

Together We Can Prevent Injuries



**SOUTH CAROLINA
INJURY
PREVENTION
PLAN**

2010-2015

South Carolina Department of Health and Environmental Control

Together We Can Prevent Injuries

SOUTH CAROLINA INJURY PREVENTION PLAN

2010-2015



August 2010

For additional information, contact DHEC Division of Injury and Violence Prevention:

<http://www.scdhec.gov/injury>

1800 St. Julian Place

Columbia, S.C. 29204

Phone: (803) 545-4302

Note:

This publication was supported by the Cooperative Agreement Number 5U17CE424805-05, Public Health Injury Surveillance and Prevention Program, from The Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of The Centers for Disease Control and Prevention.

Table of Contents

A Message from the Commissioner	1
Acknowledgements	2
Introduction	4
Purpose	4
Background	4
SCIFA Vision and Mission	6
Data	6
SCIFA Priority Areas	8
Unintentional Poisoning	9
Falls among Older Adults	17
Suicide	26
Child Maltreatment	29
Traumatic Brain & Spinal Cord Injuries	37
Child Passenger Safety	46
Sexual Violence	51
Residential Fire	58
Appendices	65
Appendix A: South Carolina Injury Free Alliance Member List	66
Appendix B: Leading Causes of Injuries Non-Fatal and Fatal: Hospitalization and Emergency Department Visits	69

A Message from the Commissioner

In South Carolina, injury is the leading cause of death in people ages 1 to 44. In 2007, there were 3,230 deaths due to injury, intentional and unintentional. Motor vehicle crashes are the leading the cause of injury fatalities in the state followed by suicide, homicide, poisoning and falls. The medical costs of injury in South Carolina in 2007 totaled nearly \$1.5 billion. It is very important for us to recognize that injuries are preventable and that we can avoid the pain, death, suffering, and emotional and economic costs associated with it. However, we have a great challenge ahead of us to create behavioral, environmental, and policy change that can reduce and eliminate the burden of injury in South Carolina.

This burden of injury in our state is clearly evident in state injury surveillance references, including the Status of Injury, Injury County Profile, and the South Carolina Violent Death Reporting System reports produced by DHEC. Along with other circumstance information and occurrence data provided through partner sources, including public safety reports, these references are starting points for addressing issues of injury and violence in South Carolina. Armed with valuable surveillance information, data-driven strategic planning with key stakeholders can be accomplished to effectively guide our prevention efforts.

With program funding provided by the Centers for Disease Control and Prevention, the DHEC Division of Injury and Violence Prevention formed the S.C. Injury Free Alliance to identify and prioritize injury causes and formulate strategies based on the public health approach to prevention. This strategic planning work has resulted in the development of a state injury prevention plan that contains input from a diverse group of stakeholders from public and private organizations at state and local levels with interests, and expertise in, and resources for injury prevention activities.

I sincerely appreciate the time and efforts made by DHEC staff and S.C. Injury Free Alliance partners to create and maintain this South Carolina Injury Prevention Plan, which will inform and guide our injury prevention programs and collaborative activities to make South Carolina safer.



C. Earl Hunter

Acknowledgments

The South Carolina Injury Prevention Plan was developed through the efforts of various injury stakeholders who provided knowledge and resources. Each priority area was assigned to a workgroup to develop, write, and review this plan. The authors for each priority area sections are listed below.

Unintentional Poisoning:

Christina DeRienzo **(Chair)** - Palmetto Poison Center
Wes Gravelle – DHEC Bureau of Maternal & Child Health
Sherry Poole – Richland One Office of Safe and Drug Free Schools
Nichole Spivey – DHEC Division of Injury & Violence Prevention
Georgette Demian – DHEC Division of Injury & Violence Prevention

Falls Among Older Adults:

Cora Plass **(Chair)** – DHEC Office of Healthy Aging
Joyce Davis – Brain Injury Association of South Carolina
Tina Shadley – DHEC Division of Home Health Services
Nichole Spivey – DHEC Division of Injury & Violence Prevention
Georgette Demian – DHEC Division of Injury & Violence Prevention
Jean Marie Place – Brain Injury Association of South Carolina
Rene Beard – South Carolina Lieutenant Governor’s Office on Aging

Suicide Prevention:

Mary Kelly **(DHEC Agency Representative)** – DHEC Office of Public Health Social Work

South Carolina Suicide Prevention Coalition:

Chair - Donna Soileau, Chair, Mental Health Association of South Carolina (MHASC)
Vice Chair - Gloria Neumann, Psy.D., Dorn VA Medical Center
Secretary - Ted Holland, DHEC Division of Injury and Violence Prevention

Committees:

Education-Ansley Lee, Three Rivers Behavioral Health
Survivor-Donna Soileau, Mental Health Association of South Carolina
Statistical-Keisha Adams, DHEC Division of Injury & Violence Prevention
Event-Helen Pridgen, South Carolina Department of Social Services

Ad Hoc Committees:

Legislative Contacts - Joy Jay and Donna Soileau, MHASC
Crisis Centers- Mary Kelly, DHEC Division of Cancer Prevention

Child Maltreatment:

Breana Lipscomb **(Chair)** – DHEC Bureau of Maternal & Child Health
Carolyn L. Duff – S.C. Association of School Nurses
Sherry Poole - Richland One Office of Safe and Drug Free Schools

Keisha Adams – DHEC Division of Injury & Violence Prevention
Heidi Vaughn – The Children’s Trust of South Carolina/Safe Kids South Carolina
Georgette Demian – DHEC Division of Injury & Violence Prevention
Nichole Spivey – DHEC Division of Injury & Violence Prevention

Traumatic Brain and Spinal Cord Injuries:

Joyce Davis (**Chair**) - Brain Injury Association of South Carolina
Harriet Range – DHEC Division of Injury & Violence Prevention
Nichole Spivey – DHEC Division of Injury & Violence Prevention
Jean Marie Place - Brain Injury Association of South Carolina
Dr. Anbesaw Selassie - Medical University of South Carolina
Dr. Linda Veldheer – South Carolina Department of Disabilities and Special Needs

Child Passenger Safety:

Meredith Maliszewski (**Chair**) – DHEC Division of Injury & Violence Prevention
Breana Lipscomb – DHEC Bureau of Maternal & Child Health
Neal Martin – DHEC Division of Injury & Violence Prevention
Ann Stone – DHEC Division of Injury & Violence Prevention
Georgette Demian – DHEC Division of Injury & Violence Prevention
Nichole Spivey – DHEC Division of Injury & Violence Prevention

Residential Fire Prevention:

Neal Martin (**Chair**) – DHEC Division of Injury & Violence Prevention
Sandra Senn – S.C. Office of State Fire Marshal
Georgette Demian – DHEC Division of Injury & Violence Prevention
Nichole Spivey – DHEC Division of Injury & Violence Prevention

Sexual Violence Prevention:

Jane Key (**Chair**) – DHEC Bureau of Maternal & Child Health
Dr. Linda Veldheer – South Carolina Department of Disabilities and Special Needs

Additional content and editing by:

Ted Holland, Director, DHEC Division of Injury & Violence Prevention
Nichole Spivey, Program Coordinator, DHEC Division of Injury & Violence Prevention
Georgette Demian, Data Manager, DHEC Division of Injury & Violence Prevention
Breana Lipscomb, State FIMR Coordinator, DHEC Bureau of Maternal & Child Health

Formatting, layout, graphic design, and printing provided by South Carolina Department of Health and Environmental Control, Communications Resources and Printing Services departments.

Introduction

Purpose

In 2007, there were 3,230 deaths in South Carolina due to injury. Injuries are the third leading cause of death in South Carolina and the leading cause of death for South Carolinians ages 1 to 44. There were 23,430 hospital admissions (HA) and 386,386 emergency department (ED) visits due to injuries. Unintentional injuries are the leading cause of hospital admissions and emergency department visits in our state. The total cost of injuries in South Carolina is approximately \$1.5 billion annually.

Many organizations and individuals are currently engaged in the struggle to prevent and reduce injuries in South Carolina. In order to maximize these efforts many of the current and new injury prevention activities and strategies need to be linked. Thus, an unintentional injury prevention strategic plan is needed. The South Carolina Department of Health and Environmental Control (DHEC), Division of Injury and Violence Prevention, through funding from the Centers for Disease Control and Prevention (CDC), has formed workgroups within the South Carolina Injury Free Alliance (SCIFA) to develop a comprehensive injury prevention state plan with special focus on several injury priority areas including: unintentional poisoning, falls among the older adults, suicide, child maltreatment, traumatic brain (TBI) and spinal cord (SCI) injuries, child passenger safety, sexual violence, and residential fire. Each workgroup is comprised of injury stakeholders from across the state with expertise and experience in the priority areas.

The purpose of the South Carolina Injury Prevention Plan is to provide a framework of goals and objectives that will stimulate change, attract support, and provide a key reference for successful injury prevention initiatives. This plan will enhance injury prevention in South Carolina by educating, coordinating, and involving communities and partners to reduce occurrence of injury in the priority areas.

Background

The Integrated Core Injury Prevention and Control (ICIPC) Program is housed within the Division of Injury and Violence Prevention (DIVP) located within DHEC. DHEC is the official public health agency for the state. The mission of DHEC is to “promote and protect the health of the public and the environment”. DHEC’s long-term goals are to improve the health for all and eliminate health disparities; assure adolescents and young children are healthy; and increase local capacity to promote and protect healthy communities. DHEC DIVP is part of DHEC’s Bureau of Community Health and Chronic Disease Prevention. The mission of DHEC DIVP is to “prevent and reduce the occurrence of injuries that impact the quality of life in South Carolina”. To achieve this mission, DHEC DIVP collaborates with a diverse group of public and private partners at the state and local levels.

Capabilities of DHEC DIVP reflect the recognized Safe States Alliance (SSA) core components for state injury and violence prevention programs including:

- collecting and analyzing statewide data from hospitals, law enforcement, and other data sources related to the causes and circumstances of injuries;
- using data and evidence-based practices to design, implement and evaluate injury and violence prevention programs;
- building and maintaining a solid infrastructure for injury prevention that includes participation in and development of strategic partnerships and collaboration such as SCIFA;
- providing data and technical support to a wide range of injury prevention stakeholders and providing reliable and useful injury prevention information to the public; and,
- enhancing and enabling injury prevention efforts by working with policy making systems to promote awareness of the burden of injuries and the effectiveness of prevention programs.

Since the creation of the DHEC DIVP in 1995, the state's injury and violence prevention capacity has been strengthened by quality partnerships and the development of public health infrastructure. Injury surveillance and prevention programs currently operating in DHEC DIVP include the Residential Fire Injury Prevention Program; Child Passenger Safety Program; Public Health Injury Surveillance and Prevention Program, including the Traumatic Brain Injury Surveillance System; South Carolina Violent Death Reporting System; State Child Fatality Review; and a Disabilities and Health initiative.

While these programs on their own are very valuable and serve as important functions for DHEC, the partnerships developed through these programs with entities outside of the health department have significant current and potential impact on the effectiveness of injury and violence prevention in the state's public health system and well beyond. The SCIFA, formerly known as South Carolina Injury Community Planning Group, is the core public health based injury prevention collaborative in South Carolina and, with resources provided by the CDC grant funded Public Health Injury Surveillance Prevention Program, coordinated planning efforts are made to assess and prioritize causes of injury for targeted prevention activities.

SCIFA is comprised of organizations including but not limited to: S.C. Suicide Prevention Coalition, S.C. Spinal Cord Injury Association, Safe Kids S.C. and its home agency The Children's Trust of S.C., S.C. Department of Disabilities and Special Needs, S.C. Lieutenant Governor's Office on Aging, Palmetto Poison Center within the University of South Carolina, Richland One Office of Safe and Drug Free Schools, Brain Injury Association of S.C., S.C. Office of Research and Statistics, DHEC Division of Home Health Services, DHEC Division of Injury and Violence Prevention, DHEC Bureau of Maternal and Child Health, SC Association of School Nurses, DHEC Healthy Aging Program, and the Palmetto Cycling Coalition (Figure 1). SCIFA meets quarterly, with workgroups meeting on a more frequent basis as appropriate, and receives the most current injury surveillance and prevention information from DHEC DIVP.

South Carolina Injury Free Alliance (SCIFA)

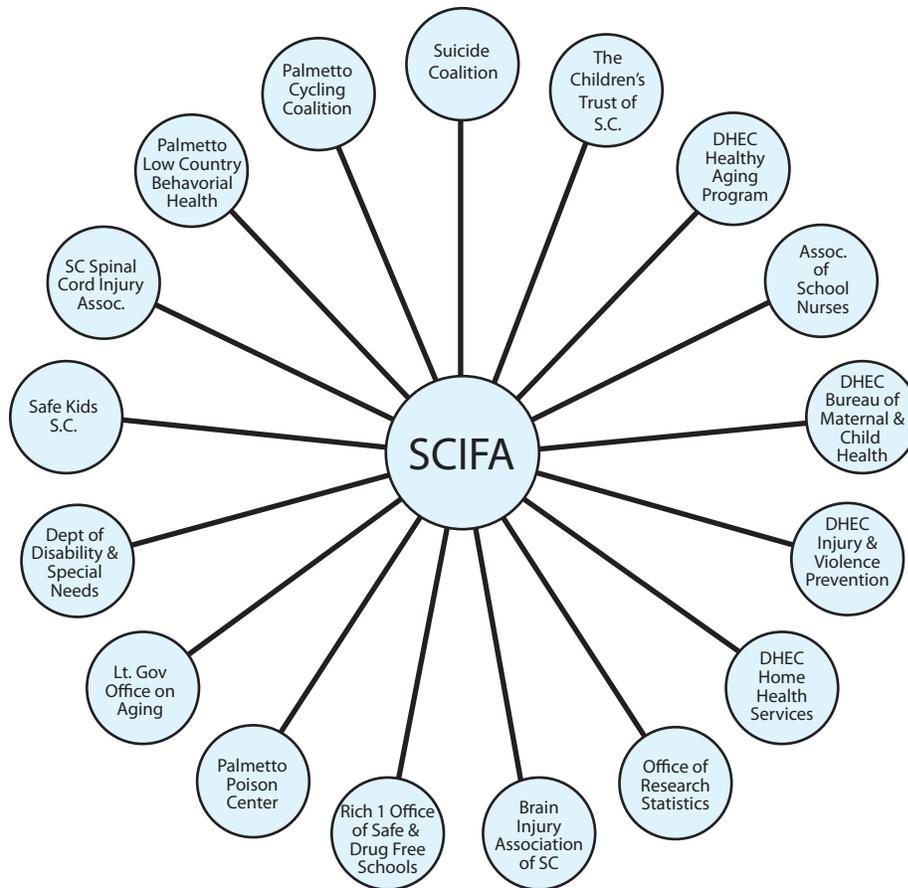


Figure 1

SCIFA Vision/Mission

Vision:

To be the leading state in the country unifying all entities in Injury and Violence Prevention through a concerted effort, engaging multiple disciplines to holistically resolve Injury and Violence Prevention issues.

Mission:

To reduce the incidence and magnitude of injury and violence through the collective effort of key South Carolina stakeholders.

Data

South Carolina State Budget and Control Board's Office of Research and Statistics (ORS) in partnership with DHEC DIVP developed an "Injury Cube" which includes a centralized, aggregate, electronic hospital discharge and emergency department data set generated by ORS related to

injury. With data services expertise in DIVP, SCIFA members utilize this data to identify priority areas and trends and relationships in those priority areas.

ORS receives copies of patient uniform billing data from all public and private hospitals. The Statewide Hospital Discharge Data set (SHDDS) and the Statewide Emergency Department visit Data Set (SEDVDS) are population-based for all inpatient and outpatient visits in the state. The databases include nature of injury codes, external causes of injury codes, acute care charges, and discharge disposition in addition to demographics and place of residence. The data set is 100 percent complete and 99 percent accurate. See Figure 2.

The South Carolina Injury Surveillance System

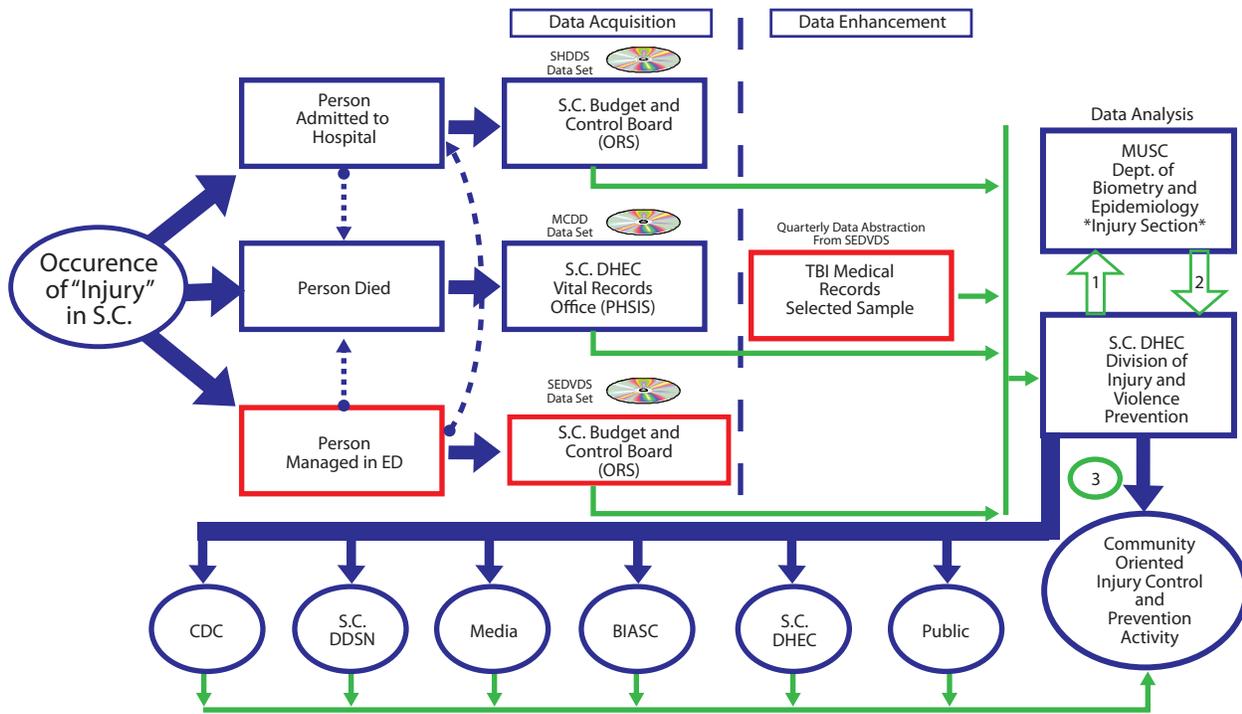


Figure 2

Also through the Injury Cube, data from different systems and agencies can be linked and analyzed providing a powerful tool for evaluating injury causes, interventions, and circumstances including contacts with service providers.

DHEC's Office of Public Health Statistics and Information Systems (PHSIS) maintains the state's Vital Records system, which contains records of all deaths statewide. This data is available to the DHEC DIVP on a routine basis. SCIFA uses the available data to direct the injury prevention and control planning process and evaluate progress toward meeting the core goals and objectives of the injury prevention state plan, as well as promote and facilitate the use of the injury data to meet the needs of injury prevention and control groups and service agencies. This data is also a source for the Multi-State Injury Indicator Report submitted to CDC on an annual basis.

The DIVP *Status of Injury in South Carolina* annual data report, for in-state distribution and for submission to CDC, has completed tables with aggregated numbers and rates categorized by sex,

age, group, and external cause for all-injury deaths and hospitalizations related to all injury. The report also includes interpretation of the injury data, emphasis on the state's priority areas and vulnerable populations, and a brief analysis of TBI/SCI in South Carolina. The DHEC DIVP also creates an *Injury County Profile Report* that shows causes of fatal and nonfatal injuries broken down by each county in the state of South Carolina. DHEC DIVP disseminates data to CDC, S.C. Department of Disabilities and Special Needs (DDSN), media, Brain Injury Association of S.C. (BIASC), DHEC, numerous injury prevention stakeholders, and to the public.

SCIFA Priority Areas

One of the responsibilities of SCIFA is to identify and prioritize injuries by analyzing injury data provided by DHEC DIVP, DHEC Vital Records, ORS and other data sources. The priority areas chosen for the injury prevention state plan are determined by the prevalence and incidence rates in the state and the need for or lack of injury prevention initiatives at the state level and in vulnerable populations and communities. Using injury data, SCIFA has chosen the following injury priority areas:

- Unintentional Poisoning
- Falls among Older Adults
- Suicide
- Child Maltreatment
- Traumatic Brain & Spinal Cord Injuries
- Child Passenger Safety
- Sexual Violence
- Residential Fire

Unintentional Poisoning



Unintentional Poisoning

Statement of the Problem

Poisoning is the second leading cause of death from unintentional injury in the United States. In the United States in 2005, 5,833 (18 percent) of the 32,691 poisoning deaths were intentional. In 2006, intentional poisoning led to about 220,924 emergency department (ED) visits; 216,358 involved self-harm and 3,982 were assaults. Reported in 2004, 95 percent of unintentional and undetermined poisoning deaths were caused by drugs. Opioid pain medications were most commonly involved, followed by cocaine and heroin. Among those treated in EDs for nonfatal poisonings involving intentional, nonmedical use (such as misuse or abuse) of prescription or over-the-counter drugs in 2004, opioid pain medications and benzodiazepines were used most frequently. In 2000, poisonings led to \$26 billion in medical expenses and made up 6 percent of the economic costs of all injuries in the United States.¹

In South Carolina, poisonings are the third leading cause of death from an unintentional injury and 55 percent of poison related exposures reported to the poison control center occur in children under the age of six. At least 90 percent of exposures to poisonous substances occur within the home.²The most frequent human exposures are analgesics, cosmetics, household substances, and cough and cold preparations. In 2007 our state's residents spent an estimated \$22 million dollars on emergency room visits for poison related exposures and over 36,000 calls were reported to the state's poison control center.³

Trends

Illustrated in Table 1, Unintentional poisoning death was rising steadily since 1999 to 2004 then there was a slight drop in 2004. From 2004 to 2006 there was an exponential increase in poisoning death (increase of 53 percent in 2006 from 2004).⁸

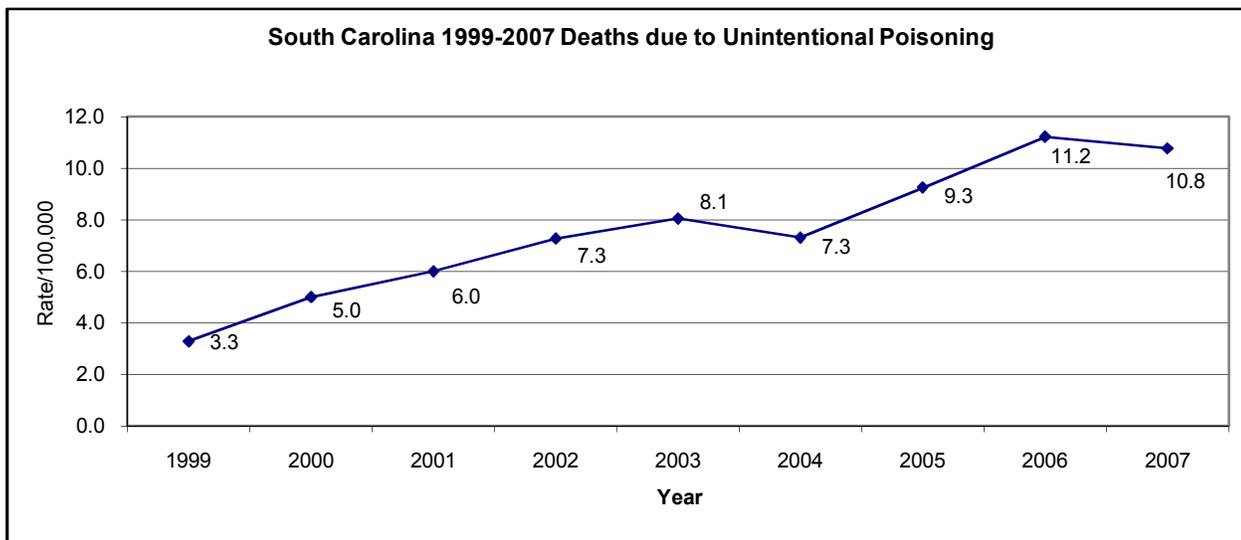


Table 1

In Table 2, Death due to unintentional poisoning occurs among adults in their most productive age (26-55 yearsold) but the peak is among age group 36 - 45 years (16/100,000).⁸

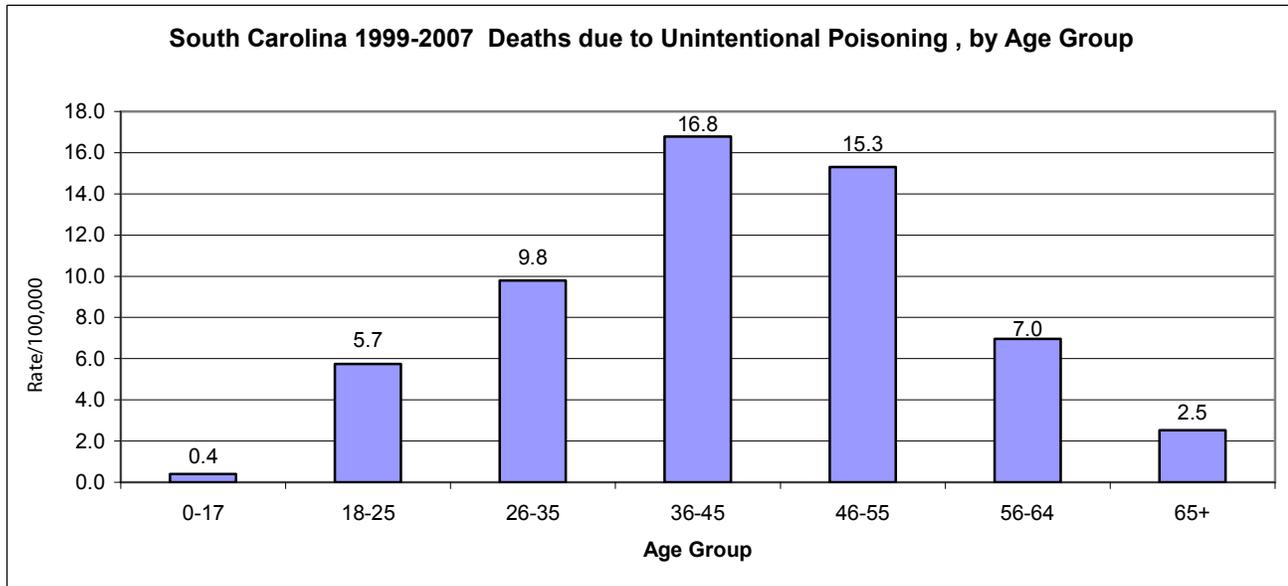


Table 2

The following graph Table 3, shows the causes of unintentional poisoning deaths where 47 percent were due to "other & unspecified drugs, medication and biological substances" which are the substances that are not mentioned in the other categories.⁸

Causes of Poisoning	Percent
Other & unspecified drugs, medicament and biological substances	47.3
Narcotics & psychodysleptics (hallucinogens), not elsewhere classified	38.5
Antiepileptic, sedative-hypnotic antiparkinsonism & psychotropic drugs, not elsewhere classified	4.7
alcohol	4.4
Other gases & vapours	2.3
Non-opioid analgesics, antipyretics & antirheumatics	1.3
Unspecified chemicals & noxious substances	0.8
Other drugs acting on the autonomic nervous system	0.3
Organic solvents & halogenated hydrocarbons & their vapours	0.3
Pesticide	0.1

Percent of all causes of poisoning

Table 3

Risk Factors

Age/Ethnicity/Gender

For children, being in an unsupervised home setting is an important risk factor for poisonings; more than 90 percent of poison exposures occur at a residence. In addition, abuse of substances such as drugs and alcohol puts one at risk for both intentional and unintentional poisonings e.g. overdose. A risk factor attributable to the poisoning was identified as having a product within the reach of a child or mentally handicapped person.⁶ Other risk factors for poisonings include African American children less than 5 years of age and males less than 5 years of age.⁴

For older adults, multiple risk factors present for unintentional medication poisoning included polypharmacy or many drugs taken at once, lack of a pill box organizer or system for taking medication, difficulty remembering to take medications, difficulty hearing, and inability to read fine print on medication bottles with or without corrective lenses.⁵

Improper Storage

Most frequent risk factor for intoxication was the storage of a product in a container that was different to the original. This appeared to be associated with poisoning in both children and adults. Household chemicals are being stored in soft drink bottles and mistaken for juices. Medicine containers are being used to hold chemicals and people are mistakenly applying to their ears, nose or eyes.⁶

Vision

For South Carolina to be a national model for unintentional poisoning prevention.

Mission

To reduce the number of unintentional poisonings, provide up to date clinical information and public education to the citizens of South Carolina.

Definitions:

Poison

- A **poison** is any substance that is harmful to your body when ingested (eaten), inhaled (breathed), injected, or absorbed through the skin. Any substance can be poisonous if enough is taken. This definition does not include adverse reactions to medications taken correctly.¹

Unintentional poisoning

- **Unintentional poisoning** is when a person taking or giving a substance did not mean to cause harm. Unintentional poisoning includes the use of drugs or chemicals for

recreational purposes in excessive amounts, such as an “overdose.” It also includes the excessive use of drugs or chemicals for non-recreational purposes, such as by a toddler.¹

Opioid

- An **opioid** is, strictly speaking, pertaining to natural and synthetic chemicals that have opium-like effects similar to morphine, though they are not derived from opium. Examples include endorphins or enkephalins produced by body tissues or synthetic methadone. Morphine and related drugs are often included in this category since the term narcotic has lost its original meaning.⁷

Goal 1: Increase prevention education and awareness.

Objective 1.1: Disseminate educational materials.

Strategy 1.1:

1. Promote poison prevention education and awareness through distribution of educational materials throughout S.C.

Activities 1.1:

- a. Locate target communities for distribution of educational materials.
- b. Construct public service announcements related to current trends in poisonings.
- c. Establish distribution sites within physicians’ offices.
- d. Partner with school nurses to serve as a distribution point of educational materials.
- e. Enlist the aid of daycares to distribute educational materials for parents and children.

Objective 1.2: Train community leaders to be instructors for poison prevention education programs.

Strategy 1.2:

1. Establish a training program that will increase the number of poison prevention educational programs throughout South Carolina.

Activities 1.2:

- a. Develop a train-the-trainer program using successful models from other states.
- b. Define a targeted group of potential instructors and have them complete a certification course.
- c. Solicit the help of community volunteers to conduct training programs.

Goal 2: Recruit and collaborate with stakeholders in order to increase the capacity of prevention initiatives.

Objective 2.1: Increase the number of agencies actively involved with poison prevention education and awareness.

Strategy 2.1:

1. Design a conference curriculum that will effectively draw other agencies toward participation in poison prevention education.

Activities 2.1:

- a. Host or participate in an annual injury prevention conference to share information, resources, and increase the number of potential new agencies.
- b. Establish relationships with other agencies to share services.

Objective 2.2: Form Coalition(s).

Strategy 2.2:

1. Construct a framework for a new Poison Prevention Education Coalition.

Activities 2.2:

- a. Identify current coalitions that effectively promote home and health safety.
- b. Establish an advisory board for the new coalition.
- c. Host a bi-annual coalition meeting.

Goal 3: Enhance the current prevention infrastructure.

Objective 3.1: Define the current needs for the population of South Carolina.

Strategy 3.1:

1. Implement an improved prevention program that will serve the needs of all citizens in South Carolina.

Activities 3.1:

- a. Conduct a needs assessment to determine what types of programs are needed based on current trends.
- b. Determine the most effective ways to deliver these programs through research.

Objective 3.2: Research and implement successful models and components of successful programs from other entities.

Strategy 3.2:

1. Collaborate with other poison centers and injury prevention programs and obtain copies of successful prevention programs in other states.

Activities 3.2:

- a. Research successful prevention programs and gain approval for use of components of those programs.
- b. Gather published data on prevention programs and compile listings of successful strategies.
- c. Implement key components of programs that will be effective in building South Carolina's improved model.

Goal 4: Maximize utilization of existing and potential data systems.

Objectives 4.1: Analyze the existing data to seek trends clustering, special populations, and magnitude of problem.

Strategy 4.1:

1. Create a focus group that analyzes data and determines trends from various data systems.

Activities 4.1:

- a. Meet quarterly and discuss data trends and address problems.
- b. Conduct needs assessments for newly defined problems.
- c. Work to gain access to additional data systems that are currently in place.

Poison Prevention Information and Resources:

Palmetto Poison Center: <http://poison.sc.edu> or 803-777-7909 (business phone)

Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov>

South Carolina Department of Health and Environmental Control: <http://www.scdhec.gov/injury>

American Association of Poison Control Centers: <http://www.aapcc.org>

State and Territorial Injury Prevention Directors Association: <http://www.stipda.org>

Children's Safety Network: <http://www.childrensafetynetwork.org>

Safe Kids Worldwide: <http://www.usa.safekids.org>

References:

1. Centers for Disease Control and Prevention. (2008, March 13). *Poisoning in the United States –Factsheet*. Retrieved February 8, 2009, from <http://www.cdc.gov/ncipc/factsheets/poisoning.htm>
2. *Injury Data Cube- Hospital discharge and Emergency department (ED) visits aggregated poison data: 2007* [Data file]. South Carolina Budget and Control Board, Office of Research and Statistics. Retrieved and prepared by SC Department of Health and Environmental Control Division of Injury and Violence Prevention.
3. The Palmetto Poison Center. (2007). *2007 Annual Report*. Retrieved February 8, 2009, from <http://poison.sc.edu/documents/2007annualreportfinal.doc>
4. Centers for Disease Control and Prevention. (2009, March 16). *Stay Safe during Poison Prevention Week*. Retrieved December 3, 2009, from <http://www.cdc.gov/Features/PoisonPrevention/>
5. Joyce C. Pressley, J.C., Barlow, B., Quitel, L., & Jafri, A. (2007, April). Improving Access to Comprehensive Injury Risk Assessment and Risk Factor Reduction in Older Adult Populations. *American Journal of Public Health*, Vol. 7, No.4. Retrieved December 14, 2009, from <http://ajph.aphapublications.org/cgi/reprint/97/4/676.pdf>
6. Presgrave, R., Camacho, L., & Simões Villas Boas, M. (2008, December). *A profile of unintentional poisoning caused by household cleaning products, disinfectants and pesticides*. *SciElo Public Health*, 24(12). Retrieved December 3, 2009, from http://www.scielosp.org/scielo.php?pid=S0102311X2008001200019&script=sci_arttext
7. *Mosby's Medical Dictionary* (8th ed.). (2009). Philadelphia, PA: Mosby's Medical.
8. Office of Public Health Statistics and Information System (PHISIS) – Injury Death Data: 1999-2007 [Data file]. Columbia, SC: Department of Health and Environmental Control.

Falls Among Older Adults



Falls Among Older Adults

Statement of the Problem

In the United States, falls are the leading cause of unintentional injuries in injury related deaths for people 65 years and older. Falls are also the most common cause of non-fatal hospitalization and emergency department (ED) visits for that age group. In 2005, due to injuries related to falls among people 65 and older there were 15,800 deaths; about 1.8 million were treated in the ED, and more than 433,333 of these patients were hospitalized.¹

As the older population increases, falls and fall-related injuries can be expected to increase. From 1993 to 2003, the number of people aged 65 and older increased 13 percent, while the number of fatal falls more than doubled. After adjusting the age, fall death rates for both men and women increased about 55 percent during this time period. The increase in fall death rates reflects the rise in the 85 and older population, the fastest growing segment of the older population and the population most vulnerable to falls.

In South Carolina the problem of unintentional falls among adults 65 years and older is similar to that of the nation. In 2005, unintentional falls were the leading cause of death for that age group (161 deaths, rate of 30.1/100,000 population of 65+). In the same year, unintentional falls were the leading cause of non-fatal injury (25,800 hospitalizations and ED visits) for people 65+. Females were 2 times as likely to suffer from non-fatal falls as males (629.2 and 310.8/10,000 consecutively). White females had the most frequent falls followed by black/other females (695.8 and 402.7/10,000 consecutively). In 2005, charges for the acute care due to falls were \$423,613,517 for all ages, and 58 percent of these were for people 65 years and older.²

Trends

Illustrated in Table 4, there was an increase in falls deaths from 1999 to 2001 then it starts to show steady fluctuation until 2007. The greatest decline in falls deaths was in year 2006 (decreased 13 percent from 2005). The highest increase in deaths was in 2003 (increased 11 percent from 2002).⁷

1999-2007 Deaths due to Unintentional Falls among People 65 and older in South Carolina

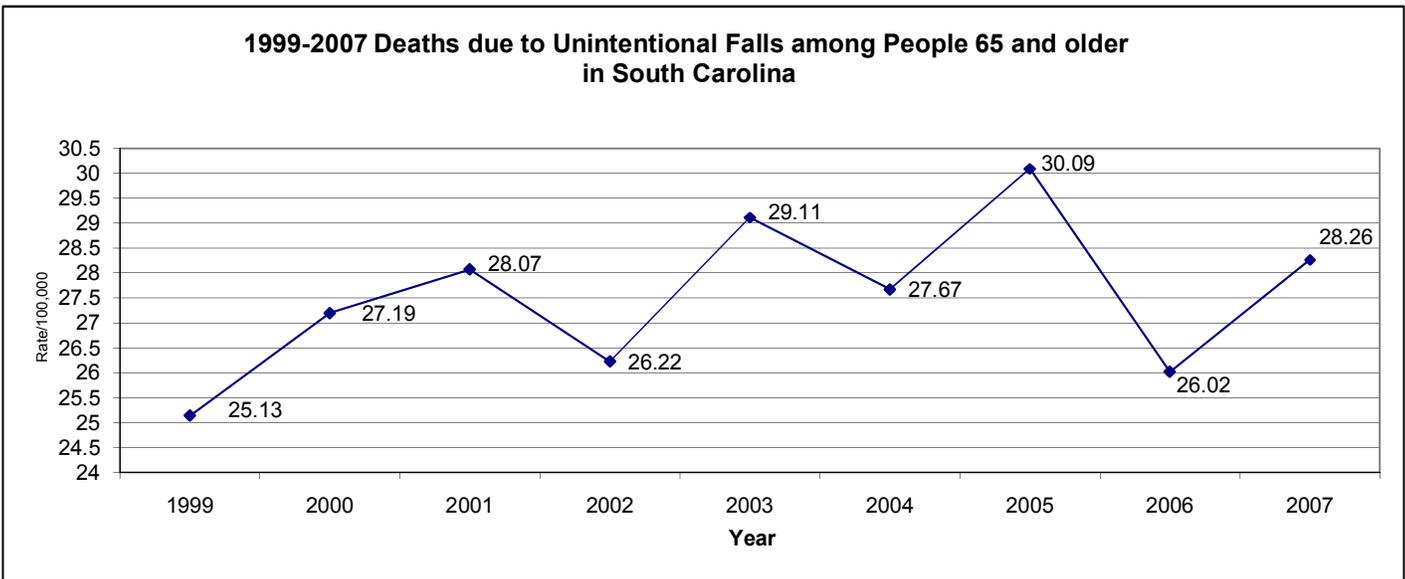


Table 4

The following graph, Table 5, shows the deaths due to unintentional falls by cause. Around 60 percent of the falls were not specified and 12 percent were due to "other fall on the same level" which indicates that it was not mentioned that the fall was due to slipping, tripping or stumbling.⁷

Types of Falls	Percent
Unspecified fall	57.7
Other fall on same level	12.3
Fall on and from stairs and steps	5.4
Fall from, out of or through building or structure	4.9
Fall on same level from slipping, tripping and stumbling	4.1
Other fall from one level to another	3.4
Fall involving bed	3.3
Fall on and from ladder	2.8
All other falls	2.3
Fall involving wheelchair	1.4
Fall from tree	1.3
Fall involving chair	1.2

Table 5

Percent of all falls

Risk Factors

Falls are the leading cause of injury deaths among older adults. In the United States, more than one-third of adults age 65 and over fall each year. Research has shown that when adults get older they are more prone to falls.

Age/Gender

Epidemiologists have demonstrated the association of increased fall-risk with advancing age for both men and women, with the risk being greater for women of all age groups.⁶

History of Falling

A history of falls is also a predisposing factor for subsequent falls. The number of risk factors and the lineation of function whether due to physical injury or fear of falling may contribute to increased rate of falling again.⁵

Chronic Disease and Physical Limitations

Risk factors that can come in to affect is if the person has more than one chronic disease, history of stroke, or any other disease that will affect your psychomotor skills. If a person is cognitively impaired then that will cause them to have a fall of some kind. Other risk factors are lower-body weakness, problems with gait and balance, use of psychoactive medications, visual impairment, and treatment of certain chronic disease such as Parkinson's, a history of stroke and arthritis.⁵

Medications

Sedatives, anti-depressants, and anti-psychotic drugs can contribute to falls by reducing mental alertness, worsening balance and gait, and causing drops in systolic blood pressure while standing. Additionally, people taking multiple medications are at greater risk of falling.⁶

Environmental Hazards

The environment or situation may also cause people to fall. Poor lighting, slippery floors, scatter rugs, furniture, and objects inappropriately placed are examples of common hazards in the environment. Clothing or footwear may also increase the risk of falls.⁶

Vision

*Older adults living in South Carolina will have fewer falls and fall-related injuries maximizing their independence and quality of life.*³

Mission

To reduce the incidence and magnitude of falls and fall-related injuries among adults, 65 years of age and older, living in South Carolina through the collective efforts of key South Carolina stakeholders.

Goal 1: Increase awareness of fall prevention risks, safety measures, and programs among older adults.

Objective 1.1: Identify, use, and expand state database sources to promote fall prevention among older adults.

Strategies 1.1:

1. Identify existing databases for linkages to fall prevention information and resources.
2. Provide information on fall prevention safety measures.
3. Identify fall prevention resources and programs to be included in data bases.

Activities 1.1:

- a. Survey key state stakeholders to determine existing databases for potential linkages.
- b. Update web resources to include fall prevention information and resources from existing database sources.
- c. Search for appropriate fall prevention measures and materials from national web sources and state stakeholders.
- d. Select materials to post on web sources and cross link websites to facilitate increased access to fall prevention information.
- e. Maintain web sources with current information.

Objective 1.2: Increase fall prevention awareness activities.

Strategies 1.2:

1. Heighten public awareness of the impact of falls and fall prevention measures and programs.
2. Coordinate with existing partners to disseminate fall prevention information among their constituents.

Activities 1.2:

- a. Display fall prevention information and resources at health fairs, faith-based functions, and other health awareness events.

- b. Provide media coverage through newspaper and radio sources.
- c. Highlight fall prevention in “Older Americans Month” in May and “Healthy Aging Month” in September.
- d. Meet with the state Office on Aging and the DHEC Healthy Aging Program to develop and implement a plan for disseminating fall prevention information and resources through partner organizations.

Goal 2: Employ public policy and advocacy approaches to support fall prevention efforts.

Objective 2.1: Develop a public policy agenda to promote fall prevention at the state and local levels.

Strategy 2.1:

- 1. Coordinate with existing partners to promote a policy agenda for fall prevention to legislators and other decision makers.

Activities 2.1:

- a. Identify partners with a vested interest in fall prevention policies, including representatives from government, business, nonprofit organizations, academia, and the health systems.
- b. Develop a tool kit with resources and information on falls for existing partners to effectively communicate to legislators and other decision makers.⁴
- c. Share information with partners and disseminate toolkit.

Goal 3: Increase knowledge of the burden and impact of falls and fall prevention measures among health professionals.

Objective 3.1: Promote fall prevention educational opportunities.

Strategy 3.1:

- 1. Collaborate with fall prevention experts to increase awareness of fall prevention continuing education among health professionals.

Activities 3.1:

- a. Identify professionals with fall prevention expertise who provide continuing education and fall prevention workshops/conferences that are available.

- b. Create a resource list of fall prevention experts and scheduled workshops on falls.
- c. Publicize resource list of experts and workshops/conferences on website and link to other sites for older adults.
- d. Publicize fall prevention workshops/continuing education on web resources.
- e. Include a fall prevention segment in an annual Injury Prevention conference.

Objective 3.2: Provide information regarding fall risk factors and the burden and impact of falls and fall-related injuries.

Strategy 3.2:

- 1. Publicize reports of the burden and impact of falls in the nation and in South Carolina.

Activities 3.2:

- a. Collect and analyze injury data on falls among older adults.
- b. Create state and region reports and fact sheets.
- c. Post information on web resources and hyperlink to other appropriate websites.
- d. Maintain web resources with current data and reports.
- e. Publicize web resources among health professional organizations.

Objective 3.3 Provide education regarding fall prevention measures, management, and programs.

Strategy 3.3:

- 1. Publicize information for professionals on the DHEC Injury website and other related web resources.

Activities 3.3:

- a. Develop pertinent information based on research to educate health professionals and practitioners of fall prevention measures and programs.
- b. Promote use of the website among health professional organizations.

- c. Train the statewide Aging Network and other interested entities on use of the information, tools, and resources on the website.

Fall Prevention Information & Resources:

South Carolina Lt. Governor's Office on Aging:
<http://www.aging.sc.gov/seniors/HealthandWellness>

South Carolina Access: <http://www.scaccesshelp.org> or 1-800-868-9095

South Carolina Department of Health & Environmental Control: <http://www.scdhec.gov/injury>

MaineHealth Partnership for Healthy Aging, A Matter of Balance Managing Concerns About Falls:
http://www.mmc.org/mh_body.cfm?id=432

Falls Free: Promoting a National Falls Prevention Action Plan:
http://www.healthyagingprograms.org/resources/FallsFree_NationActionPlan_Final.pdf

Center for Healthy Aging Fall Prevention:
<http://www.healthyagingprograms.org.content/asp?sectionid=107>

Centers for Disease Control and Prevention (CDC) Injury Center Preventing Falls Among Older Adults: <http://www.cdc.gov/ncipc/duip/preventadultfalls.htm>

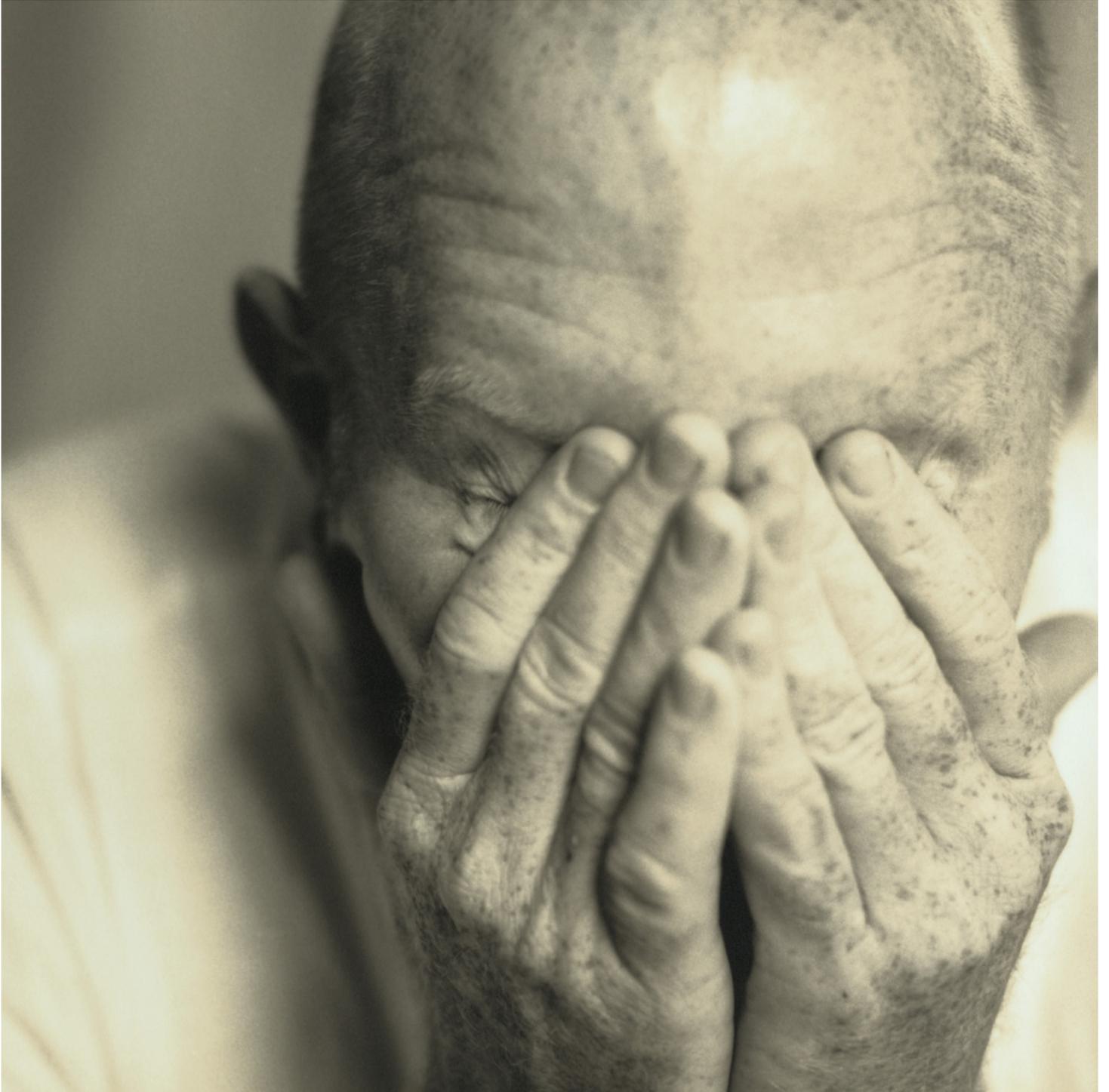
Administration on Aging (AoA) Health, Prevention, and Wellness Programs:
http://www.aoa.gov/AoARoot/AoA_Programs/HCLTCEvidence_Based/index.aspx

References:

1. Centers for Disease Control and Prevention. (n.d.). *Falls among Older Adults: An Overview*. Retrieved March 6, 2009, from <http://www.cdc.gov/HomeandRecreationalSafety/Falls/index.html>
2. *Injury Data Cube- Hospital discharge and Emergency department (ED) visits aggregated falls data: 2007* [Data file]. South Carolina Budget and Control Board, Office of Research and Statistics. Retrieved and prepared by SC Department of Health and Environmental Control Division of Injury and Violence Prevention.
3. *2005 National Council on Aging (NCOA) Falls Free: Promoting a National Falls Prevention Action Plan*. (2005) Retrieved from http://www.healthyagingprograms.org/resources/FallsFree_NationalActionPlan_final.pdf
4. South Carolina Chamber of Commerce. (n.d.). *Effectively Communicating Your Position to Lawmakers*. Retrieved from <http://www.southcarolinascoc.weblinkconnect.com>

5. Centers for Disease Control and Prevention. (2006, September). Falls Among Older Adults: Summary of Research Findings. Retrieved December 22, 2009, from <http://www.cdc.gov/ncipc/pub-res/toolkit/SummaryOfFalls.htm>
6. Curtin, Alicia (2005, January). *Prevention of Falls in Older Adults*. Retrieved December 22, 2009, from Brown University, Department of Clinical/Neurosciences Web site: http://www.brown.edu/Departments/Clinical_Neurosciences/articles/ac2205.pdf
7. Office of Public Health Statistics and Information System (PHISIS) – Injury Death Data: 1999-2007 [Data file]. Columbia, SC: Department of Health and Environmental Control.

Suicide Prevention



Suicide Prevention

A number of complex individual, social, and environmental factors contribute to suicide and suicidal behavior. Among these are poverty, unemployment, loss of a loved one, failed relationships, alcohol and other drug abuse, social isolation, mental disorders, and easy availability of and access to lethal means, including the most common method in South Carolina, firearms. To effectively address this devastating suffering and loss of human life, long term, multi-pronged approaches, including both interventions and primary prevention strategies, must be put into place.

South Carolina is committed to responding to this growing public health issue. In response to the national call to action and the magnitude of the problem of suicide in the state, the South Carolina Suicide Prevention Task Force formed in 2003 to examine the issue. The Task Force was concerned about the impact of suicide and suicidal behavior on all South Carolina citizens and incorporated the following two goals from the National Strategy into the South Carolina Suicide Prevention Plan. The plan was adopted by Governor Mark Sanford in 2005.

- Promote awareness that suicide is a public health problem that is preventable
- Develop broad-based support for suicide prevention, including the formation of a broad statewide coalition

The South Carolina Suicide Prevention Coalition was formed and volunteers representing many diverse agencies, entities and non-profits across South Carolina participated. Yearly events such as American Foundation for Suicide Prevention's (AFSP) "Out of Darkness" walks were held in Columbia, Greenville, Charleston, and Spartanburg. The Division of Injury and Violence Prevention at DHEC sponsored annual conferences in Columbia giving concerned groups access to best practices in violence prevention, including suicide. Awareness and prevention were further promoted with the publication of the coalition's Suicide Prevention Brochure, disseminated throughout South Carolina. Through funding obtained from Substance Abuse & Mental Health Services Administration (SAMHSA) by Mental Health America of South Carolina in 2007, more than 20,000 South Carolinians were trained as suicide prevention gatekeepers. Survivor support increased with new support groups forming and established support groups growing.

Significant progress was made in developing broad-based support for suicide prevention and raising the awareness that suicide is a preventable public health problem. However, the original Task Force created The South Carolina Suicide Prevention Plan as a living document that was expected to change over time as new strategies and research were made available and awareness, involvement, and funding increased. Thus in 2010, the South Carolina Suicide Prevention Coalition voted to update and possibly revise the state plan as needed and predicated by more recent statistics obtained through the S.C. Violent Death Reporting System.

The objectives of the plan remain:

- Raise awareness and help make suicide prevention a statewide priority.
- Seek resources to address the issue.

- Provide opportunities to use public-private partnerships and the energy of survivors to engage people who may not consider suicide prevention part of their mission.
- Support collaboration across a broad spectrum of agencies, groups, and community leaders.
- Link information from many prevention programs to avoid duplication and share information about effective prevention activities.
- Direct attention to measures that benefit all people in South Carolina to reduce the likelihood of suicide before vulnerable individuals reach the point of danger.

More information on the South Carolina Suicide Prevention Coalition and the South Carolina Suicide Prevention Plan can be found at the following web address:
<http://www.scdhec.gov/health/proservices/sp/>.

For additional information about the content of the *South Carolina Suicide Prevention Plan* contact:

S.C. Department of Health and Environmental Control
Office of Public Health Social Work
1751 Calhoun Street
Columbia, South Carolina 29201
(803)898-0802

Child Maltreatment



Child Maltreatment

Statement of the Problem

Child maltreatment is any single act or series of neglectful or deliberate acts or intentional words or overt actions that cause harm, potential harm, or threat of harm to a child.

Child maltreatment includes child neglect and all forms of child abuse for children under the age of 18. In 2006, there were 905,000 (1.2 percent of the child population) children in the United States who were victims of maltreatment. In the same year, 1,530 children died from abuse and neglect.¹

In South Carolina, 10,795 children were victims of child maltreatment and accepted into local Child Protective Services in 2006. Nineteen of those cases resulted in fatalities.²

Child maltreatment is a public health problem because it negatively affects normal child development. In addition to physical injuries, children who are abused and/or neglected suffer emotional and psychological stress that may impair development of immune and nervous systems leading to high risk for health problems in adulthood, including addictive disorders, emotional disorders, mental illness and other chronic diseases.²

Trends

Illustrated in Table 6, numbers of child protective services investigations were steady in the first 2 years then there was a slight decrease in FY 05-06. The number of investigations increased 7 percent in the next FY. Numbers of true allegations upon investigation were steady through the first three FY then there was a 12 percent increase in FY 06-07.⁹

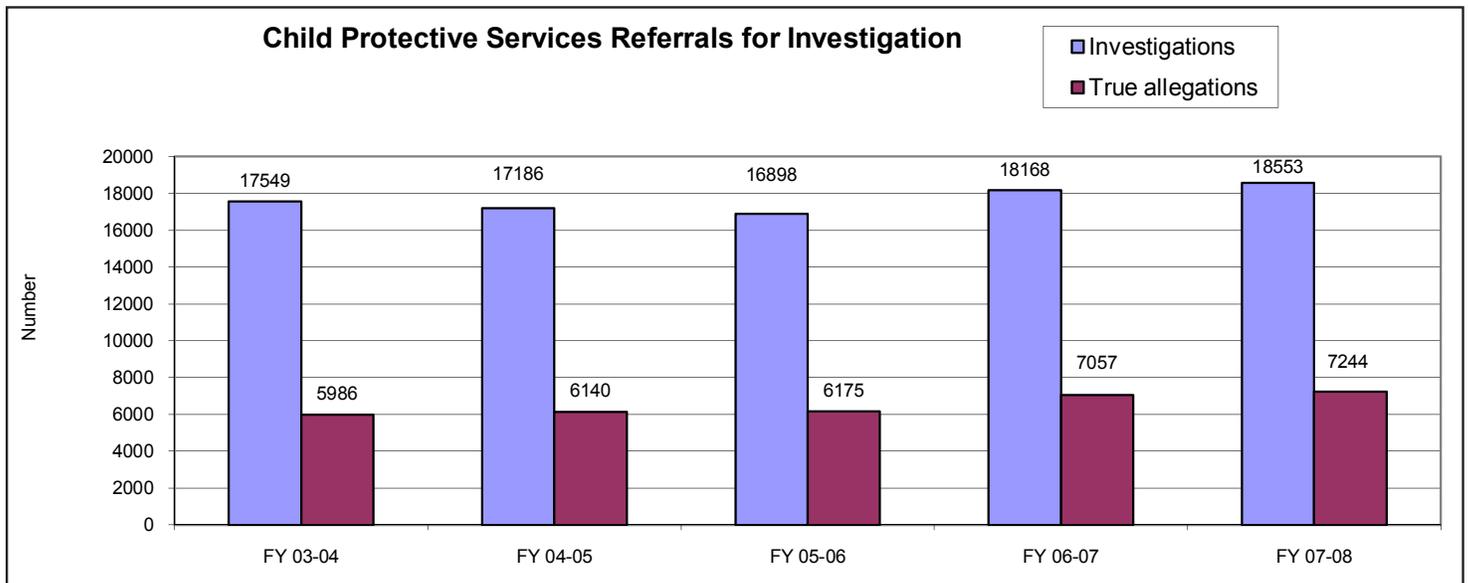


Table 6

Risk Factors

A combination of age, disability, relationships, and family dynamics contribute to the risk of child maltreatment. Although children are not responsible for the harm inflicted upon them, certain individual characteristics have been found to increase their risk of being maltreated.

Age

Children younger than 4 years are at greatest risk for severe injury or death. Infants and young children, due to their small physical size, early developmental status, and need for constant care, can be particularly vulnerable to child maltreatment. Very young children are more likely to experience certain forms of maltreatment, such as shaken baby syndrome and nonorganic failure to thrive. Teenagers, on the other hand, are at greater risk for sexual abuse.⁷

Disability

Children with physical, cognitive, and emotional disabilities appear to experience higher rates of maltreatment than do other children. In general, children who are perceived by their parents as "different" or who have special needs—including children with disabilities, as well as children with chronic illnesses or children with difficult temperaments—may be at greater risk of maltreatment.⁷

Poor Parent-Child Relationship

Parents' lack of understanding of children's needs and parenting skills are risk factors. Substance abuse in the family is highly related to child maltreatment. Parents' history of child abuse in the family of origin is also a risk factor.⁷

Three risk factors are associated with child physical abuse - parent anger/hyper-reactivity, family conflict and family cohesion.⁸ Risk factors associated with child neglect were parent-child relationship, parent perception of child as problem, parent level of stress, parent anger/hyper-reactivity, and parent self-esteem.⁸

Family Disorganization

Family disorganization, dissolution, and violence, including intimate partner violence are risk factors for child maltreatment. According to published studies, in 30 to 60 percent of families where spouse abuse takes place, child maltreatment also occurs. Children in violent homes may witness parental violence, may be victims of physical abuse themselves, and may be neglected by parents who are focused on their partners or unresponsive to their children due to their own fears.⁶

Definitions³:

- **Neglect**
 - **Educational Neglect** - The failure of a parent or caregiver to enroll a child of mandatory school age in school or provide appropriate home schooling or needed special educational training, thus allowing the child or youth to engage in chronic truancy.
 - **Medical Neglect** – The failure to provide appropriate health care for a child (although financially able to do so), thus placing the child at risk of being seriously disabled or disfigured or dying. Concern is warranted not only when a parent refuses medical care for a child in an emergency or for an acute illness, but also when a parent ignores medical recommendations for a child with a treatable chronic disease or disability, resulting in frequent hospitalizations or significant deterioration.
 - **Abandonment** - Willfully deserting or surrendering physical possession of a child (although financially able to do so) without making adequate arrangements for the child's needs or the continuing care of the child by the parent or guardian
 - **Physical Neglect** – Failure of the parent or guardian to supply the child with adequate food, clothing, shelter, education, or supervision appropriate to the child's age and development or health care although financially able to do so
- **Sexual Abuse** - Any sexual act between an adult and a minor or between two minors when one exerts dominance over the other to force or coerce into sexual activity, including sexual contact and non-contact acts such as exhibitionism, exposure to pornography, voyeurism, and communicating in a sexual manner by phone or internet.
- **Psychological Abuse** - Intentional caregiver behavior that conveys to a child that he/she is worthless, flawed, unloved, unwanted, endangered, or valued only in meeting another's needs. Psychological abuse can be continual or episodic.⁴
- **Physical Abuse** – Inflicting physical injury upon a child or encouraging or facilitating the infliction of physical injury upon a child by any person responsible for the child's welfare

Vision

Reduction in child maltreatment cases in South Carolina through collaboration of organizations in both the public and private sectors that focus on broad-based preventive and treatment services and research for child abuse and neglect.

Mission

To promote collaboration among the public and private sectors to strengthen evidence-based prevention and treatment services for child abuse and neglect and to support research and professional and public education to reduce risk for child maltreatment.

Goal 1: Increase awareness and knowledge of child maltreatment among parents and professionals.

Objective 1.1: Develop and implement public campaigns designed to increase awareness of child maltreatment prevalence in the state.

Strategies 1.1:

1. Collaborate with various government and community agencies, groups, and leaders to develop awareness campaigns.
2. Improve data collection and reporting of child maltreatment in order to evaluate the problem in the state.

Activities 1.1:

- a. Arrange presentations to college students studying education regarding the issues surrounding child maltreatment.
- b. Launch media campaign including billboards, radio and television ads, etc.
- c. Support and collaborate with the S.C. Department of Social Services by providing avenues for dissemination of child maltreatment data (e.g. health fairs, newsletters, websites, walk-a-thons, etc.)

Objective 1.2: Develop programs to increase the knowledge of child maltreatment prevention and recognition.

Strategies 1.2:

1. Enhance parental protective factors (i.e. parental resilience, social connections, knowledge of parenting and child development, concrete support in times of need, and social and emotional competence of children) using curriculums such as Strengthening Families.
2. Collaborate with care providers and school systems to develop or improve a standard approach of recognizing child maltreatment.
3. Collaborate with Prevent Child Abuse South Carolina affiliate network.

Activities 1.2:

- a. Arrange seminars or small meetings for parents in community centers, churches, homes, and schools to teach them the protective factors, which is important in preventing child maltreatment.
- b. Disseminate print materials (e.g. brochures, posters, etc.) with the signs of child maltreatment and resources for referral to health departments, primary care providers, schools, day cares, churches, etc.
- c. Seek Community Based Child Abuse Prevention (CBCAP) grants by contacting The Children's Trust of South Carolina.

Goal 2: Advocate for policy changes that support prevention of child maltreatment

Objective 2.1: Develop a comprehensive human resource and professional development plan to ensure high quality preventive services.

Strategies 2.1:

1. Offer funding for competitive salaries and career advancement for preventive services professionals and child protection professionals.
2. Provide sufficient staffing and supervision for Child Protective Services cases.
3. Strengthen in-service training and professional development opportunities for services staff.

Activities 2.1:

- a. Host education forums to bring together state and local preventative service professionals and child protection professionals.
- b. Implement a listing of professional development services for professionals at various levels of service.
- c. Support and strengthen a network of trainers within the state to deliver and/or offer services in local areas.

Objective 2.2: Develop, research, and implement best practice programs that prevent and intervene in child maltreatment.

Strategies 2.2:

1. Increase funding for evidence-based child abuse prevention and treatment services by applying for grants.

2. Create broad-based community prevention services.
3. Seek sufficient funding for research and data collection in child maltreatment.

Activities 2.2:

- a. Promote legislative advocacy for adequate funding of child maltreatment prevention programs.
- b. Establish policy forums for policymakers to inform on current research in child maltreatment.
- c. Collaborate across the spectrum of agencies, groups, universities, and community leaders to make child maltreatment a statewide priority.

Child Maltreatment Information and Resources:

South Carolina Department of Social Services: <http://www.dss.sc.gov>

The Children's Trust of South Carolina: <http://www.scchildren.org> or 803-733-5430

Safe Kids Worldwide: <http://www.usa.safekids.org>

South Carolina Department of Health and Environmental Control: <http://www.scdhec.gov>

Darkness to Light: <http://www.darkness2light.org>

Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov>

Children's Safety Network: <http://www.childrensafetynetwork.org>

References:

1. Prevent Child Abuse America: National Center on Child Abuse Prevention Research. *2006 National Child Maltreatment Statistics*. April 2008. Retrieved from http://member.preventchildabuse.org/site/DocServer/Child_Maltreatment_Fact_Sheet_2005.pdf?docID=221
2. U.S. Department of Health and Human Services, Administration on Children, Youth and Families. *Child Maltreatment 2006*: (Washington, DC: U.S. Government Printing Office, 2008). Retrieved from <http://www.acf.hhs.gov/programs/cb/pubs/cm06/cm06.pdf>
3. Centers for Disease Control and Prevention. (2008). *Understanding Child Maltreatment – Factsheet*. Retrieved January 12, 2009, from <http://www.cdc.gov/violenceprevention/pdf/CM-FactSheet-a.pdf>

4. South Carolina Ann. Code § 20-7-490
5. Kairys SW, Johnson CF, Committee on Child Abuse and Neglect. *The psychological maltreatment of children—technical report*. Pediatrics 2002; 109:1–3
6. Centers for Disease Control and Prevention. (n.d.). Child Maltreatment Prevention Scientific Information: Risk and Protective Factors, Risk Factors for Child Maltreatment. Retrieved December 3, 2009, from <http://www.cdc.gov/ncipc/dvp/cmp/cmp-risk-p-factors.htm>
7. Child Welfare Information Gateway. (2003). A Coordinated Response to Child Abuse and Neglect: The Foundation for Practice. What Factors Contribute to Child Abuse and Neglect? (Chap. 5). Retrieved December 15, 2009, from <http://www.childwelfare.gov/pubs/usermanuals/foundation/foundatione.cfm>
8. Stith, S.M., Liu, T., Davies, L.C., Boykin, E.L., Alder, M.C., Harris, J.M., Som, A., McPherson, M., & Dees, J.E.M.E.G. (2006) Risk factors in child maltreatment: A meta-analytic review of the literature, *Agression and Violent Behavior*, Vol 14, Issue 1. Abstract retrieved December 14, 2009, from ScienceDirect database
9. Child Protective Services Referrals for Investigation: 2008 [Data file]. Columbia, SC: South Carolina Department of Social Services.

Traumatic Brain & Spinal Cord Injuries



Traumatic Brain and Spinal Cord Injuries

Statement of the Problem

A traumatic brain injury (TBI) is caused by a blow or jolt to the head or a penetrating head injury that disrupts the normal function of the brain. Not all blows or jolts to the head result in a TBI. The severity of a TBI may range from “mild,” i.e., a brief change in mental status or consciousness to “severe,” i.e., an extended period of unconsciousness or amnesia after the injury. In the United States 1.4 million sustain a TBI each year. Out of those 50,000 die; 235,000 are hospitalized; and 1.1 million are treated and released from an emergency department. CDC estimates that at least 5.3 million Americans, approximately 2 percent of the U.S. population, currently have a long-term or lifelong need for help to perform activities of daily living as a result of a TBI. Direct medical costs and indirect costs such as lost productivity of TBI totaled an estimated \$60 billion in the United States in 2000.¹

Each year in South Carolina, there is approximately 1,000 deaths, 3,000 hospital discharges and 12,000 emergency department visits. It is estimated that over 108,000 residents of South Carolina have some form of functional limitation or disability resulting from TBI. TBI is the number one cause of death for persons ages 1 to 44. The average age at which persons in South Carolina sustain a TBI is 27 and males have twice the risk of TBI as females. Traffic motor vehicle crashes (MVC), suicide and homicides are the top three causes of TBI-related deaths. Falls, MVC, and struck by or caught in between object or subject are the three leading causes of non-fatal TBI. The estimated direct and indirect costs due to TBI approach \$450 million.²

Traumatic Spinal Cord Injury (TSCI) is acute traumatic lesion of the neural elements in the spinal cord resulting in temporary or permanent sensory deficit, motor deficit, and bowel/bladder /sexual dysfunction. Sensation and function will be totally or partially impaired depending on what part of the spinal cord is injured and whether the injury is complete or incomplete. TSCI can result in permanent paraplegia (paralysis of legs) or quadriplegia (paralysis of legs and arms) and associated serious medical problems.³

According to statewide, population-based surveillance data from the S.C. Head and Spinal Cord Injury Information System, each year in South Carolina about 250 persons with a new traumatic spinal cord injury are discharged from acute care facilities. More than half have quadriplegia and about 30 percent also sustained some degree of TBI. Major causes of TSCI are MVC, violence (including gunshot), falls, and sports activities (2/3 is diving accidents). Estimated annual cost for acute care, rehabilitation, and long term care related to TSCI exceeds \$200 million.⁴

Trends

Illustrated in Table 7 there was a slight steady increase in TBI deaths from 1999 to 2001. There was a noticeable 8.8 percent decrease in the death rate from 2001 to 2002, which continued to decline in 2003 (23.1/100,000). The death rate in 2004 (24.9/100,000) returned to the same level of 2002 and almost leveled out until another increase in 2006 (25.9/100,000), then it showed a slight decrease in 2007 (25.3/100,000).⁷

South Carolina 1999-2007 Traumatic Brain Injury Deaths

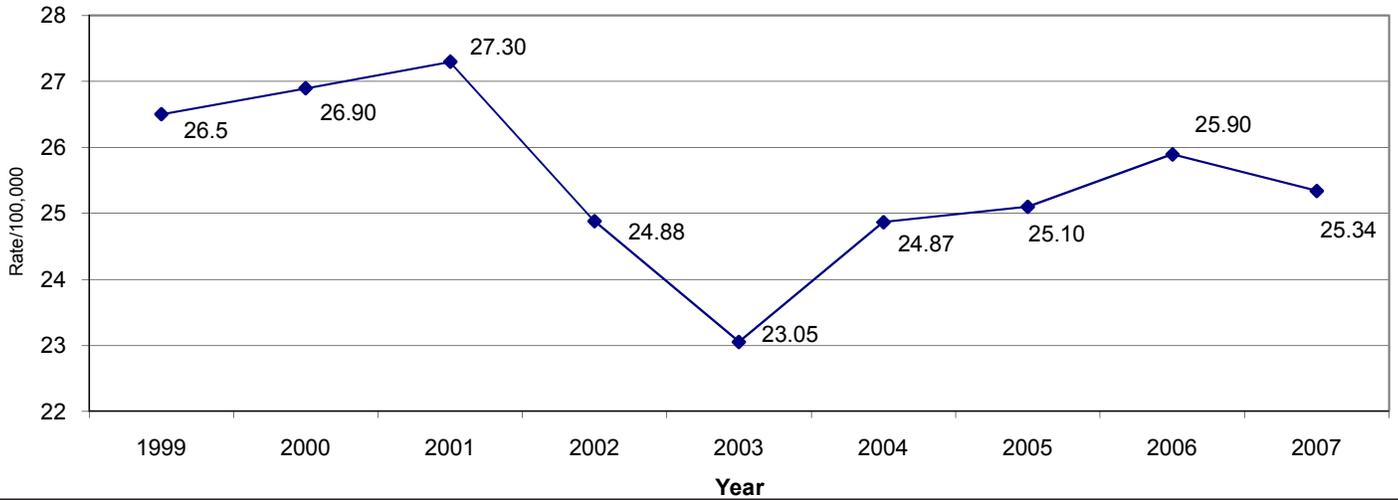


Table 7

In Table 8, around 70 percent of TBI deaths were due to the 3 leading causes (MVC, suicide and homicide); the other 30 percent are due to the many other factors. TBI deaths due to suicide are double that of TBI deaths due to homicide and the majority are carried out by white males, while homicide occurs much more frequent among black/other males.²

South Carolina 1999-2007 Causes of Traumatic Brain Injury Deaths

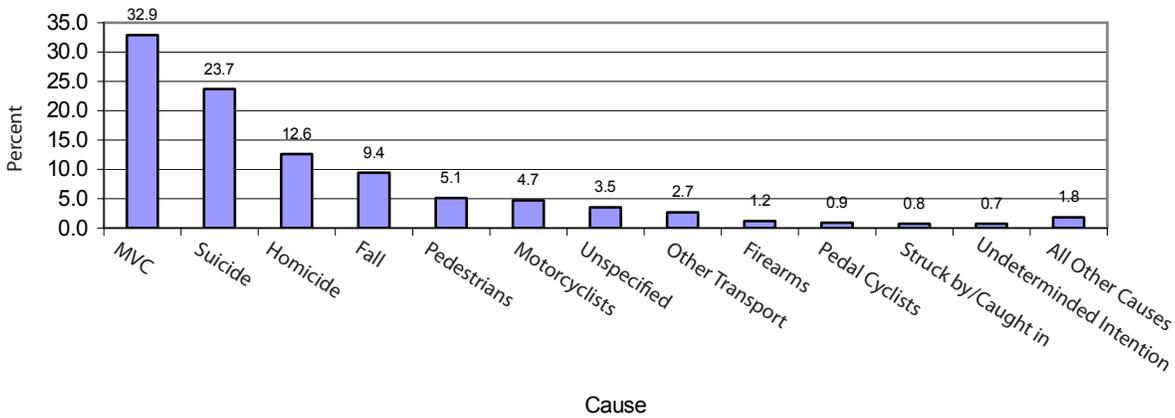


Table 8

In Table 9 Non-fatal TSCI hospital discharges were almost steady from the year 2000 to 2003. In 2004 there was a sudden 38 percent increase in the number of TSCI discharges and then a 17 percent decrease in year 2005, and from then the rate slightly decreased during the following 2 years.⁴

South Carolina 2000-2007, Traumatic Spinal Cord Injury Hospital Discharges

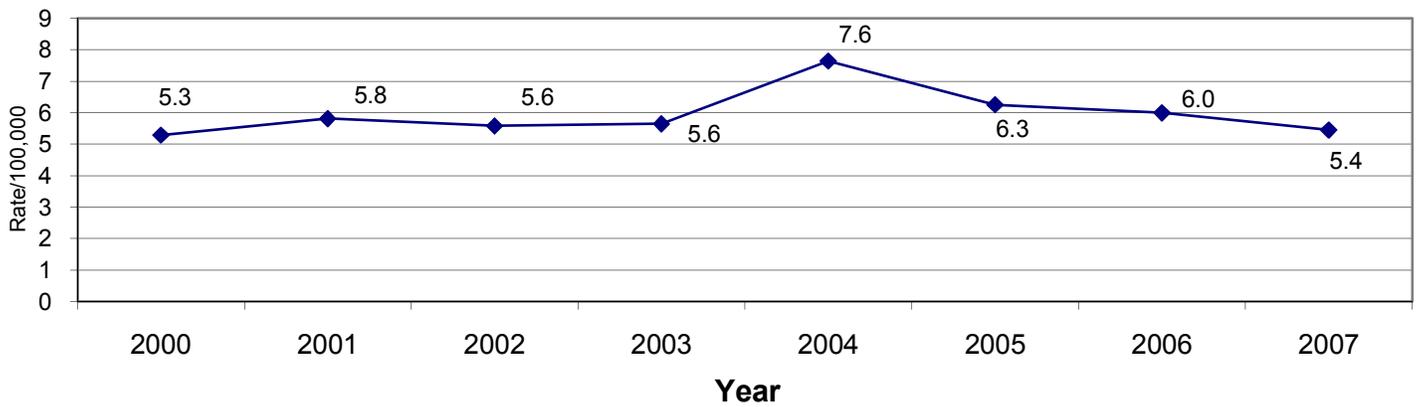


Table 9

Almost one third of the TSCI cases are due to MVC. Falls made up 16 percent of the cases while assault caused 6.4 percent of TSCI discharges. Sports/recreation accounted for 4.4 percent of the discharges; diving and pedal cycling were the top two causes of this group (each contributed almost 23 percent) and struck by/or against caused 16 percent of TSCI in sports/recreation (see Table 10).⁴

South Carolina 2000-2007, Causes of Traumatic Spinal Cord Injury Hospital Discharges

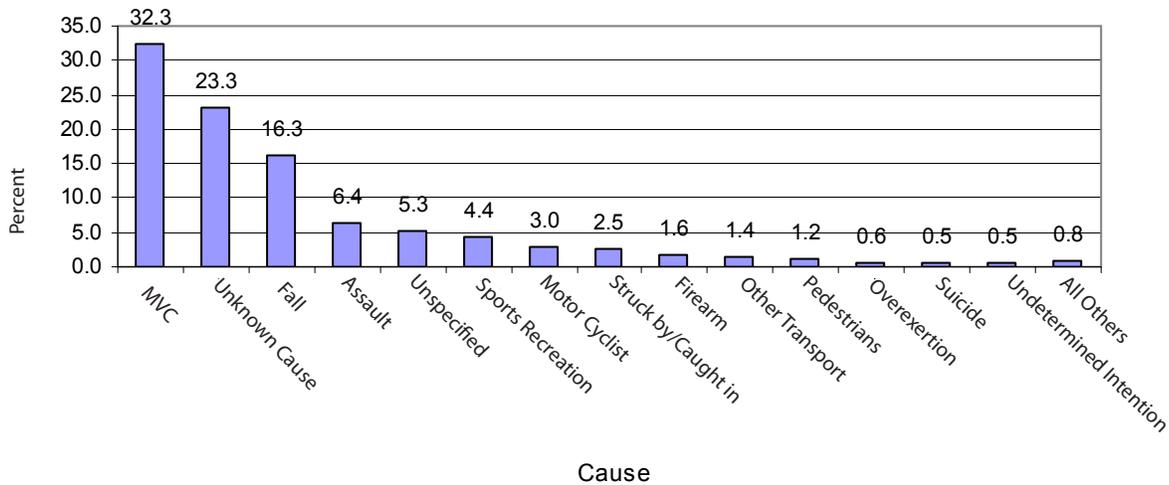


Table 10

Risk Factors

Although a TBI and TSCI are usually the result of an unexpected accident that can happen to anyone, certain factors may predispose you to a higher risk of sustaining a TBI or TSCI.

Age/gender

TBI occurs twice as often in men as in women. Populations at a higher risk include the following:

- Individuals between the ages of 15 and 24 years ;
- Individuals age 75 and older; and
- Young men ages 15 to 24.⁵

Children age five and younger are also at a higher-than-average risk for TBI. According to the National Pediatric Trauma Registry, more than 30,000 children are permanently disabled each year as a result of brain injuries. The greatest risk occurs from mid afternoon to early evening, and during weekends and the summer months. Children are especially at risk after school.⁵

TSCI affect men more than women. Women account for only 20 percent of TSCI in United States.⁶ Being between the ages of 16 to 30 will increase your risk of TSCI. People are in more MVC which is the leading cause of TSCI for people under 65, while falls cause most injuries in older adults.⁶

Alcohol

Half of all TBI involve alcohol use, either by the victim or the person causing the injury.

Participation in certain sports

While being active is one of the best things you can do for your overall health, it may place you at greater risk for TBI and TSCI. Athletic activities that may increase your risk of a TSCI include football, rugby, wrestling, gymnastics, horseback riding, diving, surfing, roller-skating, in-line skating, ice hockey, downhill skiing and snowboarding.⁶

Bone or joint disorder

A relatively minor injury can cause a TSCI if you have another disorder that affects your bones or joints, such as arthritis or osteoporosis.⁶

Vision

Minimize the occurrence of preventable traumatic brain and spinal cord injuries in South Carolina.

Mission

To raise awareness among the general public, professionals, service providers, advocates, and policymakers of the extent, scope and implications of traumatic brain and spinal cord injuries as a significant public health issue in South Carolina.

Goal 1: Educate policy makers about TBI and TSCI and its impact on South Carolina.

Objective 1.1: Advocate to your local legislators in your area.

Strategies 1.1:

1. Ask for a face-to-face appointment with your legislators to advocate TBI and TSCI awareness and prevention efforts. Invite TBI/TSCI survivor or family member to attend meeting.
2. Identify and collaborate with influential and appropriate partners who are able to implement injury control policy activities.

Activity 1.1:

- a. Attend the legislative hearings and committees at your state capital by checking the government's website for legislative committee meeting calendars to obtain dates and times for hearings and committees.

Objective 1.2: Provide TBI and TSCI information to policy makers.

Strategies 1.2:

1. Create TBI and TSCI fact sheets for distribution.
2. Assure accessibility of current data and information about TBI and TSCI.

Activities 1.2:

- a. Mail TBI and TSCI fact sheets to local legislators.
- b. Invite policy makers to the annual TBI conference to disseminate information.

Goal 2: Increase public awareness of TBI and TSCI.

Objective 2.1: Promote TBI and TSCI awareness, prevention, and community resources.

Strategies 2.1:

1. Provide in-depth education about TBI and TSCI, challenges and coping with these injuries.
2. Cultivate relationships with the media.

Activities 2.1:

- a. Host mini-conferences in many areas around the state for TBI and TSCI survivors and their families, health care professionals, caregivers, state agencies, and all injury prevention stakeholders to educate in-depth about TBI and TSCI and resources available.
- b. Create public service announcements to promote TBI and TSCI awareness and prevention for radio and television campaigns.

Objective 2.2: Provide training to medical, social service, education and other professionals who support improved quality of life for TBI and/or TSCI.

Strategies 2.2:

1. Connect with health care professionals and caregivers who are experienced and certified to conduct TBI or TSCI trainings in the community.
2. Utilize TBI and TSCI support groups to seek training opportunities within communities.

Activities 2.2:

- a. Attend health care professional's venues and place of employment to provide TBI and TSCI training and continuing education credits.
- b. Explore offering training for continuing education credits via teleconference.

Goal 3: Provide TBI and TSCI data to injury prevention stakeholders in community.

Objective 3.1: Establish a data source where TBI and TSCI information can help in assessing the magnitude of the problem and the risk factors.

Strategy 3.1:

1. Coordinate with existing partners to acquire TBI and TSCI data (death, hospital discharges and emergency department).

Activities 3.1:

- a. Analyze the data in order to develop TBI and TSCI statistics, which can be used to write grants or develop prevention programs.

- b. Post the information on web sites where it is logical to search for and find this information.

Objective 3.2: Increase opportunities to disseminate data and information about TBI and TSCI.

Strategies 3.2:

1. Develop partnerships with injury prevention stakeholders such as hospitals, schools, and health and social agencies.
2. Utilize e-mail and the internet to disseminate TBI and TSCI information.

Activities 3.2:

- a. Develop on-line newsletter, brochures, and other materials to post on a website.
- b. Develop hyper-links from each partner's web page for easy navigation to find information and resources.
- c. Host annual conference for injury prevention and health care professionals to disseminate data and information on TBI and TSCI.

Traumatic Brain and Spinal Cord Injury Resources:

Brain Injury Association of South Carolina: <http://www.biausa.org/SC> or 1-877-824-3228
(1-877-TBI-FACT)

South Carolina Spinal Cord Injury Association: <http://www.sccspinalcord.org> or 1-866-445-5509

South Carolina Department of Health and Environmental Control:
<http://www.scdhec.gov/injury>

South Carolina Department of Disabilities and Special Needs: <http://www.state.sc.us/ddsn>

South Carolina Brain Injury Leadership Council: <http://www.lifewithbraininjury.com>

S.C. Access Aging and Disability Information "Learn About": <http://scaccess.agis.com/> or
1-800-868-9095

Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov>

References:

1. Centers for Disease Control and Prevention. (2009). *Traumatic Brain Injury- Fact Sheet*. Retrieved March 26, 2009, from <http://www.cdc.gov/ncipc/tbi/TBI.htm>

2. South Carolina Department of Health and Environmental Control's Division of Injury and Violence Prevention. (2006). *South Carolina 2006 Injury Report*. Retrieved January 24, 2009, from the SC Department of Health and Environmental Control Web site:
<http://scdhec.sc.gov/injury>
3. National Spinal Cord Injury Statistical Center - University of Alabama at Birmingham. (2009) *Spinal Cord Injuries Facts and Figures at a Glance 2009*. Retrieved July 21, 2009, from
<http://www.spinalcord.uab.edu/show.asp?durki=119513&site=4716&return=19775>
4. *South Carolina Head and Spinal Cord Injury Information System- Hospital Data System and the Trauma Registry head and spinal cord data: 2009* [Data file]. South Carolina Budget and Control Board, Office of Research and Statistics. Retrieved and analyzed by SC Department of Disability and Special Needs.
5. Neurology Channel. (n.d.). Traumatic Brain Injury (TBI): TBI Risk Factors. Retrieved December 7, 2009, from <http://www.neurologychannel.com/tbi/riskfactors.shtml>
6. Mayo Clinic. (2009, October 29). Spinal Cord Injury: Risk Factors. Retrieved January 6, 2010 from <http://www.mayoclinic.com/health/spinal-cord-injury/DS00460/DSECTION=risk-factors>
7. Office of Public Health Statistics and Information System (PHISIS) – Injury Death Data: 1999-2007 [Data file]. Columbia, SC: Department of Health and Environmental Control.

Child Passenger Safety



Child Passenger Safety

Statement of the Problem

Motor vehicle crashes (MVC) are the leading cause of all injury deaths in America. In 2007, data indicate that 1,528 children under six years of age were injured in South Carolina. 2008 preliminary data indicate 9 children less than six years of age lost their lives due to MVC.¹

Properly restraining children while riding in the car can help to reduce the number of injuries, disabilities, and deaths that result from MVC.

- In the United States during 2005, 1,335 children ages 14 years and younger died as occupants in MVC, and approximately 184,000 were injured. That's an average of 4 deaths and 504 injuries each day.²
- Among children under age 5, in 2006, an estimated 425 lives were saved by car and booster seat use.³
- Child safety seats reduce the risk of death in passenger cars by 71 percent for infants, and by 54 percent for toddlers ages 1 to 4 years.³

Trends

Through the eight year period, 2001-2008, almost half of the children who died from MVC did not have any protective device when the accident occurred. Five out of the eight years, the usage of seat belt (shoulder only, lap only, or shoulder & lap) among these children was higher than the usage of child safety seat. The unknown percentages of the seat or belt usage are not showing in this graph. The large peak of use in 2005 was due to the fact that there was zero unknown (see Table 11).¹

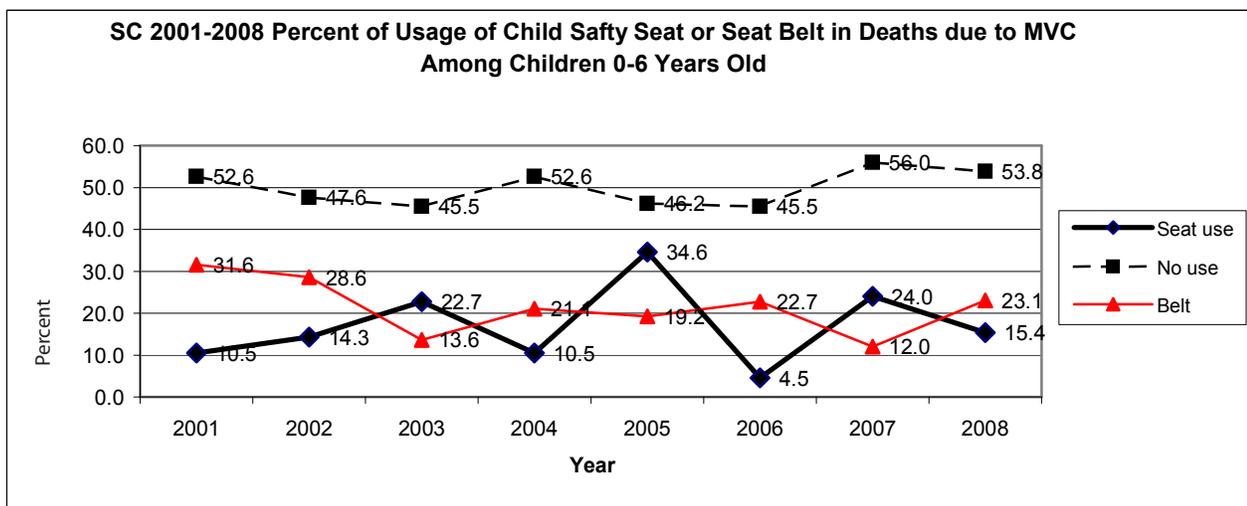


Table 11

Risk Factors

Improper Use of Child Restraints

Child restraint systems that are not used correctly will most likely increase a child's risk of injury during a crash. One study found that seventy-two percent of nearly 3,500 observed car and booster seats were misused in a way that could be expected to increase a child's risk of injury during a crash.⁴

Riding with a Drunken Driver

Children between the ages of 0-14 years are more at risk of dying in a car crash if riding with a drunken driver. One out of every four occupant deaths among children 0-14 years involved a drunk driver. More than two thirds of those were fatally injured because they were riding with a drunken driver.⁴

No Seatbelt

Children riding with adult drivers that do not utilize their seatbelts will in return imitate the driver's behaviors. Almost forty percent of children riding with unbelted drivers were themselves unrestrained.⁴

Vision

Every child in South Carolina will ride in an appropriate child safety seat that is installed in the vehicle correctly.

Mission

To reduce injury and fatality due to misuse and nonuse of child restraints for children from birth to 6 years of age by providing Child Passenger Safety Fitting Stations across the state.

Goal 1: Increase the number of permanent Child Passenger Safety (CPS) Fitting Stations in the state.

Objective 1.1: Establish six (6) new CPS Fitting Stations with non-traditional partners.

Strategy 1.1:

1. Collaborate across the spectrum of agencies, groups, and community leaders to identify CPS needs in targeted communities.

Activity 1.1:

- a. Develop new partnerships with local fire departments, Emergency Medical Services stations, law enforcement, social service agencies (Department of Social Services, Head Start, First Steps, etc.).

Objective 1.2: Have CPS trainers conduct or participate in a minimum of 18 National Highway Traffic Safety Administration (NHTSA) Certified Technician classes.

Strategy 1.2:

1. Identify, support and train agencies interested in conducting CPS fitting stations.

Activity 1.2:

- a. Provide training on awareness and CPS technician classes to agencies based on interest.

Goal 2: Reduce the number of fatal crashes for children under 6 years of age.

Objective 2.1: Conduct quarterly observational studies to monitor restraint use of children.

Strategy 2.1:

1. Identify proper survey form to evaluate statewide use of child restraints.

Activities 2.1:

- a. Identify locations to administer surveys.
- b. Develop spreadsheet to disseminate data.

Goal 3: Maintain current levels of trained CPS technicians statewide.

Objective 3.1: Conduct twelve (12) continuing education classes to facilitate the recertification process for CPS technicians.

Strategies 3.1:

1. Develop list of all currently certified technicians by county.
2. Coordinate efforts with instructors statewide.

Activities 3.1:

- a. Identify available Continuing Education Units (CEUs) opportunities.
- b. Provide e-mail notification of education opportunities to technicians.

Child Passenger Safety Information & Resources:

National Highway Traffic Safety Administration (NHTSA): <http://www.nhtsa.gov>

Safe Kids Worldwide: <http://www.usa.safekids.org>

South Carolina Department of Health and Environmental Control:
<http://www.scdhec.gov/injury>

State and Territorial Injury Prevention Directors Association: <http://www.stipda.org>

Children's Safety Network: <http://www.childrenssafetynetwork.org>

Consumer Product Safety Commission: <http://www.cpsc.gov>

Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov>

References:

1. South Carolina Department of Public Safety, Office of Highway Safety. (2007). *South Carolina 2007 Traffic Collision Fact Book*. Retrieved April 8, 2009, from <http://www.scdps.org/ohs/2007%20FACTBOOK.pdf>
2. National Highway Traffic Safety Administration. National Center for Statistics & Analysis, *Traffic Safety Facts 2005: Children (2005)*. Washington (DC): United States Department of Transportation, 2005
3. National Highway Traffic Safety Administration. National Center for Statistics & Analysis, *Traffic Safety Facts 2004: Children*. Washington (DC): United States Department of Transportation, 2005
4. Centers for Disease Control and Prevention. (2008, September 24). *Child Passenger Safety: Fact Sheet*. Retrieved December 3, 2009, from <http://www.cdc.gov/ncipc/factsheets/childpas.htm>

Sexual Violence



Sexual Violence

Statement of the Problem

Sexual Violence (SV) refers to sexual activity where consent is not obtained or freely given. Anyone can experience SV, but most victims are female. The person responsible for the violence is typically male and is usually someone known to the victim. The person can be, but is not limited to, a friend, coworker, neighbor, or family member. There are many types of SV. Not all include physical contact between the victim and the perpetrator (person who harms someone else). Examples include sexual harassment, threats, intimidation, peeping, and taking nude photos. Other SV, including unwanted touching and rape, does include physical contact. Among high school students surveyed nationwide, about 8 percent reported having been forced to have sex. Females (11 percent) were more likely to report having been forced to have sex than males (4 percent). An estimated 20 percent to 25 percent of college women in the United States experience attempted or complete rape during their college career.¹ In the United States, 1 in 6 women and 1 in 33 men reported experiencing an attempted or completed rape at some time in their lives.¹

One in eight adult women (approximately 13 percent) in South Carolina is estimated to have been raped at some time during their lifetime. In 2002, one in every eight rape victims was male.² The problem is very prevalent with children. About 44 percent of rape victims are under age 18. Three out of every twenty victims (15 percent) are under age 12.³ Seven percent of girls in grades five to eight and twelve percent of girls in grades nine through twelve and said they had been sexually abused.⁴ Three percent of boys in grades five through eight and five percent of boys in grades nine through twelve said they had been sexually abused.⁵

Trend

The following data in Table 12 include females and males, and there was a steady decrease in the number of rape cases served by the crisis centers from 2003 to 2006; the largest decrease was in 2005 (30 percent) from 2004. There was 21 percent increase in numbers in 2007 from 2006.⁶

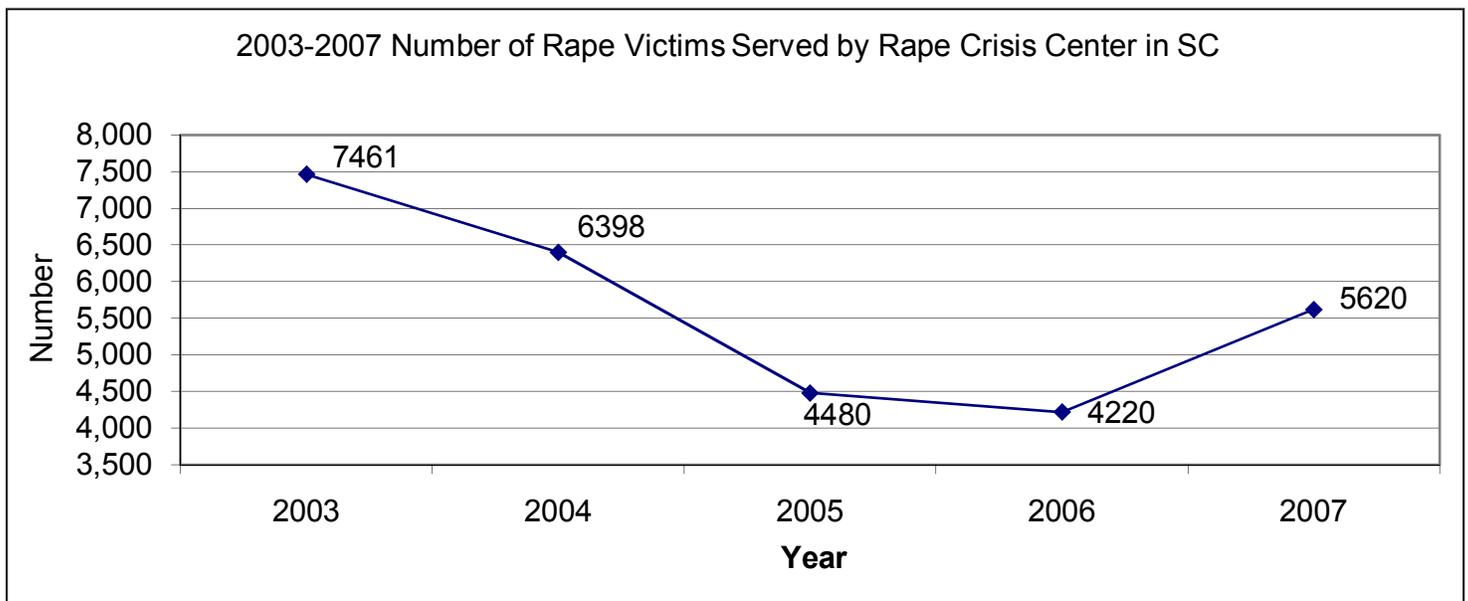


Table 12

Risk Factors

Sexual violence affects millions of people worldwide and represents a serious public health problem. There are many factors increasing the risk of sexual violence. These factors influence not only the likelihood of rape, but also the reaction to it.

Gender

Factors increasing men's risk of committing rape include using alcohol or drugs, lacking inhibitions to suppress associations between sex and aggression, and holding attitudes and beliefs supportive of sexual violence, including coercive sexual fantasies a pattern of behavior that is impulsive, antisocial and hostile toward women.⁶

History of abuse

Having been sexually abused as a child growing up in a family environment characterized by physical violence, little emotional support and few economic resources are also risk factors for sexual violence behaviors.⁶

Poverty

Poverty and living in a community with a general tolerance for sexual violence and weak sanctions against it are also contributory factors. Poverty increases people's vulnerabilities to sexual exploitation in the workplace, schools, prostitution, sex trafficking, and the drug trade. People with the lowest socioeconomic status are at greater risk for sexual violence. Individuals who lack sufficient economic resources to meet their basic needs, specifically women, may have to resort to bartering for essential goods with sex.⁶

Society

Societal risk factors that contribute to the occurrence of sexual violence and place certain groups at greater risk include gender-based inequality, magnification of male honor and entitlement, war, and absent or weak sanctions and human services.⁶

Vision

For South Carolina to be free from sexual harassment, exploitation, and violence through collaboration, advocacy, and education.

Mission

To transform the culture of violence norm into a no-tolerance of violence norm and to promote a society in South Carolina that is knowledgeable about sexual violence and ways to

prevent and reduce it. Also, to continue to support intervention services provided by the state's sexual assault centers and the state coalition.

Definitions:

Sexual Violence

- **Sexual violence** includes sexual acts (completed or attempted) and words that are coercive, manipulative or forced upon an individual or individuals with the intent to intimidate, dominate, subjugate, humiliate and control that person or persons. The vast majority of these acts are perpetrated by an individual or individuals the victim(s) know or are acquainted with (i.e., a friend, an acquaintance, a relative, or an intimate or former-intimate partner), and are on less often occasions, committed by a stranger(s).¹

Primary Prevention

- **Primary prevention** is defined as eliminating the *root causes of sexual violence and stopping sexual violence before it occurs* and "secondary prevention" defined as focusing efforts on specific groups at risk for perpetration or victimization. Primary prevention efforts include addressing basic gender inequalities because of the high correlation they have to sexual violence. Prevention efforts will address raising the status of women and girls while focusing on the issue of male violence and creating a healthier definition of masculinity that does not involve power, control and violence. Of particular challenge is how to impact messages and dispel myths related to existing "social norms" for male behavior. South Carolina will employ an approach towards primary prevention of sexual violence that focuses on increasing primary prevention system capacity by promoting the use of theory-driven primary prevention approaches, by developing and implementing primary prevention strategies across the social-ecological model, by promoting cultural competency, and through the utilization of data and evaluation to make informed decisions related to activities and programs. Primary prevention of sexual violence is directed at larger, universal populations and seeks to create conditions that promote healthy relationships and decreases the likelihood of initial perpetration and victimization of sexual violence.¹

Goal 1: Change social norms within the community.

Objective 1.1: Identify social norms in the population that are threats to gender equality, respect and/or safety from men, women, and children.

Strategies 1.1:

1. Influence social norms in support of respect, safety and equality for all people of the state.

2. Mobilize and train groups and individuals potentially willing and able to positively influence social norms.
3. Use media campaigns to promote primary prevention of sexual violence.

Activities 1.1:

- a. Create a public awareness campaign targeted at middle and high school boys to change social norms around sexual violence.
- b. Provide technical assistance and training on social norms and how to promote respect towards another individual.

Goal 2: Increase collaboration.

Objective 2.1: Build relationships and partnerships on a statewide and local level to increase capacity to prevent sexual violence.

Strategies 2.1:

1. Develop and implement community activity work plans for primary prevention of sexual violence.
2. Identify, recruit, and train leaders for involvement at the local level.

Activity 2.1:

- a. Provide strategic planning information and training in order for the Rape Crisis Centers in South Carolina to begin local strategic planning and collaboration processes.

Goal 3: Promote education and awareness across the state.

Objective 3.1: Promote sexual violence primary prevention education throughout our local communities and our state.

Strategies 3.1:

1. Promote the use of a statewide curriculum across all grade levels.
2. Identify where sexual violence primary prevention education and other existing prevention education programs (substance abuse, bullying, character education, etc.) can collaborate together and present a unified message.

3. Incorporate sexual violence primary prevention programming into existing school programs and curricula.
4. Work towards getting the existing dating violence education bill passed in South Carolina.

Activities 3.1:

- a. Provide technical assistance with primary prevention curricula and incorporation into existing programs holding quarterly trainings and individual assistance as requested.
- b. Provide information to raise education and awareness to local policy and law makers.
- c. Coordinate with the Rape Crisis Centers to conduct multi-session trainings each year for middle/high schools incorporating healthy relationships and other primary prevention components.
- d. Form a partnership with the Department of Education to incorporate primary prevention curricula in the public school systems.

Sexual Violence Information and Resources

RAINN | Rape, Abuse & Incest National Network: <http://www.rainn.org> or 1-800-656-HOPE

S.C. Coalition against Domestic Violence and Sexual Assault: <http://www.sccadvasa.org> or 1-800-260-9293

Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov>

South Carolina Department of Health and Environmental Control: <http://www.scdhec.gov>

References

1. Centers for Disease Control and Prevention. (2008). *Sexual Violence Facts at A Glance Spring 2008*. Retrieved July 8, 2009, from <http://www.cdc.gov/ViolencePrevention/pdf/SV-DataSheet-a.pdf>
2. U.S. Department of Justice, Bureau of Justice Statistics (2002). *National Crime Victim Survey*. Retrieved July 8, 2009, from http://www.ojp.usdoj.gov/bjs/cvict_v.htm

3. U.S. Department of Justice, Bureau of Justice Statistics (1997). *Sex Offenses and Offenders*. Retrieved by July 9, 2008, from <http://www.ojp.usdoj.gov/bjs/abstract/soo.htm>
4. Schoen, C., Davis, K., Collins, K., Greenberg, L., DesRhoches, C., Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls*. Retrieved July 22, 2009, from http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/1997/Nov/The%20Commonwealth%20Fund%20Survey%20of%20the%20Health%20of%20Adolescent%20Girls/Schoen_adolescentgirls%20pdf.pdf
5. Schoen, C., Davis, K., DesRhoches, C., Shedkhdar, A. (1998). *The Health of Adolescent Boys: Commonwealth Fund Survey Findings*. Retrieved July 12, 2009, from http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/1998/Apr/The%20Health%20of%20Adolescent%20Boys%20%20Commonwealth%20Fund%20Survey%20Findings/Schoen_adolescentboys%20pdf.pdf
6. South Carolina Sexual Assault Summary Report – Rape Crisis Centers Data: 2003-2007 [Data file]. Columbia, SC: Department of Health and Environmental Control.

Residential Fire



Residential Fire

Statement of the Problem

Deaths from fires and burns are the fifth most common cause of unintentional injury deaths in the United States and the third leading cause of fatal home injury. Although the number of fatalities and injuries caused by residential fires has declined gradually over the past several decades, many residential fire-related deaths remain preventable by using a smoke alarm and continue to pose a significant public health problem. In 2006, fire departments responded to 412,500 home fires in the United States, which claimed the lives of 2,580 people (not including firefighters) and injured another 12,925, not including firefighters. Historically, children and the elderly have been considered most at risk for residential fire injury and death both nationally and statewide. According to the CDC, 1998 national data indicate that children four years of age and under and adults 65 years and older are at an increased risk for fire injuries.¹

In South Carolina in 2006, there were 89 fire related deaths (78 were residential). Within the 78 residential fires there were no smoke alarms in 23 residences (29.5 percent), 30 percent were unknown, and 35 percent had smoke alarms (37 percent were working and 37 percent were unknown).²In the same year, there were 1,346 non-fatal injuries due to residential fire in South Carolina (rate of 3.1/10,000 population). The non-fatal injury rate for children 0-4 years old was 4.3/10,000 children, which is higher than the state rate for all ages.³

Trends

The graph shows in Table 13 a pattern of increase in residential fire death in one year and then a decline in the next two consecutive years. The peak was reached in 2003 where there was a 64 percent increase from 2002. The largest drops were in years 2005 and 2007 where there was approximately 30 percent decrease in deaths from their preceding years.⁷

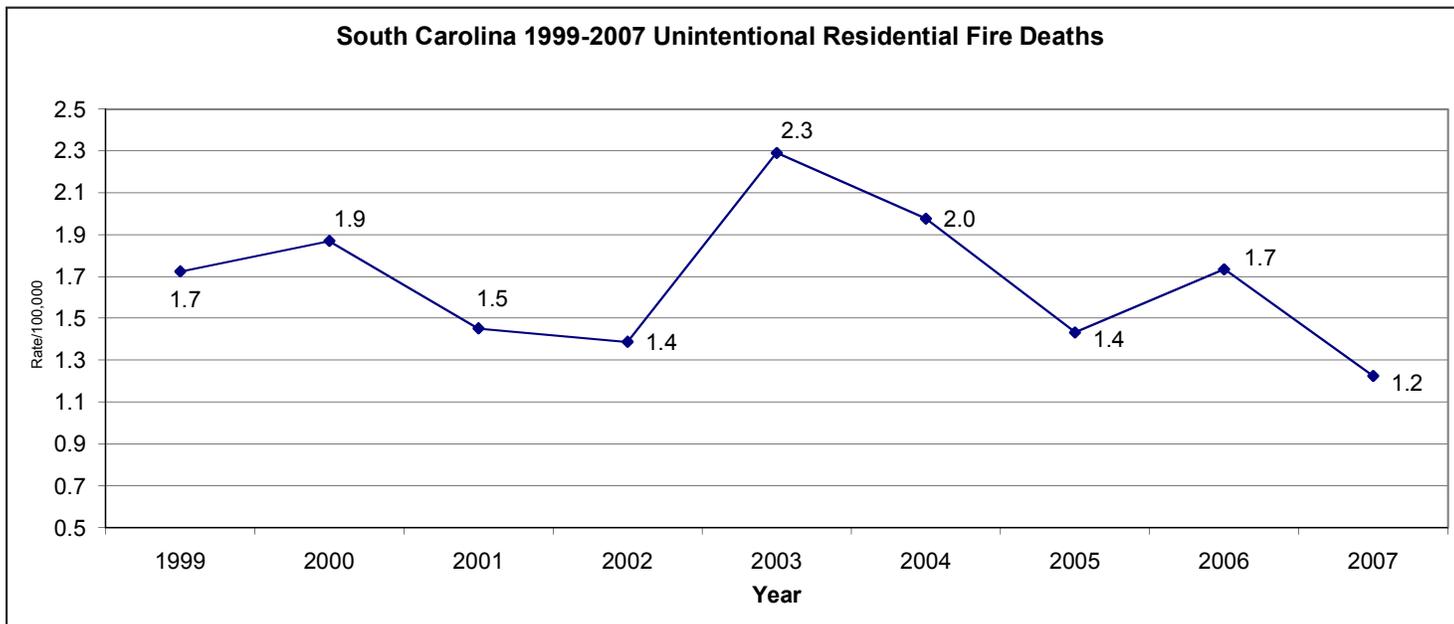


Table 13

Risk Factors

Residential fires rank fourth among causes of unintentional injury deaths and account for three quarters of all fire deaths in the United States. Several specific residential and personal characteristics are associated with an excess risk of residential fire and burn injuries. The risk of death is greatest in fires in mobile homes, in those involving alcohol-impaired persons, and in those in houses without smoke detectors.⁶

Race /ethnicity

African Americans and Native Americans are at higher risk for fire-related deaths than any other race or ethnicity. These disparities may be due to lower education levels, higher poverty levels, living in rural settings and higher percentages of persons living in manufactured housing.⁵

Age

Data collected on fire and burn injuries have shown that they follow certain risk patterns. Children under the age of 5 are at high risk for fire and burn injuries, because their development is incomplete, and therefore, they may not have the capacity to judge dangerous situations. Persons aged 65 and older are also at higher risk for fire and burn injuries, because they are more susceptible to smoke inhalation and burns, and are less likely to recover from their injuries. Mobility and sensory impairments also add to an increase in risk for fire and burn injuries among older persons.⁶

Absence of Smoke Alarm

Risk of fire fatality is greater for people in mobile homes and in homes without a smoke detector. Smoke detectors are more protective against death in fires.⁴

Alcohol and Cigarettes

Households who have cigarette smokers and alcohol consumers among their members are at increased risk for fire injury. The presence of an alcohol-impaired person is the strongest independent risk factor for death in the case of a fire. Although heating incidents were the leading cause of fires, fatal fires were more likely to have been caused by smoking.⁴

Vision

South Carolina residents will have a working smoke alarm in their home.

Mission

To reduce the incidence and magnitude of fire related injuries and fatalities in South Carolina through the collective efforts of selected fire departments.

Definitions:

Lithium Powered Smoke Alarm

- **Lithium** is an Ultralife 10 Year Smoke Detector Battery warranted to last 10 years. Alkaline batteries in smoke detectors have to be changed every year. With the Ultralife 10 Year Battery, state-of-the-art lithium technology keeps your life-saving detector energized for a full 10 years. This battery is environmentally friendly and contains no toxic metals.

Goal 1: Increase the number of homes with working 10-year lithium powered smoke alarms.

Objective 1.1: Create statewide partnerships with local fire departments to provide smoke alarms to targeted homes with no working smoke alarms.

Strategies 1.1:

1. Develop partnerships with local fire departments for distribution of fire alarms within the homes.
2. Obtain lithium powered smoke alarms through mini grant funding and local vendors.

Activities 1.1:

- a. Distribute smoke alarm installation forms and 10-year lithium powered smoke alarms to local fire departments.
- b. Coordinate with local fire department to canvas neighborhoods to see where there is a need or high incidence rate.
- c. Use health departments, housing authority, Department of Social Services, and other human services entities to refer people with no working fire alarms to the local fire departments.

Objective 1.2: Increase awareness activities/campaign (press release) in local communities.

Strategies 1.2:

1. Create awareness and education on the importance of lithium powered smoke alarms by media campaigns.
2. Produce informational brochures for distribution in English and Spanish text.
3. Increase partnerships with state agencies and community organization to assist in promoting smoke alarms.

Activities 1.2:

- a. Provide informational brochures at health fairs, church events, and injury prevention conferences.
- b. Post informational flyers in local health departments and other social service entities.
- c. Distribute literature to the public by massive mail out.

Goal 2: Maintain current fire department partnerships statewide.

Objective 2.1: Partner with the fire department to distribute smoke alarms and residential fire educational literature statewide.

Strategies 2.1:

1. Develop list of all current participating fire departments distributing alarms.
2. Coordinate outreach efforts by making site visits with fire departments.

Activity 2.1:

- a. Distribute a resource list with participating fire department to schools, daycares, health departments, and other social service entities for a referral source.

Goal 3: Increase residential fire sprinkler systems installation in new and existing homes.

Objective 3.1: Increase knowledge and awareness on residential sprinkler systems.

Strategies 3.1:

1. Educate the public, insurance companies, real estate agents, and home builders.
2. Inform entities of the 357 fire incentive act and the tax incentives they will receive if adopted.

Activities 3.1:

- a. Present to real estate companies the importance of encouraging the purchase of a house with a sprinkler system or installing one in.
- b. Participate in health fairs and home and garden shows to increase awareness.

- c. Partner with a fire department to use their demonstration trailer to show how sprinkler systems work at various educational venues.

Objective 3.2: Adopt and implement the international fire code which includes the requirement of residential sprinkler system usage.

Strategy 3.2:

1. Contact and educate legislators and policy makers about the international fire code.

Activities 3.2:

- a. Promote the 357 Fire Sprinkler Incentive Act by distributing information to the public and legislators.
- b. Encourage people to contact their governing bodies via telephone, mail, or e-mail.

Residential Fire Injury Prevention Information & Resources

Office of State Fire Marshal: <http://www.llr.state.sc.us/firemarshal.asp>

South Carolina Department of Health and Environmental Control:
<http://www.scdhec.gov/injury>

South Carolina Department of Labor, Licensing and Regulation:
<http://www.llr.state.sc.us>

Centers for Disease Control and Prevention (CDC): <http://www.cdc.gov>

International Residential Fire Sprinklers Code: <http://www.residentialfiresprinklers.com>

References

1. Centers for Disease Control and Prevention. (2008). *Fire Deaths and Injuries: Fact Sheet*. Retrieved June 8, 2009, from <http://www.cdc.gov/ncipc/factsheets/fire.html>Injury Cube
2. The Office of State Fire Marshal of the S.C. Department of Labor, Licensing and Regulation. (2006). *South Carolina Fire Fatalities 2006*. Retrieved June 8, 2009, from <http://www.llronline.com/firemarshal.asp>
3. *Injury Data Cube- Hospital discharge and Emergency department (ED) visits aggregated fire data: 2006* [Data file]. South Carolina Budget and Control Board, Office of Research

and Statistics. Retrieved and prepared by SC Department of Health and Environmental Control Division of Injury and Violence Prevention.

4. Runyan, C.W., Bangdiwala, S.I., Linzer, M.A., Sacks, J.J., & Butt, J. (1992). Risk factors for fatal residential fires. *The New England Journal of Medicine*, Vol.327, 859-863. Abstract retrieved December 21, 2009, from <http://content.nejm.org/cgi/content/abstract/327/12/859>
5. Mobley, C., Sugarman, J.R., Deam, C., & Giles, L. (1994, October). Prevalence of Risk Factors for Residential Fire and Burn Injuries in an American Indian Community. *Public Health Reports*, Vol.109 (5). Retrieved December 21, 2009, from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1403562/>
6. Centers for Disease Control and Prevention. (2009, October 2). Fire Deaths and Injuries: Fact Sheet. Retrieved December 21, 2009, from <http://www.cdc.gov/HomeandRecreationalSafety/Fire-Prevention/fires-factsheet.html>
7. Office of Public Health Statistics and Information System (PHISIS) – Injury Death Data: 1999-2007 [Data file]. Columbia, SC: Department of Health and Environmental Control.

Appendix A

South Carolina Injury Free Alliance Members List



South Carolina Injury Free Alliance

State Agencies

Keisha Adams
Program Coordinator
Division of Injury & Violence Prevention
Department of Health & Environmental Control
1800 St. Julian Place, Suite 406
Columbia, S.C. 29204
803-545-4387
adamsks@dhec.sc.gov

Rene Beard
Program Coordinator
Lt. Governor's Office on Aging
South Carolina Access Program
1301 Gervais Street, Suite 200
Columbia, S.C. 29201
803-734-9918
rbeard@aging.sc.gov

Georgette Demian, MPH
Data Manager
Division of Injury & Violence Prevention
Department of Health & Environmental Control
1800 St. Julian Place, Suite 406
Columbia, S.C. 29204
803-545-4365
demiangs@dhec.sc.gov

Wesley Gravelle (Wes), MPH
Bureau of Maternal Child Health Data Manager
Department of Health & Environmental Control
1751 Calhoun Street
Columbia, S.C. 29201
803-898-9577
gravellewj@dhec.sc.gov

Elizabeth Hall
Data Base Administrator
Office of Research & Statistics
1919 Blanding Street
Columbia, S.C. 29201
803-898-9964
Elizabeth.Hall@ors.sc.gov

Ted Holland
Director
Division of Injury & Violence Prevention
Department of Health & Environmental Control
1800 St. Julian Place
Columbia, S.C. 29204
803-545-4302
hollantw@dhec.sc.gov

Taffney Hooks
EMSC Program Manager
Division of EMS and Trauma
Department of Health & Environmental Control
1777 St. Julian Place
Columbia, S.C. 29201-1708
803-545-4866
hooksts@dhec.sc.gov

Mary Kelly, MSW
Quality Assurance Coordinator
Best Chance Network
Department of Health & Environmental Control
1800 St. Julian Place, Suite 306
Columbia, S.C. 29204
803-545-4102
kellyms@dhec.sc.gov

Jane Key
Program Coordinator
Women and Children's Services
Department of Health & Environmental Control
1751 Calhoun Street
Columbia, S.C. 29201
803-898-8670
keyjw@dhec.sc.gov

Breana N. Lipscomb, MPH
State FIMR Director
MCH Bureau-Research and Planning Unit
Department of Health & Environmental Control
1751 Calhoun Street
Columbia, S.C. 29201
803-898-0771
lipscomb@dhec.sc.gov

Neal Martin
Program Coordinator
Division of Injury & Violence Prevention
Department of Health & Environmental Control
1800 St. Julian Place, Suite 406
Columbia, S.C. 29204
803-545-4348
martinco@dhec.sc.gov

Cora Plass, MSW
Director
Division of Healthy Aging
Department of Health & Environmental Control
1751 Calhoun Street
Columbia, SC 29201
803-898-0349
plasscf@dhec.sc.gov

Stephanie Power, LMSW
Injury Prevention Coordinator
Medical University of S.C./Trauma Department
96 Jonathan Lucas Street
Charleston, S.C. 29425
843-792-1068
powe@musc.edu

Harriet Range, RHIT
Data Abstractor
Division of Injury & Violence Prevention
Department of Health & Environmental Control
1800 St. Julian Place, Suite 406
Columbia, S.C. 29204
803-545-4332
rangehd@dhec.sc.gov

Tina Shadley, OT
Therapy Consultant
Division of Home Health Services
Department of Health & Environmental Control
1751 Calhoun Street
Columbia, S.C. 29201
803-898-0561
shadlecm@dhec.sc.gov

Nichole Spivey, MBA
Injury Surveillance Prevention Coordinator
Division of Injury & Violence Prevention
Department of Health & Environmental Control
1800 St. Julian Place, Suite 406
Columbia, S.C. 29204
803-545-4507
spiveynk@dhec.sc.gov

Sandra Valentine (Sandy)
Administrative Assistant
Division of Injury & Violence Prevention
Department of Health & Environmental Control
1800 St. Julian Place, Suite 406
Columbia, S.C. 29204
803-545-4330
valents@dhec.sc.gov

Linda C. Veldheer, Ph.D.
Director
Head and Spinal Cord Injury Division
S.C. Dept. of Disabilities and Special Needs
3440 Harden Street Ext.
PO Box 4706
Columbia, SC 29240
803-898-9798
lveldheer@ddsn.sc.gov

Public, Non-profit and Private Health Related Organizations

Joyce Davis, CBIS, CTRS
Director
Brain Injury Association of SC
800 Dutch Square Blvd., Suite B-225
Columbia, S.C. 29221
803-731-9823
scbraininjury@bellsouth.net

Christina DeRienzo
Education Coordinator
Palmetto Poison Center
S.C. College of Pharmacy
University of South Carolina
Columbia, S.C. 29208
803-777-0570
DeRienzo@sccp.sc.edu

Carolyn L. Duff, MS, NCSN
State Director
S.C. Association of School Nurses
A.C. Moore Elementary School
333 Etiwan Avenue
Columbia, S.C. 29205
803-929-3884
cduff@richlandone.org

Rachael Kefalos
Executive Director
Palmetto Cycling Coalition
141-F Pelham Dr., Suite 116
Columbia, S.C. 29209
803-445-1099
Rachael@pccsc.net

Sherry A. Poole, MPH, CHES
Health Education Prevention Specialist
Safe and Drug Free Schools
1310 Lyon Street Student Center
Columbia, S.C. 29204
803-231-6922
spoole@richlandone.org

Leanne Trudeau
Community Liaison
Palmetto Lowcountry Behavioral Health
277 Speissegger Dr.
Charleston, S.C. 29405
843-327-1869 (cell)
803-744-4029
leanne.trudeau@psysolutions.com

Heidi Vaughn
Director
Programs & Community Initiatives
SC Parent Information & Resource Centers
Safe Kids South Carolina
Prevent Child Abuse of South Carolina
Programs led by:
The Children's Trust of South Carolina
1634 Main Street, Suite 100
Columbia, S.C. 29201
hvaughn@scchildren.org

Appendix B

- **Leading causes of injury death**
- **Leading cause of non fatal injury hospitalizations**
- **Leading causes of non fatal injury emergency department visits**

10 Leading Causes of Injury Death by Age Group South Carolina, 2007

Rank	Age Groups											All Ages
	<1	1-4y	5-9y	10-14y	15-24y	25-34y	35-44y	45-54y	55-64y	65+		
1	Unintentional Suffocation 36	Unintentional Drowning 10	Unintentional MVC 6	Unintentional MVC 13	Unintentional MVC 214	Unintentional MVC 145	Unintentional MVC 123	Unintentional Poisoning 156	Unintentional Poisoning 59	Unintentional Fall 162	Unintentional MVC 793	
2	Homicide Other Causes 5	Unintentional MVC 7	Unintentional other transport 2	Unintentional Drowning 5	Homicide Firearm 95	Unintentional Poisoning 82	Unintentional Poisoning 117	Unintentional MVC 112	Unintentional MVC 55	Unintentional MVC 116	Unintentional Poisoning 475	
3	Unintentional MVC 3	Unintentional Pedestrians 6	Homicide Other Causes 2	Unintentional Pedestrians 3	Unintentional Poisoning 33	Homicide Firearm 68	Suicide Firearm 55	Suicide Firearm 65	Suicide Firearm 52	Unintentional Unspecified 104	Suicide Firearm 305	
4	Unintentional Fire/flame 2	Unintentional Suffocation 6	Unintentional Fire/flame 1	Homicide Firearm 3	Suicide Firearm 31	Suicide Firearm 38	Homicide Firearm 32	Suicide Poisoning 38	Unintentional Fall 25	Unintentional Suffocation 71	Homicide Firearm 249	
5	Undetermined suffocation 2	Homicide Other Causes 4	Unintentional Firearm 1	Unintentional Pedalcycle 2	Unintentional Pedestrians 20	Suicide Suffocation 29	Unintentional Pedestrians 34	Unintentional Pedestrians 30	Homicide Firearm 18	Unintentional Poisoning 23	Unintentional Fall 224	
6	Unintentional Fall 1	Unintentional other transport 2	Homicide Firearm 1	Unintentional other transport 2	Suicide Firearm 17	Unintentional Motorcycle 17	Suicide Suffocation 23	Homicide Firearm 23	Unintentional Fire/flame 13	Unintentional Fire/flame 22	Unintentional Suffocation 151	
7	Unintentional Poisoning 1	Unintentional Poisoning 4	Homicide Fire 1	Unintentional Fire/flame 1	Unintentional Drowning 16	Unintentional Pedestrians 14	Unintentional Motorcycle 22	Suicide Suffocation 19	Unintentional Suffocation 13	Unintentional Natural/environmental 15	Unintentional Unspecified 150	
8	Homicide Poisoning 1	Unintentional Fall 1	Homicide suffocation 1	Unintentional Motorcycle 1	Unintentional Motorcycle 16	Homicide Cut/Pierce 12	Suicide Poisoning 17	Unintentional Fire/flame 11	Unintentional Motorcycle 12	Unintentional Drowning 8	Unintentional Pedestrians 120	
9	Homicide Suffocation 1	Unintentional Fire/flame 1	Unintentional Pedalcycle 2	Unintentional Poisoning 1	Unintentional Fire/flame 10	Suicide Poisoning 10	Unintentional Fall 10	Unintentional Suffocation 11	Suicide Suffocation 9	Homicide Firearm 8	Suicide Suffocation 99	
10	Undetermined Unspecified 1	Unintentional Firearm 1	Unintentional other transport 2	Suicide Firearm 1	Unintentional Fall 6	Unintentional Drowning 9	Unintentional Drowning 7	Undetermined Poisoning 10	Unintentional Pedestrians 8	Homicide Cut/Pierce 5	Suicide Poisoning 96	

			
Unintentional	Homicide	Suicide	Undetermined Intention

Data Source: Office of Public Health Statistics and Information System (PHISIS) of South Carolina Department of Health and Environmental Control (DHEC)
Prepared by: Division of Injury and Violence Prevention, SC DHEC

10 Leading Causes of Non Fatal Injury Hospitalizations by Age Group South Carolina, 2007

		Age Groups											
Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Ages		
1	Unintentional Fall 35	Unintentional Fall 101	Unintentional Sports/recreation 107	Unintentional Sports/recreation 132	Unintentional MVC 214	Unintentional MVC 611	Unintentional MVC 495	Unintentional Fall 825	Unintentional Fall 1,184	Unintentional Fall 6,939	Unintentional Fall 10,219		
2	Assault Child abuse 35	Unintentional Poisoning 94	Unintentional Fall 89	Unintentional Fall 87	Suicide Poisoning 295	Unintentional Fall 271	Unintentional Fall 448	Unintentional MVC 456	Unintentional MVC 295	Unintentional Natural/environmental 381	Unintentional MVC 3,329		
3	Unintentional Natural/environmental 17	Unintentional Natural/environmental 37	Unintentional MVC 66	Unintentional MVC 75	Unintentional Fall 240	Unintentional Motorcycle 145	Unintentional Poisoning 187	Suicide Poisoning 318	Unintentional Poisoning 209	Unintentional Therapeutic drugs 332	All Suicide Poisoning 1,714		
4	Unintentional Poisoning 13	Unintentional Sports/recreation 34	Unintentional Natural/environmental 36	Unintentional Natural/environmental 36	Unintentional Sports/recreation 207	Unintentional Poisoning 120	Unintentional Motorcycle 163	Unintentional Poisoning 248	Unintentional Therapeutic drugs 202	Unintentional Poisoning 296	Unintentional Poisoning 1,300		
5	Unintentional MVC 10	Unintentional MVC 30	Unintentional Struck by 17	Unintentional other transport 23	Assault Firearm 4	Unintentional Sports/recreation 119	Unintentional Natural/environmental 137	Unintentional Natural/environmental 187	Suicide Poisoning 174	Unintentional Overexertion 156	Unintentional Natural/environmental 1,228		
6	Unintentional Foreign Body 7	Unintentional Foreign Body 21	Unintentional other transport 16	Unintentional Motorcycle 11	Unintentional Poisoning 111	Unintentional Natural/environmental 95	Unintentional Sports/recreation 108	Unintentional Motorcycle 138	Unintentional Motorcycle 87	Unintentional Struck by 75	Unintentional Sports/recreation 942		
7	Unintentional Hot Substance 4	Unintentional Pedestrians 21	Unintentional Poisoning 11	Unintentional Poisoning 11	Unintentional Motorcycle 101	Unintentional Firearm 83	Assault Unspecified 61	Unintentional Therapeutic drugs 128	Unintentional Sports/recreation 75	Unintentional Foreign Body 68	Unintentional Therapeutic drugs 808		
8	Unintentional Struck by 4	Unintentional Struck by 20	Unintentional Pedestrians 10	Unintentional Pedestrians 9	Unintentional Natural/environmental 101	Assault Cut/Pierce 61	Suicide Poisoning 80	Unintentional Sports/recreation 108	Unintentional Overexertion 45	Suicide Poisoning 57	Unintentional Motorcycle 666		
9	Assault Unspecified 4	Unintentional Hot Substance 16	Unintentional Foreign Body 9	Unintentional Struck by 9	Assault Cut/Pierce 76	Unintentional Cut/pierce 54	Unintentional Therapeutic drugs 72	Unintentional Struck by 70	Unintentional Struck by 44	Unintentional Sports/recreation 51	Unintentional Struck by 395		
10	Unintentional Suffocation 3	Unintentional Suffocation 11	Unintentional Cut/pierce 6	Unintentional Cut/pierce 8	Unintentional other transport 63	Assault Fight/Brawl 50	Unintentional Struck by 62	Unintentional Pedestrians 48	Unintentional Other Transport 38	Unintentional Other Transport 40	Unintentional Overexertion 362		

 Unintentional
  Assault
  Suicide

Therapeutic Drugs=Adverse effect of therapeutic drugs

Data Source: aggregate data provided by Office of Research and Statistics (ORS) of SC Budget and Control Board through Web-site specific for Division of Injury & Violence Prevention

Prepared by: Division of Injury and Violence Prevention, SC DHEC

10 Leading Causes of Non Fatal Injury Emergency Department Visits by Age Group South Carolina, 2007

Rank	Age Groups										All Ages
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Unintentional Fall 1,294	Unintentional Fall 8,452	Unintentional Fall 6,027	Unintentional Fall 5,774	Unintentional MVC 17,075	Unintentional MVC 11,703	Unintentional Fall 10,463	Unintentional Fall 11,072	Unintentional Fall 9,440	Unintentional Fall 23,377	Unintentional Fall 95,473
2	Unintentional Natural/environmental 546	Unintentional Struck by 4,594	Unintentional Struck by 4,475	Unintentional Sports/recreation 5,753	Unintentional Natural/environmental 1,0153	Unintentional Fall 9,723	Unintentional Natural/environmental 9,447	Unintentional Natural/environmental 8,632	Unintentional Natural/environmental 6,055	Unintentional Natural/environmental 6,870	Unintentional Natural/environmental 62,057
3	Unintentional Struck by 390	Unintentional Natural/environmental 4,119	Unintentional Sports/recreation 3,363	Unintentional Struck by 4,180	Unintentional Fall 9,851	Unintentional Natural/environmental 9,670	Unintentional MVC 9,151	Unintentional MVC 7,287	Unintentional MVC 4,146	Unintentional MVC 3,126	Unintentional MVC 57,026
4	Hot Substance 127	Unintentional Foreign Body 1,547	Unintentional Natural/environmental 3,106	Unintentional Natural/environmental 3,459	Unintentional Struck by 8,740	Unintentional Overexertion 8,592	Unintentional Overexertion 7,627	Unintentional Overexertion 5,275	Unintentional Overexertion 2,761	Unintentional Struck by 2,452	Unintentional Struck by 44,577
5	Unintentional MVC 117	Unintentional Cut/pierce 1,358	Unintentional Cut/pierce 1,948	Unintentional Overexertion 2,865	Unintentional Overexertion 8,428	Unintentional Struck by 7,074	Unintentional Struck by 5,778	Unintentional Struck by 4,374	Unintentional Struck by 2,520	Unintentional Overexertion 1,961	Unintentional Overexertion 39,327
6	Unintentional Cut/pierce 96	Unintentional Poisoning 1,153	Unintentional MVC 1,510	Unintentional Cut/pierce 2,200	Unintentional Cut/pierce 6,643	Unintentional Cut/pierce 5,405	Unintentional Cut/pierce 4,482	Unintentional Cut/pierce 3,463	Unintentional Cut/pierce 2,114	Unintentional Cut/pierce 1,943	Unintentional Cut/pierce 29,652
7	Unintentional Therapeutic drugs 82	Unintentional Sports/recreation 870	Unintentional Overexertion 894	Unintentional MVC 2,153	Unintentional Sports/recreation 5,981	Assault Unspecified 1,997	Assault Unspecified 1,661	Assault Unspecified 1,130	Unintentional Foreign Body 536	Unintentional Foreign Body 715	Unintentional Sports/recreation 20,938
8	Unintentional Poisoning 78	Unintentional Overexertion 858	Unintentional Foreign Body 813	Unintentional Foreign Body 347	Assault Unspecified 2,514	Unintentional Sports/recreation 1,924	Unintentional Sports/recreation 1,398	Unintentional Sports/recreation 888	Unintentional Therapeutic drugs 485	Unintentional Therapeutic drugs 518	Assault Unspecified 8,159
9	Unintentional Overexertion 66	Unintentional Hot Substance 758	Unintentional Hot Substance 280	Assault Fight/Brawl 342	Assault Fight/Brawl 2,439	Assault Fight/Brawl 1,630	Assault Fight/Brawl 1,123	Unintentional Foreign Body 837	Unintentional Sports/recreation 470	Unintentional Poisoning 336	Unintentional Foreign Body 7,946
10	Unintentional Suffocation 28	Unintentional MVC 758	Unintentional Therapeutic drugs 217	Assault Unspecified 299	Unintentional Hot Substance 954	Unintentional Foreign Body 1052	Unintentional Foreign Body 945	Assault Fight/Brawl 707	Assault Unspecified 328	Unintentional Sports/recreation 250	Assault Fight/Brawl 6,576

○ Unintentional ○ Assault

Therapeutic Drugs=Adverse effect of therapeutic drugs

Data Source: aggregate data provided by Office of Research and Statistics (ORS) of SC Budget and control Board through Web-site specific for Division of Injury & Violence Prevention

Prepared by: Division of Injury and Violence Prevention, SC DHEC



South Carolina Department of Health and Environmental Control
We promote and protect the health of the public and the environment.
www.scdhec.gov