





Dear Reader:

The Kentucky Injury Prevention and Research Center (KIPRC) is a partnership between the Kentucky Department for Public Health and the University of Kentucky's College of Public Health that combines academic investigation with practical public health initiatives. The 2006 Annual Report highlights some of the activities and projects conducted at the Center.

Our purpose is to decrease the burden of injury in the Commonwealth. Our partnership, grounded in a belief that most injuries are preventable, cultivates a collaborative approach to problem solving. KIPRC works to reduce injury through education, policy initiatives, public health programming, surveillance, risk factor analysis, direct interventions, and evaluation.

In addition to extensive ongoing research initiatives, KIPRC practices injury prevention in communities across the state.

- KIPRC has distributed 25,000 smoke detectors for installation in rural homes since 1999.
- Some 1,100 child safety seats have been distributed to families in need. More importantly, persons receiving safety seats have been trained how to install and use them properly.
- Over 2,000 people have taken Web-based terrorism response and preparedness training developed by KIPRC.
- We develop and disseminate injury fact sheets on an ongoing basis from data collected and analyzed by the Center.
- Requests for KIPRC injury prevention consultation continue to increase.

Through these and other efforts, we are fostering a greater awareness of safety programs and injury prevention throughout the state. We will continue to be responsive to the injury-related needs of the people of the Commonwealth of Kentucky. In doing so, we will work closely with national, regional, state and local partners to promote injury prevention and research effectively.

Thank you for visiting our website and our latest Annual Report.

Sincerely,

Julia Costich, Ph.D., JD Director Kentucky Injury Prevention and Research Center William D. Hacker, M.D. Commissioner Kentucky Department for Public Health



Crash Outcome Data Evaluation System

Description

Kentucky's Crash Outcome Data Evaluation System (CODES) is funded by the National Highway Safety Administration (NHTSA) for the purpose of improving our understanding of the causes and effects of motor vehicle crashes. CODES takes the approach of linking state motor vehicle traffic crash report databases to administratively unrelated databases containing medical and economic information pertaining to persons involved in crashes. At the center of this effort is the Kentucky motor vehicle traffic crash reporting system, called Collision Reporting and Analysis for Safer Highways (CRASH). To date we have linked CRASH with the state inpatient hospital discharge database (HDD). The linkage is accomplished using a probabilistic methodology based upon research by Fellegi and Sunter (1969) and Jaro (1985, 1995), and implemented in software provided by NHTSA. This linked database enables us to discover relationships between crash characteristics and injury outcomes for persons hospitalized as a result of motor vehicle crashes, and to assess the inpatient acute care charges associated with their treatment.

Recent Publications and Accomplishments

In October 2005, in partnership with the Kentucky Transportation Center and the Kentucky Transportation Cabinet, we published the report, *Economic Costs of Low Safety Belt Usage in Kentucky*. The report presented evidence for the role of a primary safety belt law in saving lives and reducing direct medical costs to Medicaid. Kentucky's legislature passed a primary safety belt bill in the 2006 General Assembly.

In March, 2006 we published a CODES fact sheet on outcomes of crashes due to collisions with fixed objects.

In April 2006, we presented on the *Economic Costs of Low Safety Belt Usage in Kentucky* at the Kentucky Lifesavers Conference.

For more information, visit our web site at http://www.kiprc.uky.edu/projects/codes





Terrorism Response and Preparedness

Manmade and Natural Disaster Training Evaluation

The Kentucky Injury Prevention and Research Center and the Kentucky Office of Homeland Security have contracted to evaluate classroom and computer-based training for the state of Kentucky. The major goal of this initiative is to develop a uniform evaluation instrument. This instrument will measure student and instructor performance, course assessment, and what actions the student plans to take as a result of the course. The data for the assessment will be derived, in part, from pre- and post tests or perceptions. The instrument will also provide prior disaster training background information on the student, as well as agency location and demographic data.

A secondary objective of this program is to determine which agencies are providing training for Kentuckians. These agencies range from traditional first responders (fire, EMS, law enforcement, rescue) to non-traditional (clergy, lawyers and public works).

A final goal of the evaluation is to quantify and identify key elements of the training which may correspond to measurable events occurring during an exercise. A cyclical relationship exists between training and exercises, whether it be tabletop, functional or full-scale. In this way, exercise outcomes may drive new training reinforcement or modification. In turn, the exercise determines the practical application of knowledge gleaned from the classes.

Terrorism Response and Preparedness Courses

Free computer-based terrorism response courses can be found at: http://www.kiprc.uky.edu/trap Course offerings include Introduction to Terrorism Awareness, Bioterrorism Awareness, Chemical Terrorism Awareness, Pediatric Terrorism Awareness and Agroterrorism Awareness.

Other questions regarding the program can be directed by email to Mark Schneider at mark1@email.uky.edu.





Central Nervous System Injury Surveillance Program

Description

The Central Nervous System Injury (CNSI) Surveillance Project is funded by the Kentucky Traumatic Brain Injury Trust Fund Board. Its purpose is to track cases of traumatic brain injury, spinal cord injury, and acquired brain injury as defined by the Centers for Disease Control and Prevention (CDC) and the Kentucky Revised Statutes (KRS 211.470). Cases are taken from three sources. Inpatient hospitalizations for CNSI are ascertained using the Kentucky Hospital Discharge Database (HDD) and the Kentucky State Trauma Registry Database. The latter is maintained by the Kentucky Injury Prevention and Research Center (KIPRC). Fatalities are obtained from the National Center for Health Statistics' annual Multiple Cause of Death (MCOD) files. These three sources are linked to resolve duplication of cases across databases, using a probabilistic methodology based upon research by Fellegi and Sunter (1969) and Jaro (1985, 1995).

Recent Publications and Accomplishments

The sixth annual CNSI report, which will summarize injuries that occurred in 2003, is scheduled for publication in July 2006.

In 2005 we assisted the Brain Injury Association of Kentucky in the compilation and analysis of data showing Kentucky's ranking as one of the highest states in the U.S. for death rate due to ATV-related injuries.



Fatality Assessment and Control Evaluation





"I don't need that fall protection system. I've been working on roofs for over 20 years and nothing's happened."

"It might be a little tight when we go under that overhead wire but I think we can make it."

"Just move that scaffolding and work on the other side. It's already been checked once today by the supervisor."

These statements are representative of the risks that were taken by workers which resulted in fatal work injuries to roofers, electricians, and construction workers. Workers may never have received adequate safety training or may have become inured to the dangers of their specific job responsibilities. In 2004, the Kentucky Fatality Assessment Control and Evaluation (FACE) Program recorded 128 on-the-job deaths.

Work fatality data is collected from a variety of different sources: newspapers, vital statistics, coroner and medical examiner reports, the Census of Fatal Occupational Injuries, and other media sources. Data are analyzed and new and emerging risk factors for an occupational fatality are identified and interpreted.

When youth, immigrant workers, workers using machinery, workers in large trucks, or workers in highway work zones die, the FACE field investigator conducts an on-site evaluation. The field investigator interviews coroners, employers, employees and witnesses to the fatal incident to develop a case report. The case reports, with all personal identifiers removed, describe the fatal incident in detail, including events before, during and after the injury occurred. Analysis of the incident leads to prevention recommendations and strategies that address organizational, behavioral, environmental and engineering controls. Case reports are disseminated to employers and employees in similar industries and occupations with the goal of preventing future work fatalities.



Community Partnerships



Community Partners is a Centers for Disease Control - sponsored program that seeks to link University resources with community groups in Kentucky to enhance the long term sustainability and effectiveness of community injury and health coalitions.



The highlight of our year was in September, at the *Harnessing the Power of Coalitions* symposium held in

Lexington. This two day celebration brought together over 150 leaders in the field of health and injury coalitions to lead and attend over twenty workshops on a variety of issues close to the hearts of coalition everywhere including, characteristics of healthy coalitions, leadership development,

resource gathering, injury topics, strategic planning, interpreting data, working with volunteers, working with law-makers, as well as hearing from our partners in the field, the Madison County Safety Coalition, Holmes County(Ohio) Safe Communities, Barren County Safe Communities, and Metcalfe County Safe Kids.

Moving forward, Community Partners has joined with the University of Kentucky's College of Agriculture's Health Education through Extension Leadership (HEEL) program to offer training and assistance to local health-related coalitions and groups in Kentucky counties. This new chapter for Community Partners will allow us to share with other groups what we've learned about coalition sustainability and the awesome creative ability of coalitions to design local approaches to their unique health issues. We believe that promoting local visions and applying local solutions to the wide range of issues influencing the health of Kentucky communities is a vital component of improving the health status of the Commonwealth.





We welcome inquiries about our program. For further information please call (859)323-0298.



Residential Fire Injury Prevention Program

The Kentucky's residential fire fatality rate is much higher than the national average. The Residential Fire Injury Prevention Program works to reduce this problem through the use of proven fire safety measures. This program, which is also known as the Smoke Alarm Installation and Fire Education (SAIFE) program, is funded by the Centers for Disease Control and Prevention (CDC). KIPRC acts as an agent of the Kentucky Department for Public Health to conduct the project.

The project provides smoke alarms, fire safety education materials, training, and reimbursement for data collection expenses to local partner organizations. These organizations - predominantly fire departments - provide personnel to install the smoke alarms in homes that lack working smoke alarms. Local personnel also provide fire safety education for the residents of homes where alarms are installed, as well as to other members of their community. Pre- and post-installation surveys are conducted to evaluate changes in the percentage of homes with working smoke alarms in each project community, and follow-up inspections of a sample of previously installed alarms are made to evaluate the survival rate of project-installed smoke alarms.

Local partner agencies and their communities are selected to participate in the project through a competitive application process with reviews by a selection committee composed of representatives from public health, the fire service, education, emergency management, and other public safety services. The number of awards typically range from four to seven.

Since its inception in 1998, the project has worked with local partner organizations in 27 counties to install more than 25,000 smoke alarms, and deliver fire safety education to hundreds of thousands of Kentuckians. These activities have made a difference; we have documented 63 lives likely to have been saved by smoke alarms installed in project communities. In addition, hundreds of thousands of dollars of property damage has been averted through early warnings provided by these alarms.

The protection provided by SAIFE lasts well beyond the one-year local project period in each community. The alarms used for the project are powered by long-life lithium batteries that can last up to ten years. Follow-up inspections have found that five-year survival rates for these alarms exceed 90 percent.

KIPRC was advised in June 2006 that our competitive application for continued funding has been approved through 2011.



Community Injury Prevention Program

The safety and injury prevention needs of Kentucky's communities are best identified and addressed at the local level, but external expertise and resources are often needed. The Community Injury Prevention Program (CIPP) is funded by the Kentucky Department for Public Health (DPH), and acts as the general injury prevention program for DPH. It provides training, technical assistance, and consulting services to local injury prevention coalitions, local public health departments, safety advocacy groups, and others who are working to address injury problems at the community level.

Motor vehicle collisions are a major source of injury-related morbidity and mortality in Kentucky, so CIPP focuses heavily on activities designed to promote traffic safety and motor vehicle injury preventions, such as seat belts, safer driving, and the use of child safety restraints. CIPP staff members work with other state agencies, such as the Governor's Office of Highway Safety and the Transportation Cabinet's Division of Driver Safety, as well as local governments and organizations. The program conducts traffic safety training for public safety personnel, and also holding Child Passenger Safety Technician and Educator training and certification courses. Program staff members also work directly with motorists through community safety fairs and other public health events.

CIPP personnel also provide training and public education in other safety topics such as fall prevention, water safety and drowning prevention, all-terrain vehicle (ATV) safety, and other unintentional injuries. These issues often involve other KIPRC projects and programs, so CIPP often coordinates activities with other KIPRC teams as well as with external organizations. This flexibility, along with a broad mandate to help improve the safety of Kentucky's communities, allows CIPP to address emerging injury issues as they are identified.



Integrated Core Injury Prevention and Control Project (ICIPC)

Description

The State Injury Prevention Program (SIPP), housed at the Kentucky Injury Prevention and Research Center in the University of Kentucky College of Public Health, is the designated focal point for injury prevention and control (IPC) activities within the Kentucky Cabinet for Health and Family Services. The 5-year vision for Kentucky's ICIPC project is to develop SIPP into a sustainably funded program capable of serving the needs of existing statewide safety and injury prevention initiatives, and taking a lead role in high-priority areas of need that are not adequately addressed by existing programs.

At the heart of this project is the creation of a diverse group of public and private sector IPC stakeholders under the working name Kentucky Injury Community Planning Group (ICPG). An estimated 30 members represent interests related to both intentional and unintentional injury. The ICPG and project staff will:

- Develop an inventory of injury prevention data sources, programs, projects, and resources.
- Develop, implement, promote, and monitor a state plan for injury prevention and control.
- Advocate and market for sustainable resources for injury prevention and control through a series of annual meetings with high-level IP stakeholders.

Concurrently with the ICPG activities, ICIPC project staff are developing and implementing an information system to track injuries using existing state data sources, and creating an IPC resource clearinghouse. The underlying purpose connecting all of these diverse activities is to facilitate coordination of IPC programs and resources, and to foster collaboration where appropriate. We expect to complete the state injury plan in 2007 and begin the implementation phase soon thereafter.

We welcome your input about this project. Questions and comments may be directed to Michael Singleton at msingle@email.uky.edu, or (859) 257-5809. At some point in the near future, we will have a web page at www.kiprc.uky.edu/projects/icipc



Kentucky Violent Death Reporting System (KVDRS)

The Centers for Disease Control and Prevention (CDC) recognized violence as a nationwide health problem that results in over 50,000 homicides and suicides each year. In order to better understand why violent deaths occur, the CDC developed the National Violent Death Reporting System (NVDRS), a nationwide, state-based surveillance system designed to track trends and characteristics of violent deaths with the goal of reducing these deaths. All participating states are required to collect information from a violent death incident from the investigating agencies: police, coroners, medical examiners, and forensic crime laboratory and toxicology personnel.

In anticipation of becoming a part of the CDC's NVDRS, and with the financial support of the Kentucky Department for Public Health, a statewide Violent Death Reporting System for Kentucky was initiated in January 2002. Kentucky joined the NVDRS September 1, 2005 as one of 17 funded states.

In Kentucky, information related to homicides, suicides, and firearm-related death have, in the past, remained inaccessible, sketchy, scattered, and unusable. The coroner system is not centralized, and while police and forensic laboratory data are centralized and available, they have not been collected for violent death research purposes. By integrating multiple data sources to form a violent death surveillance system formerly disparate pieces of information can be compiled and analyzed. Preliminary violent death counts for 2005 are presented in table one.

To improve coroner reporting *The Coroner Investigation Reporting System* has been designed, developed, and distributed to almost 62% of county coroners. This system is the first step in centralizing coroner investigation reports in the Commonwealth for the benefit of not only the KVDRS, but of many other research activities.

Combining previously fragmented investigative pieces into the KVDRS gives a more complete account of violent death in Kentucky that is critical for surveillance and injury/death prevention efforts.

Table 1. 2005 Preliminary Violent Death Count from Death Certificates

Violent Death Category	<u>Count</u>	Percentage
Suicides	530	67%
Homicides	188	24%
Unintentional Firearm	17	2%
Legal Intervention	3	<1%
Undeterm., Not Classifiable	45	6%
Pending Investigation	2	<1%







Injury Free Coalition for Kids

Injury is the number one cause of death and a major cause of disability for children in Fayette County, as it is in the rest of the nation. The Injury Free Coalition for Kids (IFCK) is a national program funded by the Robert Wood Johnson Foundation to reduce pediatric injuries replicating the successful Harlem Hospital Injury Prevention Program model. IFCK links local trauma and fatality data with community input to develop local injury prevention strategies. Thanks to strong support from an unprecedented coalition of physicians and nurses, trauma registrars, hospital administrators, community agencies, health department and social services providers, in 2003 Lexington was awarded an Injury Free Coalition for Kids grant, and Kentucky Children's Hospital became one of the 40 major children's hospitals around the country so designated. Based at KIPRC, the project has received \$50,000 per year as injury prevention seed money, and will be reapplying for continuing funds in 2006.

Trauma and injury fatality data has been shared with community organizations and leaders, and is being used to guide prevention interventions targeting city areas, causes of injury and specific age groups. Our data reinforce that motor vehicle crashes, pedestrian injuries, falls and fire, child abuse, suicide (and ATVs in our extended catchment) are important injury areas, with pool drowning an emerging local issue. In collaboration with the Children's Hospital Public Affairs staff, Injury Free has worked extensively with the media to provide public education about all of these topics.

Since being designated an Injury Free site, we have been awarded two \$60,000 Allstate Foundation Little Hands playground grants. Our first playground, built with the Gainesway community, Fayette County Parks and Recreation, Bluegrass Recreational Products (Little Tikes- BRP) and other partners was completed in July of 2004. Parks and Rec, BRP and the Joyland Neighborhood Association are working with us on our second playground, to be built in Mary Todd Park on September 9, 2006.

Since its inception, Injury Free in Lexington has had strong links with child care providers and school-based Family Resource Centers, with the foster-care system and with systems and people who provide care for children with special needs. Injury Free was a partner in the first-ever UK campus wide meeting of people working on all aspects of child abuse prevention, recognition and care (to identify strengths and gaps) and continues to be an active part of the Kentucky Children's Hospital Child Protection Team.

In May 2005, Injury Free/Ky State SAFE KIDS Coalition were awarded a \$25,000 one year fire grant from SAFE KIDS International/US Fire Administration for a Fayette County home safety inspection/smoke detector installation/exit plan program focused on African American and Hispanic families (based on mortality data). Injury Free has started a city-wide jump-rope project and has also been working with a new group of partners interested in obesity and nutrition.



Pediatric and Adolescent Injury Prevention Program

linjury is the number one cause of death and disability for all children and adolescents above the age of one year.

- · A 12-year-old boy dies at the second-floor window in a fire.
- · A 6-week-old baby girl dies of head injury and many broken bones from child abuse.
- A 17-year-old boy dies in a motor vehicle crash on a rainy rural road just five days after getting his license.
- A 2-year-old not buckled up in a car seat is permanently paralyzed from the neck down in a motor vehicle crash.
- A 4-year-old passenger on an ATV suffers a severe head injury from which he will never fully recover.

These types of injuries can be prevented if we have the will to make it happen. The Pediatric and Adolescent Injury Prevention Program (PAIPP) at KIPRC has as its goal to reduce those injuries and deaths.

Effective injury prevention must be based on good data. Funded by a combination of state and federal Title V Injury Prevention money, PAIPP shares with the Kentucky State Department for Public Health, Division of Adult and Child Health, the responsibility for decreasing child injury in Kentucky. Support for county health departments in their local injury prevention efforts is provided through consultation and through the provision of a small number of child safety seats and booster seats. Professional education about the patterns of injury and potential preventive strategies is provided to health professionals, child-care providers and interested community leaders. PAIPP participates in the professional training and public education work of the state Child Fatality Review Team and also support the efforts of local multidisciplinary, multi-agency child fatality review teams which investigate individual child death cases and identify the cause of death and potential preventable factors. PAIPP also continues to work to translate what is known about teen graduated drivers licensing (GDL) into better practices in Kentucky.



Kentucky State SAFE KIDS Coalition

SAFE KIDS Worldwide is a global network of organizations whose mission is to prevent unintentional injury death among children ages 14 and under. Injury is the leading cause of death for children above age one in the United States. Through SAFE KIDS, community partners come together to address injury from causes such as motor vehicle crashes, bicycle wrecks, pedestrian injuries, fire and burns, drowning, unintentional firearm events, playground and home falls. Kentucky has four full SAFE KIDS Coalitions (Barren County, Fayette County, Louisville/Jefferson County and River Cities- Ashland) each of which reports directly to SAFE KIDS USA in Washington DC. With the support of the Ky Department for Public Health, Division of Adult and Child Health (ACH) as lead agency, a fifth Coalition (Kentucky State SAFE KIDS) brings together the other 4 Coalitions around statewide issues and also serves as the umbrella for a number of local chapters, many of which are based at local heath departments. As part of its injury prevention contract with ACH, the Pediatric and Adolescent Injury Prevention Program at KIPRC provides leadership for the state SAFE KIDS coalition.

SAFE KIDS members from all Kentucky Coalitions have long played a major role in the creation of child passenger safety (CPS) programs across the state through provision of the national training/certification of CPS technicians. SAFE KIDS helped provide the impetus for introduction of the first booster seat bill in the 2001-2 state legislative session. In 2002 Kentucky State SAFE KIDS Coalition was awarded a SAFE KIDS CPS legislative grant; working collaboratively with other Kentucky coalitions led to funding of all three applicants, and this competitive grant has been awarded to us each year since. For the past three years SAFE KIDS has worked with the Governor's Press Office to hold a February press conference/proclamation signing for Ky Child Passenger Safety Week. SAFE KIDS has continued to work each year to educate the public and legislators about the important place that boosters, primary seat belt laws and teen graduated drivers licensing (GDL) have in preventing child injury.

Fire is another important cause of child death in Kentucky. In 2005 Kentucky SAFE KIDS was awarded two \$25,000 SAFE KIDS/US Fire Administration grants. One went to Barren/Metcalfe/Monroe counties based on high wood-stove-related fire deaths. The other, in partnership with the Injury Free Coalition for Kids of Lexington, went to Fayette County based on high rates of fire death in the African American population and high fire risk (housing) among the Hispanic population.

In November 2002, a very successful state SAFE KIDS Coalition Conference was held in Lexington. A smaller Annual Retreat was held in October 2003 and included a session led by legislators that was devoted to enhancing legislative skills. The state Coalition was also honored by an invitation to participate in a panel presentation on SAFE KIDS and Child Fatality Review at the 2003 National Safe Kids meeting. During 2005-6, the state Coalition has been meeting by teleconferencing based at several sites across the state, which has greatly enhanced the ability of distant and rural sites to participate regularly in the meetings.





Kentucky Occupational Safety and Health Surveillance (KOSHS) Program

Kentucky's work-related hospitalization rate was 32% higher than the national rate in the year 2000 and was most frequently due to falls and motor vehicle collisions. In 2002, Kentucky had the 3rd highest coal workers' pneumoconiosis mortality rate, the 7th highest incidence rate for occupational poisonings, and the 10th highest musculoskeletal disease case rate in the nation.

Kentucky was one of thirteen states funded by NIOSH/CDC in 2005 to conduct surveillance of 19 occupational injury and illness indicators and one Kentucky-specific indicator. Another main objective of the grant is to establish a statewide consortium that will develop occupational injury and illness priorities for prevention at the local, state, and national levels.

The occupational injury and illness indicators to be examined and compared to the other 12 funded states are: occupational burn hospitalizations, nonfatal and fatal work-related injuries, work-related hospitalizations, work-related amputations, work-related musculoskeletal disorders, carpal tunnel syndrome cases, occupational motor vehicle collisions, pneumoconiosis hospitalizations and mortality, pesticide-associated illnesses and injuries, malignant mesothelioma, and elevated blood lead levels.

While definite strides have been made regarding worker injuries and illnesses, critical target areas need to be addressed. Industrial, trade organization, government, and local partnerships in the consortium are needed to form cohesive injury and illness prevention strategies and to identify research opportunities in order to reduce the burden of occupational injuries and illnesses in Kentucky.

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