“We are very honored and excited to receive this generous funding from the CDC,” Jeff Coben, M.D., WVU ICRC Director, said. “The level of competition for these awards was very high and we are deeply appreciative of the many partners and collaborators who participated in our application.”

The WVU ICRC was cited by CDC reviewers and officials both for its exceptional contribution to the advancement of injury prevention during the past five-year funding period and for its innovative proposal for 2012 and beyond.

The funding period for the grant extends from August 1, 2012 through July 31, 2017.

Contents of this issue:
- Suicide overtakes motor vehicle crashes as leading cause of injury mortality ........................................ 2
- Prescription drug abuse among college students.....4
- Intimate partner violence at work..............................5
- Partner spotlight: the West Virginia Violence and Injury Prevention Program ........................... 6
- Education/Training Notes/Outreach Notes ............7
- ICRC News/Announcements ....................................9
- Recent ICRC Faculty Articles ................................10
New ICRC Research…

Suicide Overtakes Motor Vehicle Crashes as Leading Cause of Injury Mortality in the U.S.

When Dr. Ian Rockett and his colleagues set out to examine trends in the leading causes of injury mortality for the first decade of the 21st century, he did not suspect that 2009 would represent an historic change. In 2009, deaths by suicide exceeded deaths by motor vehicle crash for the first time in the U.S. since the early 1920s, when automobiles first emerged as the leading cause of injury death.

In a recent article in the American Journal of Public Health, Dr. Rockett and his team studied the trends in the five leading external causes of injury mortality—three unintentional causes (motor vehicle traffic crashes, poisonings, and falls) and two intentional causes (suicide and homicide)—for the period 2000-2009. These five leading causes account for over 80% of all injury deaths in the U.S., according to the Centers for Disease Control and Prevention data from the WISQARS (Web-Based Injury Statistics Query and Reporting System). (http://www.cdc.gov/injury/wisqars/index.html)

“Suicide is now the leading cause of unintentional and violence-related injury mortality as a whole,” Dr. Rockett said. “Suicide only surpassed motor vehicle traffic crashes in the final year available for the study, 2009. The suicide mortality rate was 15 percent higher in 2009 than 2000.”

The study found that mortality rates for unintentional poisoning and unintentional falls also increased during the decade, by 128% and 71%, respectively. On the other hand, the unintentional motor vehicle traffic crash and homicide mortality rates declined by 25% and 8% respectively. Along with the emergence of suicide as the leading cause of injury mortality in 2009, the more than doubling of the unintentional poisoning mortality rate between 2000 and 2009 puts poisoning on a trajectory that could eclipse motor-vehicle traffic crashes should the current trends continue.

“Unintentional poisoning has risen to third among the leading causes of injury mortality, a change that appears mainly driven by the enormous increase in the rate of fatal overdoses from prescription painkillers,” Dr. Rockett said.

The rise of the fall mortality rate during the decade pushed it above the homicide rate. Falls now rank fourth as a cause of injury deaths and homicide fifth.

The decreasing trend of deaths from motor vehicle traffic crashes is a universal success story, according to Dr. Rockett. “Much time, attention and resources have been devoted to traffic safety,” he said. “Similar efforts will be needed for success in other spheres of injury prevention.”

The research team also reported that:

- The male injury mortality rate is more than twice as high as the female injury mortality rate, although the female rate increase was more than double that for males.
- The injury mortality rate for whites was 20 percent higher in 2009 than in 2000, but 11 percent lower for both African-Americans and Hispanics.
- Persons who are 15 to 24 years olds appear to no longer be at excess risk for injury death.

Dr. Rockett’s collaborators on this study included WVU ICRC affiliate faculty members Michael Regier, Nestor Kapusta, Jeffrey Coben, and Ted Miller.

Dr. Rockett recently returned from presenting his findings at the Safety 2012 World Conference in Wellington, New Zealand.
Figure. Rates for leading causes of total unintentional and intentional injury mortality: United States, 2000-2009. (Source: CDC WISQARS)


Perspective: The emergence of automobile crashes as the leading cause of injury mortality in the U.S.

The injury mortality rate for automobile crashes first exceeded the rates for all other significant causes of injury mortality—including falls, suicides, and homicides—in 1922, according to historical vital statistics data from the U.S. Public Health Service (now archived online by the CDC National Center for Health Statistics).* From 1922 until 2008, automobile crashes (or motor-vehicle crashes in contemporary terminology) annually resulted in more deaths and higher mortality rates than any other cause of injury mortality in the U.S. The first deaths from automobile crashes were reported in 1906, and deaths from falls were first separated from traumatic events in general in 1910. In earlier years of the 20th century, although mortality data were compiled and reported, vital statistics registries were severely incomplete. By the 1920s, over 80% of the estimated population of the U.S. was included in the registry.

New ICRC Research...

Non-medical prescription drug use associated with depression and suicidality among college students

College students who report symptoms of depression or exhibit behavior that indicates the likelihood of committing suicide are at greater risk for non-medical use of prescription drugs, including painkillers, stimulants, sedatives, and antidepressants, according to a recent study led by WVU researcher Keith Zullig, Ph.D.

The highest correlation between feeling depressed or suicidal and non-medical use of prescription drugs occurred among female college students using prescription painkillers. In male students, those who had ever considered suicide were also more likely to use painkillers. In fact, opioid painkillers were strongly associated with depressive symptoms such as hopelessness, sadness, and depression, and represented the only class of prescription drugs studied which were associated with elevated risk for thoughts of suicide as well as actual suicide attempts in both male and female college students.

Previous research has shown that college students face higher risks of both psychological stress and non-medical use of prescription drugs. Personal traits and characteristics of the college years as a transitional period of life, have been implicated in both non-medical prescription drug use and psychological distress.

For example, college students typically undergo social and academic pressures, emotional stress, hormonal fluctuations, and separation from family and friends. At the same time, they not only find prescription drugs and alcohol more accessible, and encounter more opportunities for alcohol and drug use, but they may perceive drug and alcohol use as more acceptable and normal among their peers.

College students typically get prescription drugs through friends and family, Dr. Zullig pointed out. “People in general don't see the harm in sharing prescriptions because these medicines are tested by the Food and Drug Administration and prescribed by a medical doctor.”

Other findings specific to the types of prescription drugs used non-medically by college students included:

- Males who reported feeling sad, and females who reported feeling so depressed that it was difficult to function were significantly more likely to report use of prescription stimulants (which increase dopamine levels in the brain which can produce euphoria, or improved alertness, focus and concentration).

- Females who reported feeling sad or depressed were also significantly more likely to report use of prescription sedatives (which decrease brain or central nervous system activity to produce a drowsy or calming effect).

(See NMPD & College Students on page 8)
According to NIOSH epidemiologist Dr. Hope Tiesman, over one-third of all women in the United States experience rape, physical violence, or stalking by an intimate partner at some time during their lives. The term “intimate partner violence” (IPV) describes physical, sexual, or psychological harm that results from an intentional assault by a current or former intimate partner or spouse. Although IPV can occur in many settings, a recent study by Dr. Tiesman and her NIOSH and WVU ICRC colleagues revealed that it represents a substantial proportion of violence experienced by women while in the workplace.

Dr. Tiesman first became interested in IPV within the workplace while studying homicides among female police officers. As she read narrative incident reports of these homicides, she was astonished to learn that many of the perpetrators were current or former intimate partners or spouses of the women who were killed. Since that revelation, Dr. Tiesman's research has shown that approximately 33% of women killed in workplaces in the U.S. were victims of assaults by individuals that they knew personally, and that most of the killers were intimate partners. In fact, in her article published this year in the journal *Annals of Epidemiology*—entitled “Workplace homicides among U.S. women: the role of intimate partner violence”—she reported that IPV resulted in 142 homicides among women at work in the U.S. from 2003 to 2008, which accounted for 22 percent of the 648 workplace homicides among women during the period.

Workplace violence (WPV) includes many types of events and perpetrators in addition to incidents of IPV. For example, the largest proportion of WPV incidents is termed ‘criminal intent’ and is most commonly associated with robberies. Other categories of WPV include events where the perpetrators are either customers or clients of the business, or current or former co-workers of the victim. Homicide is now the third leading cause of occupational injury death, behind motor-vehicle crashes and falls. However, despite a slight overall reduction in workplace homicides in recent years, those homicides in which women were victims increased by 13% in 2011.

Workplace violence occurs across almost all sectors and settings; however, common workplaces in which IPV occurs include retail, restaurants/cafes, convenience stores, hotels/motels, commercial stores, and particularly parking lots/garages. Most workplaces, excluding federal agencies, are readily available and open to the public, making them accessible sites for violent assaults. Reasons why perpetrators assaulted their victims in the workplace rather than other locations were not examined in this investigation. However, Dr. Tiesman has some ideas why.

“It is my suspicion that women who are assaulted at their workplace are likely no longer in the relationship or living with the perpetrator,” she suggested, “which makes the workplace an easily accessible location for the perpetrator. Most women cannot afford to quit their jobs or transfer jobs as a way of ‘hiding’ from their perpetrator.”

Risk factors associated with work-related IPV include occupation, time of day, and location. The current study found that women in protective-service occupations had the highest rates of WPV; however, women in healthcare, production, and office administration suffered the highest proportion of IPV homicides. Findings also indicate that homicides involving personal relations primarily occurred during daylight (business) hours.

While Dr. Tiesman believes that working alone may put a woman at risk for workplace homicide, she admits that the current data are somewhat contradictory.

“Most homicides where a woman was working alone, are difficult to categorize regarding perpetrator status due to limited information found in the narrative text,” she stated. “In cases like this, we often have no idea who committed the homicide—while it could have been a robbery gone wrong, it also could have been an intimate partner.”

(See IPV in the Workplace on page 8)
West Virginia Violence and Injury Prevention Program (WV VIPP)

Compared to the U.S. at large, West Virginia has higher-than-average rates of fatal and non-fatal injury for most injury types, including injuries and deaths resulting from motor vehicle crashes, falls among the elderly, unintentional poisonings (largely from prescription drug abuse), and suicides. To address these problems, the WV Department of Health and Human Resources (DHHR) reorganized its injury prevention efforts in September 2010 as the WV Violence and Injury Prevention Program (WV VIPP) within the Office of Maternal, Child and Family Health.

Michelle O’Bryan, who was hired as the Director of WV VIPP, began at once to employ a systematic approach to program development. Among her first moves were to: 1) apply to the Safe States Alliance for a State Technical Assessment Team (STAT) to visit Charleston to help her gauge the capacity and status of the WV Program, and 2) commission a statistical summary of injuries and injury deaths that have occurred in West Virginia over the past decade to help the Program establish injury prevention priorities.

The STAT visit. According to the Safe States Website (http://safestates.org/displaycommon.cfm?an=1&subarticlenbr=7) “…the State Technical Assessment Team (STAT) program is designed to assess injury prevention within the state health agency, focusing on specific roles, relationships, and performance of the designated injury prevention program. The goal of the STAT Program is to support the development, implementation and evaluation of injury prevention efforts at the state health department level by conducting an on-site, point-in-time assessment of the injury prevention program, and providing recommendations for improvement.”

O’Bryan’s application to Safe States was approved. A Safe States STAT team visited the Program in July 2011, completed an assessment, and furnished WV VIPP with an assessment report with recommendations. Since receiving the report, WV VIPP has begun to address the recommendations, particularly those recommending continued and expanded collaborations with WVU ICRC.

The Statistical Summary. O’Bryan asked the WVU Injury Control Research Center to identify relevant data sources, analyze that data, and present the results in a report that could be used to guide Program planning for the next 3-to-5 years. The resulting Burden of Injury in West Virginia report will be released next month (November 2012) at an upcoming state-wide conference, and widely disseminated to injury prevention stakeholders in the state and region.

That conference—the Join Forces: Enhance Prevention Conference (scheduled for November 8 and 9, 2012 in Charleston, WV) has been designed to bring together a diverse array of individuals and organizations with injury prevention missions or interests from across the state to be the first recipients of the Burden of Injury in West Virginia report, to hear expert violence and injury prevention speakers (some from other state VIPP’s), and to begin to deliberate about what will need to be done to enhance current efforts and develop new initiatives to address the problems highlighted in the report. The Conference is being organized to serve a dual purpose: Day 1 will provide a media event, as WV VIPP and Dr. Jeff Coben of ICRC will unveil the report (with Dr. Coben speaking). Breakout sessions (Day 2)
ICRC Education/Training and Outreach Notes

ICRC Education and Training Notes....

The ICRC Education and Training Core (ETC) is currently developing a new Graduate Seminar in Injury Prevention and Control that will be launched in the Spring semester of 2013. This course will be offered once per week during the academic semester, concentrating on several different injury topics throughout the term. The course will feature a series of three-week modules, each addressing a different injury topic. Two of the three sessions will be lectures—one by a researcher and one by a practitioner from our regional community. Both speakers will return the third week for a roundtable discussion with the students of the benefits and the challenges of the marriage between research and practice. The ETC is exploring ways to provide remote access allowing for community partners and public health practitioners to participate from off-site.

In addition, the ETC is currently preparing proposals for an Area of Emphasis and a Certificate in Injury Prevention and Control. We are also in the process of redesigning the education pages of the WVU ICRC website, working to make the site more useful to students.

ICRC Outreach Notes....

A key goal of the ICRC Outreach Core is to “establish and maintain effective, sustainable partnerships with government agencies and legislatures, institutions, businesses, community groups, and other non-governmental bodies located within West Virginia and the surrounding Appalachian region to promote injury prevention and control.” The July 31, 2012 meeting with West Virginia Violence and Injury Prevention Program (VIPP) leaders reported in the article on page 6 was followed in September by a meeting with Carol Thornton, director of the Pennsylvania VIPP, and the PA Injury Community Planning Group (ICPG), which serves as an advisory group for the PA program.

Over the coming months, WVU ICRC plans to meet with VIPP leaders from other Appalachian states.

Please visit the ICRC Website at: www.hsc.wvu.edu/icrc

Follow ICRC activities via social media:
NMPD & College Students (continued from page 4)

- Males and females who reported feeling depressed also reported significantly higher use of antidepres-
sants (not surprising since antidepressants can in-
crease sociability, extraversion, and gregariousness, and reduce anger, aggression, and other negative
effects).

“As our study demonstrates, the use of prescription
drugs like OxyContin is related to suicidal thoughts and behaviors, and it’s important for a doctor to moni-
tor usage.” Dr. Zullig emphasized. “We have to en-
courage more mental health outreach, particularly on
college campuses where prescription drug sharing is
common and mental health issues are known to mani-
fest and occur.”

Dr. Zullig, Associate Professor in the WVU School of
Public Health and affiliate faculty member of the WVU
ICRC, teamed up with colleague Amanda Divin, Ph.D.,
at Western Illinois University for this research.

Zullig KJ, Divin AL. The association between non-medical pre-
scription drug use, depressive symptoms, and suicidality among

IPV in the Workplace (continued from page 5)

Other study findings include:

- More U.S. women died on the job as the result of
IPV than at the hands of a client—such as a student,
patient or prisoner—or of a current or former co-
worker.

- Workplace homicide rates among women were
significantly higher in private workplaces than in
federal, state or local government workplaces.

- Firearms, knives, and other sharp objects were the
top items used in workplace homicides against
women.

Approximately 66% of the U.S. population reportedly
participated in the civilian labor force as of June 2009.
Many public health advocates suggest that workplaces
present a significant opportunity to reduce threats to
worker safety, and prevent serious injuries or deaths.
However, while prevention efforts addressing work-
place violence are plentiful, those addressing IPV are
not. For one reason, very few U.S. employers consider
domestic violence a part of WPV prevention in their
companies.

Another barrier to prevention of intimate partner
violence in the workplace is the reluctance of women to
report these events of violence, including harassment
and stalking. Women may be afraid to report due to
fear of being further assaulted by their partners, being
judged by others including supervisors and co-workers,
and losing their jobs or opportunities for advancement.

“The fact is that IPV severely affects the woman and the
workplace. Victims of IPV are affected physically and
psychologically, which can reduce their work produc-
tivity, days away from work, and overall safety of the
workplace itself,” Dr. Tiesman stated.

One way in which prevention is addressed in work-
places currently involves Employee Assistant Programs
(EAPs). EAPs assist employees and their families, in
a confidential manner, with a variety of problems that
may negatively affect their job performance.

Other approaches that have been recommended to
address workplace IPV include: educate workers and
raise their awareness of IPV, improve screening for IPV,
and facilitate connections between those impacted by
IPV and local services.

To facilitate intervention programs for IPV, screening is
an important first step to preventing IPV events be-
fore they happen. Screening for IPV in the workplace
presents another challenge, though, because many
employers do not feel

obligated to cross into
employees’ personal
lives; however, employ-
ers often do not realize
that IPV can affect the
worker outside and
inside the workplace.

“Screening for IPV is
the first step. But, re-
porting IPV to a health
care professional is dif-
ficult enough, let alone
to a supervisor. How-
ever, developing train-
ing for supervisors,
and other workplace
resources to screen for
IPV may decrease the
rate of workplace ho-
micides related to IPV,”
Dr. Tiesman suggests.

Tiesman HM, Gurka KK, Konda S, Coben JH, Amandus HE.
Workplace Homicides Among U.S. Women: The Role of Intimate
ICRC News/Announcements

Mike Furbee to retire
With many thanks and great respect, WVU ICRC will soon say goodbye to Paul “Mike” Furbee, who will retire on November 15, 2012 after 19 years with ICRC and its predecessor the Center for Rural Emergency Medicine (CREM). Mike was hired as a Research Coordinator in 1993 with CREM. His substantial contributions to CREM’s ground-breaking research and outreach efforts helped to facilitate the Center’s evolution into a CDC-funded Injury Control Research Center—1 of only 11 such Centers nationwide. Since that transition in 2004, Mike has served as ICRC’s Research Data Manager, providing superb support with database management, data analysis, technical assistance, and information technology, to name but a few of his responsibilities. Most recently, Mike contributed substantially to the forthcoming Burden of Injury in West Virginia report.

His retirement is well deserved and we wish him the very best!

Dr. Taura Barr receives Robert Wood Johnson Foundation (RWJF) award
Dr. Taura Barr, assistant professor in the WVU School of Nursing and affiliate faculty member of WVU ICRC, has been awarded a three-year, $350,000 award from the RWJF Nurse Faculty Scholars program to promote her academic career and support her research. Dr. Barr is one of 12 nursing educators nationally to receive this recognition and support.

“As a nurse researcher, I seek to understand the integrated responses of biological and psychological systems within the context of the environment to change the way human brain injuries are studied and ultimately treated,” Barr said.

For more detail, view the WVU Health Sciences Center press release.

WVU research team receives NIH grant
WVU researcher Dr. George Kelley, a biostatistics professor in the WVU School of Public Health and affiliate faculty member of WVU ICRC, recently received a $399,600 grant from the National Institutes of Health to study the effects of exercise on depression in adults with arthritis. The research team includes co-investigator Jennifer Hootman, Ph.D., of the Centers for Disease Control and Prevention in Atlanta, and research technician Kristi Kelley, also from the WVU School of Public Health.

The research is intended to determine the overall effects of community-deliverable exercise on symptoms of depression in adults with osteoarthritis, rheumatoid arthritis and fibromyalgia, and provide evidence-based recommendations.

For more detail, view the WVU Health Sciences Center press release.
Recent ICRC Faculty Articles...


20. Helmkamp JC, Aitken ME, Graham J, Campbell CR. State-Specific ATV-Related Fatality Rates: An
Recent ICRC Faculty Articles... (continued)


39. Runyan CW, Lewko J, Rauscher K. Setting an Agenda for Advancing Young Worker Safety in
Recent ICRC Faculty Articles… (continued)


See more WVU ICRC faculty publications at:

[http://www.hsc.wvu.edu/icrc/Pages/Publications](http://www.hsc.wvu.edu/icrc/Pages/Publications)
**WV VIPP (continued from page 6)**

will be conducted to address high priority topics, such as suicide, violence (general, youth, domestic, sexual), motor vehicle injuries/deaths, prescription drug overdoses, and falls. Invited expert speakers from national and state programs will discuss their approaches to specific injury problems and coalition building.

A group of distinguished, nationally recognized speakers has been lined up for the conference, including Andrea Gielen, Director of the Center for Injury Research and Policy at Johns Hopkins University; James Allan Fox, the Lipman Family Professor of Criminology, Law, and Public Policy at Northeastern University in Boston; and Capt. Rod Reder (Retired), Vice President of the National Institute of Crime Prevention.

“We are inviting people from all over the state, and from many fields and disciplines, to join a collaborative effort to better understand and deal with our injury problems,” O’Bryan added. “Injuries are the leading cause of death in our citizens under the age of 45, and represent a huge human tragedy, as well as a significant economic burden.”

O’Bryan is hoping that an Injury Prevention Coalition for West Virginia will emerge from the attendees at the Conference, and continue to meet periodically to help the WV VIPP guide injury prevention planning for West Virginia.

(A link to the Conference Website is provided following this article.)

Going beyond the development of the *Burden of Injury* report, a mutually-beneficial partnership is evolving between WV VIPP and WVU ICRC, two organizations with complementary missions. On July 31, Dr. Jeff Coben, ICRC Director, and Herb Linn, Assistant Director for Outreach, visited the WV VIPP in Charleston to discuss further collaborative injury prevention efforts, as well as opportunities for the Center to provide additional support, technical assistance, students for internships, and staff education opportunities.

“The WVU Injury Control Research Center is committed to supporting and assisting the WV VIPP,” said Dr. Coben, “particularly by providing relevant data; research; technical assistance in the public health disciplines and methods; and collaboration in planning, setting priorities, and helping develop, implement, and evaluate evidence-based injury prevention programs.”

“Although ICRC also has a significant injury prevention role in the wider Appalachian Region as well the whole nation,” he continued, “the partnership with West Virginia’s VIPP is and will remain a high priority.”

---

**SAVE THE DATE**

November 8-9, 2012

**THE JOIN FORCES: ENHANCE PREVENTION CONFERENCE**

The *Join Forces: Enhance Prevention Conference* will be held at the in Charleston, West Virginia on November 8 and 9, 2012. For details, including registration information, a full agenda, and Plenary speaker bios, visit the Website at: [http://www.wv.gov/vipconference/Pages/default.aspx](http://www.wv.gov/vipconference/Pages/default.aspx).