

Program for Injury Prevention, Education & Research (PIPER)

colorado school of public health



Annual Report

2015

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Program for Injury Prevention, Education and Research (PIPER)
Colorado School of Public Health

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Letter from the Director



Dear Friends and Colleagues,

As we reflect on the past year of work, I am pleased to see the continued progress we are making in strengthening the presence of injury and violence research and practice in our institution and with partners. A lot is going on and this report provides a way to highlight at least some of the people and activities addressing a variety of issues.

After much deliberation about how to organize this report, we have chosen to focus on key topic areas and have invited members of our larger network to submit information about their work on these topics. We know this is not comprehensive, but does demonstrate a broad spectrum of activities and partnerships. Our goal with PIPER has always been to grow a vibrant community of scholars dedicated to the topic and enhance opportunities for collaboration and engagement with practitioners.

In 2015, PIPER changed our name from the Pediatric Injury Prevention, Education and Research program to the **Program for Injury Prevention, Education and Research**. While we continue to be known by our acronym, “PIPER”, this change reflects the broader interests of the scholars working on injury prevention across the lifespan.

During the last year, our network of faculty have continued to address youth violence, suicide, firearm violence, sports injury, child maltreatment, traffic safety, and risks associated with prescription drugs and marijuana. Some of us are actively working with the Colorado Department of Public Health and Environment (CDPHE) to build strong bridges between practice and research and provide evaluation support to a variety of projects. Dr. Binswanger is addressing the statewide burden of prescription drug overdose, while colleagues at the Kempe Center are training child welfare workers. Dr. Runyan and Ms. Brandspigel are working to help child fatality review teams engage in primary prevention. Dr. Betz has reached out to gun enthusiasts about suicide prevention and, with colleagues at the CDPHE, is working to incorporate suicide prevention at gun shops. Drs. DiGuseppi and Betz are working to understand how to reduce risks among older drivers while Dr. Grubenhoff is working to improve care for children with concussions. Dr. Tung continues to expand efforts to employ health impact assessments by working with hospitals as they plan community-based approaches to improving health. Drs. Brooks-Russell, Binswanger, and Wang are all working to address the new safety challenges related to marijuana. And, these are just a few examples. Other groups of faculty are engaged in surveillance of sports injuries or in conducting systematic reviews of the intervention literature, clinic-based interventions to reduce youth violence, studies of emergency department care of suicidal patients and home-based safety interventions. We also have been active in preparing graduate students to become the next generation of injury control researchers and practitioners.

Through this report and all of our work, we embrace the broad range of activities and approaches to address injury and violence problems. We welcome anyone who wants to engage with this confederation of scholars and practitioners. If you are interested in becoming more involved, please feel free to contact me at carol.runyan@ucdenver.edu or PIPER program manager Sara Brandspigel at sara.brandspigel@ucdenver.edu.

We hope you find this report useful!

Sincerely,

Carol W. Runyan, MPH, PhD, Director

About PIPER

Since 2011, the Program for Injury Prevention, Education and Research (PIPER) has linked research, training, and practice to prevent injury in Colorado, nationally, and around the world. Initially named the Pediatric Injury Prevention, Education and Research Program, PIPER changed its name in 2015 to align with a broad focus on injuries in all population groups, though much of our work continues to focus on pediatric populations.

PIPER is a joint initiative of the Colorado School of Public Health and the University of Colorado School of Medicine.

Vision

To contribute to the significant reduction in injury and its outcomes in Colorado, the U.S., and the world as a function of high-quality research and effective practice.

Mission

To drive evidence-based practice through discovery, translation, and workforce development.

Goals of PIPER

Research	Conduct cutting-edge research on injury and violence issues
Community Programs	Conduct high-quality injury and violence prevention activities in the community setting
Policy	Work to improve national, state, tribal, local, and organizational policy addressing injury and violence issues
Workforce Development	Train and assist professionals in public health practice applied to injury and violence prevention

Colleagues Affiliated with PIPER



Carol Runyan, MPH, PhD, PIPER Program Director

Carol Runyan, MPH, PhD brings over 30 years as a leader in the field of injury and violence prevention to the program. She founded PIPER when she joined the faculty of the Colorado School of Public Health (CSPH) in 2011 as Professor of Epidemiology with secondary appointments in Community and Behavioral Health and Pediatrics.

In 1987, Dr. Runyan co-founded one of the longest operating and most successful injury control research centers in the nation, the University of North Carolina Injury Prevention Research Center — a “Center of Excellence” on injury prevention — and served as director for over 20 years. Her research has shaped state and national policy, identified priorities, and broken new scientific ground, publishing more than 130 refereed papers and 30 book chapters in the process.

Dr. Runyan has mentored dozens of graduate students, fellows, and junior faculty and has been an innovator in training the injury workforce. She was the chief architect of the National Training Initiative, a joint effort of the Society for the Advancement of Violence and Injury Research (SAVIR) and Safe States Alliance. This initiative resulted in the creation of a set of core competencies for injury and violence professionals and in 2003, Dr. Runyan developed the PREVENT (Preventing Violence through Education, Networking and Technical Assistance) program, which has trained over 900 professionals from 44 states. Her research has addressed topics including adolescent worker safety, safety in the home environment, and violence prevention.

She was honored with the first Excellence in Science award from the American Public Health Association and was the first recipient of the Home Safety Council’s Research Award. In 2012, Runyan was recognized by the National Center for Injury Prevention and Control as one of the most influential leaders of the injury field over the past twenty years. In 2014, she received the Distinguished Career Award given by the Injury Control and Emergency Health Services Section (ICEHS) of the American Public Health Association.



Tellen Bennett, MD, MS

Tell Bennett, MD, MS is an Assistant Professor of Pediatric Critical Care. He received his BA from Rice University and his MD from the Johns Hopkins School of Medicine. He completed his Pediatrics residency and PICU fellowship at Seattle Children’s Hospital/University of Washington and his MS in Epidemiology from the University of Washington School of Public Health. Before joining the University of Colorado School of Medicine and ACCORDS in 2014, he was an Assistant Professor at the University of Utah School of Medicine and Primary Children’s Hospital for 5 years. His research focuses on critical care therapies and outcomes, with a particular interest in trauma and traumatic brain injury (TBI), and often involves advanced quantitative methods and large national databases. He is currently funded by NICHD to study the effectiveness of intracranial pressure monitoring in children with severe TBI.



Marian (Emmy) Betz, MD, MPH

Marian Betz, MD, MPH is trained in emergency medicine and epidemiology, with a research focus on traffic safety and suicide. She is an attending physician at the University of Colorado Hospital, as well as Associate Professor of Emergency Medicine (SOM) and Epidemiology (CSPH); she completed medical and public health training at Johns Hopkins University. In 2013, she was awarded a Paul Beeson K23 award from the National Institute on Aging for her work to develop a tiered assessment system for older drivers. She has served as an invited member of national workgroups to develop guidelines for suicide prevention by emergency providers, and she was appointed to the Colorado Suicide Prevention Commission to represent hospitals with emergency departments. She is also the 2014-15 President of the Academy of Geriatric Emergency Medicine (part of the Society for Academic Emergency Medicine). In 2015, Dr. Betz received the Early Career Award for Women in Academic Emergency Medicine from the Society for Academic Emergency Medicine. She also co-founded the Colorado Firearm Safety Coalition in 2015, working in partnership with gun retailers to promote safety.



Ingrid A. Binswanger, MD, MPH, MS

Ingrid A. Binswanger, MD, MPH, MS is an internist and health services researcher with special expertise in substance abuse. She is a Senior Investigator at the Institute for Health Research of Kaiser Permanente Colorado. She also serves as Associate Professor of General Internal Medicine and an Affiliated Member of the Division of Substance Dependence (SOM). Dr. Binswanger completed her MD and Internal Medicine residency at the University of California, San Francisco. She obtained research training in the Robert Wood Johnson Clinical Scholars Program and received her MPH at the University of Washington.

Dr. Binswanger leads the Primary Care Research Fellowship and the Patient-Centered Outcomes Research (PCOR) Scholars Program. Her research focuses on overdose epidemiology and prevention and on improving the health of high-disparity populations.



Sara Brandspigel, MPH

Sara Brandspigel, MPH oversees daily operations of the PIPER program, including program development, communications, and grants management, as well as coordinating several research projects. Prior to joining PIPER, she led education and outreach activities for the family planning program at the Montana Department of Public Health and Human Services and served as development director for Heads Up, an educational enrichment program for underserved youth in Washington, DC, and project manager at the Association of Maternal and Child Health Programs. She received her MPH with a focus on maternal and child health from the University of North Carolina and has helped develop the PIPER program since 2012.

Colleagues Affiliated with PIPER, cont.



Ashley Brooks-Russell, MPH, PhD

Ashley Brooks-Russell, MPH, PhD has expertise in social and behavioral sciences, including intervention development and evaluation. She joined the PIPER faculty in January 2014 as Assistant Professor of Community and Behavioral Health (CSPH) and has an MPH from Case Western Reserve University and a PhD from the University of North Carolina at Chapel Hill in health behavior.

As a postdoctoral researcher in the Prevention Research Branch at the National Institute of Child Health and Human Development, Dr. Brooks-Russell studied trends and risk factors for youth violence, modifiable risk factors for underage drinking and driving, and the increased risk of crashes associated with peer passengers and distracted driving. Her interests include developing interventions tailored to community-based and clinical settings, with a focus on adolescents.



R. Dawn Comstock, MS, PhD

Dawn Comstock, MS, PhD has expertise in sports injuries. An Associate Professor of Epidemiology (CSPH) and Pediatrics (SOM), she has an MS in Epidemiology from the University of Iowa and a PhD in Public Health and Epidemiology from the joint program at the University of California – San Diego and San Diego State University.

Dr. Comstock is a nationally recognized expert in sports and recreation injury surveillance, epidemiology, and prevention. She is the originator of the National High School Sports-Related Injury Surveillance System (High School RIO™), which serves as the official surveillance system of the National Federation of State High School Associations. Her data have been used to drive federal, state, and non-governmental sporting organizations' policy decisions. Dr. Comstock is also an experienced teacher and has mentored more than 25 young researchers including high school, undergraduate, graduate, and medical students, and residents/fellows.



Carolyn DiGuseppi, MD, MPH, PhD

Carolyn DiGuseppi, MD, MPH, PhD contributes special expertise in systematic review and testing of community-based strategies to prevent injuries and violence. Professor of Epidemiology and of Community and Behavioral Health (CSPH) and Pediatrics (SOM), she trained in Pediatrics and General Preventive Medicine at the University of Washington, where she received her MPH degree in epidemiology. While a senior research fellow at the Institute of Child Health, University College London, in the U.K., she completed her PhD in injury epidemiology.

Dr. DiGuseppi spent more than five years as Science Advisor, then Senior Health Policy Analyst, in the federal government, earning several US Public Health Service special recognition awards. Her research has focused on trials of community-based injury prevention interventions, with current interests including prevention of falls and motor vehicle injuries in older adults and suicide, publishing more than 100 peer-reviewed journal articles, book chapters, and scholarly reviews. She serves on the editorial boards of Injury Prevention, Injury Epidemiology and the Cochrane Collaboration Injuries Review Group, directs the CSPH preventive medicine residency program, holds residency training grants, and served as Deputy Director of the Injury Control Research Center at Colorado State University.



Cinnamon Dixon, DO, MPH

Cinnamon Dixon, DO, MPH, a Colorado native, conducts research on pediatric injury prevention. She attended the University of Colorado for undergraduate school, Kirksville College of Osteopathic Medicine for medical school, and University of Cincinnati for a Master of Public Health degree. She is a practicing pediatrician, board-certified in both pediatrics and pediatric emergency medicine. She completed her pediatric residency at Children's Mercy Hospital in Kansas City, and a 3-year subspecialty fellowship in emergency medicine & global health research at Cincinnati Children's Hospital Medical Center. Following fellowship, she remained on staff at Cincinnati Children's as faculty of pediatric emergency medicine and global health for several years until moving home to Colorado and joining Kaiser Permanente. She brings extensive experience in pediatrics, emergency/trauma care, and global health, has authored over 20 articles and book chapters, and presented at nearly 100 conferences. She is also an active consultant to the World Health Organization and American Academy of Pediatrics.



Joseph Grubenhoff, MD, MSCS

Joseph Grubenhoff, MD, MSCS, is board certified in general pediatrics and pediatric emergency medicine physician with clinical expertise in the acute care of children with all severities of traumatic brain injury. His research interest focuses on improving the acute management of pediatric concussion in the emergency department. Dr. Grubenhoff's long term research career goal is to develop evidence-based strategies to improve outcomes among children with concussions presenting to the ED.

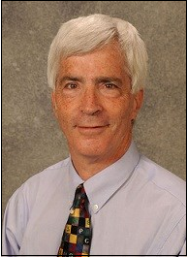


Terri Lewis, PhD

Terri Lewis, PhD is a developmental psychologist with a research focus on consequences of exposure to violence, perpetration of violence, and consequences of child maltreatment. She is an Associate Professor in the Department Pediatrics (SOM) and Associate Director of Research with the Kempe Center for the Prevention and Treatment of Child Abuse and Neglect. Dr. Lewis received her PhD from Bowling Green State University.

Dr. Lewis has published extensively in the area of child maltreatment and led an NICHD grant to assess protective factors to reduce violence among maltreated youth. She has co-led and/or contributed to a number of grants and projects including the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN). She has served on a number of scientific committees, advisory boards, and research groups. She is a member of the editorial board for the International Journal of Child Abuse and Neglect and a member of the steering committee for Aurora's Gang Reduction Impact Program.

Colleagues Affiliated with PIPER, cont.



Desmond Runyan, MD, DrPH

Dr. **Desmond Runyan** is the Jack and Viki Thompson professor of pediatrics at the University of Colorado and Executive Director of the Kempe Center for the Prevention and Treatment of child Abuse and Neglect. He joined the Colorado faculty in August of 2011 after 32 years at the University of North Carolina. At North Carolina he rose to the rank of professor in the departments of Social Medicine and Pediatrics and served as chair of Social Medicine from 1999-2007. Runyan completed the MD degree and a pediatric residency at the University of Minnesota. He followed that with a doctorate in public health and the Robert Wood Johnson Clinical Scholars Program at the University of North Carolina. He is board certified in pediatrics and in preventive medicine.

Runyan has researched child abuse for over 32 years while maintaining a clinical practice evaluating possible child abuse victims and as a general pediatrics attending at UNC. He co-founded a comprehensive child abuse center and has been appointed to the initial new sub-board of child abuse pediatrics at the American Board of Pediatrics. Runyan's research has addressed the identification and consequences of child abuse and neglect including specific patterns of abuse such as shaken baby syndrome and Munchausen Syndrome By Proxy.



Laura Schwab Reese, MA, PhD

Laura Schwab Reese, MA, PhD, is the Berger Postdoctoral Fellow at the Kempe Center for the Prevention and Treatment of Child Abuse and Neglect. She has a PhD in community & behavioral health from the University of Iowa, a masters in counseling, and a graduate certificate in biostatistics. Laura has research and practical experience in broad range of injury and violence epidemiology and prevention activities, including funded projects on intimate partner violence, child abuse, and bullying. She is the secretary of the American Public Health Association Injury Control and Emergency Health Services Section and recently completed a term as a member of the board of directors for the Society for the Advancement of Violence and Injury Research.



Eric Jon Sigel, MD

Eric Sigel, MD, a pediatrician, specializes in Adolescent Medicine with a research focus on violence prevention. He is Associate Professor of Pediatrics (SOM), directing the fellowship in Adolescent Medicine. Dr. Sigel received his MD and completed his pediatric residency at Case Western Reserve University, and Adolescent Medicine fellowship at Harvard.

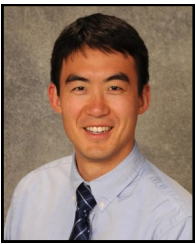
Dr. Sigel has created a violence risk screening tool that has increased primary care providers' abilities to detect violence risk in adolescent patients and completed a K01 award from the CDC's NCIPC to further study violence screening. He is a co-investigator on an Academic Center for Excellence in Youth Violence Prevention, in collaboration with the University of Colorado-Boulder Center for the Study and Prevention of Violence, and is PI of a randomized controlled trial from the National Institute of Justice to address adolescent firearm access. He serves on the Society for Adolescent Health and Medicine's Violence Prevention Advisory Group, and works with numerous community-based organizations, including the Gang Reduction Initiative of Denver.



Gregory Tung, MPH, PhD

Gregory Tung, MPH, PhD brings a focus on policy translation and implementation, including the use of health impact assessments as a tool for community level change. Dr. Tung is Assistant Professor of Health Systems, Management and Policy (CSPH), having earned an MPH and PhD in health policy from the Johns Hopkins Bloomberg School of Public Health.

Dr. Tung is especially interested in the incorporation of scientific evidence and community input into decision making related to injury prevention policies and programs. He is experienced in conducting health impact assessments (HIAs) to inform policy decisions and is currently engaged in collaborations with multiple community-based organizations. Dr. Tung also has a growing research focus on nonprofit hospital community benefit activities and in 2014 was awarded a grant from the Health Impact Project of The Pew Charitable Trust and the Robert Wood Johnson Foundation to connect health impact assessments to hospital community benefit requirements. He is teaching students in both the CSPH and CU Denver about health policy, drawing on his experiences as a hospital administrator.



George Sam Wang, MD, FAAP

George Sam Wang, MD, FAAP is trained in Pediatric Emergency Medicine and Medical Toxicology. He completed his medical degree at New York Medical College and residency at the University of Colorado Denver. He completed a fellowship in Pediatric Emergency Medicine and Medical Toxicology at the Rocky Mountain Poison and Drug Center. He is an Assistant Professor of Pediatrics at the University of Colorado School of Medicine and works clinically in the emergency department at Children's Hospital Colorado, and also as a subspecialty consultant in medical toxicology. His expertise include recognition and management of toxic exposures and ingestions, including those resulting in antimuscarinic toxidrome. He is the lead author of multiple peer-reviewed manuscripts and textbook chapters pertaining to pediatric ingestion and exposures and has also participated in an antidote clinical trial. His research also includes pediatric marijuana exposures.

Injury & Violence Research & Evaluation (IVRE) Group

Since 2012, PIPER has convened regular meetings of the Injury and Violence Research and Evaluation (IVRE) group, a gathering of researchers and practitioners who share an interest in injury and violence prevention. In 2015, IVRE had over 100 members.

IVRE members share research and network with their colleagues in the field of injury and violence. Topics include discussions of works in progress, brainstorming new directions, and exploring opportunities for future efforts and collaborations. A listserv is used to communicate funding opportunities, resources, events and other information.

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Omar Gudino, PhD, Psychology, Denver University
Jennifer Kelloff, MD, Kaiser Permanente Colorado

Unintentional Injury: Drugs and Alcohol

About the Issue

Drugs and alcohol are major contributors to injury and violence morbidity and mortality. Of the over 11 million victims of violent crime each year, almost one in four report that the perpetrator had been drinking alcohol before committing the crime (1). In 2014, alcohol-impaired driving fatalities accounted for 9,967 deaths (31 percent of overall driving fatalities) (2). Prescription drug overdose has also become an epidemic, with more than 28,000 Americans dying from opioid overdose in 2014, more than any year on record (3). In 2014, Colorado legalized recreational marijuana, and studies are underway to determine what effects this has on public health.



Active Projects

2011-2016 **The Impact of Medical Marijuana in Metropolitan Denver**

Colorado has an estimated 100,000 medical marijuana patients, and this widespread use raises concerns about marijuana abuse, diversion, and other consequences of use. Unfortunately, there are few data describing the impact of medical marijuana legalization. This research helps to fill this gap by investigating the marijuana industry in Colorado using qualitative and quantitative methods. Phase I of this project will study how the evolving medical marijuana industry operates and the views of drug treatment and health care providers concerning how medical marijuana impacts their responsibilities. Phase II will involve an ongoing assessment of the epidemiology of medical marijuana, while Phase III will assess the prevalence of marijuana abuse and dependence, diversion, other drug use, general health and health care utilization among medical and non-medical marijuana users. Phase III will also include assessment of HIV-related sex risk behaviors among medical and non-medical marijuana users.

Contact: Ingrid Binswanger, MD, MPH, MS (Co-I); R. Booth, University of Colorado Denver (PI)

Funder: National Institute on Drug Abuse

2013-2016 **Overdose Risk Assessment, Counseling and Naloxone Prescription in Health Care**

Fatal unintentional poisonings from pharmaceutical opioids have increased more than three-fold in the last decade. Naloxone is an effective, Food and Drug Administration approved opioid antidote usually administered by first responders in emergency settings to reverse respiratory depression due to opioid poisoning. This study will examine barriers and facilitators to prescribing naloxone for take-home use and develop and pilot test an overdose risk assessment, counseling, and naloxone prescription intervention for delivery in primary care settings. This study will develop a feasible overdose prevention intervention for use in large health care systems, and preliminary data will be collected to support a future multi-site randomized controlled trial of this intervention. Also includes a supplement is to develop a clinical prediction model which provides an overdose risk score for clinicians to use in decision-making about naloxone and develop an “app” to make the predictive models useable by medical providers.

Contact: Ingrid Binswanger, MD, MPH, MS (PI)

Funder: National Institute on Drug Abuse

2014-2017 **Evaluation of Marijuana Prevention and Education Program**

This evaluation project supports the Marijuana Prevention and Education Program, which includes an 18-month mass media campaign aimed at educating the general public on the health effects of marijuana, an ongoing program to educate the public about legal use, regional trainings, and alignment of messaging across state agencies. The Colorado Department of Public Health and Environment (CDPHE) was designated the lead for implementing public education efforts and aligning messaging across state agencies through Senate Bill 14-215. CDPHE is contracting with the Colorado Schools of Public Health to evaluate the effectiveness of the campaigns, trainings, technical assistance and other prevention work to increase accurate knowledge of the retail marijuana laws and health effects of marijuana use while reducing the negative public health consequences of marijuana use.

Contact: Ashley Brooks-Russell, PhD, MPH (Co-I); S. Bull, Colorado School of Public Health (PI)

Funder: Colorado Department of Public Health and Environment

Unintentional Injury: Drugs and Alcohol

- 2014-2015 **Patient Navigation to Enhance Pain Management and Opioid Safety in Cancer Patients**
- The goals of this project are to collect qualitative data on pain management and opioid safety in advanced cancer patients and to develop a medication safety oriented patient navigation intervention for cancer care.
- Contact:** Ingrid Binswanger, MD, MPH, MS (Co-PI); S. Fischer, University of Colorado (CO-PI)
Funder: University of Colorado Cancer Center
- 2014-2016 **Nonprofit Hospital Community Benefit Activities as an Institutional Home for Health Impact Assessments**
- This project aims to build a sustainable infrastructure to conduct HIAs as part of nonprofit profit hospital community benefit activities. It includes a Health Impact Assessment of Marijuana policies related to child abuse and neglect in Colorado in light of the recent legalization of recreational marijuana in the state.
- Contact:** Gregory Tung, PhD, MPH
Funder: Health Impact Project – Pew Charitable Trusts and Robert Wood Johnson Foundation
- 2015-2020 **Integrating Addiction Research in Health Systems: The Addiction Research Network**
- This application is in response to a NIDA RFA to create a research network that focuses on all aspects of addiction. The network will bring together 15 health systems. The award provides infrastructure support; specific studies will be developed later across the different sites with additional research funds.
- Contact:** Ingrid Binswanger, MD, MPH, MS (Co-PI); S. Fischer, University of Colorado (CO-PI)
Funder: National Institute on Drug Abuse
- 2015-2018 **Preventing Overdose Mortality Among People Exiting Incarceration**
- This study will develop and implement overdose education and naloxone distribution programs in venues that target people exiting incarceration and their family members.
- Contact:** Ingrid Binswanger, MD, MPH, MS (Co-PI); S. Fischer, University of Colorado (CO-PI)
Funder: National Institute on Drug Abuse
- 2016- ?? **Marijuana Access at Point-of-Sale: Legalizations, Attitudes and Behavior**
- This study will follow more than 4,000 non-users of marijuana in four locations in the US (Denver, CO; DC/MD/VA; New York, NY, and New Orleans, LA) to study how new marijuana and electronic vaporizer products are reshaping the real and perceived physical and legal risks of marijuana consumption, just as access to marijuana is dramatically expanding. The findings will tease apart the influence of the evolving policy environment and the product environment in influencing marijuana use behavior.
- Contact:** Ashley Brooks-Russell, MPH, PhD (PI: Kirchner)
Funder: National Institute on Drug Abuse

Selected Publications

Frank JW, Levy C, Calcaterra SL, Hoppe JA, **Binswanger IA**. Naloxone Administration in U.S. Emergency Departments, 2000-2011. Journal of Medical Toxicology. 2015; Nov. 30. (PMID: 26621354)

Calcaterra SL, Yamashita TE, Min SJ, A Keniston, Frank JW, **Binswanger IA**. Opioid prescribing at hospital discharge contributes to chronic opioid use. Journal of General Internal Medicine 2015; Nov 9 [Epub ahead of print] (PMID: 26553336)

Frank JW, **Binswanger IA**, Calcaterra SL, Brenner LA, Levy C. Non-medical use of prescription pain medications and increased emergency department utilization: Results of a national survey. Drug Alcohol Depend. 2015 Oct 29. [Epub ahead of print] (PMID: 26564754)

Binswanger IA, S Koester, SR Mueller, EM Gardner, K Goddard and JM Glanz. Overdose education and naloxone for patients prescribed opioids in primary care: a qualitative study of primary care staff. Journal of General Internal Medicine. 2015 Dec;30 (12):1837-44. (PMC4636555)

Mueller SR, Walley AY, Calcaterra SL, Glanz JM, **Binswanger IA**. A Review of Opioid Overdose Prevention and Naloxone Prescribing: Implications for Translating Community Programming into Clinical Practice. Subst Abus. 2015;36(2):240-53. (PMC4470731)

Binswanger IA, Glanz, JM. Pharmaceutical opioids in the home and youth: implications for adult medical practice. Substance Abuse. 2015;36(2):141-3. (PMC4470841)

Binswanger IA, Finlay A. Post-release Drug Use. Drug use in prisoners: Epidemiology, implications and policy responses. Editors: Kinner SA and Rich J. Oxford University Press. 2015. (In press)

Brooks-Russell, A., Conway, K., Liu, D., Xie, Y., Vullo, G., Li, K., Iannotti, R., Compton, W., Simons-Morton, B. (2015). Dynamic patterns of adolescent substance use: Results from a nationally representative sample of high school students. Journal of Studies on Alcohol and Drugs, 76(6), 962-970.



Unintentional Injury: Motor Vehicle

About the Issue

Motor vehicle-related injuries are one of the leading causes of death in the United States, with over 30,000 people killed each year in crashes (4). Motor vehicle safety efforts focus on protecting occupants, motorcyclists, pedestrians and bicyclists. The CDC estimates the cost of motor vehicle crashes in Colorado is \$647 million. Throughout the Western states, injury rates from motor vehicles are higher than the US as a whole (5).

Active projects

2014-2019

Longitudinal Research on Aging Drivers (LongROAD)

The first of its kind in the United States, this prospective cohort study of older drivers will enroll a total of 3,000 drivers aged 65 to 79 years (at baseline) in five states and follow them for a minimum of four years. The project is designed to identify the main protective and risk factors of safe driving in older drivers, the medications most strongly associated with driving performance and behavior, how drivers self-regulate their driving behaviors to cope with physical and cognitive declines, the role of new vehicle technology and post-market vehicle adaptations in driving safety, and the determinants of driving cessation and the impacts of driving cessation on the health and quality of life. As part of this study, the team also conducted a systematic review of falls as a predictor of motor vehicle crashes and other driving outcomes in older adults.

Contacts: Carolyn DiGuseppi, MD, MPH, PhD (Site Co-PI) and Marian Betz, MD, MPH (Site Co-PI)

Funder: AAA Foundation for Traffic Safety

2013-2018

Physician Screening of Older Drivers: Decision Rules for Geriatric Injury Prevention

With the aging of the U.S. population, there is an urgent need for efficient, effective and acceptable methods of identifying, retraining or restricting unsafe older drivers without unfairly restricting the mobility of those who are safe. This project applies the model of a clinical decision rule to a public health program through the development of tiered older driver assessment, with widespread brief screening followed by referral for additional evaluation of those with a positive screen. The research plan aims to examine the viewpoints of older drivers, their families, and providers concerning driver assessment, to validate and refine a brief question-based screening tool, and to examine the feasibility of pilot program implementation in order to prepare for future implementation of a model tiered older driver assessment program (planned R01). This project is part of a Paul B. Beeson Patient-Oriented Research Career Development Award in Aging (K23) awarded to Dr. Betz.

Contact: Marian Betz, MD, MPH (PI)

Funder: National Institute on Aging

2014-2016

Evaluating State Ignition Interlock Laws

In 2010, there were 32,885 motor vehicle crash deaths on U.S. roads. More than 30% involved at least one driver with a blood alcohol content ≥ 0.08 g/dL. Among the most direct approaches to address alcohol-impaired driving is the use of alcohol-sensing ignition interlocks. Ignition interlocks connect a sensor that detects alcohol in the driver's breath to a vehicle's ignition. If the sensor detects an alcohol level in excess of a pre-set limit, the vehicle will not start. In addition, most ignition interlocks are programmed to require a "rolling" retest. This forces the driver to be periodically retested while operating the vehicle. The goals of this project are to: 1) evaluate the association between state laws mandating alcohol ignition interlocks for drunk drivers and fatal alcohol-involved crashes; 2) understand the factors associated with effective implementation of these laws; and 3) disseminate the findings to states with and without ignition interlock laws.

Contact: Gregory Tung, PhD, MPH (PI of subcontract); Jon Vernick, JD, Johns Hopkins University (PI)

Funder: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention



Selected Publications

Betz ME, Jones J, Carr D. System facilitators and barriers to discussing older driver safety in primary care settings. *Inj Prev*. 2015. 21:231-237. Epub Jan 23. doi:10.1136/injuryprev-2014-041450. <http://www.ncbi.nlm.nih.gov/pubmed/25617342>

Richmond NL, Flannigan SA, Keil LG, **Betz ME**, Platts-Mills TF. Cessation of Driving is Rare in Older Drivers Seen in the Emergency Department After a Motor Vehicle Collision: A Prospective Cohort Study. *J Am Geriatr Soc*. 2015 Jan;63(1):183-5. doi: 10.1111/jgs.13223.

Lum HD, Ginde AA, **Betz ME**. Older adult drivers living in residential care facilities. *Ann Longterm Care*. 2015 Jul;23(7):21-26. <http://www.ncbi.nlm.nih.gov/pubmed/26366125>

Ouimet, M., Pradhan, A., **Brooks-Russell, A.**, Simons-Morton, B. (2015). Young Drivers and Their Passengers: A Systematic Review of Epidemiological Studies on Crash Risk. *Journal of Adolescent Health*, 57(1), S24-S35.e6.

Unintentional Injury: Sports

About the Issue

People in the Mountain West and Colorado are more physically active than in the US overall, and injuries related to sports and recreational activities are an important focus for research and prevention. Every year, more than 2.6 million youth under 20 are treated in emergency departments for sports and recreation-related injuries in the United States. (6)



Active Projects

2015-2016 **High School Sports Injury Surveillance Study [Expansion]**

The National High School Sports-Related Injury Surveillance Study uses an internet-based data collection tool called the High School RIO™ to capture US high school athletes' exposure, injury, and injury event data weekly throughout the academic year across 20 sports.

Contact: Dawn Comstock, MS, PhD (PI)

Funder: National Federation of State High School Associations

2012-2015 **Evaluating the Effectiveness/Outcomes of State Level Concussion Policies**

The goal of this study is to evaluate the effectiveness of state level concussion legislation and specific components of state level concussion legislation using High School RIO concussion outcomes data. As High School RIO has collected data since the 2005/06 academic year and the first state level legislation was passed in 2009, the data from this surveillance system uniquely position us to conduct pre-post comparison evaluation of concussion outcomes including concussion rates, severity, and compliance with return to play guidelines.

Contact: Dawn Comstock, MS, PhD (PI)

Funder: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention), through a subcontract from the Nationwide Children's Hospital Center for Injury Research and Policy ICRC grant

2014-2016 **Studying the impact on the health of young athletes of laws on secondary prevention of concussions and on recurrent concussions**

This study entails an impact evaluation of youth sports TBI laws on the rates and patterns of concussions among high school athletes across a period from pre- to post-law enactment.

Contact: Dawn Comstock, MS, PhD (CO-I); J. Yang, Research Institute at Nationwide Children's Hospital (PI)

Funder: Robert Wood Johnson Foundation

2013-2015 **Evaluation of Spot Light: A Concussion Injury Management App for Youth Sports**

Spot Light is a free and easy-to-use application (app) that coordinates diagnosis, management, and return to play procedures from concussion injury to safe return to sport. This project will evaluate whether *Spot Light* increases reporting rates of sports-related concussion, increases referrals to physicians, and increases athlete compliance with RTP guidelines. This research has potential impacts in the areas of sports injury prevention and the related

use of mobile app technology, and is the first step toward attaining the long-term goal of reducing the negative consequences of sports-related concussion, specifically in youth sports.

Contact: Dawn Comstock, MS, PhD (Co-PI); L. McKenzie, Nationwide Children's Hospital (Co-PI)

Funder: National Institute of Child Health and Human Development

2012-2017

Functional Evaluation to Predict Lower Extremity Musculoskeletal Injury

The National Federation of State High School Associations considers pre-participation physical evaluations (PPE) a prerequisite to athletics participation, yet there are no large-scale controlled trials confirming the effectiveness of the PPE as it relates to musculoskeletal injuries. This project includes developing a cost-effective and time-efficient F-PPE for use in clinical settings, recording injury occurrence using the High School RIO™ to identify which F-PPE measurement(s) are best associated with injury risk, and developing operational procedures for the F-PPE. The findings will help to understand the parameters of functional performance testing and evaluate methods for improving risk prediction of musculoskeletal lower extremity injury.

Contact: Dawn Comstock, MS, PhD (Co-I); J. Onate, The Ohio State University (PI)

Funder: National Institute of Arthritis, Musculoskeletal and Skin Diseases

2015-2016

Outpatient Follow-up after ED Evaluation of Concussion in Children: Barriers, Facilitators and Benefits

Our study addresses two questions: (1) What factors promote or prevent attending a follow-up visit after ED evaluation for a concussion? (2) Does attending follow-up increase the chance that children will get academic support and decrease the chance they will return to sports before it is safe to do so? Answering these two related questions will provide scientific support for recommendations that will help improve children's school performance and will help them safely return to sports.

Contact: Joseph Grubenhoff, MD, MS (PI)

Funder: CO Brain Injury Trust (State of Colorado/Colorado Department of Human Services)

Selected Publications

Comstock RD and Mckenzie LB. Injuries and Adverse Events in Sports Activities: Preventive Strategies for Young Athletes. *Elevate Health* (A quarterly research digest of the President's Council on Fitness, Sports & Nutrition). Series 16, Number 2, June 2015.

Comstock RD, Currie DW, Pierpoint LA, Grubenhoff JA, and Fields SK. An Evidence-Based Discussion of Heading and Concussions in High School Soccer. *JAMA Pediatrics*, 169(9):830-837 (2015).

Grubenhoff JA, Deakyne SJ, **Comstock RD**, Kirkwood MW, Bajaj L. *Outpatient follow-up and return to school after emergency department evaluation among children with persistent post-concussion symptoms*. Brain Injury ePub May 25, 2015 1-6 (doi:10.3109/02699052.2015.1035325)

Suicide

About the Issue

Suicide is a major public health problem around the country, and in Colorado and the Mountain West region, rates are higher. In 2014, there were 1,058 suicides among Colorado residents (7). Nearly half of all suicide deaths in Colorado involve the use of a firearm. (7)

Active Projects

2014-2016 Means Restriction for Discharge of Suicidal Patients in Emergency Care

This project examines, in the Mountain West, the potential adoption of emergency department discharge practices that include counseling on limiting access to guns during times of mental health crisis. This study also examines the practices and perspectives of law enforcement and gun retailers about offering temporary safe storage of firearms for families of suicidal patients.

Contact: Carol Runyan, PhD, MPH (PI)

Funder: National Institute of Mental Health

2015-2015 Emergency Department Identification and Care of Suicidal Older Adults

The goals of this project are to describe the prevalence and characteristics of older emergency department patients evaluated for suicidal thoughts or behaviors, including identification of possible age-related disparities in care.

Contact: Marian Betz, MD, MPH (Co-I)

Funder: National Institute of Mental Health

2015-2019 Emergency Department Safety Assessment and Follow-up Evaluation 2 (ED-SAFE-2)

The Emergency Department Safety Assessment and Follow-up Evaluation - 2 (ED-SAFE-2) represents an unparalleled opportunity to study both the sustainability of successfully implemented universal suicide risk screening and implementation of a brief suicide intervention, the Safety Planning Intervention, into routine care in eight EDs across the country.

Contact: Marian Betz, MD, MPH (Site PI)

Funder: National Institute of Mental Health

2015-2019 **Online Screening and Early Intervention to Prevent Suicide Among Middle-Aged Men**

The researchers will examine an online screening tool and an online therapeutic program known as Man Therapy, both targeting men ages 35-64, who are at higher risk for suicide.

Contact: Carol Runyan, MPH, PhD (Consultant)

Funder: Centers for Disease Control and Prevention

2015-2016 **Survey of mental health providers for suicide commission**

This project is assessing the capacity of Colorado mental health providers in addressing suicide prevention. The statewide survey gathered information about providers' training needs to shape the Suicide Commission's future work.

Contact: Carol Runyan (PI), Laura Schwab Reese, PhD (Co-PI)

Funder: Colorado Suicide Commission/Yellow Ribbon Fund

Key Publications

Betz ME, Wintemute GJ. Physician Counseling on Firearm Safety: A New Kind of Cultural Competence. *JAMA*. 2015 Aug 4;314(5):449-50. doi: 10.1001/jama.2015.7055.

Betz ME, Flaten HK, Miller M. Patient Openness to Physician Questioning about Firearms. *J Am Ger Soc*. 2015 Oct;63(10):2214-5. doi: 10.1111/jgs.13695

Betz ME, Arias AA, Miller M, Barber C, Espinola JA, Sullivan AF, Manton AP, Miller I, Camargo CA, Boudreaux ED. Change in Emergency Department Providers' Beliefs and Practices After New Protocols for Suicidal Patients. *Psych Serv*. 2015 Jun;66(6):625-31. Epub March 1.

Runyan CW, Brown TL, Brooks-Russell A (2015). Preventing the invisible plague of firearm suicide. *Amer. J. of Orthopsychiatry*. 85(3): 221-224.



In June 2015, Marian Betz, MD, MPH gave a TedxMileHigh talk: "How to Talk About Suicide and Guns" in Denver, CO. View it online at <http://www.tedxmilehigh.com/speakers/emmy-betz/>

Interpersonal Violence

About the Issue

Interpersonal violence can happen across the lifespan, from child maltreatment and youth violence to intimate partner violence and elder abuse. One study found that 1 in 4 US children experience some form of child maltreatment. (8)



Active Projects

2013-2019 **Evaluation of Essentials for Childhood: Safe, Stable and Nurturing Relationships and Environments**

The Colorado Department of Public Health and Environment is building a diverse collective impact team across disciplines, communities and cultures working toward a common goal of preventing child abuse and neglect. PIP-ER serves as the external evaluation partner on this effort to create safe, stable and nurturing relationships and environments for children in the state.

Contact: Carol Runyan, PhD, MPH (PI of subcontract); S. Breitzman, Colorado Department of Public Health and Environment (PI)

Funder: Colorado Department of Public Health and Environment through a grant from the Centers for Disease Control and Prevention

2011-2016 **Academic Centers for Excellence in Youth Violence Prevention**

The overall aim of this grant is to develop an Academic Center of Excellence (ACE) in Denver to initiate a multifaceted, evidence-based approach to addressing youth violence. The study will enhance the body of research associated with studies on community-wide prevention efforts and will advance our understanding of "what works" at this level of implementation by targeting the reduction of youth violence in a high risk Denver community. Immediate and long-term goals are to reduce levels of youth violence, implement and evaluate a multifaceted, evidence-based primary prevention/intervention approach, provide training for junior researchers in a variety of related fields, provide training to medical practitioners to recognize and treat youth violence, and embed activities coordinated through the ACE into the existing community infrastructure of youth services to ensure sustainability after completion of the grant. The sites participating in this study are two of Denver's most high-risk residential neighborhoods: Montbello and Northeast Park Hill.

Contact: Eric Sigel, MD (Co-I); B. Kingston, University of Colorado (PI)

Funder: National Center for Injury Prevention and Control

2013-2017

Reducing Youth Access to Firearms through the Health Care Setting.

This randomized control trial examines the implementation and effectiveness of an intervention, delivered in a health care setting, to decrease home firearm access by youth aged 12-17. Health care providers are initially trained to provide means restriction education to parents, focused on the risk of having access to firearms for youth who live in a home with firearms. Youth and their families are screened for firearm access, complete a violence risk and depression screening survey, and are randomized to either a non-intervention control group, a group that receives means restriction counseling alone, or a group that receives means restriction education and free safe storage devices (lock boxes or trigger locks). We are examining whether parents change their behaviors and whether the distribution of a free lock box or gun lock is more effective than counseling alone. The implementation process will be assessed to guide future dissemination. We expect to demonstrate that the health care setting can be used effectively to reduce youth access to guns. By doing so, youth will have less opportunity to perpetrate crime using firearms and will be less likely to use a guns for self-harm or experience an unintentional shooting.

Contact: Eric Sigel, MD (PI) and Carol Runyan, MPH, PhD (Co-I)

Funders: National Institute of Justice

2014-2019

Mentoring for At-Risk Youth in Aurora

PIPER serves as the evaluation partner on Aurora Police Department's violence-prevention initiative under Aurora's Gang Reduction Impact Program (A-GRIP). The goals of the "Violence Prevention" (ViP) project are: 1) Decrease the attractiveness of gang membership. 2) Reduce risk factors for gang membership/violence & increase protective factors. 3) Provide opportunities for youth/families to build positive relationships with APD. Prevention programming is provided by Friends for Youth, Hood Monsters & APD's Aurora for Youth. The project will serve 756 youth (4-17) + 65 parents.

Contact: Gregory Tung, MPH, PhD (PI of subcontract); D. Barrett, Aurora Police Department (PI)

Funder: Colorado Division of Criminal Justice

2015-2017

Fast MRI for Young Children with TBI

Fast MR is a short, motion-tolerant protocol that has been used in children with shunted hydrocephalus to eliminate radiation exposure without the need for sedation. However, fast MR has not been validated in children with TBI, a critical gap. The investigators will measure feasibility and diagnostic utility of fast MR in children < 6 years (72 months) old who undergo head CT for TBI. This proposal will test the diagnostic utility of fast magnetic resonance (MR) in young children with Traumatic brain Injury (TBI).

Contact: Daniel Lindberg , MD (PI), Joseph Grubenhoff, Terri Lewis

Interpersonal Violence

- Funder:** Colorado Dept. of Public Health and Environment
- 2015 **Revision of the ISPCAN Child Abuse Screening Tools (ICAST)**
- The ISPCAN Child Abuse Screening Tools (ICAST) has successfully served as a common instrument worldwide to enable systematic collection and comparison of data across cultures, time or between research groups for collecting data on the extent and depth of child abuse. ICAST has been translated and validated into at least 20 languages. The questionnaires were updated in 2015, along with the creation of a new manual to assist users in data collection and analysis.
- Contact:** Des Runyan, MD, DrPH (PI), Sara Brandspigel, MPH
Funder: International Society for Prevention of Child Abuse and Neglect
- 2014-2015 **The Role of Individual and Environmental Factors in Intimate Partner Violence**
- Relatively little research on IPV risk factors has incorporated recent scientific advances (e.g., genetic risk), used a longitudinal research design with long-term follow-up, or focused on risk factors for perpetration. To address this gap in the literature, we proposed a quantitative analysis of the Add Health dataset to examine the role of adolescent characteristics and experiences on adulthood IPV perpetration. Using generalized linear mixed models, we evaluated the effect of genetic risk on IPV perpetration during adulthood, and the role of high school climate and adolescent exposure to violence as moderators of the relationship between genetic risk and perpetration.
- Contact:** Laura Schwab Reese, PhD (PI)
Funder: University of Iowa Injury Prevention Research Center
- 2014-2016 **Secondary Analysis of Administrative and Survey Data Regarding Children in or at Risk of Entering Foster Care**
- The purpose of this project is to maximize existing data sources to examine factors related to outcomes of children and youth in foster care. Utilizing data from the Longitudinal Studies of Child Abuse and Neglect, analyses focus on addressing whether receipt of services in early childhood reduce poor outcomes among maltreated youth. Preliminary findings suggest that few caregivers identify a need for behavioral health services despite persistent or increased internalizing and externalizing problems. Among those children that received services, outcomes were not statistically better than those not receiving services.
- Contact:** Terri Lewis, PhD (Sr. Research Analyst), Desmond Runyan (PI)
Funder: DHHS-Office of the Assistance Secretary for Planning and Evaluation
- 2012-2017 **Drug Use Trajectories and the Transition to Adulthood Among Maltreated Youth**
- The goal of this project is to examine the long-term impact of child maltreatment on substance use onset, trajectories of substance use, and HIV/AIDS-related sexual risk behaviors. Independent contributions of child maltreatment in conjunction with other identified risk factors, including moderating effects, will be examined. Utilizing longitudinal data from birth to early adulthood, results will provide critical information on key developmental time points and shared risk factors to aid in prevention, policy, and intervention efforts.
- Contact:** Terri Lewis, PhD (PI of subcontract)
Funder: National Institute on Drug Abuse

Selected Publications

Masho SW, **Sigel EJ**, Schoeny, M, Webster D,. Outcomes, Data, and Indicators of Violence at the Community Level. J Prim Preven Accepted for Publication 6-9-2015.

Kingston B, Mihalic S, **Sigel EJ**, Huizinga D. Building an Evidence-Based Multi-tiered System of Supports for High-Risk Youth and Communities: A Case Study in a High Risk Denver Neighborhood. J of Orthopsychiatry 2015. Accepted for Publication 7-20-2015.

Lewis, T., Schwebel, D.C., Elliott, M.N., Visser, S.N., Toomey, S.L., McLaughlin, K.A., et al. (2015). The Association between Youth Violence Exposure and ADHD Symptoms in a Sample of Fifth-Graders. *American Journal of Orthopsychiatry*, 85(5), 504-513. Doi: 10.1037/ort0000081

Schuster, M.A., Bogart, L.M., Klein, D.J. Feng, J.Y., Tortolero, S.R., Mrug, S., **Lewis, T.**, Elliott, M.N. (2015). A Longitudinal Study of Bullying of Sexual Minority Youth at 5th, 7th, and 10th Grades. *New England Journal of Medicine*, 372, 1872-1874/ Doi: 10.1056/NEJMc1413064

Thompson R, Flaherty EG, English DJ, Litrownik AJ, Hubowitz H, Kotch JB, **Runyan DK**. Trajectories of adverse childhood experiences and self-reported health at age 18. *Academic Pediatrics* 2015; 15:503-509 PMID: 25441654

Zolotor AJ, **Runyan DK**, Shanahan M, Durrance CP, Nocera MA, Klevens J, Murphy R, Barr M, Barr RG. Effectiveness of a Statewide Abusive Head Trauma Prevention Program in North Carolina. *JAMA Pediatrics* 2015 1-6 PMID: 26501945

Hatzenbuehler ML, **Schwab Reese LM**, Hertz M, Ranapurwala SI, Ramirez M. (2015) Anti-Bullying Policies Reduce the Risk of Bullying Victimization: An Analysis of 25 States. *JAMA Pediatrics*. 169(10).

Renner L, **Schwab Reese LM**, Peek-Asa C, Ramirez M. (2015) Reporting patterns of unidirectional and bidirectional verbal aggression and physical violence among rural couples. *Journal of Family Violence*. 30(8):1069-78.

Schwab Reese LM, Harland KK, Smithart K, Ramirez M. (2015) Perpetration and victimization of intimate



Other and Cross-cutting Projects

Active Projects

- 2014-2015 **Partnership to improve child and adolescent mental health by promoting the interrelatedness of mental health and physical health**
- This is a pilot grant funded to strengthen the partnership between PIPER and Tri-County Health Department related to child and adolescent mental health. The primary focus is to undertake a multi-pronged assessment to help guide the development of shared research interests.
- Contact:** Ashley Brooks-Russell, PhD, MPH (Co-PI); S. Weinberg, Tri-County Health Department (Co-PI)
Funder: Colorado Clinical & Translational Sciences Institute (CCTSI)
- 2014-ongoing **Healthy Kids Colorado Survey**
- The Healthy Kids Colorado Survey (HKCS) collects health information biennially, every odd year, from Colorado public school students. Dr. Brooks-Russell serves as Project Director and Co-PI of a state-wide adolescent health survey, including the Youth Risk Behavior Survey.
- Contact:** Ashley Brooks-Russell, PhD, MPH (Co-I); A. Levinson, Colorado School of Public Health (PI)
Funder: Colorado Department of Public Health and Environment
- 2011-2015 **Longitudinal Approach to Examining Deaths in Correctional Facilities**
- This is a Visiting Fellowship in the Criminal Justice Statistics Program to examine mortality among prisoners in the United States and develop a framework for future data collections on health in correctional populations. The overall purpose of this fellowship is to support the scholarly use of Bureau of Justice Statistics data collections, expand the body of policy-relevant research that uses these data, and enhance or inform bureau programs. The focus of the first project in this Visiting Fellowship is to assess the impact of tobacco control policies on tobacco-related deaths in prisons. The second project develops a framework for data collections on health and health care delivery across the spectrum of criminal justice involvement.
- Contact:** Ingrid Binswanger, MD, MPH, MS (PI)
Funder: U.S. Bureau of Justice Statistics
- 2014-2017 **The Consequences of Sanctions for Mortality in Socially Marginalized Populations**
- This study examines the effect of incarceration on health and health disparities by using a pair of quasi-experimental studies in a statewide longitudinal cohort to examine the effect of incarceration on mortality.
- Contact:** Ingrid Binswanger, MD, MPH, MS (PI)
Funder: National Institute of Child Health and Human Development

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- 2011-2016 **Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE): Study to Explore Early Development (SEED) II**
- While diagnostic practices are improving, little is known about the causes or correlates of the neurodevelopmental disorders known collectively as Autism Spectrum Disorders (ASDs). The Centers for Autism and Developmental Disabilities Research and Epidemiology were established to address the magnitude, incidence, and causes of autism and related developmental disabilities and recently completed Phase I of the Study to Explore Early Development (SEED I) with more than 3500 children enrolled. The current project, **SEED Phase II**, involves recruiting another 1080 children in each study group across six national study sites to address hypotheses in five domains: phenotype, infection and immune function, reproductive and hormonal features, genetic features, and socio-demographic features. A sub-study examines injuries and injury hospitalizations in children with autism, including self-injurious behavior.
- Contact:** Carolyn DiGuseppi, MD, MPH, PhD (Co-PI)
Funder: Centers for Disease Control and Prevention
- 2014-2016 **Nonprofit Hospital Community Benefit Activities as an Institutional Home for Health Impact Assessments (HIAs)**
- This project aims to create sustainable infrastructure to conduct HIAs as part of nonprofit profit hospital community benefit activities. Through collaboration between several entities on the Anschutz Medical Campus, HIAs will be conducted on two pressing issues: preventing gang violence in Aurora schools and developing policies on marijuana for Colorado's child welfare system.
- Contact:** Gregory Tung, PhD, MPH (PI)
Funder: The Health Impact Project—Pew Charitable Trusts and Robert Wood Johnson Foundation
- 2014-2016 **Evaluation of the Accountable Care Collaborative (ACC) Implementation in Colorado**
- The delivery of health care through Accountable Care Organizations (ACO) has emerged nationally as a promising way to increase health care integration with the goal of improving the value and performance of health care delivery. The Affordable Care Act recognized the potential of ACOs by encouraging states to apply the model to Medicaid services through pilot programs. The goals of this project are to: 1) Understand the association of the Accountable Care Collaborative with health care expenditures; 2) Evaluate the performance of the Accountable Care Collaborative on targeted utilization (Key Performance Indicators), access-sensitive utilization, and other quality measures; and 3) Perform a qualitative assessment of high and low performing provider groups to document the key characteristics that encourage or hinder performance.
- Contact:** Gregory Tung, PhD, MPH
Funder: Colorado Health Foundation and Rose Community Foundation

Infrastructure Development and Training

Other: Infrastructure Development/Training

2003-2016

National Research Service Award

The National Research Service Award training programs are designed to train individuals to conduct research and to prepare for research careers. Institutional NRSA programs allow the Program Director to select the trainees and develop a program of coursework, research experiences, and technical and/or professional skills development appropriate for the selected trainees, providing high-quality research training and offering opportunities in addition to conducting mentored research. This program trains physicians in outcomes and health services research methods.

Contact: Ingrid Binswanger, MD, MPH, MS (Program Director)

Funder: Health Resources and Services Administration

2011-2015

Monitoring Services for Tribal Injury Prevention Cooperative Agreements – Training Workshop Component

The Tribal Injury Prevention Cooperative Agreement Program (TIPCAP) provides funds to American Indian and Alaska Native Tribal organizations to develop their infrastructure and capacity in injury prevention. Econometrica assists the Indian Health Service (IHS) by serving as an outside monitor, providing oversight and technical assistance to the 33 current TIPCAP grantees in support of IHS's priority of increasing accountability. Econometrica is responsible for a variety of rolls related to training, resource development, and technical assistance, including annual site visits. Subcontracted by Econometrica, the PIPER program is responsible for planning and participating in an annual 2-day training workshop for grantees.

Contact: Carol Runyan, MPH, PhD (PI of subcontract); M. Sheppard, Econometrica (PI)

Funder: U.S. Indian Health Service, through a subcontract with Econometrica

2013-2018

Developing Infrastructure for Patient-Centered Outcomes Research at Denver Health

The proposed Center for Health Systems Research at Denver Health, an integrated safety net health system, directly addresses two national priorities for patient-centered outcomes research: addressing disparities and improving healthcare systems. The Center will partner with an academic research unit and an applied healthcare research organization to develop a research infrastructure and to create collaborations that will sustain meaningful patient-centered outcomes research well into the future. Such infrastructure includes teaching and mentorship and development of a cross-institution data integration structure that will connect the Center with much larger research networks. Specific projects target the "healthcare required to achieve best outcomes" among socioeconomically disadvantaged groups, including racial and ethnic minorities; designs effective in a safety net can inform high-value design in other systems.

Contact: Ingrid Binswanger, MD, MPH, MS (Co-I, Director of PCOR Scholars Program); E. Havranek, University of Colorado (PI)

Funder: U.S. Department of Health & Human Services, Agency for Healthcare Research and Quality

2007-2016

Robert Wood Johnson Clinical Scholars Program

For more than three decades the Robert Wood Johnson Foundation Clinical Scholars program has fostered the development of physicians who are leading the transformation of health care in this country through positions in academic medicine, public health, and other leadership roles. Through the program, future leaders will learn to conduct innovative research and work with communities, organizations, practitioners and policy makers on issues important to the health and well-being of all Americans.

Contact: Desmond Runyan (PI)

Funder: Robert Wood Johnson Foundation



Training, Teaching and Mentoring

During the past year, we have continued efforts to engage more students in the topic of injury prevention, while also mentoring junior faculty, fellows, and residents as they develop their work.

Teaching & Student Training

In 2015, a number of affiliated faculty were involved in a number of teaching activities, including classroom teaching of undergraduate, medical, and graduate students, as well as mentoring of graduate student projects (e.g., dissertations, practica and capstone projects). For example, Dr. DiGuseppi's course, "Injury and Violence Epidemiology and Prevention," is a required course for students in the M.S. Epidemiology program and open to all students in the Colorado School of Public Health. Other courses taught by PIPER faculty have a broader focus but incorporate injury content, exposing a range of students to the field. Examples include Dr. Runyan's four-semester seminar for DrPH students and "Foundations of Public Health," taught to MPH and certificate students, Drs. DiGuseppi and Comstock's undergraduate "Introductory Epidemiology," Dr. Brooks-Russell's undergraduate "Introduction to Public Health," Dr. Tung's "Health Policy" course, and Dr. DiGuseppi's graduate-level "Introduction to Systematic Reviews."



PIPER faculty are also often invited to give guest lectures on injury topics in courses focused on maternal and child health, health policy, aging, or in a wide variety of professional programs (e.g., Dr. Betz teaches about intimate partner violence to physical therapy and medical students and Dr. Runyan lectured to international health students about global injury). Our goals are to expose as many students as possible to basic injury concepts and, in the process, identify students interesting in studying injury in more depth.

In 2015 we initiated a student paper prize to recognize the work of students doing research in injury control. Two students shared the prize – a doctoral student in Epidemiology (Dustin Currie) and a medical student (William Brandenburg). Their work, respectively, addressed injuries to high school cheerleaders (Currie) and preparedness of mountain hiking enthusiasts to address emergencies while on the trail (Brandenburg).

Through support from various sources, a growing number of students are conducting research on a wide range of injury topics. For example, doctoral students are conducting research on topics ranging from suicide to injuries among older workers to sports injuries and addressing tensions between police with youth in schools. Medical and nursing students are also exploring injury issues in clinical contexts.

Faculty, Fellow, & Resident Mentoring

In addition to teaching and training graduate and medical students, senior faculty actively work to assist junior faculty, fellows, and residents in developing their research careers. This includes serving as formal mentors on career development applications, assisting faculty by reviewing grant application drafts, and creating small mentoring groups to discuss career development and research strategies. These various mechanisms are enabling a growing number of faculty to move ahead with research agendas that address such topics as marijuana and risks associated with driving while impaired, incorporating health impact assessment into hospital community benefits programs, and studying new techniques for assessing child trauma.

Selected presentations

PIPER strives to provide injury-related learning opportunities on a regular basis. PIPER's Injury and Violence Seminar Series is open to the public, while the Injury and Violence Research and Evaluation (IVRE) group provides a more focused professional development opportunity for injury researchers. PIPER faculty are also engaged in numerous workshops and training activities related to their areas of interest. In 2015, PIPER faculty gave presentations on campus, in the local community, regionally, and at national and international meetings. Topics and audiences were diverse. A few examples are listed below:

Substance Use

- **Wang G.** Marijuana and Impact on Pediatric Population. American College of Medical Toxicology PEHSU Grand Rounds. Aug 26, 2015.

Youth Violence

- **Sigel, EJ.** An Integrated Community-based Model to Prevent and Address Violence and Other Problem Behaviors in Children and Youth. Colorado The 26th Annual Colorado Child and Adolescent Mental Health Conference. Ft. Collins, CO. April 14, 2015.
- **Sigel EJ, Ladika A.** Impact of Violence Risk on Adolescent Physical and Mental Health Society for the Advancement of Violence and Injury Research National Conference Platform Presentation March 13, 2015 New Orleans, LA.
- **Lewis, T.** "“Effects of Stress and Trauma on Brain Development”, presented at Denver University (Psychology graduate program).”

Older Drivers

- **Betz ME, Scott K, Jones J, DiGuseppi C.** Older Adults' Preferences for Communication With Healthcare Providers About Driving. Oral presentation at Gerontological Society of America annual meeting, Orlando, FL, November 19, 2015

Sports Injury

- **Comstock RD.** Sports Concussion Data, Gender and Concussion Treatment Paths. Invited speaker, 26th Annual State of the States in Head Injury Meeting: Westward Bound: New Frontiers in Brain Injury. Denver, CO, October 28, 2015.
- **Comstock RD, Guskiewicz KM, and Whitlow CT.** Sports Concussion 1: Epidemiology, Prevention, Imaging. Invited speakers, 16th Annual UC Neurotrauma Symposium. Santa Barbara, CA, September 20, 2015.
- **Comstock RD.** Epidemiology of Youth Sports Related Concussion. Invited keynote speaker, Community Sports Huddle sponsored by the National Council on Youth Sports Safety. Invited keynote address presented following opening remarks given by Dr. David Satcher, 16th United States Surgeon General. Denver, CO, August 17, 2015.

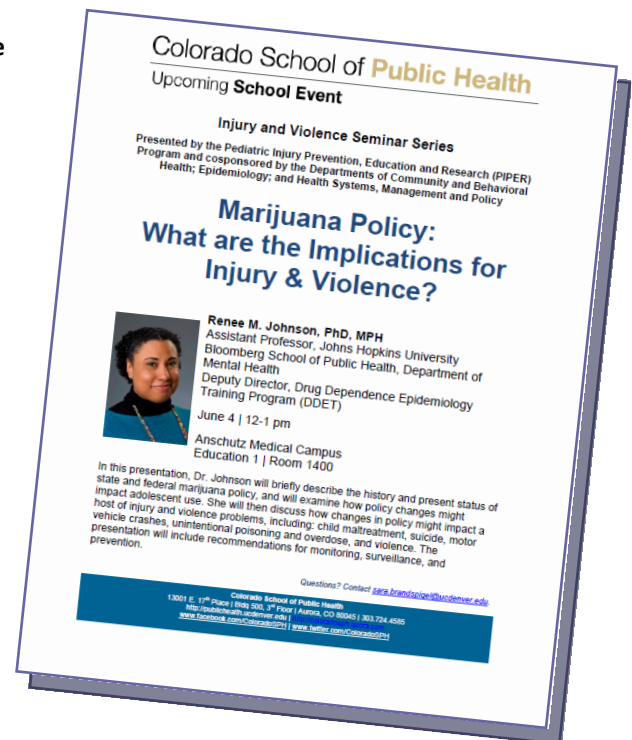
Suicide

- **Lum HD, Flaten HK, Betz ME.** Firearm access and safety practices among older adults in the US. Oral presentation at Society for Academic Emergency Medicine annual meeting, San Diego, CA, May 14, 2015.
- **Runyan CW, Brandspigel S, Becker A, Barber C, Hindman J, Novins D.** Lethal Means Counseling in Pediatric Emergency Care. Oral presentation at the American Public Health Association annual meeting, Chicago, IL, November 3, 2015.

Injury & violence seminar series

PIPER continued its successful series of injury and violence seminars in 2015, sparking interest in a wide range of critical topics:

- February 19 **Student Panel: Injury and Violence**
Vicka Chaplin, MA, MPH
Norbert Soke, MD, MPH
Dustin Currie, MPH
Viewable at: <https://www.youtube.com/watch?v=kuKp3DZbtAM>
- March 3 **American Indian Suicide: A Medical Sociological Perspective**
Robert Valdez, PhD
- April 9 **Epidemiology and Prevention of Firearm Violence: From Research to Policy**
Garen Wintemute, MD, MPH, UC Davis
Viewable at: <https://www.youtube.com/watch?v=3dQn4Z2GxTk>
- June 4 **Marijuana Policy: What are the Implications for Injury and violence?**
Renee Johnson, PhD, MPH
Viewable at: https://youtu.be/8U1k6DcPJzs?list=PLRalxt5IVle5kRxf8DciC8K_AWnGjjwDg
- September 9 **Emerging Prevention Transformations**
Sheila Savannah, MA, Prevention Institute
Larry Cohen, MSW, Prevention Institute
Viewable at: <https://youtu.be/UhvTRrqfATw>
- December 3 **Addressing Parenting Behaviors with Customized Communication Strategies: Opportunities for Injury Control**
Nancy Weaver, PhD, MPH, Saint Louis University
Viewable at: <https://youtu.be/k6kiavETa2s>
- December 7 **Prevention of Sexual Violence Against Women: Perspectives from a Panel of Experts**
Tomei Kuehl, MPA, Sexual Violence Prevention Unit Supervisor, CDPHE
Michelle Metz, BSN, RN SANE, Denver Health
Kylie Mallory-Halter, MSW, LSW, Victim's Services Coordinator, The Phoenix Center at Auraria
Viewable at: <https://youtu.be/C205xpuuvRg>
- December 17 **ED-SAFE: Detecting and Addressing Suicide Risk Among ED Patients (co-sponsored by Department of Emergency Medicine)**
Edwin Boudreaux, PhD, University of Massachusetts
Viewable at: <https://youtu.be/PCmzySQ0KEU>



These seminars are recorded and available on our website (www.ucdenver.edu/PIPER) for viewing.

Looking forward

As we look to 2016 and beyond, we are continuing – and enhancing -- many of the same activities described in this report; particularly facilitating research collaborations and linking academic and practice partners in meaningful discussions to guide both research and practice improvement.

We also are engaged in some exciting new initiatives. For example, in partnership with representatives from Colorado and national partners, we are developing new plans to reduce suicide in the state and serve as a model from which other states can learn. We are hopeful that by combining a number of approaches we will be able to see meaningful changes and learn what combinations of efforts are most effective. We will also begin a new project that tests the practice of counseling parents of suicidal youth about safe storage of medications and firearms during a crisis period.

As the focus on child maltreatment expands into the public health arena, a number of researchers and practitioners are working on “upstream” approaches that employ community and social change strategies, including engaging employers in making their business practices more family friendly. We are also expanding our efforts in training child fatality review teams to use case reviews as a catalyst to propel local-level action for primary prevention.

The challenges posed by recreational marijuana continue to generate new research ideas and projects, while the continuing risks associated with both prescription drug and heroin use remain major challenges in the state.

Several newer faculty have begun exciting new work on sports-related concussions (Dr. Grubenhoff) and abusive head trauma (Dr. Lindberg). Dr. Catherine Velopulos has joined the university as a new trauma surgeon and is developing new initiatives in health services research related to trauma care. Dr. Cinnamon Dixon, based at Kaiser, has engaged in research on home safety; Dr. Tell Bennett is building programs of research on critical care of injured children; and Dr. Samuel Wang is on the cutting edge of toxicology research, especially related to marijuana exposure.

We are eager to strengthen our engagement in training of practitioners and researchers in various sectors by creating new educational opportunities. If new funding comes through, we hope to work with a range of partners in creating a child maltreatment research institute in the coming year. Similarly, we are working with colleagues from the University of Rochester to develop regionally-focused research training in suicide.

We will continue our work to build partnerships among numerous research groups, ranging from the youth violence center based at UC-Boulder to the Kempe Center for the Prevention and Treatment of Child abuse and Neglect, to the Colorado Department of Public Health and Environment, the Veterans Administration, the Colorado Consortium on Prescription Drug Overdose, and many others.

Despite the considerable need, the challenge of finding support for injury and violence work remains. We are constantly seeking resources from diverse sources. By embracing a wide array of scholars and collaborating across sectors and institutions, we aim to enhance our shared ability to compete successfully for scarce dollars, while also advocating for increasing budgets devoted to injury control.

As always, we welcome insights and participation from anyone interested in this line of work and look forward to another productive year throughout 2016.

Support our programs

Join PIPER in preventing injury. Through financial support, you can help us provide scholarships to graduate students studying injury, offer cutting-edge training to the injury prevention workforce, and support new discoveries through our research agenda. Visit www.ucdenver.edu/piper to learn about giving opportunities.

Join our mailing list

At www.ucdenver.edu/piper, you can subscribe to the PIPER listserv to learn about upcoming events, activities, and news.

Become a partner

Contact Sara Brandspigel at sara.brandspigel@ucdenver.edu if you would like to partner with PIPER on research, evaluation, training, or programmatic activities.



Citations

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3—Centers for Disease Control and Prevention Injury Prevention and Control: Opioid Overdose. <https://www.cdc.gov/drugoverdose/>

4—Centers for Disease Control and Prevention Injury Prevention and Control: Motor Vehicle Safety. <https://www.cdc.gov/vitalsigns/motor-vehicle-safety/index.html>

5—Motor Vehicle Occupant Death Rates by State. Centers for Disease Control and Prevention. https://www.cdc.gov/motorvehiclesafety/states/occupant_death_rate.html

6—Centers for Disease Control and Prevention Injury Prevention and Control: Sports Injuries. <https://www.cdc.gov/vitalsigns/motor-vehicle-safety/index.html>http://www.cdc.gov/safecild/sports_injuries/index.html

7—Colorado Office of Suicide Prevention Annual Report - Suicide Prevention in Colorado, 2014 - 2015.

8—Finkelhor D, Turner HA, Ormond R, Hamby SL, Violence, crime, and abuse exposure in a national sample of children and youth: an update. *JAMA Pediatr* 2013. 167(7):614-621.

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