

Research in Action

A bimonthly e-newsletter from the Center for Injury Research and Prevention at The Children's Hospital of Philadelphia

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Child Passenger Safety Research Enters a New Phase

For the past decade, Partners for Child Passenger Safety (PCPS) has served as the world's largest child-focused motor vehicle crash surveillance system and an important source of data for child passenger safety. State Farm insurance claims served to identify crashes involving children and with appropriate consent and security safeguards in place, information was transferred to CHOP for telephone interviews and in-depth crash investigations. In all, the PCPS study collected data on more than 875,000 children involved in 600,000 crashes reported to State Farm from December 1, 1998 to November 30, 2007. As of December 1, 2007, State Farm will conclude its data collection for the child crash surveillance system and will redirect its work with The Children's Hospital of Philadelphia to focus on teen driving safety.

Injury Center researchers are currently conducting a feasibility study to explore the creation of a new child-focused surveillance system with a different source for identifying child crash cases. The study is being funded by the Center for Child Injury Prevention Studies (CChIPS), a National Science Foundation/University Cooperative Research Center, and conducted in partnership with the National Highway Traffic Safety Administration (NHTSA). The feasibility study is exploring the possibility of building on the research infrastructure of the National Automotive Sampling System (NASS) to develop a sustainable child crash surveillance system. Managed by NHTSA, NASS utilizes police reports as its source for crash surveillance, and the Center will leverage this capability to identify children in crashes for study.

Publication of PCPS findings, along with outreach initiatives, have helped to dramatically improve child passenger safety. State and federal child restraint laws and testing standards have been substantially enhanced. Between 1999 and 2006, child restraint use (including booster seats) among 4 to 8-year-olds participating in the PCPS study increased from 15 percent to 60 percent. Overall, child-restraint system use for all children through age 8 rose from 51 percent in 1999 to 79 percent in 2006. Motor vehicle fatalities for children also decreased 15 percent during this time, according to federal sources of data.

The Center's outreach and research teams will continue to analyze the PCPS data, which will remain relevant for years to come. These analyses will be shared with industry, regulators, policymakers, public health educators, and the media through scientific publication. Child passenger safety research at the Center will also continue to focus on biomechanics and behavioral science sponsored by other private, state, and national funding.

The Injury Center's partnership with State Farm remains strong. State Farm is transitioning its research resources at the Center to teen driver safety, another critical traffic safety issue in need of comprehensive research. Like PCPS, The Young Driver Research Initiative (YDRI) conducts novel research, using scientific publication and outreach to promote driving safety.

Motor vehicle crashes remain the number one cause of death among teens in the United States. Teen drivers (ages 16 to 19) die at four times the rate of adult drivers (ages 25 to 69). By providing research-based guidance for parents, educators, and community organizers, State Farm and Center researchers aim to dramatically reduce the rate of teen crashes and injuries.

Focus On: Nancy Kassam-Adams, PhD



Nancy Kassam-Adams, PhD, associate director for behavioral research at the Center for Injury Research and Prevention at The Children's Hospital of Philadelphia, is working to help families recover from the emotional impact of pediatric injury. She founded the Child and Adolescent Reaction to Injury and Trauma (CARIT) Research Program at the Injury Center to address and understand how and why stress disorders may occur after an injury. She also works with the Young Driver Research Initiative and other Center projects to help prevent injuries in children.

In prospective studies of children's and parents' reactions to a child's injury, Center researchers have found that most families experience at least a few acute stress reactions within the first month after injury. Six months later, 1 in 6 of them still have stress reactions that are bothersome and get in the way of feeling "back to normal."

"Through our research, we have developed screening tools and intervention methods to promote emotional recovery after an injury," says Kassam-Adams. "And we are creating and testing practical models for integrating these methods into medical care."

Injury Center initiatives in this area include developing an interactive Web

First National Teen Driver Safety Week Touches Many Communities

The first National Teen Driver Safety Week (NTDSW), held October 15 to 22, was a huge success. Thanks to unanimous Congressional support for a bipartisan bill shepherded through both houses by Rep. Charlie Dent (R-PA) and Sen. Bob Casey (D-PA) and with the support of more than 50 co-sponsors, NTDSW inspired dialogue among teens, parents, and educators about the causes and solutions to crashes.

State Farm and the Center's research and outreach team held a Teen Driver Summit during the week in Washington, DC. They invited 100 youth leaders from nearly every state to Capitol Hill to find solutions to some of the most common causes of teen driver crashes. Armed with this information, the young delegates plan to promote teen driver safety at their schools and in their communities. They also are contacting legislators to strengthen Graduated Driver Laws (GDL) in their states.

Media coverage of NTDSW was high, both at the local and national levels. Teen driver-related stories in October increased three-fold as compared to the previous six months. News stories on NTDSW appeared in print, on television, and via the Web in virtually every state. The week-long event also was featured on CNN and Channel One. (View a television interview with Flaura K. Winston, MD, PhD, of The Children's Hospital of Philadelphia, and Lauren Poe, teen spokesperson for NTDSW.)

In addition to the national Congressional resolution, seven individual states (AL, AR, DE, FL, PA, TX, and WV) issued state-wide proclamations. Fifteen more states supported NTDSW through government-sponsored initiatives. At least 375 local communities across the country took action during the week, according to media tracking conducted by our Center.

Next year we plan to have an even greater impact. Thanks to all who supported the initiative in its first year. Mark your calendars. Next year's NTDSW will be held October 19 to 25, 2008.

Ford Joins CChIPS

Ford Motor Co. recently joined the Industry Advisory Board of the Center for Child Injury Prevention Studies (CChIPS). With support from the National Science Foundation (NSF), CChIPS was established in 2005. One of 40 NSF/University Cooperative Research Centers (I/UCRC) in the country, CChIPS is the only one that focuses solely on child injury prevention. Its Industry Advisory Board members contribute research dollars to support the CChIPS mission. Other members of the Board are: Britax Child Safety Inc.; Dorel Juvenile Group; the National Highway Traffic Safety Administration (NHTSA); Nissan Technical Center North America Inc.; State Farm Insurance Companies®; TK Holdings Inc.; Toyota Motor North America Inc.; and Volkswagen of America Inc.

Sharing Our Research

In October officials from Ford Motor Co., Takata Corp., and the National Highway Traffic Safety Administration (NHTSA) examined first-hand our Center's Volunteer Motion Studies at Rowan University in Glassboro, NJ. Injury Center engineers are using a bumper-car ride and another seated simulation with youth volunteers to measure how different segments of the body move at various levels of velocity and acceleration. The movement is being tracked by external sensors on participants' heads, necks, and spines. Center engineers are working closely with faculty and students at Rowan's Mechanical Engineering and Exercise Science departments on this research venture.

Helping Police Promote Child Passenger Safety

The Injury Center Outreach team is working with the Governors Highway Traffic Safety Administration (GHTSA) to promote child passenger safety through police departments across the country. According to the Partners for Child Passenger Safety (PCPS) study at The Children's Hospital of Philadelphia (CHOP), parents rate police officers as a primary source for child passenger safety information. Parents also rely heavily on state legislation to keep them abreast of child passenger safety laws and car seat information.

site for parents filled with practical tips on how to prevent stress disorders caused by injuries and how to lessen their emotional impact if they do occur.

A psychologist trained in how children and parents deal with traumatic events such as injuries or other medical emergencies, Kassam-Adams also co-directs the Center for Pediatric Traumatic Stress. This work complements and builds on the Injury Center's research and outreach, addressing a broad range of child medical events and traumatic stress.

Talking With A Traffic Injury Prevention Pioneer

Flaura Koplín-Winston, MD, PhD, founder and co-scientific director of the Center for Injury Research and Prevention, recently received the 2007 John M. Eisenberg Patient Safety and Quality Award for Individual Achievement from the National Quality Forum (NQF) and the Joint Commission. Dr. Winston has worked tirelessly to prevent traffic injuries in children through applied research and outreach. An in-depth interview with Dr. Winston was recently published in the *Joint Commission Journal on Quality and Patient Safety*. (Read the article.)

Web Site Receives Award

www.chop.edu/youngdrivers, targeted to parents of teenage drivers, educators, and community members, recently garnered an award at the 11th Annual Internet Healthcare Conference in Las Vegas. The Web site took the silver for Best Health/Healthcare content. One of the Center for Injury Research and Prevention's Web sites, it is hosted by the Web Team at CHOP. CHOP won the gold for the Best Overall Internet site for www.chop.edu.

Support Our Center

The dedicated doctors, researchers, and outreach professionals at the Center for Injury Research and Prevention at CHOP are fighting to save the lives of children of all ages. But we need your help. To make an on-line donation, please visit The Children's Hospital of Philadelphia Foundation Donation Page and select "Center for Injury Research and Prevention" in the drop-down menu.

Based on a CHOP survey of certified child passenger safety technician (CCPST) police officers, CHOP developed easy-to-use educational tools to answer their need for basic child passenger safety information and other reliable sources to recommend to parents. These newly-created sources, which are research-based and have been field-tested with officers from several states, are currently being distributed to police departments across the country by GHSA representatives. They include a CD of short videos on choosing and installing child restraint systems; a CD of two educational tool templates that can be customized to include a specific state's laws, penalties, and other important information; a parent handout, "Child Passenger Safety Web sites," and a police pocket card on "Child Restraint Basics" that can be customized for each individual state and laminated before distribution.

"Our research has told us that both police officers and parents are looking for child passenger safety information to keep them well-informed and updated," says the Center's Child Passenger Safety Outreach and Advocacy Coordinator, Tracey Hewitt, MS, CHES. "With GHSA providing these educational tools that can be customized for each individual state, we hope to ensure that police have the tools they need to better enforce existing laws and to keep child passengers safe." (For more information or to receive any of the materials, please e-mail Tracey Hewitt at durhamt@chop.edu.)

Reaching Out to Youths

The Philadelphia Collaborative Violence Prevention Center (PCPVC) has awarded its Small Project 2 grant to Safety Nets. This program, which runs from October 1, 2007 through August 31, 2008, is a collaborative neighborhood-based partnership between the Black Women in Sport Foundation (BWSF), the Starfinder Foundation, Temple University, and The University of Pennsylvania. The program will use tennis and soccer, both non-traditional sports, as well as leadership education curriculum to teach problem solving, healthy decision-making, and teamwork skills to 10 to 14-year-olds in Southwest Philadelphia.

Part of the Center for Injury Research and Prevention, the PCPVC performs community-based participatory research to reduce the frequency and impact of youth violence in West and Southwest Philadelphia. The PCPVC also funds pilot research projects, such as the Safety Nets grant, to better understand how violence affects the lives of these young people.

Recent Publications from the Injury Center

- Arbogast KB for Winston FK et al. Are Child Passengers Bringing Up the Rear? Evidence for Differential Improvements in Injury Risk between Drivers and their Passengers. Association for the Advancement of Automotive Medicine (AAAM) Annual Meeting, Melbourne, Australia. October 2007.
- Arbogast KB and Kallan MJ. The Exposure of Children to Deploying Side Air Bags: An Initial Field Assessment. Association for the Advancement of Automotive Medicine (AAAM) Annual Meeting, Melbourne, Australia. October 2007.
- Goldstein J, Winston FK, Kallan M, Branas C, and Schwartz JS. Comparative Cost-Effectiveness of a Medicaid-Based Child Restraint System Disbursement and Education Program and the Vaccines for Children Program. *Ambulatory Pediatrics* (to be published January 16, 2008).
- Henary B, Sherwood CP, Crandall JR, Kent RW, Vaca FE, Arbogast KB, and Bull, MJ. Car Seats for Children: Rear-Facing for Best Protection. *Injury Prevention.* December 2007.
- Jermakian JS, Kallan MJ, Arbogast KB. Abdominal Injury Risk in Belt Positioning Booster Seats. Proceedings of the Japanese Society of Automotive Engineers Annual Congress, Yokohomo, Japan. May 2007, JSAE Paper 20075145.
- Jermakian JS, Kallan MJ, Arbogast KB. Abdominal Injury Risk in Belt Positioning Booster Seats. Proceedings of the Twentieth International Technical Conference on the Enhanced Safety of Vehicles, Lyon, France. May 2007, Paper 06-0441.
- Maltese MR, Lacey CM, Jermakian JS, Nance MN, Arbogast KB. Injury Causation Scenarios in Belt-Restrained Nearside Child Occupants. *Stapp Car Crash Journal*, Vol. 51 (October 2007).

You also may telephone the CHOP Foundation at 267-426-6500. For more information on our research and programs, please visit www.chop.edu/injury.

Research Sponsors Wanted

Our center is performing cutting-edge research on injury prevention in children. Doctors and researchers at the Center for Injury Research and Prevention partner with industry and academia to determine ways to prevent injuries and to effectively cope when injuries do occur. If you are interested in sponsoring our research, please call Karen Matthews, the center's administrative director, at 215-590-3118.

Resources for Educators

Free to use for non-profit education purposes

New Collection of Child Passenger Safety Illustrations from PCPS Partners for Child Passenger Safety (PCPS) recently developed a series of 37 illustrations for educational use. These clear and concise drawings are perfect for brochures, slides, and handouts and are available with captions in both English and Spanish.

The Center for Injury Research and Prevention Family of Websites

- The Center for Injury Research and Prevention (www.chop.edu/injury)
- Partners for Child Passenger Safety -English language (www.chop.edu/carseat)
- Partners for Child Passenger Safety- Spanish language (www.chop.edu/asientos_infantiles)
- Keeping Young Drivers Safe (www.chop.edu/youngdrivers)

- Menon RA and Ghati Y. Misuse Study of LATCH Attachment: A Series of Frontal Sled Tests. Association for the Advancement of Automotive Medicine (AAAM) Annual Meeting, Melbourne, Australia. October 2007.

Recent Presentations from the Injury Center

- Arbogast KB. Neck Behaviour of Volunteer Pediatric Subjects. Fourth Meeting on Child Dummy Response Requirements and Injury Criteria Development, San Diego, CA. Oct 28, 2007.
- Arbogast KB. Vulnerable Road Users—Children. Association for the Advancement of Automotive Medicine (AAAM) Biomechanics Conference, Melbourne, Australia. October 2007.
- Fein J. et al. Identifying indicators of success for violence prevention programs to inform policy and decision-making (Poster Session). American Public Health Association Conference. Washington, DC. Nov. 2007.
- Hill S. Addressing Factors for Injury Among Tween Passengers. Governor's Highway Safety Association Annual Meeting, Portland, OR. Sept. 25, 2007.
- Hill S. Curing the Leading Cause of Death in Teens. Women In Government Eastern Regional Conference, Lake George, NY. Sept 16-19, 2007.
- Maltese MR. Pediatric Thoracic Stiffness via CPR. Fourth Meeting on Child Dummy Response Requirements and Injury Criteria Development. San Diego, CA. Oct 28, 2007.
- Treston, C. Teen Driving Research in Pennsylvania. Child Death Review Conference, PA Chapter of American Academy of Pediatrics, Gettysburg, PA. Oct 24, 2007
- Winston FK. Reframing Trauma Care: Turning Prevention Research into Action. National Policy Conference on Quality, Washington, DC. Sept 26, 2007.