

## Looking Toward 2000 - State Health Assessment

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### INJURIES

#### HIGHLIGHTS

Unintentional injuries are the leading cause of death for persons aged 1 to 34 years.

Two-thirds of unintentional injury deaths in Connecticut occur to males.

During 1994, 42 State residents died in residential fires, almost twice the number reported in 1993.

Falls are the most common cause of nonfatal injury and the second leading cause of unintentional injury death in Connecticut.

About 80% of all Connecticut deaths due to falls occur among people aged 65 and older.

Motor vehicle crashes are the leading cause of unintentional injury death in Connecticut, accounting for an average of nearly one death per day.

In states like Connecticut with helmet laws that apply only to young riders, death rates from head injuries are twice as high among motorcyclists as in states with full motorcycle helmet laws.

Drownings account for 1 in 20 unintentional injury deaths in Connecticut.

Nearly half of Connecticut suicides in 1994 were performed with a firearm.

Connecticut's age-adjusted mortality rate for homicides nearly doubled between 1986 and 1994. Virtually all of this increase was due to the increase in firearm homicides.

Black males between the ages of 15 and 34 years old account for 1.5% of Connecticut's population but 30% of its homicide victims.

Firearms cause nearly one of every five injury deaths in Connecticut.

#### UNINTENTIONAL INJURIES

##### Introduction

Unintentional injuries kill 1,000 Connecticut residents and cause 36,000 hospital admissions in our state

each year. Injuries are the leading cause of premature death for males and the second leading cause for females, surpassed only by cancers. Unintentional injuries are the third leading cause of death based on age-adjusted mortality rate (24.4 per 100,000 population) and the sixth leading cause of death in Connecticut based on number of deaths (1,004 deaths) in 1994. Unintentional injuries are the leading cause of death for individuals between the ages of 1-34 years. More children and adolescents die each year from unintentional injuries than from all other childhood diseases combined.

An estimated one in four Americans is injured annually, costing the U.S. more than \$100 billion a year in medical care costs and lost productivity. The leading causes of fatal unintentional injuries include motor vehicle crashes, falls, fires, and drownings. The relative importance of various causes of injury vary substantially with age. For example, motor vehicles are the leading cause of unintentional injury death for ages up to 75 years, while falls are most frequent for ages 75 and older. The types of unintentional injuries discussed here are residential fires, falls, motor-vehicle-related injuries, and drownings.

#### Time Trends

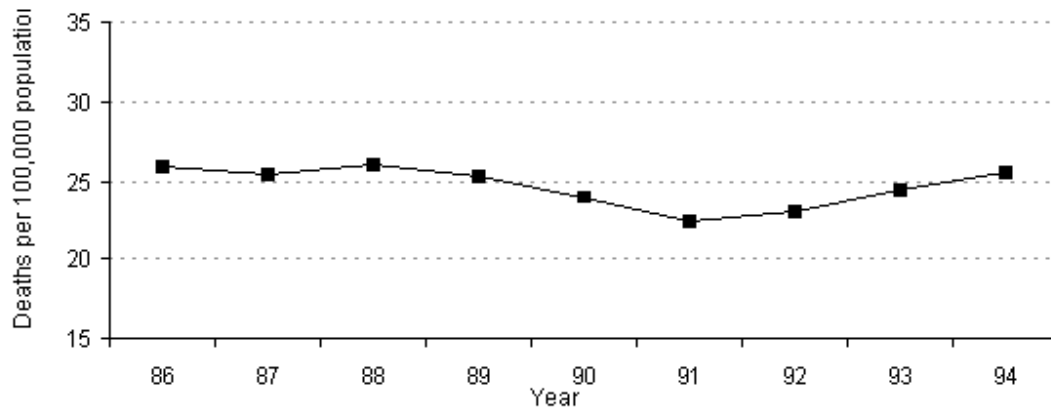
Although there was a 23.5% decline in the mortality rate due to unintentional injuries from 1979-81 to 1989-91, there was a steady increase in the mortality rate since 1991. From 1991 to 1994, the mortality rate increased 14% (Figure 3-40).

Figure 3-40

#### Unintentional Injuries

#### Age-adjusted Mortality Rates

#### Connecticut, 1986-94



Note: Data adjusted to 1970 U.S. standard million.

Source: DPH, OPPE.

## Risk Groups

Deaths caused by injury comprise a disproportionately large share of deaths in young age groups compared with deaths from all causes (Figure 3-41). Two thirds of unintentional injury deaths in Connecticut occur to males. Death rates for males exceed those for females for every age group (Figure 3-42).

## Modifiable Risk Factors

Most risk factors are specific to the type of injury. However, several general factors are common to many types of injuries. These include:

- Alcohol/substance abuse

- Risk-taking behavior, especially among children, adolescents, and young adults.

- The perception that injuries are "accidents" and are a normal part of life.

- Low socioeconomic status.

## Intervention Strategies

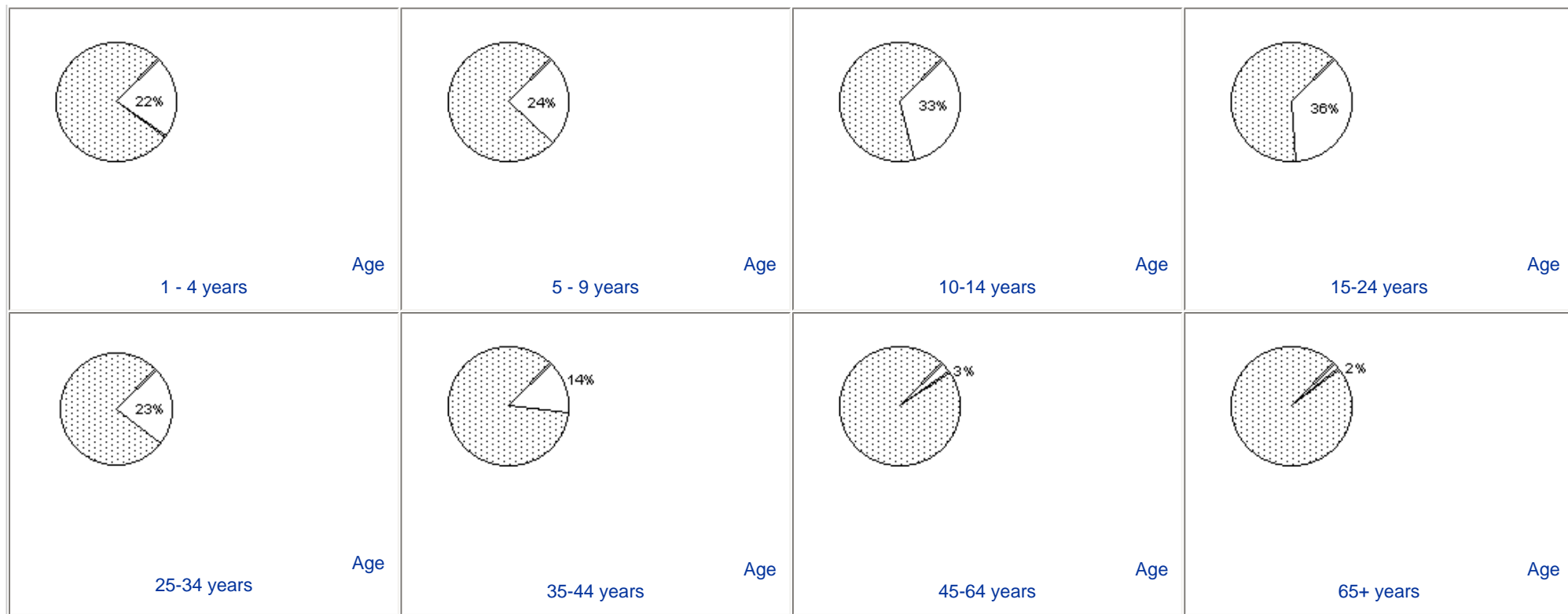
- Develop or enhance injury surveillance capability at the state and local levels.

- Promote the development of community-based intervention programs. Effective programs may include a mixture of strategies, including environmental and engineering changes, enforcement and legislation, and education.

### Figure 3-41

#### Percentages of Deaths from Unintentional Injury by Age

Connecticut, 1994

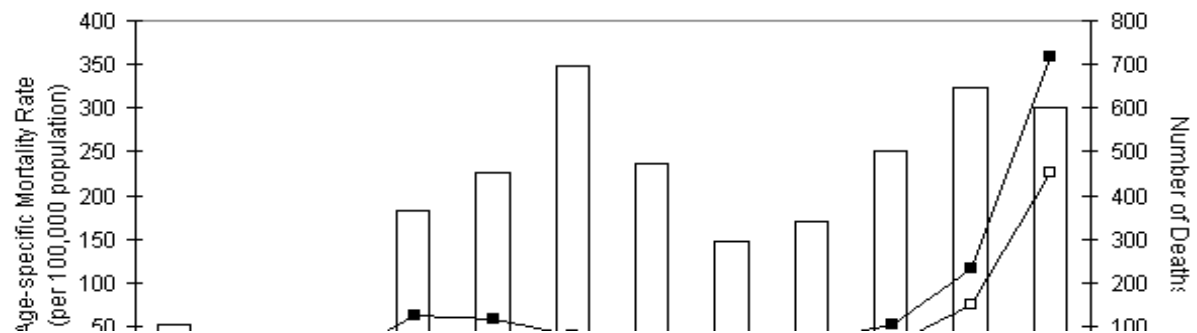


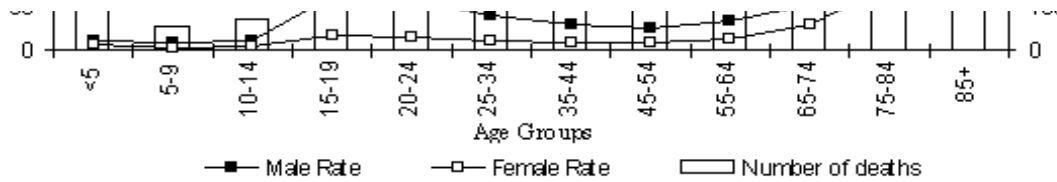
Source: DPH, OPPE, Vital Records

Figure 3-42

Unintentional Injuries

Connecticut, 1988-92





Source: NCHS, Wonder file Deaths; Census Bureau, Population Estimates

## RESIDENTIAL FIRES

### Summary

Deaths due to fires include burn injury deaths and smoke inhalation deaths. During 1994, 42 Connecticut residents died in residential fires, almost double the number (22) reported in 1993. The most common cause of all fatal fire deaths was fires in private dwellings.

### High Risk Subgroups

Very young children, the elderly, and black males are at highest risk of residential fire deaths. During 1994, children under the age of five years had an age-adjusted mortality rate for residential fires of 2.2 per 100,000 population, which is twice the AAMR of 1.1 per 100,000 for the total population. A combination of factors contribute to the increased risk of children and the elderly, such as less acute perception of danger, less control of their environments, and a limited ability to react properly and promptly. Because children have thinner skin, the burns they sustain are more severe. Persons aged 65 and older also had a mortality rate of 2.2 per 100,000 population, twice the rate of the general population. Black males had a residential fire death rate of 2.4 per 100,000, more than twice the rate of the general population.

### Modifiable Risk Factors

- Lack of functioning smoke detectors

- Cigarette smoking

- Low socioeconomic status

- Lack of maintenance for heating and cooking equipment and use of alternative heating and cooking sources

- Improper storage of matches, lighters, fuel, and other flammable materials

- Lack of supervision for young children

### Intervention Strategies

- Promote installation of smoke detectors and conduct public education campaigns to encourage smoke detector testing and battery replacement.

Conduct community smoke detector giveaway and installation programs.

Enforce building and fire codes including requirements for smoke detectors in all new residential housing and existing multi-family housing designed for 2+ families and requirements for sprinklers.

Expand juvenile fire setter programs, and promote identification and referral of at risk children.

Conduct fire safety education campaigns targeting parents, children, and general public with fire safety messages including " Stop, Drop and Roll", supervision of children around fire sources, the role of alcohol abuse and smoking in residential fires, and development and practice of exit drills from the home.

Flammability standards for children's sleep wear and mattress have proven effective in reducing risks. Standards should be expanded to cover clothing and furniture intended for other age groups.

## **FALLS**

### Summary

In 1995, falls were the most common cause of non-fatal injury and the second leading cause of unintentional injury death in Connecticut (196 deaths). In FFY 1995, there were 11,055 hospitalizations in Connecticut due to falls, nearly 60 hospitalizations for every fatality. The hospitalization rate for falls during 1995 was 378/100,000 residents. Each year one person in thirty receives emergency treatment because of a fall. Nonfatal falls result in high morbidity cost because falls often result in long term disability.

### Time Trends

The 1994 Connecticut age-adjusted mortality rate for falls was 2.4 per 100,000 population for all ages, compared to 1.8 in 1987. During the intervening years the rate ranged from a high of 2.5 to a low of 2.1, with no consistent upward or downward trend.

### High Risk Subgroups

The elderly are at highest risk of both dying and being hospitalized as the result of a fall, because of the greater severity of injury and longer recovery periods required. More than 40% of all Connecticut deaths due to falls occur among people aged 85 or older, although this group makes up less than 2% of the population. Approximately 80% of all Connecticut deaths due to falls occur among people aged 65 and older. The 1994 death rate due to falls for persons aged 65 and over was more than seven times that of the total population, and the rate for persons 85 years and older was 62 times that of the general population.

Although young children have a very low death rate from falls compared to other age groups, falls are a leading cause of nonfatal injury. Nationally, children aged 14 and under account for one-third of all fall related visits to hospital emergency departments. Osteoporosis is a risk factor for falls, especially among the elderly (see below); osteoporosis is eight times more common in women than in men, and women

have higher rates of hip fractures than men, at least to age 95. Males at all ages are at higher risk than females for fall-related deaths although the male-to-female ratio is considerably less (3:1) than for other causes of injury-related death. Elderly females, however, are at considerably higher risk than males for nonfatal fall-related injuries.

*Healthy People 2000* identified persons between 65 and 85 years, persons 85 years and older, and black males aged 30 to 69 years as target populations. In 1994, Connecticut's mortality rate from falls exceeded the U.S. rate for all ages, for persons aged 85 and older and for black males aged 30-69 years, though the number of deaths among black males was small (5 in 1994).

#### Modifiable Risk Factors

Different risk factors are associated with falls among different age groups. Approximately 80% of falls among children under the age of four occur in the home and are associated with furniture, stairs, and windows. Falls among children aged 5-14 years are divided between home, school, and other locations and are often associated with playground equipment.

Falls among older adults are usually related to a combination of risk factors including home and environmental hazards, interaction and misuse of medications, physical inactivity, certain diseases, alcohol abuse, vision problems, and osteoporosis. Early menopause, either natural or surgical, has been associated with an increased risk of osteoporosis. Potentially modifiable risk factors, in order of impact, include immobility, heavy alcohol use, chronic use of corticosteroids, lack of use of estrogen replacement therapy, smoking, physical inactivity, and low calcium intake.

#### Intervention Strategies

Promote programs that stress proper nutrition and exercise to reduce or delay the onset of osteoporosis. Children and adolescents should consume adequate amounts of calcium; cigarette smoking, heavy drinking, and excessive thinness should be discouraged; and physicians should explain the benefits (and risks) of estrogen replacement therapy to women approaching menopause.

Conduct safety assessments to identify and correct environmental hazards in and around the home.

Promote health care assessments to identify and address conditions that may increase risk of falls.

Insure regular access to preventive health care services such as vision screening.

Promote exercise programs designed to increase strength and improve balance gait and flexibility.

Conduct medication safety reviews to identify drug interactions/misuse that place older adults at risk of falls.

Develop social support systems for older adults especially those living alone or in isolated areas.

Promote or require the use of window guards in multi-story residences where young children live.

Promote safe design and regular inspection and maintenance of playgrounds, with a special focus on maintaining the protective surface to a depth of 9-12 inches.

Promote or require the use of helmets and other appropriate safety gear for sports and recreational activities such as bicycling, motorcycling, in-line skating, and skate boarding.

Educate parents and caregivers on home safety hazards including stairs, babywalkers, windows, and the importance of supervision.

## **Motor-Vehicle-Related Injuries**

### Summary

Motor vehicle crashes are the leading cause of unintentional injury death in Connecticut, accounting for an average of nearly one death per day. No disease or injury claims more lives of people between the ages of 1 and 34. Motor-vehicle-related injuries also account for nearly 4,000 hospitalizations in Connecticut each year and represent 5% of emergency department visits. As adults aged 70 and older become a greater proportion of the population, they will account for an increasing percentage of the licensed driving population. They also represent a greater share of the motor vehicle injury problem each year. Older people have a greater risk of crashes per mile driven than younger adults, and once involved in a crash, they are more vulnerable to injury and death.

The 1994 Connecticut age-adjusted death rate due to motor vehicle crashes was 10.9 per 100,000 population. Connecticut has surpassed the *Healthy People 2000* target of 14.2 per 100,000, and falls just short of the *Healthy Connecticut 2000* target of 10.8 per 100,000.

Motor-vehicle-related injuries include deaths and injuries to motor vehicle occupants, motorcyclists, and bicyclists, and pedestrians struck by motor vehicles. As shown in Figure 3-43, occupants including both drivers and passengers comprise more than half of these fatalities, while pedestrians constitute about one-quarter of these deaths.

### Time Trends

Death rates and number of deaths due to motor vehicle crashes in Connecticut have dropped since the 1980s. After peaking in 1988, the number of deaths dropped by more than one-third (Figure 3-44). Alcohol involvement in fatal crashes also decreased between 1988 and 1994, both in terms of numbers and as a percentage of all motor vehicle fatalities; it increased, however, in 1995 (Figure 3-44).

### High Risk Groups

Adolescents and young adults are at highest risk of dying of motor vehicle injuries, while the elderly rank second. In 1994, males between the ages of 15 to 34 accounted for the most motor vehicle-related fatalities (Figure 3-45), and males aged 85 and older had the highest rate of death. Between 1990 and 1994, three out of every four motor vehicle-related fatalities to Connecticut residents occurred to males. Males between the ages of 20-24 were four times more likely to be killed than females.

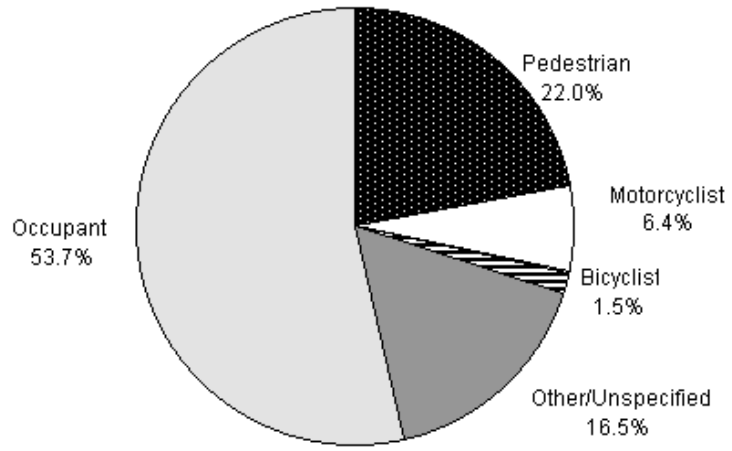


Figure 3-43

Motor-vehicle-related Fatalities

Percentage of Deaths by Person Killed

Connecticut, 1994



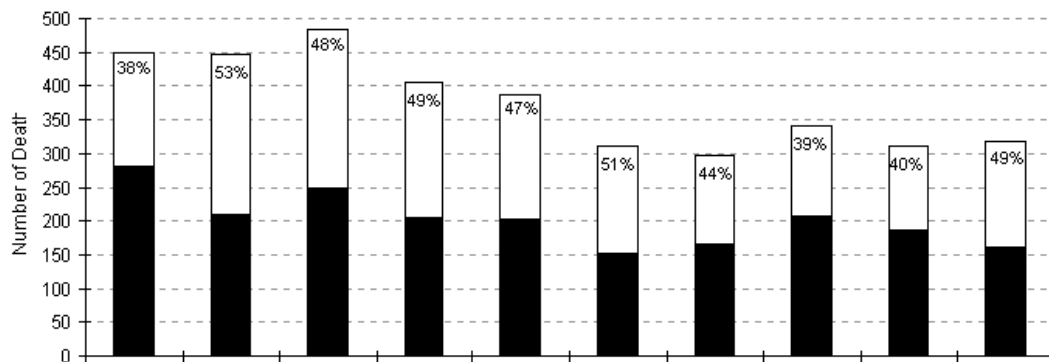
Source: DPH, OPPE, Vital Records.

Figure 3-44

Motor-vehicle-related Fatalities

Total Number and Percentage Involving Alcohol

Connecticut, 1986-95



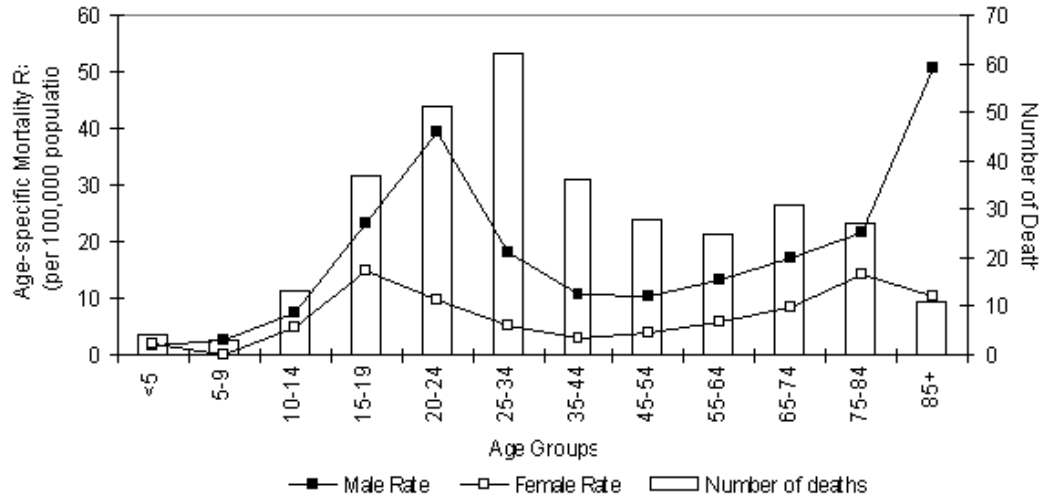
Year  
 ■ Non-alcohol Involved □ Alcohol Involved

Source: Connecticut Department of Transportation. Based on occurrences as reported in police crash reports.

Figure 3-45

Motor-vehicle-related Fatalities

Connecticut, 1994



Source: DPH, OPPE

Modifiable Risk Factors

Major factors contributing to the likelihood of a motor vehicle accident include speed, vehicle characteristics, roadway features (include lighting), alcohol intoxication, and other drug use. When a crash occurs, important determinants of the likelihood and severity of injury include speed of impact, vehicle crash-worthiness, the use of airbags, safety belts, child safety seats, and motorcycle and bicycle helmets.

Safety Belts

Research studies indicate that the use of lap and shoulder safety belts in passenger cars reduces the risk of fatal or serious injury by 40-55%. The average hospital bill for a driver admitted as a result of motor vehicle injury is 55% higher if the person is unbelted.

Child Safety Seats

Child safety seats are extremely effective when correctly installed and used, reducing the risk of death by

71%, hospitalizations by 67%, and minor injuries by 50%.

### *Alcohol*

Two in five Americans will be involved in an alcohol-related crash at some time in their lives. Among fatally injured motor vehicle drivers in Connecticut in 1995, 39.5% had blood alcohol levels at or above 0.10%.

### *Motorcycles*

Motorcycles are less stable and less visible than cars, and they have high performance capabilities. For these and other reasons, motorcycles are more likely than cars to be in crashes. When motorcycles crash, their riders lack the protection of an enclosed vehicle, so they are more likely to be injured or killed. Per mile traveled, the number of deaths on motorcycles is about 16 times the number in cars. Death rates from head injuries are twice as high among motorcyclists in states with no helmet laws or in states, such as Connecticut, whose law applies only to young riders, than in states with laws that apply to all motorcyclists. Helmets are about 29% effective in preventing motorcycle deaths and about 67% effective in preventing brain injuries.,

### Intervention Strategies

Promote the use of safety belts, child safety seats, and bicycle and motorcycle helmets. Incorporate education on the correct use of child safety seats, safety belts, and helmets into well child and preventive health visits.

Promote increased enforcement of existing laws concerning the legal drinking age, "zero tolerance" for drivers under age 21, speed limits, and driving under the influence of alcohol.

Conduct high visibility public awareness campaigns to complement law enforcement campaigns.

Improve driver screening and training programs.

Pass universal age requirements for bicycle and motorcycle helmets.

Lower the current legal standard for driving under the influence (DUI) from 0.10% blood alcohol concentration (BAC) to 0.08% BAC.

Conduct sobriety checkpoints as a deterrent for DUI.

Identify and refer chronic DUI offenders to alcohol/drug abuse treatment programs .

Promote community-based programs that teach pedestrian and bike safety skills and educate drivers to be aware of pedestrians and bicyclists.

Make low-cost or free bike helmets and child safety seats available to low-income families.

Conduct risk assessments to identify roadway hazards.

Enhance emergency medical services (EMS) and trauma systems to reduce deaths and disability related to motor vehicle accidents.

Link police accident data with hospital records, EMS records, and other medical records, to better understand the contributing factors in motor vehicle crashes.

## **DROWNINGS**

### Summary

Drownings account for 1 in 20 unintentional injury deaths. From 1989 to 1994, there were an average of 41 drownings annually among Connecticut residents. The Connecticut age-adjusted death rate for drowning was 0.9 per 100,000 population which surpassed the *Healthy People 2000* objective of 1.0 deaths per 100,000.

Drowning, by definition, is fatal. Additionally, a relatively high proportion of all submersion-related injuries are fatal. In cases of "near drownings" an individual is under water long enough to suffer the consequences of oxygen deprivation, which can lead to brain damage. The number of potential drownings in which persons are rescued without serious medical consequences is unknown, but is believed to be substantial.

### Time Trends

The number of deaths in Connecticut due to unintentional drownings declined between 1989 and 1994 (Figure 3-46). Most of the decline is attributable to a decline in male drowning deaths.

### High Risk Groups

Persons of all ages are at risk of drowning in open water sites, such as lakes, rivers, and oceans, and also in incidents related to boating and other water craft (Figure 3-47). Children may drown in as little as one or two inches of water, and are therefore at risk of drowning even in wading pools, bathtubs, toilets, and hot tubs.

Drowning victims are roughly five times more likely to be males than females. Adolescent and young adult males as well as black males of all ages are particularly at risk. Although Connecticut surpassed the *Healthy People 2000* objective for overall drowning deaths, 1994 drowning rates for males aged 15 to 34 and for black males fell short of the national objective.

### Modifiable Risk Factors and Intervention Strategies

- Promote and require the use of personal flotation devices for all boaters.

- Promote swimming and water safety classes for children and adolescents.

- Promote cardio-pulmonary resuscitation (CPR) training for adults and adolescents.

- Require fencing and safety equipment for swimming pools.

- Conduct public education/awareness campaigns for boating safety.

- Promote boat safety training for boat operators.

Enforce laws prohibiting under-age drinking.

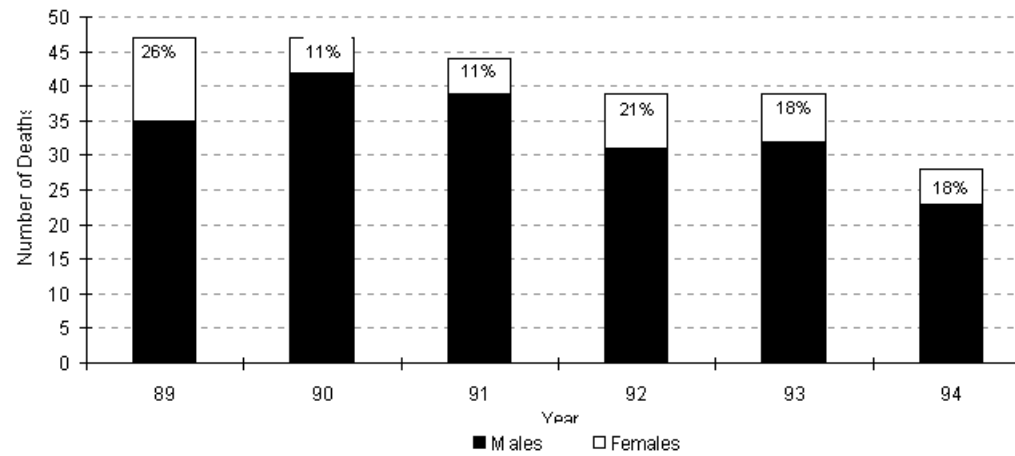
Enforce laws prohibiting operating boats under the influence of drugs and alcohol.

Provide education for parents and caregivers on the importance of supervision of young children near any amount of water inside and outside the home, including bathtubs, buckets, and backyard pools including baby pools.

**Figure 3-46**

**Unintentional Drownings**

**Connecticut, 1989-94**

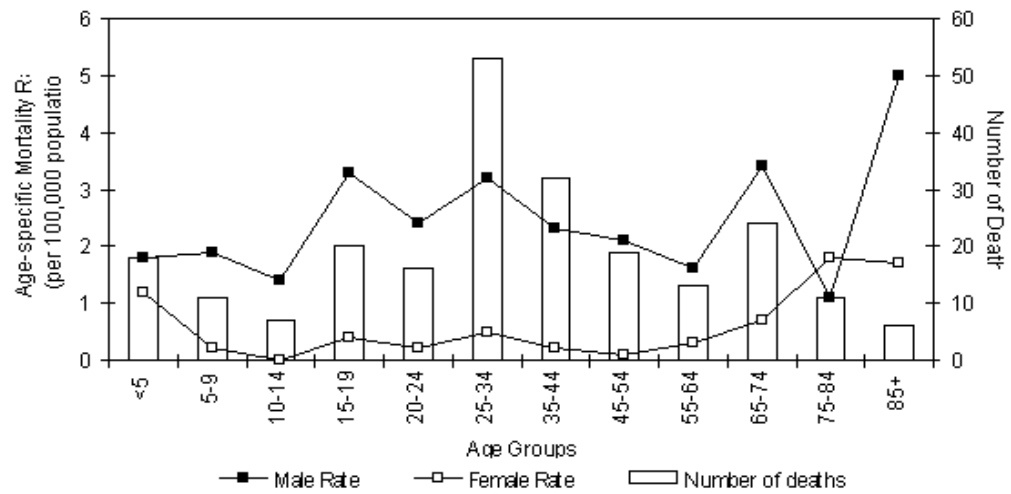


**Figure 3-47**

**Unintentional Drownings**

**Age-specific Mortality Rates**

**Connecticut, 1988-92**



Source: CDC, Wonder Data Base

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