Injury Epidemiology
Injury Information for Colorado

Colorado Department of
Public Health and Environment

Injury Epidemiology Brief

Guide to Injury Data in Colorado

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Injuries are a major contributor to death and disability in the United States. In Colorado, injuries are the third leading cause of death, and each year more than 29,000 Coloradans are hospitalized for injuries. One of the first steps in preventing injuries is to collect and analyze data to help define the problem and to identify possible risk factors in various populations. Several different data sets for *injury surveillance* exist. These data sets are developed and maintained by different entities including federal, state and local agencies.

Sources of Injury Data from the Colorado Department of Public Health and Environment

The Colorado Department of Public Health and Environment (the department) gathers data on injury hospitalizations and deaths and on behavioral *risk factors* from several different sources. In June 2005, the department published the second edition of *Injury in Colorado,* a report that provides data tables and descriptive chapters about the leading causes of injury deaths and hospitalizations in Colorado. The report provides information on *risk factors,* the circumstances under which these injuries occur, and the population segments and geographic regions of the state that are particularly at risk. Additionally, suggestions on potential individual, family and community injury prevention strategies are provided. The report is available online at www.cdphe.state.co.us/pp/injepi/InjuryinColorado/injuryincolorado.html. For print copies of the report, contact the Injury Epidemiology Program at 303-692-3005 or injury.epi@state.co.us.

Mortality Records (Death Certificates)
The Health Statistics Section at the department compiles data from death certificates. Because all deaths are included, the data are *population-based* and allow for computation of *rates*. To ensure confidentiality, the actual number and rate of deaths can be published only for categories in which three or more deaths occur. Details are available on some *risk factors* for injury. **How to access:** Summary data from death certificates are available online through the Colorado Health Information Dataset (CoHID). For more detailed information on injury deaths, contact the Injury Epidemiology Program at 303-692-3005 or injury.epi@state.co.us. For data on other types of deaths, contact the Health Statistics Section at 303-692-2160 or health.statistics@state.co.us, or visit www.cdphe.state.co.us/hs.

Colorado Health Information Dataset (CoHID)
The Colorado Health Information Dataset is an interactive Web-based data system that provides health and *demographic* data from a variety of data sets. Available data sets include births, deaths, population, injury hospitalizations, birth defects, cancer incidence, behavioral risk factor statistics, Colorado Pregnancy Risk Assessment Monitoring System, and tobacco attitudes and behaviors survey. The data sets are *queriable*. The system was created through a combined effort of local and state public health agencies and resides within the department's Center for Health and Environmental Information and Statistics.
How to access: Data are available online at www.cdphe.state.co.us/cohid/. A fact sheet with background information on how to use system is available at http://www.cdphe.state.co.us/hs/briefs/cohidHW2003.pdf

Hospital Discharge Data
The Colorado Health and Hospital Association collects data on patients who are discharged from acute care hospitals in Colorado. The data are obtained from hospital billing forms and are *population-based*. Emergency department visits are not included. Details on some *risk factors* for injury are available. **How to access:** Data on injury hospitalizations by county of residence are available online through the Colorado Health Information Dataset (CoHID). For more detailed information on injury hospitalizations, contact the Injury Epidemiology Program at 303-692-3005 or injury.epi@state.co.us.

The words in *italics* are defined in the Glossary on page four.

Trauma Registry Data

The Injury Epidemiology Program receives case abstract data from trauma nurse coordinators and registrars at all Level I, II and III *trauma centers* in the state. These facilities represent 42 percent of Colorado acute care hospitals and provide care to more than 65 percent of the trauma patients hospitalized in Colorado. This data source provides some *risk factor* details such as helmet and seatbelt use. The data are not *population-based*, so *rates* are not available. **How to access:** For data requests, contact the Injury Epidemiology Program at 303-692-3005 or injury.epi@state.co.us.

Colorado Violent Death Reporting System

The Colorado Violent Death Reporting System collects information on violent deaths (homicide, suicide, deaths of undetermined intent and unintentional firearm-related deaths) from several sources including death certificates, coroner/medical examiner reports, law enforcement investigations, crime lab information, the Supplemental Homicide Report and firearm trace data. Data from each source are linked together to provide a more complete picture of a violent death incident. **How to access:** For data requests, contact the Injury Epidemiology Program at 303-692-3005 or injury.epi@state.co.us.

Traumatic Brain Injury Data

Since 1991, the department's Traumatic Brain Injury Surveillance System has collected information on individuals who have been hospitalized or have died with a traumatic brain injury. This statewide, *population-based* dataset provides information on the incidence of traumatic brain injury, common causes, risk factors and the groups at greatest risk. **How to access:** The Colorado Health Information Dataset (CoHID) for injury statistics includes the number and percent of injury hospitalizations that include a diagnosis of traumatic brain injury. For more specific data requests, contact the Traumatic Brain Injury Surveillance System coordinator at 303-692-3003.

Child Death Review Data

Since 1989, the Colorado Child Fatality Prevention System has reviewed the circumstances of death for all children ages 0-17 who die in Colorado. Various data sources is used in the review. **How to access:** Reports are available at www.cdphe.state.co.us/pp/cfrc/. For data requests, contact the Child Fatality Prevention System review committee coordinator at 303-692-2573 or cfr.committee@state.co.us.

Emergency Medical Services Data

The Emergency Medical and Trauma Services Section at the department is developing a Web-based system to collect ambulance trip report information, including data on injuries. The system will allow individual prehospital agencies to examine their own data, as well as provide state or regional reports. **How to access:** For more information on the state Emergency Medical Services Data System, see www.cdphe.state.co.us/em/emtsdata/ or contact the data program manager at 303-692-3005.

Occupational Injury Deaths

The Census of Fatal Occupational Injuries database, from the Bureau of Labor Statistics, includes information on fatal occupational injuries. The department provides the Colorado data tables and reports online. Data tables are available by year from 1994. **How to access:** You can obtain data from the Census of Fatal Occupational Injuries online at www.cdphe.state.co.us/hs/cfoi/, or by calling 303-692-2173.

Maternal and Child Health County Data Sets

The Maternal and Child Health Unit at the department provides annual county data sets that include injury data on child motor vehicle deaths, teen suicides and homicides, and child injury hospitalizations. **How to access:** For more information, see www.cdphe.state.co.us/ps/mch/mchdatasets.html.

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Self-reported Health Behavior Surveys

The **Behavioral Risk Factor Surveillance System** is a national, ongoing telephone survey of non-institutionalized adults regarding their health *risk factors* and preventive health practices. Injury data include seatbelt and restraint use by children and adults, bicycle helmet use, falls, and smoke detector information. The system is *queriable* online, and Colorado information can be compared to other states and the United States. **How to access:** You can access the state and county data through the Colorado Health Information Dataset (CoHID), and data reports are available at www.cdphe.state.co.us/hs/brfss. State and U.S. prevalence data are available through www.cdc.gov/brfss.

In 2004, the department began collecting data on injuries and *risk factors*, as well as other topics, for Colorado children ages 1 through 14. For more information on the **Child Health Survey**, contact the Health Statistics Section at 303-692-2160 or health.statistics@state.co.us or view reports at www.cdphe.state.co.us/hs/yrbs/ChildHealth.html.

The **Youth Risk Behavior Survey** collects data from school-based surveys to monitor health *risk factors* for teens in grades 9-12. Injury-related topics include seat belt use, motorcycle and bicycle helmet use, suicides and suicide attempts, fights, weapon carrying, and drinking and driving. **How to access:** Data tables and reports are available from the department at www.cdphe.state.co.us/hs/yrbs/yrbs.html or from www.cdc.gov/HealthyYouth/yrbs/index.htm.

Additional Sources of Colorado Data

Web-based Injury Statistics Query and Reporting System (WISQARS)
The Centers for Disease Control and Prevention (CDC) maintains WISQARS, a *queriable* data system that provides data on fatal and nonfatal injury, the leading causes of death, and Years of Potential Life Lost. Data on injury deaths are *population-based*. Colorado *rates* can be compared to those of other states, regions and the United States. **How to access:** You can access these data online at www.cdc.gov/ncipc/wisqars.

Fatality Analysis Reporting System (FARS)
The National Highway Traffic Safety Administration maintains the FARS, which provides data on motor vehicle crashes that occur on public roads and result in the death of at least one vehicle occupant or nonmotorist within 30 days of the crash. This *queriable* database provides detailed information on the people, vehicles and circumstances of the crash, as well as many *risk factors*. Data are available at the county level. *Rates* can be determined by using population data from other state and federal sources. **How to access:** You can access these data online at www-fars.nhtsa.dot.gov

The **Colorado State Patrol** has motor vehicle crash and fatality information at www.csp.state.co.us.

The **Colorado Department of Transportation** has data on their traffic safety campaigns and other traffic safety statistics at www.dot.state.co.us/TrafficSafety

Colorado Department of Local Affairs
The Colorado Department of Local Affairs maintains state data including census, population, *demographic* and economic data. The data are generally available at county levels, with some data available at the city level. **How to access:** You can obtain these data online at www.dola.colorado.gov/dlg/demog/index.html. Population data from the Colorado Department of Local Affairs at the state and county level also are available on the Colorado Health Information Dataset (CoHID). State and U.S. census data are available at www.census.gov.

The **Colorado Bureau of Investigation** provides reports on homicides and domestic violence based on the Uniform Crime Reports filed by law enforcement agencies. **How to access:** *Crime in Colorado* reports are available online at www.cbi.state.co.us/dr/docs_reports.asp.

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Federal Injury Data Sources

National Electronic Injury Surveillance System- All Injury Program
Since July 2000, the Consumer Product Safety Commission's NEISS-AIP has provided data on all types of nonfatal injuries and poisonings from a national representative sample of U.S. hospital emergency departments. The *online queriable* dataset provides national estimates of injuries seen at hospital emergency departments and is available at www.cdc.gov/ncipc/wisqars.

National Occupant Protection Use Survey
This survey uses direct observations to evaluate restraint use and motorcycle helmet use. Reports and Research Notes are available for national, regional and state levels at www-nrd.nhtsa.dot.gov/CMSWeb.

The **National Ambulatory Medical Care Survey** (of physician offices) and the **National Hospital Ambulatory Medical Care Survey** (of hospital emergency and outpatient departments) are surveys conducted by the Centers for Disease Control and Prevention. Reports on national results, including injury information, are available at www.cdc.gov/nchs/nhcs.htm

A list of additional federal data systems is available at www.cdc.gov/ncipc/osp/InventoryInjuryDataSys.htm

Local Injury Data Sources

Local Hospitals— Many of the trauma centers in Colorado collect their own injury data and produce their own reports.

Local Emergency Medical Services — Local ambulance and emergency response agencies collect their own data through the statewide data collection system.

Local police traffic reports—Police departments can provide information on motor vehicle-related crashes and injuries.

City or County Planning and Engineering Departments— Some local agencies may collect data and map where motor vehicle crashes occur. The information usually comes from local police reports.

Schools— Some schools collect school-based injury reports.

County Extension Agencies— County extension agents may have data on farm and ranch injuries.

Other Agencies— Some animal control agencies collect data on animal bites. Some recreation agencies have information on playground injuries.

Glossary of Terms Used in This Brief

Demography **-** characteristics of a population, such as age, gender, race/ethnicity
Injury surveillance - the ongoing, systematic collection, analysis, interpretation and dissemination of injury data
Online data sources **-** a database that is accessible through a Web site
Population-based - All events (injuries) in a defined population are included in the data collected. This allows population-based rates to be determined or weighting factors to be applied to a sample count in order to estimate the number or rate for the defined population.
Queriable - online data sources that allow a person to directly request and receive specific information through the Web site
Rate - the number of injuries or deaths divided by the number of people in the population at risk, usually expressed in events per 100,000 people

Risk factors - characteristics or behaviors of a population that may increase or decrease the risk of injury (examples include age, gender, race/ ethnicity, restraint or helmet use, alcohol use)
Trauma centers - hospitals that provide specialized care to injured individuals. Trauma centers are designated based on the resources available to care for trauma patients. The designations range from Level I with the highest level of comprehensive care for patients with complex injuries to Level V with initial evaluation, stabilization, diagnosis and transfer to a higher level of care. As of May 2007, three Level I centers, one Regional Pediatric Trauma Center, ten Level II centers and 17 Level III centers contribute data to the Colorado Trauma Registry. The remaining 38 designated facilities are Level IV or V. For more information on trauma center designation and criteria, see www.cotrauma.info