



**Safe & Active Transport  
Section**

**Lead: Dr. Beth Ebel**



**Global Injury  
Section**

**Lead: Dr. Charles Mock**



**Violence  
Section**

**Lead: Dr. Ali Rowhani-Rahbar**



**Traumatic Brain Injury  
(TBI) Section**

**Lead: Dr. Monica S. Vavilala**



Interdisciplinary Faculty

We are proud to have 18 core faculty and 45 associate faculty who represent 33 distinct clinical and research departments at the University of Washington, Seattle Children’s Hospital, and Washington State University.

<b>Departments</b>
SCH Anesthesiology
UW Bioengineering
UW Biostatistics
UW Civil & Environmental Engineering
UW Emergency Medicine
SCH Emergency Medicine
UW Epidemiology
UW Geography
UW Geriatric Medicine
UW Global Health
UW Health Services
UW Industrial & Systems Engineering
UW Internal Medicine
UW Law School
UW Mechanical Engineering
SCH Neurosurgery
UW Neurosurgery
WSU Nursing
UW School of Nursing
UW Orthopedics
UW Otolaryngology
UW Patient Services
UW Pediatrics
UW Pharmacy
SCH PICU/Pediatrics
UW Psychiatry
UW Pulmonary & Critical Care Medicine
UW Radiology
SCH Radiology
UW Rehabilitation
UW Social Work
UW Surgery
UW Urology
<b>Community Partners</b>
Brain Injury Alliance of Washington
Central Region EMS
Public Health – Seattle & King County (PHSKC)
National Highway Traffic & Safety Administration (NHTSA)
Safe Kids Seattle
Safe Kids Washington
Seattle Children’s Hospital (SCH)
US Department of Transportation (DOT)
UW Civil & Environmental Engineering
UW NW Center for Excellence in Media Literacy
Washington Poison Control

Core Faculty

Saman Arbabi, MD, MPH, FACS  
*Surgery*

Eileen Bulger, MD, FACS  
*Surgery*

Sara Chrisman, MD, MPH  
*Pediatrics*

Beth E. Ebel, MD, MSc, MPH  
*Pediatrics, Epidemiology, Health Services*

Mary Fan, JD, MPhil  
*Law*

Nathalia Jimenez, MD, MPH  
*Anesthesiology*

Associate Faculty

Shahram Aarabi, MD, MPH  
*Surgery*

Adeyinka Adedipe, MD, RDMS  
*Emergency Medicine*

Maggie Baker, PhD, RN  
*Biobehavioral Nursing, Health Systems*

Caleb Banta-Green, PhD, MPH, MSW  
*Health Services*

Alon Ben-Ari, MD  
*Anesthesiology*

Linda Boyle, PhD, MS  
*Industrial & Systems Engineering, Civil & Environmental Engineering*

Samual Browd, MD, PhD  
*Neurological Surgery*

David Coppel, PhD  
*Neurological Surgery*

Giana Davidson, MD, MPH  
*Surgery*

Kathleen Tozer Fink, MD  
*Radiology*

Ryan Hansen, PhD  
*Pharmacy*

Stan Herring, MD  
*Rehabilitation Medicine, Orthopaedics & Sports Medicine, Neurological Surgery*

Jeanne Hoffman, PhD  
*Rehabilitation Medicine*

Kenneth Jaffe  
*Rehabilitation Medicine, Pediatrics, Neurological Surgery*

Jerry (Jeffrey) Jarvik, MD, MPH  
*Neurological Surgery, Radiology, Health Services, Pharmacy, Orthopedics*

Brian Johnston, MD, MPH  
*Pediatrics, Health Services*

Robert Kaufman, BS  
*Surgery*

Christine MacDonald, PhD  
*Neurological Surgery*

Ronald Maier, MD  
*Surgery*

Charles Mock, MD, PhD, MPH, FACS  
*Surgery, Epidemiology, Global Health*

Megan Moore, PhD, MSW  
*School of Social Work*

Grant O’Keefe, MD, MPH  
*Surgery*

Kalpana Kanal, PhD, DABR  
*Radiology*

Kari Keys, MD  
*Surgery*

Bruce Lehnert, MD  
*Radiology*

Kevin Luk, MD, PhD, MS  
*Anesthesiology*

John Lynch, MD, MPH  
*Medicine*

Samuel Mandell, MD, MPH  
*Surgery*

Jonathan Mayer, PhD  
*Epidemiology, Geography, Medicine, Global Health, Health Services*

Jason Mendoza, MD, MPH  
*Pediatrics*

Carly Miller, MD  
*Medicine*

Mahmud Mossa-Basha, MD  
*Radiology*

Beth Mueller, DPH, MPH, BS  
*Epidemiology*

Paula Nurius, PhD, MA, MSW  
*School of Social Work*

Ithan Peltan, MD  
*Pulmonary & Critical Care Medicine*

Elizabeth Phelan, MD, MS  
*Geriatric Medicine, Health Services*

Linda Quan, MD  
*Pediatrics*

Brian Saelens, PhD  
*Pediatrics, Psychiatry & Behavioral Sciences, Health Services*

Maya Sardesai, MD, MEd  
*Otolaryngology*

Frederick Rivara, MD, MPH  
*Pediatrics, Epidemiology*

Ali Rowhani-Rahbar, MD, MPH, PhD  
*Epidemiology*

Hilaire Thompson, PhD, RN, CNRN  
*Nursing*

Monica Vavilala, MD  
*Pediatrics, Anesthesiology*

Lauren Whiteside, MD, MS  
*Emergency Medicine*

Douglas Zatzick, MD  
*Psychiatry*

Melissa Schiff, MD, MPH  
*Epidemiology, Obstetrics, Gynecology*

Jeanne Sears, PhD, MS, RN  
*Health Services*

Jamie Shandro, MD, MPH  
*Emergency Medicine*

Sam Sharar, MD  
*Anesthesiology*

Joseph Simonetti, MD, MPH  
*Medicine*

John Staples, MD, MPH  
*General Internal Medicine*

Nancy Temkin, PhD, MS  
*Neurological Surgery, Biostatistics*

Nam Tran, MD  
*Surgery*

Erik Van Eaton, MD, FACS  
*Surgery*

Stephane Verguet, PhD, MPP, MS  
*Global Health*

Bryan Voelzke, MD, MS  
*Urology*

Timothy Watkins, MD, MSc  
*Pulmonary & Critical Care Medicine*

Jennifer Zumsteg, MD  
*Rehabilitation Medicine*





## Interview with HIPRC Founder, Dr. Abe Bergman

### *What got you started in injury prevention research?*

I was always interested in it because of its prevalence in children. Research on injuries is terribly neglected; it simply is not fashionable. There is no constituency of injury victims like there is for conditions like cancer, heart disease, arthritis, etc. Thus there is no interest group pushing research.

I worked for 18 years at Seattle Children's Hospital, and then moved to Harborview in 1982. Harborview is the ideal setting for injury research. Where better to seek ways of improving care and preventing trauma than a Regional Level I trauma center?

### *What put HIPRC on the map?*

Our marriage of trauma care and trauma, our close ties to the UW School of Public Health, and a wonderful staff of investigators.

Then there was the recruitment of Fred Rivara to be the Center's first director. I was recruiting Dr. Rivara. More than anyone in the world, Fred has instilled science into the field of injury research.

Our biggest prevention success was the bicycle helmet campaign. Our wonderful educator/coordinator, Lisa Rogers, organized a coalition of cyclists, doctors, and helmet manufactures. Helmet usage in kids increased from 3% to 60% in 3 years without putting any laws in place.

Later studies by Robert and Dianne Thompson, and Dr. Rivara showed a marked decrease in brain injuries. That set the model for how we operate. We were able to mobilize and support our efforts through a coalition, but our most successful tactic was victim advocacy. I like to say I practice political medicine, and we ran the campaign for the intervention like a political campaign.

### *What makes HIPRC unique compared to other injury prevention institutes?*

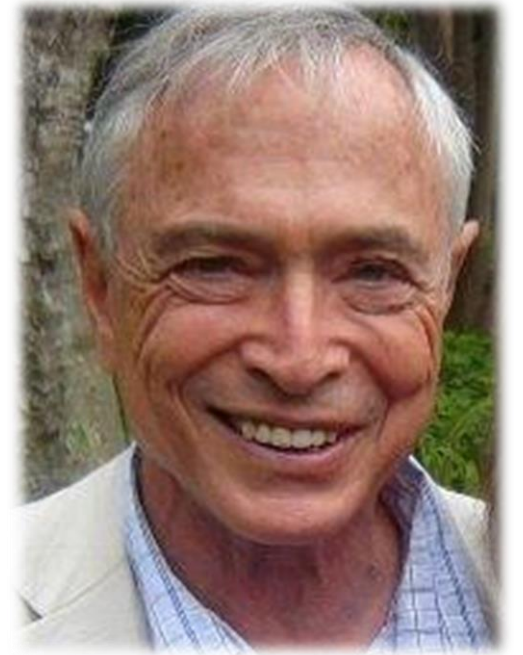
Having surgeons invested in the Center made us unique. No one else had the integration of surgeons and rehabilitation specialists working together. There were very few people working in injury research when we started. Training fellows was hugely important, because they were able to carry out their own research in sites all over the country, and that helped the Center grow and attract a greater media presence.

### *What do you think the next steps should be for HIPRC?*

To me, the biggest challenge has always been translating research into action. Epidemiology is the backbone of information collection, but the challenge is using that information to plan the interventions. There are some great projects being conducted at the Center. I like the variety, like improved trauma care, traffic safety, like alcohol use, suicide, partner violence, firearm safety. Drowning prevention, trauma prevention, and the psychological effects of trauma.

I love Fred's 3-step philosophy for picking injury issues to address: 1) is the problem common, 2) is it serious, and 3) is there a means of prevention at hand? Also, if an injured individual is not brought to the Harborview ER, then his or her trauma issue is not serious.

Once again, trauma victims do not conduct telethons; there is no ice bucket challenge. We have to mobilize people, and we can only do that by talking about it and getting the story out. Our challenge is to continually publicize the fearful human and financial costs of trauma, and the huge benefits of preventive measures. We want less business for the Harborview Emergency Room.



*“To me, the biggest challenge has always been translating research into action.”*



2014 Summer Student Program



*"At my first day at the center, I was immediately impressed at all the opportunities that HIPRC had for me not only to be a better researcher, but a better medical student. All the researchers from different backgrounds--Public Heath, Epidemiology, Medicine--taught me how to hone my analytic skills to collect and utilize information effectively for my research projects. . . Furthermore, summer students were allowed to shadow anesthesiologists and neurosurgeons in the OR two days a week-- an experience that greatly influenced my decision to pursue anesthesiology as a speciality today."* - Shan Modi, first prize winner of the Student Research Competition at University of Texas Medical Branch in Galveston for the work he did at HIPRC

**Pictured (left to right):**  
Front row: Ujwala Kumar, Arthi Narayanan, Leyna Ho  
Back row: Alexandria Lahdya, Rajiv Ayyagari, Leah Thompson  
**Not pictured:** Matt Li, Tom Wilson, Shan Modi, Tiffany Vogt, Mia Vogel, and Manya Segiredy

The inaugural 2014 Summer Student Program was a success. There were 12 students from 10 different schools, with 2 high school students, 3 medical students, 2 pre-med students, and 5 undergraduate students seeking degrees in a variety of programs, such as Social Welfare, Law, Biology, Music, Public Health, Public Policy, and General Engineering. Students worked with HIPRC mentors and fellows on specific projects throughout the summer and then each gave a talk at the end of August to present the work they had done with their mentors and to receive feedback from other HIPRC members.

Student:	Project/Study Title:	Mentor(s):
Rajiv Ayyagari Ingraham High School	Health Literacy Project	Megan Moore, PhD Rosemary Grant, RN
Leyna Ho University of Washington	Emergency Department Services to Patients with Traumatic Brain Injuries	Megan Moore, PhD, MSW
Ujwala Kumar Oregon State University	Pedestrian-Vehicle Collisions in Lima, Peru	Alex Quistberg, PhD, MPH
Alexandria Lahdya University of California - Berkeley	Emergency Department Services to Patients with Traumatic Brain Injuries	Megan Moore, PhD, MSW
Matthew Li NYIT College of Osteopathic Medicine	TBI and Diastolic Dysfunction	Vijay Krishnamoorthy, MD
Shan Modi University of Texas Medical Branch	Cardiac Dysfunction in Adult, Brain-Dead Heart Donors; The Use Of Serial Echocardiography for Adult, Brain-Dead Patients to Improve Donor Harvest Rates	Vijay Krishnamoorthy, MD
Arthi Narayanan University of Pittsburgh	Development of a Systems Engineering-Based Model to Evaluate Pediatric Trauma Team Design	Nithya Kannan, MD Monica Vavilala, MD
Manya Segiredy Juanita High School	Pedestrian-Vehicle Collisions in Lima, Peru	Alex Quistberg, PhD, MPH
Leah Thompson Amherst College	National Variation in ICU Management of Pediatric Trauma Patients	Kathryn Flynn-O'Brien, MD
Mia Vogel University of Washington	Emergency Department Social Work Services to Patients with Traumatic Brain Injury Study	Megan Moore, PhD, MSW
Tiffany Vogt University of Washington	Social Work Intervention for Mild Traumatic Brain Injury: SWIFT Study	Megan Moore, PhD, MSW
Tom Wilson NYU School of Medicine	Cardiac Dysfunction Assessed by Transthoracic Echocardiography in Patients with Mild Traumatic Brain Injury	Vijay Krishnamoorthy, MD





## HIPRC in the News

### Neurosurgery Journal interviews HIPRC Director for podcast

An interview with author [Dr. Monica S. Vavilala, MD \(Professor of Pediatrics and Anesthesiology\)](#), is available online at: <https://soundcloud.com/jordan-amadio/interview-with-dr-monica-vavilala-aug-2014-neurosurgery-journal-club-host-dr-jordan-amadio>

### Caleb Banta-Green quoted in article on wastewater sampling by KOMO 4 News

KOMO 4 News interviewed Dan Burgard, PhD (Associate Professor of Chemistry at the University of Puget Sound) about his study on how much marijuana use in Washington State may change after legalization, by measuring THC metabolites in sewage (wastewater). They are testing samples collected months ago from undisclosed sewage treatment plants in Washington State to determine the level of marijuana use before it became legal to buy. They'll take comparative samples again after retail stores are fully up and running. Even though drug use can only be determined at a population level, not individual, concerns about using information obtained without consent were raised. HIPRC Associate member, [Caleb Banta-Green, PhD, MPH, MSW \(Senior Research Scientist at the Alcohol and Drug Abuse Institute, Affiliate Assistant Professor for Health Services\)](#), is quoted as saying:

"Anybody with a good chemist in any level of government can already do this. If law enforcement wanted to do this and had the proper domain to do that, they could do it. I can't stop them from doing it. What I can do as a scientist is say 'here's what I'm doing.' I think the thing that's important is the population level in order to inform good health responses."

Banta-Green used this method to test wastewater samples from 96 Oregon communities in 2008, and found that meth was used in every single one of them. He has said that testing wastewater can show which drug policies are wasting money and which are working, which could possibly mean spending less money on police, courts and jails.

**Original article:** <http://www.komonews.com/news/local/Sewage-test-Will-you-smoke-pot-now-that-its-legal-268153692.html>

### HIPRC publication "Public Bicycle Share Programs and Head Injuries" cited in the news

Since publication in the American Journal of Public Health, the article, "Public Bicycle Share Programs and Head Injuries" by [Janessa Graves, PhD, MPH \(Former HIPRC T-32 Fellow for Pediatrics, Assistant Professor of Nursing at Washington State University\)](#) and [Dr. Fred Rivara, MD, MPH \(Professor of Pediatrics, Adjunct Professor of Epidemiology\)](#) has been cited in articles in the [Chicago Sun-Times](#), [the Washington Post](#), [Boston Magazine](#), [the Smithsonian Magazine](#), [KPLU](#), and on [National Public Radio \(NPR\)](#).

The study evaluated the effect of North American public bicycle share programs, which typically do not offer helmets with rentals, on the occurrence of bicycle-related head injuries, analyzing trauma center data for bicycle-related injuries from 5 cities with public bicycle share programs and 5 comparison cities. Results suggest that steps should be taken to make helmets available with public bicycle share programs. Helmet availability should be incorporated into public bicycle share program planning and funding, not considered as an afterthought following implementation.

### Dr. Fred Rivara in the Seattle Times on gunshot violence study

A Seattle Times newspaper article has quoted [Dr. Fred Rivara, MD, MPH \(Professor of Pediatrics, Adjunct Professor of Epidemiology\)](#) on the results of a \$153,000 study on gunshot violence, injury, and hospitalization in Washington state and King County. Dr. Rivara and others from HIPRC presented their findings from this study to the Seattle City Council on Monday, July 7th. A formal press release will be distributed this week by the University of Washington.

#### Original article:

[http://seattletimes.com/html/localnews/2024009656\\_gunreportxml.html](http://seattletimes.com/html/localnews/2024009656_gunreportxml.html)

### HIPRC Researchers on PTSD in Reuters

A study published by HIPRC Core Members [Dr. Fred Rivara, MD, MPH, \(Professor of Pediatrics, Adjunct Professor of Epidemiology\)](#) and [Dr. Douglas Zatzick \(Professor of Psychiatry\)](#), HIPRC Associate Member [Dr. Jamie Shandro, MD, MPH \(Associate Professor of Emergency Medicine\)](#), and staff member [Jin Wang, PhD, MS \(Research Consultant/Statistician for Pediatrics\)](#) regarding PTSD in uninjured children with severely injured parents was picked up by Reuters news service.

**Original article:** <http://www.reuters.com/article/2014/06/04/us-parent-injury-kids-ptsd-idUSKBN0EF1TZ20140604>

### Megan Moore interviewed for local TV and public radio on social work intervention

It started with UW Today covering a [paper on the social work intervention for mild TBI](#) by [Megan Moore, PhD, MSW \(Professor of Social Work\)](#). Moore then received a couple of phone calls, and ended up doing an [interview](#) for local TV and local public radio station KPLU on the acceptability and preliminary effectiveness of Emergency Department (ED) Social Work Intervention for Mild Traumatic Brain Injury (SWIFT-Acute) on alcohol use, community functioning, depression, anxiety, post-concussive symptoms, post-traumatic stress disorder, and service use. Moore's paper has also been cited by the [Neurologic Rehabilitation Institute](#), [Vanguard Attorneys](#), [Brain & Spinal Injury](#), and the [National Association of Social Workers](#).

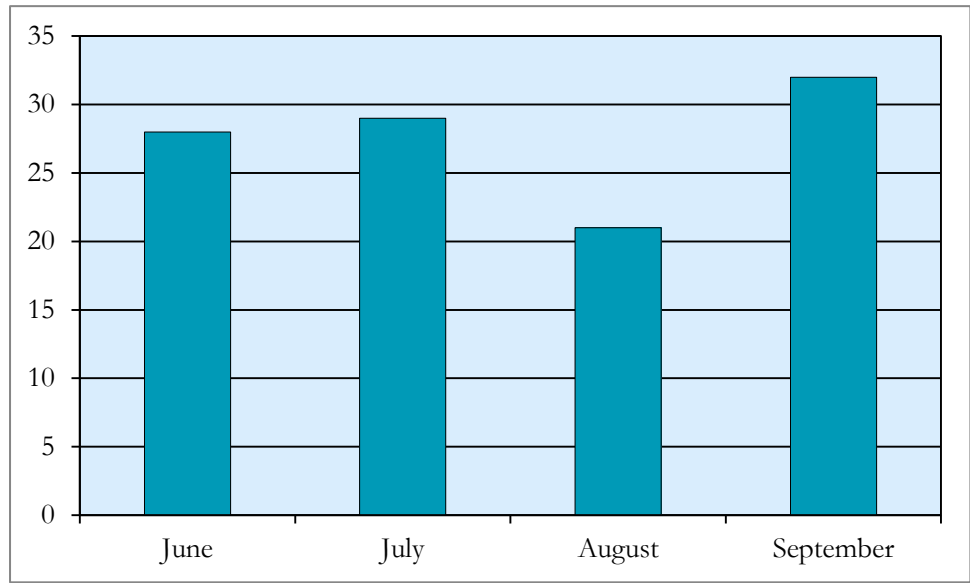
#### Original articles:

<http://www.washington.edu/news/2014/05/06/social-workers-can-help-patients-recover-from-mild-traumatic-brain-injuries/>

<http://www.kplu.org/post/20-minute-chat-might-help-boost-recovery-patients-brain-injuries>



Publications



In keeping with the HIPRC tradition of prolific research and publication, **110 articles** have been submitted and published by HIPRC Core, Associate, and Staff Members between June - September 2014.

To see a complete list of publications, you can go to our website at: <http://depts.washington.edu/hiprc/pubs.html>.

Summer Quarter New Funding

Several projects and research studies by HIPRC members have received funding this quarter.

Project/Funding Title:	Investigator(s):	Organization:	Amount:	Project Period:
Prehospital Tranexamic Acid Use for Traumatic Brain Injury	Eileen Bulger, MD, FACS <i>Professor of Surgery</i>	US Department of Defense (DOD)	\$2,839,214	10/14 – 12/15
Concussion Assessment, Research and Education Consortium (CARE) Concussion Outcomes Study	Sara D. Chrisman, MD, MPH <i>Acting Assistant Professor of Pediatrics</i>	NCAA-DoD Grand Alliance	\$439,000	06/14 – 05/17
RAS-ACS International Exchange Scholarship	Katherine ‘Katy’ Flynn-O'Brien, MD <i>T-32 Postdoctoral Fellow for Surgery</i>	Royal College of Surgeons in Ireland (RCSI)	\$2,500	11/14
Disparities in Disability after Traumatic Brain Injury for Hispanic Children	Nathalia Jimenez, MD, MPH <i>Acting Assistant Professor for Anesthesiology</i>	Eunice Kennedy Shriver National Institute of Child Health & Human Development (NICHD)	\$648,945	07/14 – 06/19
Preparing Acute Care Nurse Practitioners for Care of Adults and Older Adults with Multiple Chronic Conditions Project	Hilaire Thompson, PhD, RN, ACNP-BC, CNRN, FAAN <i>Associate Professor for Biobehavioral Nursing &amp; Health Systems</i>	Health Resources & Services Administration (HRSA)	\$648,945	07/14 – 06/17

Summer Quarter Weekly Work in Progress (WIP) Seminars

Weekly meetings are held every quarter to present ongoing and completed research by HIPRC members, community partners, and guest speakers. These presentations broaden our knowledge of important injury research, interventions, and practices. The following is a list of presentations given this quarter.

Title:	Presenter(s):	Date:
Melanocortin-1-receptor polymorphisms are associated with post-burn hypertrophic scarring	Ravi Sood, MD <i>T-32 Fellow for Trauma &amp; Burns</i>	06/04/2014
Characteristics of elderly patients readmitted after trauma: A competing risk analysis	Vanessa Fawcett, MD <i>Former T-32 Fellow for Trauma &amp; Surgical Critical Care, Instructor of Surgery at University of Virginia</i>	06/11/2014
Where are they now? New work by recent Pediatric Injury Research Fellows	Janessa Graves, MPH, PhD <i>Former HIPRC T-32 Fellow for Pediatrics, Assistant Professor of Nursing at Washington State University</i>  Jennifer Whitehill, PhD <i>Former HIPRC T-32 Fellow for Pediatrics, Assistant Professor of Health Policy &amp; Management at University of Massachusetts, Amherst</i>	06/18/2014
Older adolescent marijuana use: Insights learned through a longitudinal study involving social media	Megan Moreno, MD, MEd, MPH <i>Associate Professor of Pediatrics, Adjunct Associate Professor of Health Services</i>	07/16/2014
Studying the effect of waste times on patients’ outcomes in severe pediatric traumatic brain injury	Ali Ajdari <i>PhD Candidate for Industrial Engineering</i>	07/30/2014
Development of a systems engineering-based model to evaluate pediatric trauma team design	Arthi Narayanan <i>2014 HIPRC Summer Student</i>	08/13/2014
Facility-level characteristics and pediatric mortality following severe TBI in the National Trauma Databank	Brianna Mills, MA <i>Epidemiology doctoral student</i>	08/20/2014