

ISSUE REPORT

The Facts Hurt:

A STATE-BY-STATE INJURY PREVENTION
POLICY REPORT



MAY 2012

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PROTECTING PEOPLE.



Robert Wood Johnson Foundation

ACKNOWLEDGEMENTS

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Formed in 1993, the Safe States Alliance is the only national nonprofit organization comprised of public health injury and violence prevention professionals representing all U.S. states and territories. Safe States Alliance engages in activities that include increasing awareness of injury and violence throughout the lifespan as a public health problem; enhancing the capacity of public health agencies and their partners to ensure effective injury and violence prevention programs by disseminating best practices, setting standards for surveillance, conducting program assessments, and facilitating peer-to-peer technical assistance; providing educational opportunities, training, and professional development for those within the injury and violence prevention field; collaborating with other national organizations and federal agencies to achieve shared goals; advocating for public health policies designed to advance injury and violence prevention; convening leaders and serving as the voice of injury and violence prevention programs within state health departments; and representing the diverse professionals that make up the injury and violence prevention field. For more information about the Safe States Alliance, please visit www.safestates.org.

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SAVIR is a national professional organization dedicated to fostering excellence in the science of preventing and treating violence and injury. Our vision is a safer world through violence and injury research and its application to practice. As a membership organization, we provide educational and professional development services to injury researchers in public health and medicine as well as injury practitioners in local, state, and national agencies and organizations. SAVIR regularly offers webinars, meetings and conferences to foster learning and collaboration. Our members provide mentoring to new researchers as well as technical assistance and consultation to government agencies and private organizations. Educating policy makers is an important part of our mission, and we have been an active co-sponsor of many Congressional briefings on injury and violence. SAVIR works in partnership with other organizations to advance scholarship in the injury field and to promote evidence informed programs and policies that can reduce the injury burden in the United States and around the world.

Recent highlights of SAVIR activities include sponsoring roundtable discussions with a variety of federal agencies to identify opportunities to enhance injury and violence prevention; preparing a white paper for the National Institute of Child Health and Human Development on research needs to reduce childhood injuries; contributing to the development of the Centers for Disease Control and Prevention's National Action Plan on Childhood Injury; and participating on policy development work of the National Partnership to End Interpersonal Violence. In 2011, for the first time, SAVIR and Safe States Alliance jointly sponsored a national conference on reducing injury and violence in America. For more information, go to www.savirweb.org

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Introduction

Injury is a major public health problem in the United States. Injuries — including those caused by accidents and violence — are the third-leading cause of death nationally — and they are the leading cause of death for Americans between the ages of one and 44.¹ One person dies from an injury every three minutes. Every year, injuries generate \$406 billion in lifetime costs for medical care and lost productivity.²

While individuals are responsible for taking steps to stay safe and protect themselves and their families from injuries, experts have found that public education, laws and policies can also play a major role in helping keep Americans healthy and safe. From child safety seats to poison control centers, policies and programs can help Americans make healthier and safer choices for themselves and their families.

Research has produced strong evidence that shows many different strategies can also significantly reduce the rate of many common injuries. As is the case with other areas of health, rigorous scientific studies have led to breakthroughs in understanding patterns of injuries and ways to avoid them. According to the U.S. Centers for Disease Control and Prevention (CDC), research has shown that many injuries are “predictable, preventable and controllable.”³

For instance, researchers found that seat belts can greatly reduce the harm caused to individuals in motor vehicle crashes. Today, seat belts are standard equipment in all cars sold in the United States and are credited with saving an estimated 69,000 lives from 2006 to 2010.⁴ Other research-based prevention strategies have also helped lead to public education campaigns, strong, enforced legislation and targeted programs that have helped reduce injury rates and save lives, such as:

- Motorcycle helmets saved more than 8,000 lives and child safety seats saved around 1,800 lives from 2005 to 2009;⁵
- Sobriety checkpoints have been shown to cut alcohol-related crashes and deaths by around 20 percent;⁶
- Exercise programs for older adults have been shown to reduce falls by as much as half among participants;⁷ and
- School-based programs to prevent violence have cut violent behavior among high school students by 29 percent.⁸

By adopting policies and laws based on these proven approaches, policymakers can help lower the number of injuries in their states, counties and cities.

The Trust for America’s Health (TFAH) worked with a committee of top injury prevention experts from the Safe States Alliance and the Society for the Advancement of Violence and Injury Prevention (SAVIR) to create the indicators to develop this report card to provide the public and policymakers with information about the status of some injury prevention policies in states, and to provide recommendations for evidence-based strategies to reduce injuries in the United States.

Injury prevention is one of the seven priorities in the *National Prevention Strategy (NPS): America’s Plan for Better Health and Wellness*, released in 2011. The NPS brings 17 federal agencies together for the first time to move the nation from a focus on sickness and injury to prevention and wellness.

INJURIES IN AMERICA

Around 50 million Americans — 18 percent of the population — are medically treated for injuries each year.⁹ More than 180,000 Americans die annually from injuries, while more than 2.8 million are hospitalized.^{10, 11} Every year, more than 29 million people are treated in emergency rooms for injuries.¹² Injuries disproportionately impact men — males make up more than two-thirds of all injury deaths. More than 12,000 children and teenagers under the age of 20 die from accidental injuries each year and around 9.2 million were treated in emergency rooms for accidental injuries.



Summary of Some Common Types of Injury

■ **Falls:** More than eight million Americans suffer falls that require medical attention each year.¹³ One in three Americans ages 65 and older experiences a fall annually, and falls are the leading cause of injury deaths in adults over 65 years of age.¹⁴ Every 15 seconds an older adult is treated in an emergency department for a fall and every 27 minutes an older American dies as the result of a fall.¹⁵

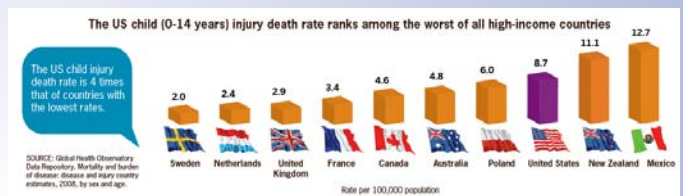
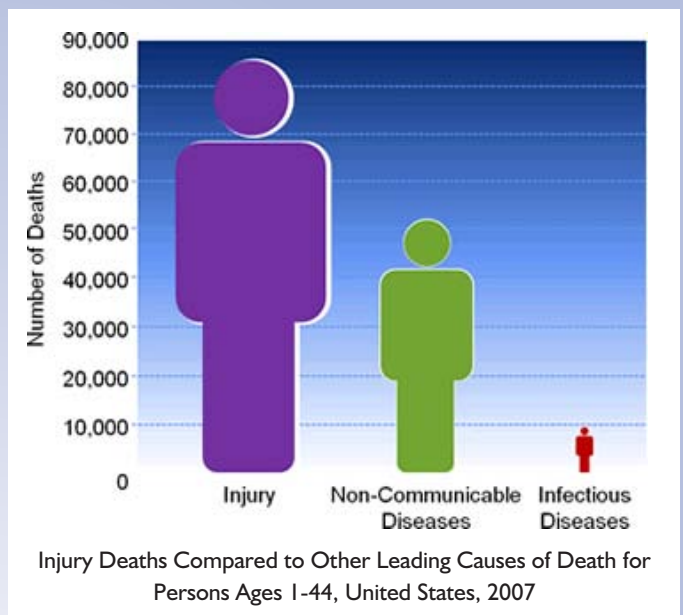
■ **Car and Other Vehicle Crashes:** Motor vehicle crashes are the leading cause death for Americans ages five to 34. Each year, around 38,000 Americans die in motor vehicle crashes and more than 2.3 million adults are treated in emergency departments after being injured in motor vehicle accidents.¹⁶ In addition, bicycle crashes lead to 700 deaths and more than 500,000 emergency room visits a year, and injuries sustained from skateboard, scooters and other non-motorized recreational vehicles are responsible for tens of thousands of emergency department visits annually.^{17, 18}

■ **Violence-related Injuries:** More than 18,000 Americans are murdered and more than 34,000 commit suicide each year.¹⁹ In addition, assaults are responsible for more than a million injuries annually.

▲ Violence by intimate partners alone causes more than 2,000 deaths a year. Nearly three in 10 women and one in 10 men in the United States have experienced physical violence, rape or stalking by a partner.²⁰

▲ More than 1,700 children die from abuse or neglect each year, and 80 percent of those are under four years old. More than 15 people ages 10 to 24 die each day from some form of violence and more than 740,000 children and teens visit emergency rooms for injuries related to violence each year.²¹

■ **Poisoning:** Nearly 40,000 Americans die from poisoning deaths and more than 700,000 Americans visit emergency rooms resulting from poisoning each year.²² Misuse and abuse of prescription drugs has dramatically increased in the past decade. Prescription painkillers are responsible for around 15,000 deaths and 475,000 emergency room visits a year.²³



■ **Fires:** Fire departments respond to around 380,000 home fires a year. Home fires kill around 2,600 and injure another 13,350 per year.²⁴

According to CDC, injuries caused by accidents are the leading cause of death for children and teens ages one to 19.²⁵ From 2000 to 2009, the rates injuries from accidents decreased by 29 percent, from 15.5 to 11.0 per 100,000 individuals. In 2009, child and teen injuries from accidents resulted in approximately 9,000 deaths, 225,000 hospitalizations and 8.4 million patients treated and released from emergency room visits.

■ **Motor vehicle traffic-related incidents** are the leading cause of death for individuals ages one to 19. While the number of children and teens killed in motor vehicle crashes decreased by 41 percent from 2000 to 2009, they are still the top cause of death for this age group;

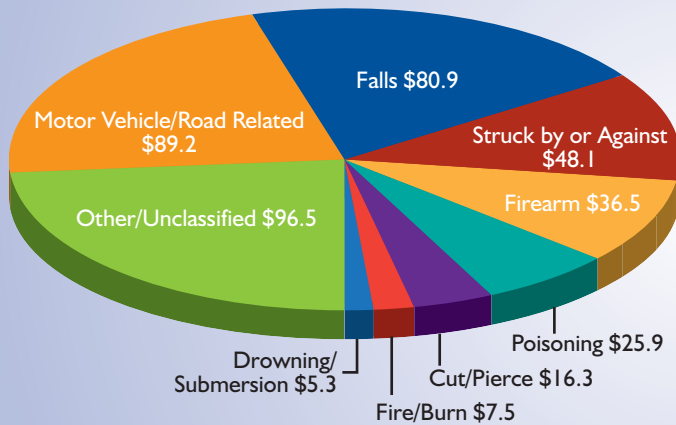
■ **Suffocation** is the leading cause of death for children less than one year of age;

■ **Drowning** is the leading cause of injury deaths for children ages one to four; and

■ **Falls** are the leading cause of nonfatal injury for children and teens under 15

■ People between the ages of 25 and 44 — who make up 30 percent of the population — account for 44 percent of injury-related productivity losses.²⁷

Annual Lifetime Cost of Injury by Type in Billions²⁶



Annual Lifetime Costs of Injuries, By Cause, in 2000:²⁶

Type of Injury	Lifetime Costs of Injury		
	Medical Costs	Productivity Losses	Total Costs
All Injuries	\$80.2 billion	\$326 billion	\$406.3 billion
Motor vehicle, or other road-related, accident	\$14 billion	\$75.1 billion	\$89.2 billion
Falls	\$26.9 billion	\$54 billion	\$80.9 billion
Struck By or Against	\$11 billion	\$37.1 billion	\$48.1 billion
Cut/Pierce	\$3.7 billion	\$12.7 billion	\$16.3 billion
Fire/Burn	\$1.3 billion	\$6.2 billion	\$7.5 billion
Poisoning	\$2.2 billion	\$23.7 billion	\$25.9 billion
Drowning/Submersion	\$95 million	\$5.2 billion	\$5.3 billion
Firearm	\$1.2 billion	\$35.2 billion	\$36.5 billion
Other/Unclassified	\$19.7 billion	\$76.8 billion	\$96.5 billion

U.S. INVESTMENT IN INJURY PREVENTION

Despite the pervasiveness of injuries, the high cost of injuries and the growing understanding that policies and programs can greatly reduce the number of injuries — the U.S. investment in science and public health practice of injury prevention is very limited.

According to 2012 *For the Public's Health: Investing in a Healthier America* from the Institute of Medicine, injury prevention only receives 4.95 percent of the CDC's total budget, yet injuries have the second highest medical costs of all preventable health issues.²⁸

Public health is focused on preventing injuries as much as possible and reducing the severity of injuries when they do occur. Health experts identify common types of injuries and conduct scientific studies on the most effective ways to decrease the number of injuries in America. These health professionals work together with experts and officials in other fields, such as transportation, fire departments, law enforcement, the judicial system, education, social work and human services to implement policies, programs and practices that have been proven to work.

At the federal level, the National Center for Injury Prevention and Control (NCIPC) is the sole federal agency with a singular focus and responsibility for injury prevention research and practice. In fiscal year (FY) 2012, NCIPC received \$137.7 million.²⁹

Out of these funds, CDC must support a broad mission that includes research to advance sci-

ence and the implementation of evidence-based programs at the state and local level.

NCIPC provides cooperative agreement grants to states and several U.S. territories to support injury prevention programs and activities. Funding for these programs has decreased over time, from \$104.6 million in FY 2006 down to \$88.6 million in FY 2011. This is a 24 percent decrease, adjusting for inflation. NCIPC research funding has also decreased over time. Injury Control Research Centers were created by NCIPC in 1987 to serve as centers for excellence in injury research, and they include a broad mandate to conduct leading-edge research, train injury scholars and practitioners and ensure that research is relevant to practice and is translated into action at state and local levels. There are only 11 centers in the country, down from 12, and the annual budgets of these centers have decreased.

Programmatic funding supports a range of programs, including the Core Violence and Injury Prevention Program, the Rape Prevention and Education Program and the National Violent Death Reporting System. States received an average of \$0.28 per capita in federal support for injury prevention from CDC, with a high of \$1.06 per person in Rhode Island to a low of \$0.10 per person in Idaho.

■ Only 28 states received “core” funding to support injury and violence prevention programs from the Core Violence and Injury Prevention Program.

Core Violence and Injury Prevention Grants to States

FY 2011	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006
\$88,648,854.00	\$95,919,713	\$97,773,591	\$95,135,731	\$100,390,981	\$104,609,076

For the Core Violence and Injury Prevention Program grant amounts for each state by year and for additional FY 2011 injury prevention funding highlights by state, see Appendix C.

Many states also can use a portion of the funds they receive from the Preventive Health Services Block Grant at CDC and the Maternal and Child Health Block Grant at the Health Resources and Services Administration (HRSA) to support injury prevention activities. Funding for the Preventive Health Services Block Grants was cut by \$20 million from FY 2010 to FY 2011 (from \$96.9 million to \$74.3 million). Funding for the Maternal and Child Health Block Grants was \$1.03 billion in FY 2011.

Limited resources for injury prevention only provide support for a small number of officials to focus on injury prevention in states and communities.

Public health programs are supported through a combination of federal, state and local funds. State and local funding varies dramatically based on the structure of a state's public health department. Some departments are centralized, while others are decentralized. However, states and localities also place different priorities on public health, which also accounts for differences in the funding.

The Safe States Alliance, a non-profit organization and professional association whose mission is to serve as the national voice in support of state and local injury and violence prevention professionals engaged in building a safer, healthier America, conducts a survey of representatives from each state about their injury and violence prevention programs. Some key findings from the 2009 survey include that:³⁰

- Only 31 states (63 percent) had a full-time director for injury and violence prevention — this is down from 2005 when 37 states (76 percent) had a full-time director. However, states with a CDC Core grant are significantly more likely to have a full-time director (76 percent vs. 45 percent of non-Core funded states).
- States reported 402 staff positions focused on injury prevention. Of those positions:
 - ▲ 91 percent (366) were paid staff (FT and PT)
 - ▲ 3 percent (12) were paid interns
 - ▲ 5.5 percent (22) were unpaid interns
 - ▲ 0.5 percent (2) were fellows.

Despite the enormous toll of injury and violence, only 39 percent of respondents to the National Association of City and County Health Officials' 2010 National Profile of Local Health Departments reported injury prevention activities and only 24 percent reported violence prevention activities.

In 2009, 36 (80 percent) states indicated that they provided support to local injury and violence prevention efforts through funding or in-kind support. This has decreased since 2005 and 2007 (88 percent each year). Local efforts are also supported by though many of these federal funding sources, including the Rape Prevention and Education grant (72 percent), as well as the Preventive Health and Health Services Block Grant (72 percent) and other federal funds. Over half (53 percent) reported using state funds to support local prevention efforts in 2009.

STATE HEALTH OFFICIALS AND INJURY AND VIOLENCE PREVENTION

State Health Officials play an important role in injury and violence prevention and control. In 2010, Association of State and Territorial Health Officials (ASTHO) issued an ASTHO President Challenge in 2010 for injury and violence prevention and issued the report, *Spotting Injury and Violence on Your Radar Screen: Creating a Legacy in Public Health — A Guide for State and Territorial Health Officials*.³¹ The report highlights the importance that state health officials have in informing and leading efforts within their own states, but also in developing cross-state initiatives to prevent injury. Partnerships that state health officials have with other sectors, such as public safety, health care providers, transportation, social

services, businesses and faith-based organizations, are essential for understanding and assessing the scope of the issue as well as identifying opportunities and barriers. These efforts and partnerships can help identify and build support for policy, regulatory and programmatic strategies for preventing and reducing injuries.

In their guide, ASTHO recommends that state health officials continue to implement best-practice policies to improve overall public health. The report provides background information, rates of injury, overall costs and a variety of best practices currently in effect to help state health officials think about how they can improve injury and violence rates.³²

State-by-State Injury Prevention Indicators and Scores

Injury death rates vary greatly in states, from a high of 98.7 per 100,000 people in New Mexico to a low of 36.1 per 100,000 people in New Jersey. Mississippi has the highest rate of childhood fatalities from injuries at 96.2 per 100,000. Thirteen states have childhood injury death rates below 20 per 100,000 per year.

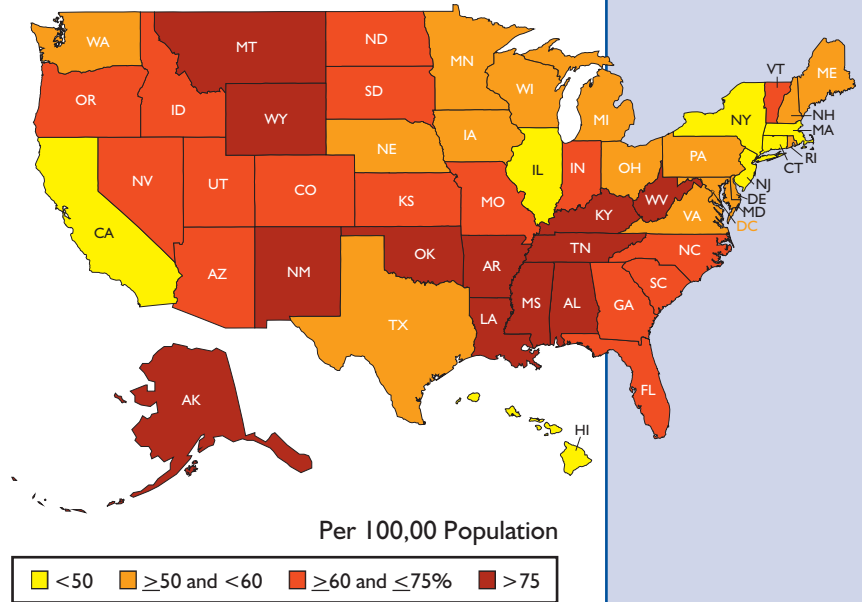
This report focuses on a series of 10 indicators of injury prevention across each state that, taken collectively, offer an overview of areas of strengths and weakness in the state's policies to prevent injuries. The indicators were selected based on:

- Consultation with leading experts about key areas of preventable injury;
- Representation of a range of different types of injury;
- Availability of identified interventions that can help reduce rates of this injury; and
- Availability of data about this indicator in most or all states.

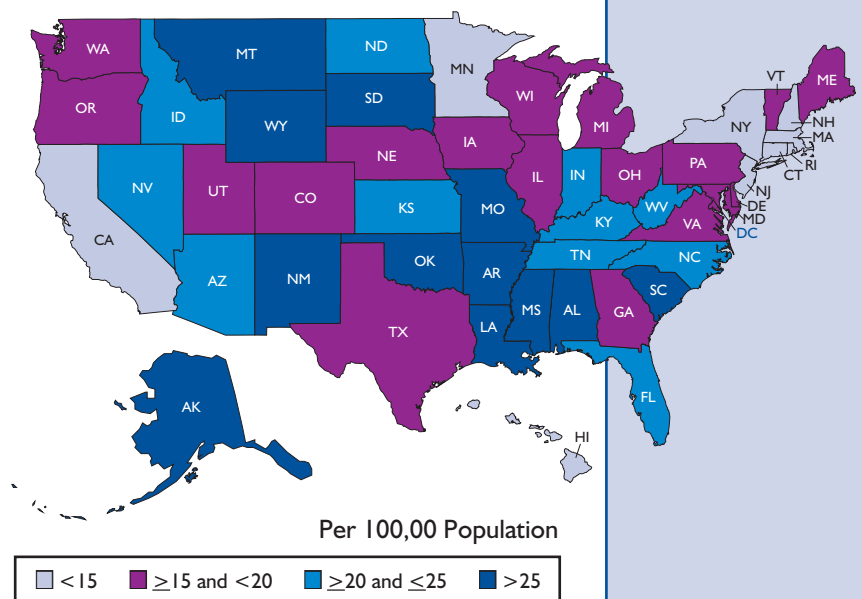
Each state receives a score based on these 10 indicators. States receive one point for achieving an indicator or zero points if they do not. Zero is the lowest possible overall score (none of the policies in place), and 10 is the highest (all of the policies in place). (For more information, please see *Appendix A: Data and Methodology for State Indicators*).

The scores ranged from a high of 9 in California and New York to a low of 2 in Montana and Ohio.

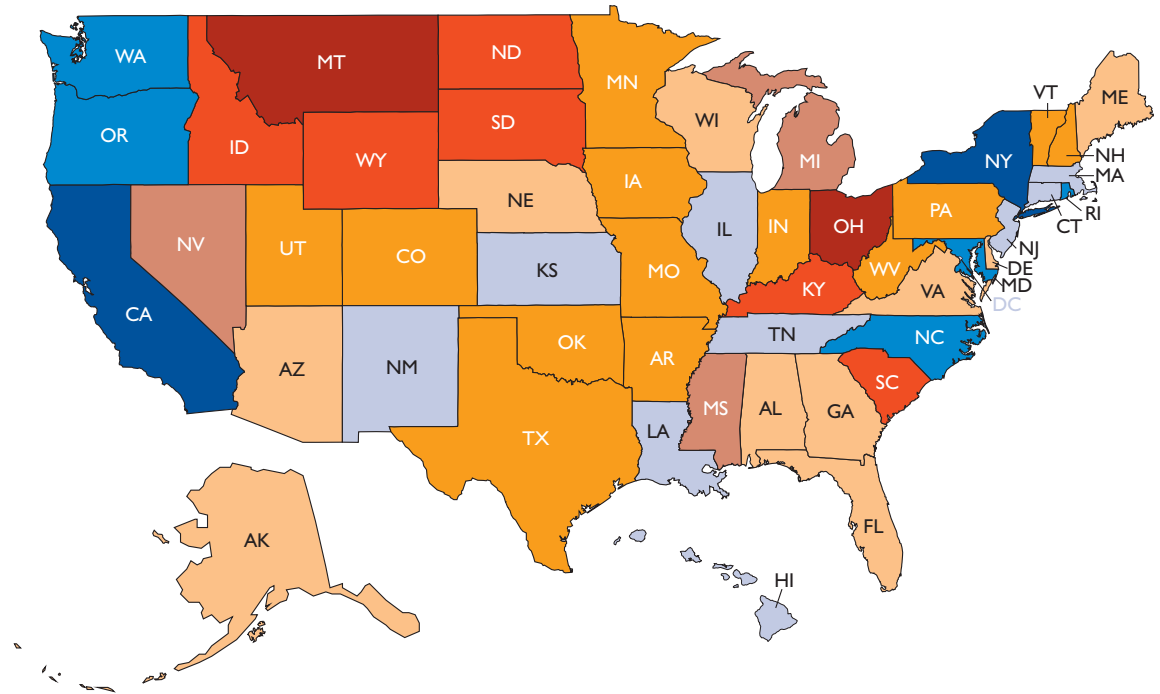
2007-2009 Injury Fatalities All Causes for All Ages



2007-2009 Injury Fatalities All Causes Among Children 19 and Under



Injury Prevention Indicator Map



9 (2 states)	8 (5 states)	7 (9 states & D.C.)	6 (10 states)	5 (12 states)	4 (4 states)	3 (6 states)	2 (2 states)
California New York	Maryland North Carolina Oregon Rhode Island Washington	Connecticut D.C. Hawaii Illinois Kansas Louisiana Massachusetts New Jersey New Mexico Tennessee	Alabama Alaska Arizona Delaware Florida Georgia Iowa Maine Nebraska Virginia Wisconsin	Arkansas Colorado Indiana Iowa Minnesota Missouri Oklahoma Pennsylvania Texas Utah Vermont West Virginia	Michigan Mississippi Nevada New Hampshire	Idaho Kentucky North Dakota South Carolina South Dakota Wyoming	Montana Ohio

Data for the 10 policies were drawn from a number of sources, including: the Governors Highway Safety Association; the National Highway Traffic Safety Administration; the American Academy of Pediatrics *2011 State Legislation Report*; *Break the*

Cycle, 2010 State Law Report Cards: A National Survey of Teen Dating Violence Laws; the Network for Public Health Law; the Alliance of States with Prescription Monitoring Programs; and the Agency for Healthcare Research and Quality.

INJURY PREVENTION REPORT CARD: KEY INJURY PREVENTION INDICATORS AND KEY FINDINGS

Motor Vehicle Injuries	Indicator 1: Does the state have a primary seat belt law?	32 states and Washington, D.C. have primary seat belt laws.
Motor Vehicle Injuries	Indicator 2: Does the state require mandatory ignition interlocks for all convicted drunk drivers, even first time offenders?	16 states require mandatory ignition interlocks for all convicted drunk drivers, even first time offenders.
Motor Vehicle Injuries	Indicator 3: Does the state have a universal helmet law requiring helmets for all motorcycle riders?	19 states and Washington, D.C. have universal helmet laws requiring motorcycle helmets for all riders.
Motor Vehicle Injuries	Indicator 4: Does the state require car seats or booster seats for children to at least the age of eight?	33 states and Washington, D.C. require that children ride in a car seat or booster seat to at least the age of eight.
Other Vehicle Injuries	Indicator 5: Does the state require bicycle helmets for all children?	21 states and Washington, D.C. require bicycle helmets for all children.
Violence-Related Injuries	Indicator 6: Does the state allow people in dating relationships to get protection orders?	44 states and Washington, D.C. allow people in dating relationships to get protection orders.
Violence-Related Injuries	Indicator 7: Did the state receive an “A” grade in the teen dating violence laws analysis conducted by the Break the Cycle organization?	6 states and Washington, D.C. received an “A” grade in the teen dating violence laws analysis conducted by the Break the Cycle organization.
Falls, Drowning and Sports- and Recreation-Related Injuries	Indicator 8: Does the state have a strong youth sports concussion safety law?	37 states and Washington, D.C. have strong youth sport concussion safety laws.
Injuries from Poisoning	Indicator 9: Did the state enact a prescription drug monitoring program?	48 states have enacted prescription drug monitoring programs.
Research Tools for Reducing Injuries	Indicator 10: Did more than 90 percent of injury discharges from hospitals receive external cause-of-injury coding in the state, which helps researchers and health officials understand injury trends and evaluate prevention programs (2009 data)?	23 states reported that more than 90 percent of injury discharge of patients from emergency departments received external cause of injury codes, which helps researchers and health officials understand injury trends and evaluate prevention programs (2009 data).

TOP TEN INJURY INDICATORS STATE BY STATE

States	(1) Seat Belts: Have primary seat belt laws Source: Governors Highway Safety Association	(2) Drunk Driving: Mandatory ignition interlocks for all convicted drunk drivers, even first offenders Sources: Governors Highway Safety Association	(3) Motorcycle Helmets: Universal helmet law requiring helmets for all riders Source: Governors Highway Safety Association	(4) Booster Seats: Meet AAP standards — require booster seats to at least the age of eight Source: AAP 2011 State Legislation Report	(5) Bicycle Helmet Use: Require bicycle helmets for all children Source: American Academy of Pediatrics, 2011 State Legislation Report	(6) Intimate Partner Violence: Allow people in dating relationships to get protection orders Source: Break the Cycle, 2010 Survey of Teen Dating Violence Laws
Alabama	✓		✓		✓	✓
Alaska	✓	✓		✓		✓
Arizona		✓		✓		✓
Arkansas	✓	✓				✓
California	✓		✓	✓	✓	✓
Colorado		✓		✓		✓
Connecticut	✓	✓			✓	✓
Delaware	✓			✓	✓	✓
D.C.	✓		✓	✓	✓	✓
Florida	✓				✓	✓
Georgia	✓		✓	✓	✓	
Hawaii	✓	✓		✓	✓	✓
Idaho						✓
Illinois	✓	✓		✓		✓
Indiana	✓			✓		✓
Iowa	✓					✓
Kansas	✓	✓		✓		✓
Kentucky	✓					
Louisiana	✓	✓	✓		✓	✓
Maine	✓			✓	✓	✓
Maryland	✓		✓	✓	✓	✓
Massachusetts			✓	✓	✓	✓
Michigan	✓			✓		✓
Minnesota	✓			✓		✓
Mississippi	✓		✓			✓
Missouri			✓	✓		✓
Montana						✓
Nebraska		✓	✓			✓
Nevada			✓			✓
New Hampshire					✓	✓
New Jersey	✓		✓	✓	✓	✓
New Mexico	✓	✓		✓	✓	✓
New York	✓	✓	✓	✓	✓	✓
North Carolina	✓		✓	✓	✓	✓
North Dakota						✓
Ohio				✓		
Oklahoma	✓					✓
Oregon	✓	✓	✓	✓	✓	✓ ¹
Pennsylvania				✓	✓	✓
Rhode Island	✓			✓	✓	✓
South Carolina	✓					
South Dakota						
Tennessee	✓		✓	✓	✓	✓
Texas	✓			✓		✓
Utah		✓		✓		
Vermont			✓	✓		✓
Virginia		✓	✓	✓		✓
Washington	✓	✓	✓	✓		✓
West Virginia			✓	✓	✓	✓
Wisconsin	✓			✓		✓
Wyoming				✓		✓
Total States	32 and D.C.	16	19 and D.C.	33 and D.C.	21 and D.C.	44 and D.C.

1 Oregon allows people in intimate relationships to get restraining orders.

2 In these states, legislation has been enacted, but the program is not operating yet.

	(7) Teen Dating Violence: Receive an A in the Break the Cycle Report Source: Break the Cycle, 2010 Survey of Teen Dating Violence Laws	(8) Concussions: Have a strong concussion law. Source: Momsteam.com and the Network for Public Health Law	(9) Accidental Prescription Drug Overdose or Use: Have active prescription drug monitoring program Source: Alliance of States with Prescription Monitoring Programs	(10) Ecodes: More than 90 percent of injury discharges of patients of emergency departments received Ecodes Source: HCUP E Code Evaluation Addendum - Updated Information for 2009, Agency for Healthcare Research and Quality	Total Score
Alabama		✓	✓		6
Alaska		✓	✓		6
Arizona		✓	✓	✓	6
Arkansas		✓ ³	✓ ²		5
California	✓	✓	✓	✓	9
Colorado		✓	✓		5
Connecticut		✓	✓	✓	7
Delaware		✓	✓		6
D.C.	✓	✓			7
Florida		✓	✓	✓	6
Georgia			✓ ²	✓	6
Hawaii			✓	✓	7
Idaho		✓	✓		3
Illinois	✓	✓	✓		7
Indiana		✓	✓		5
Iowa		✓	✓	✓	5
Kansas		✓	✓	✓	7
Kentucky		✓	✓		3
Louisiana		✓	✓		7
Maine			✓	✓	6
Maryland		✓	✓ ²	✓	8
Massachusetts		✓	✓	✓	7
Michigan			✓		4
Minnesota		✓	✓		5
Mississippi			✓		4
Missouri		✓		✓	5
Montana			✓ ²		2
Nebraska		✓	✓ ²	✓	6
Nevada		✓	✓		4
New Hampshire	✓			✓	4
New Jersey		✓	✓		7
New Mexico		✓	✓		7
New York		✓	✓	✓	9
North Carolina		✓	✓	✓	8
North Dakota		✓	✓		3
Ohio			✓		2
Oklahoma	✓	✓	✓		5
Oregon		✓	✓		8
Pennsylvania		✓	✓		5
Rhode Island	✓	✓	✓	✓	8
South Carolina			✓	✓	3
South Dakota		✓	✓ ²	✓	3
Tennessee			✓	✓	7
Texas		✓	✓		5
Utah		✓	✓	✓	5
Vermont			✓	✓	5
Virginia		✓	✓		6
Washington	✓	✓	✓		8
West Virginia			✓		5
Wisconsin		✓	✓ ²	✓	6
Wyoming			✓		3
Total States	6 and D.C.	37 and D.C.	48	23	

3 Arkansas does not have a specific youth sports concussion law, but in 2011 it passed a law that requires coaches to receive training that deals with concussions. And it also has a policy that requires coaches, school officials and doctors to closely monitor students who may have concussions.

STATE BY STATE INJURY DATA

States	(1) 2007-2009 Injury Fatalities, All Causes (Intentional and Unintentional) for All Ages (Adults and Children) (Rate per 100,000): Source: WISQARS I	(2) State Ranking	(3) Estimated Total Lifetime Medical Costs Due To Fatal Injury: 2005 Source: WISQARS	(4) Estimated Total Lifetime Work Loss Costs Due to Fatal Injuries: 2005 Source: WISQARS
Alabama	76.5	10	\$29.1 million	\$3.4 billion
Alaska	85.8	3	\$2.4 million	\$589 million
Arizona	70.7	15	\$49.2 million	\$4.7 billion
Arkansas	76.9	9	\$17 million	\$2.2 billion
California	47.6	48	\$149.5 million	\$18.1 billion
Colorado	67.8	17	\$25.6 million	\$3.0 billion
Connecticut	47.9	47	\$16.3 million	\$1.4 billion
Delaware	56.9	35	\$4.8 million	\$433 million
D.C.	60.2	29	\$3.9 million	\$500 million
Florida	66.8	18	\$117.7 million	\$11.9 billion
Georgia	61.4	22	\$50.4 million	\$5.5 billion
Hawaii	48.3	46	\$6.4 million	\$563 million
Idaho	65.3	20	\$7.6 million	\$873 million
Illinois	48.7	45	\$60.6 million	\$6.2 billion
Indiana	60.4	27	\$40.4 million	\$3.8 billion
Iowa	52.5	40	\$18.7 million	\$1.3 billion
Kansas	60.4	27	\$17.1 million	\$1.6 billion
Kentucky	76.5	10	\$26.8 million	\$3.3 billion
Louisiana	80.1	8	\$29.2 million	\$4.4 billion
Maine	58.7	31	\$7.2 million	\$703 million
Maryland	56.1	37	\$25.5 million	\$3.3 billion
Massachusetts	41.1	49	\$26.3 million	\$2.5 billion
Michigan	56.8	36	\$51.2 million	\$5.4 billion
Minnesota	51.2	42	\$31.3 million	\$2.3 billion
Mississippi	84.3	5	\$22.6 million	\$2.6 billion
Missouri	70.2	16	\$38.4 million	\$4.0 billion
Montana	86.5	2	\$6.8 million	\$725 million
Nebraska	51.3	41	\$11.2 million	\$821 million
Nevada	71.3	14	\$12.4 million	\$1.9 billion
New Hampshire	50	44	\$6.1 million	\$625 million
New Jersey	36.1	51	\$35 million	\$3.5 billion
New Mexico	97.8	1	\$15.4 million	\$1.7 billion
New York	37.1	50	\$76.4 million	\$6.4 billion
North Carolina	66	19	\$58.4 million	\$5.7 billion
North Dakota	61.1	25	\$4.7 million	\$341 million
Ohio	55.9	38	\$60.5 million	\$6.1 billion
Oklahoma	83	6	\$25.1 million	\$2.8 billion
Oregon	61.2	24	\$18.7 million	\$1.9 billion
Pennsylvania	59.4	30	\$74.2 million	\$7.4 billion
Rhode Island	50.4	43	\$6.4 million	\$454 million
South Carolina	71.7	13	\$26.3 million	\$3.3 billion
South Dakota	60.7	26	\$5.4 million	\$502 million
Tennessee	75.6	12	\$45.7 million	\$4.6 billion
Texas	58.5	33	\$115.2 million	\$13.2 billion
Utah	64.8	21	\$10.7 million	\$1.6 billion
Vermont	61.3	23	\$4.3 million	\$322 million
Virginia	53.4	39	\$36.7 million	\$3.9 billion
Washington	58.1	34	\$36.4 million	\$3.4 billion
West Virginia	82.2	7	\$12.2 million	\$1.2 billion
Wisconsin	58.7	31	\$36.9 million	\$3.1 billion
Wyoming	84.7	4	\$3.7 million	\$421 million
National Rate	57.9	N/A	\$1.62 billion	\$170.6 billion

States	(5) 2007-2009 Injury Fatalities, Motor Vehicle Traffic (Rate per 100,000): Source: WISQARS ¹	(6) 2007-2009 Injury Fatalities, Poisoning (Rate per 100,000): Source: WISQARS ¹	(7) States in which the Poisoning Fatality Rate Exceeds the Motor Vehicle Traffic Fatality Rate Source: WISQARS ¹	(8) 2007-2009 Averages, Injury Fatalities All Causes (Intentional and Unintentional), Among Children 0 to 19 Years Old (Rate per 100,000): Source: WISQARS ¹	(9) State Ranking
Alabama	21.7	13.9		25.7	12
Alaska	9.9	20.9	✓	33.8	1
Arizona	13.7	16.5	✓	21.7	19
Arkansas	21.6	14.2		28.4	7
California	9.7	11.8	✓	14.4	43
Colorado	11.2	17.4	✓	17.9	30
Connecticut	8.2	12.7	✓	11.2	47
Delaware	13.1	15.2	✓	16.8	37
D.C.	7.4	8.9	✓	28.0	9
Florida	15.3	17.6	✓	21.7	19
Georgia	15.5	11		19.1	26
Hawaii	8.6	12.4	✓	14.3	44
Idaho	15.8	12.3		21.9	17
Illinois	8.7	11.4	✓	17.4	33
Indiana	12.5	15.2	✓	21.6	21
Iowa	13.2	9.1		17.1	35
Kansas	14.5	11.5		21.2	22
Kentucky	18.3	19.9	✓	23.1	15
Louisiana	20.2	16.6		31.9	3
Maine	12.1	14.8	✓	16.3	39
Maryland	10.9	13.6	✓	17.5	32
Massachusetts	5.5	13.7	✓	8.8	51
Michigan	10.1	14.2	✓	19.0	27
Minnesota	9.6	9.3		14.0	45
Mississippi	26.7	12.2		32.9	2
Missouri	15.8	14.9		27.6	10
Montana	23.3	16.8		26.6	11
Nebraska	13.4	7.5		19.8	25
Nevada	12.2	21.3	✓	21.9	17
New Hampshire	9.2	13.4	✓	11.6	46
New Jersey	6.9	7.4	✓	10.6	50
New Mexico	18	27.9	✓	29.2	5
New York	6.5	9.2	✓	11.0	48
North Carolina	16.5	13.8		20.5	24
North Dakota	17.2	8.3		20.9	23
Ohio	10.1	14.5	✓	17.2	34
Oklahoma	19.5	21.1	✓	28.2	8
Oregon	10.7	14.4	✓	15.6	41
Pennsylvania	11.3	16	✓	17.1	35
Rhode Island	7.1	16.7	✓	10.9	49
South Carolina	21	14		26.6	11
South Dakota	16.1	7.9		28.8	6
Tennessee	18	16.8		24.2	14
Texas	14.9	10.2		18.9	28
Utah	10.7	21.5	✓	17.6	30
Vermont	10.7	11.1	✓	16.4	38
Virginia	11.2	9.9		16.1	40
Washington	8.7	16.2	✓	15.2	42
West Virginia	19.8	22	✓	22.8	16
Wisconsin	10.9	12.6	✓	18.4	29
Wyoming	21.7	15.7	✓	30.2	4
National Rate	12.4	13.3	31 states and D.C.	18.37	N/A

Source: Web-based Injury Statistics Query and Reporting System (WISQARS), CDC

¹ All rates are age-adjusted and based on death data from the National Vital Statistics System for the years 2007-2009.

A. VEHICLE-RELATED INJURIES

Research has shown that a number of strategies can greatly reduce the number of injuries caused by crashes involving motor vehicles, bicycles and other vehicles. Public education can help people understand how to protect themselves and their families, but laws relating to injury also play a crucial role, providing incentives for following safe practices and protecting individuals from harm caused by others, such as drunk drivers or speeders.

■ **Motor Vehicle Crashes:** Approximately 38,000 Americans die each year in motor vehicle crashes — they are the leading cause of death for people between the ages of five and 34.³³ More than 2.3 million adult drivers and passengers in 2009 were treated in emergency

departments after being injured in motor vehicle crashes.³⁴ Motor vehicle crashes result in around \$90 billion in direct medical costs and lost productivity annually.³⁵

■ **Bicycle, Skateboard, Scooter and Other Non-Motorized Vehicle Injuries:** Bicycle crashes lead to approximately 700 deaths and more than 500,000 emergency room visits a year, and skateboard injuries result in another 68,000 emergency room visits annually.^{36, 37} Helmets have been shown to greatly reduce the risk of injury. The report card includes one indicator examining requirements for bike helmet use among children, and also includes information about helmet use for skateboard, scooter and other non-motorized vehicles.

INDICATOR I: SEAT BELTS

FINDING: 32 states and Washington, D.C. have primary seat belt laws.

32 states and Washington, D.C. have primary seat belt laws	18 states do NOT have primary seat belt laws
Alaska	Arizona
Arkansas	Colorado
California	Idaho
Connecticut	Massachusetts
Delaware	Missouri
District of Columbia	Montana
Florida	Nebraska
Georgia	Nevada
Hawaii	New Hampshire*
Illinois	North Dakota
Indiana	Ohio
Iowa	Pennsylvania
Kansas	South Dakota
Kentucky	Utah
Louisiana	Vermont
Maine	Virginia
Maryland	West Virginia
Michigan	Wyoming
Minnesota	
Mississippi	
New Jersey	
New Mexico	
New York	
North Carolina	
Oklahoma	
Oregon	
Rhode Island	
South Carolina	
Tennessee	
Texas	
Washington	
Wisconsin	

Source: Governors Highway Safety Association³⁸

* New Hampshire is the only state without a primary or secondary seat belt laws

Seat belt use is the most effective way to save lives and reduce injuries in motor vehicle crashes.³⁹ According to the National Highway Traffic Safety Administration (NHTSA), seat belts reduce the risk of fatal injury to front seat passengers by 45 percent and the risk of moderate-to-critical injury by 50 percent.⁴⁰

Most drivers and passengers killed in motor vehicle crashes were not wearing seat belts.⁴¹ In 2009, 53 percent of drivers and passengers killed in car crashes were not wearing restraints. In addition, people not wearing a seat belt are 30 times more likely to be thrown from a vehicle during a crash, and more than 75 percent of those who are ejected during a crash die from their injuries.⁴² According to NHTSA, air bags provide added protection but are not a substitute for seat belts — proper seat belt use is essential for air bags to work as intended.

Since the 1960s, state governments and the federal government, have enacted a series of laws that require manufacturers to include seat belts in their vehicles and drivers and passengers to wear belts.

Thirty years ago, only around 10 percent of Americans used seat belts. But laws, education and technology have pushed this rate to nearly 85 percent. Seat belts reduce serious crash-related injuries and deaths by about half — and seat belts have saved an estimated 255,000 lives between 1975 and 2008.⁴³ Researchers estimate that in 2009 alone, seat belts saved almost 13,000 lives.

Currently, an estimated one in seven adults does not wear a seat belt on every trip.⁴⁴ In addition, studies have found that:⁴⁵

- People between the ages of 18 to 24 are less likely to wear seat belts than those 35 or older;
- Men are 10 percent less likely to wear seat belts than women; and
- Adults who live in rural areas use seat belts 78 percent of the time. Those in urban and suburban areas use them 87 percent of the time.

According to CDC, if all drivers and passengers wore seat belts, nearly 4,000 *additional* lives could be saved annually.⁴⁶

Primary Seat Belt Laws and Reducing Motor Vehicle Crashes

The U.S. Task Force on Community Preventive Services, which conducts reviews of all evidence-based prevention research, recommends safety belt laws as a strategy based on strong evidence of their effectiveness in increasing safety belt use and reducing fatal and non-fatal injuries among adolescents and adults.⁴⁷

“Primary” seat belt laws allow law enforcement officers to ticket a driver for not wearing a seat belt, without any other traffic offense taking place. Thirty-two states and Washington, D.C. have adopted primary seat belt laws, although these laws can vary based on the age of the driver, whether passengers are riding in the front or back seats and the amount of the fines.⁴⁸ Fifteen of these “primary” states do not cover all passengers, both back and front seat, for all ages: Alabama, Arkansas, Connecticut, Florida, Georgia, Hawaii, Illinois, Iowa, Kansas, Maryland, Michigan, Mississippi, New York, Oklahoma and Tennessee. And only nine of these states and

Washington, D.C. levy fines of more than \$30 for adult seat belt violations: Connecticut, Delaware, Maine, New York, Oregon, Rhode Island, Tennessee, Texas and Washington.

Seventeen other states have adopted “secondary” seat belt laws, which allow law enforcement officers to give a seat belt ticket only when there is another traffic offense. New Hampshire is the only state not to have either a primary or secondary seat belt law; it does have a law that requires all drivers and passengers under the age of 18 to wear seat belts.

In states with primary enforcement laws, 88 percent of people use seat belts. That is nine percent higher than states with secondary laws or no laws on the subject.⁴⁹ Experts estimate that if states with secondary laws had the same rate of seat belt use as states with primary laws, an additional 7.3 million people a year would buckle up.

RECOMMENDATIONS:

According to a study conducted by NHTSA, “primary laws, fines and enforcement are important factors in determining seat belt use, and none of these factors likely has maximum potential without the benefit of at least some paid media to support it.”⁵⁰

TFAH and the report’s advisory committee recommend that:

- All states should have primary seat belt laws covering all ages, and they should apply to everyone in the car, not just those in the front seat; and
- States must conduct high-visibility enforcement efforts for primary seat belt laws. To

maximize the effectiveness of primary seat belt laws, public education campaigns must be conducted so the public understands that seat belts are important and that the law will be enforced.

In addition, TFAH and the report’s advisory committee recommend states use evidence-based research from NHTSA to determine the level of fines for lack of seat belt use. A NHTSA analysis found that raising the fine for not wearing a seat belt from \$25 to \$100 can increase belt use by more than 10 percent and that boosting the fine from \$25 to \$60 can increase use by three to four percent.⁵¹

INDICATOR 2: DRIVING UNDER THE INFLUENCE

FINDING: 16 states require mandatory ignition interlocks for all convicted drunk drivers, even first time offenders.

16 states require mandatory ignition interlocks for all convicted drunk drivers, even first time offenders	34 states and Washington, D.C. do NOT require mandatory ignition interlocks for all convicted drunk drivers, even first time offenders
Alaska	Alabama
Arizona	California
Arkansas	Delaware
Colorado	District of Columbia
Connecticut	Florida
Hawaii*	Georgia
Illinois	Idaho
Kansas	Indiana
Louisiana	Iowa
Nebraska	Kentucky
New Mexico	Maine
New York	Maryland
Oregon	Massachusetts
Utah	Michigan
Virginia	Minnesota
Washington	Mississippi
	Missouri
	Montana
	Nevada
	New Hampshire
	New Jersey
	North Carolina
	North Dakota
	Ohio
	Oklahoma
	Pennsylvania
	Rhode Island
	South Carolina
	South Dakota
	Tennessee
	Texas
	Vermont
	West Virginia
	Wisconsin
	Wyoming

Source: Governors Highway Safety Association⁵²

* Hawaii’s requirement is dependent on whether the offender wishes to continue driving⁵³

In 2009, nearly 11,000 Americans died in alcohol-related crashes.⁵⁴ About one out of every three highway deaths is caused by a drunk driver. According to research from the Pacific Institute for Research and Evaluation (PIRE), drunk driving cost the United States \$132 billion in 2009: \$61 billion in monetary costs, and \$71 billion in quality-of-life losses. Federal, state and local governments paid almost \$8 billion of this, while employers paid almost \$11 billion.⁵⁵

A 2010 CDC study found that U.S. adults drove under the influence about 112 million times. This is down from 161 million in 2006, a 30 percent drop.⁵⁶ Additional findings from the study include:

- Men were responsible for more than 80 percent of alcohol-impaired driving;
- Men between the ages of 21 and 34 make up only 11 percent of the adult population, but they are responsible for almost a third of all drinking and driving; and
- About 85 percent of drinking and driving episodes are reported by people who also report binge drinking.

All 50 states and Washington, D.C. currently have laws that make it illegal to operate a motor vehicle at or above a .08 blood alcohol content (BAC) level. In addition, there are a number of other ways that states work to reduce the number of drunk drivers on the road.⁵⁷

There are many national, state and local public education and designated driver campaigns to help educate people about the dangers of drink-

ing and driving and to encourage them not to drink and drive. Many states have passed laws to limit happy hours and other practices that encourage excessive alcohol consumption and have taken measures to penalize bars, restaurants and stores that sell alcohol to underage drinkers or to individuals who serve alcohol to underage drinkers. Setting the federal minimum legal drinking age (MLDA) to 21 years has been credited as one of the most effective interventions to reduce motor vehicle crash deaths for young people.

In addition, many states use sobriety checkpoints, give breath tests to suspected drunk drivers, perform BAC tests for drivers in serious crashes and suspend or revoke licenses or require counseling or jail time for drunk driving. Beyond checkpoints, a number of states conduct “saturation patrols,” which are concentrated enforcement efforts that target impaired drivers by observing moving violations such as reckless driving, speeding, aggressive driving and others. And, some states conduct “roving patrols,” which targets impaired drivers by observing moving violations such as reckless driving, speeding and aggressive driving.

A number of states have outlawed checkpoints, including: Idaho, Iowa, Michigan, Minnesota, Oregon, Rhode Island, Texas, Washington, Wisconsin and Wyoming.⁵⁸

There are about 1.4 million drunk-driving arrests each year in this country. About one million of those arrested are convicted.⁵⁹ A study by the NHTSA found that on average, there was one arrest for every 88 instances of driving over the legal limit.⁶⁰

Ignition Interlocks and Reducing Drunk Driving Injuries

Ignition interlocks have emerged as one of the best evidence-based strategies experts have identified to reduce drunk driving. The U.S. Community Preventive Services Task Force recommends the use of ignition interlocks for people convicted of alcohol-impaired driving on the basis of strong evidence that the devices reduce re-arrest rates.⁶¹

Ignition interlocks work by preventing people from driving while under the influence. Before starting a vehicle, a driver must breathe into the device; if a person’s BAC is above the limit programmed into the interlock, the device prevents the vehicle from starting. Researchers have found that without use of interlocks, between half and three quarters of convicted drunk drivers continue to drive, even after having their licenses revoked or suspended.⁶² CDC’s Community Guide Branch reviewed 15 scientific studies on ignition interlocks and found that when these devices were installed, re-arrest rates for alcohol-impaired driving decreased, with reductions ranging from 50 to 90 percent.^{63, 64}

Every state and Washington, D.C. have some form of ignition interlock law, but only 16 have laws that apply to first-time offenders. This report uses mandatory first-time offender interlock laws as an indicator.



In addition, 13 states and Washington, D.C. give judges discretion over which offenders must use interlocks: California, Idaho, Indiana, Iowa, Kentucky, Maine, Mississippi, Nevada, North Dakota, Ohio, Rhode Island, South Dakota and Vermont. Five states have made interlocks mandatory for those convicted of drunk driving with a particularly high BAC level: Alabama, Florida, Maryland, Michigan and New Hampshire; and nine states have made interlocks mandatory for those with repeat convictions or for individuals with particularly high BAC levels: Delaware, Minnesota, New Jersey, North Carolina, Oklahoma, Tennessee, West Virginia, Wisconsin and Wyoming.

RECOMMENDATIONS:

TFAH and the report's advisory committee recommend that every state require ignition interlocks for every convicted drunk driver, including first time offenders. In addition, TFAH and the report's advisory committee also recommend the following evidence-based measures states can take to reduce driving under the influence of alcohol and drugs:

- Enforce .08 BAC and minimum legal drinking age laws;
- Expand the use of sobriety checkpoints, which can reduce impaired driving deaths by one fifth and targeted saturation patrols which can cover a wider area than a checkpoint;
- Promptly take away the driver's licenses of people who drive while intoxicated;
- Require ignition interlocks for everyone convicted of drinking and driving, even first-time offenders;

The next generation of ignition interlock technology is currently being developed, and researchers believe it holds great promise.⁶⁵ When ready for market, advanced alcohol sensing technology systems will be available in new cars and will passively sense when the person behind the wheel has a blood alcohol level in excess of a safe level. If the driver is determined to have a high BAC, the car will not start. Current iterations of this technology include dermal sensors and breath sensors that sample the air inside of the car but do not require an individual to blow into a device.

- Make efforts to reduce binge drinking, which is linked to drinking and driving;
- Pass primary enforcement seat belt laws that cover all vehicle occupants;
- Have a zero-tolerance policy for underage drivers who are intoxicated;
- Keep the federal minimum legal drinking age (MLDA) at 21 in place; and
- Require blood tests when traffic crashes result in injury;

TFAH and the report's advisory committee also recommend:

- Investing in the research, development and evaluation needed to bring alcohol sensing technology (AST) to the market; and
- Exploring the use of DWI Courts, which use a model of accountability and long-term treatment.

HOW EMPLOYERS AND HEALTH PROFESSIONALS CAN HELP

CDC provides recommendations that employers can take to help reduce drinking and driving, including to:⁶⁶

- Set policies that rescind work-related driving privileges for employees arrested for DUI while driving for work purposes;
- Use workplace programs to communicate the dangers of drinking and driving, and aim some of this information at employees' families.

And, CDC recommends that health professionals should routinely screen patients for risky drinking behaviors, including binge drinking, and provide a 10 to 15 minute counseling session for patients who screen positive.⁶⁷

INTERLOCKS IN ACTION: NEW MEXICO

New Mexico provides an example of the impact of interlocks. A decade ago, the state had one of the highest rates of drunk driving fatalities in the country.⁶⁸

In 2005, the state passed a law making interlocks mandatory for anyone convicted of drunk driving, including first-time offenders. As a result, convicted drunk drivers are 65 percent less likely to drink and drive again. Alcohol-related crashes have dropped by

31 percent; alcohol-related injuries have gone down by 41 percent; and alcohol-related deaths have gone down by 36 percent.

Currently, New Mexico is one of 16 states that have laws requiring ignition interlocks for all convicted drunk drivers.⁶⁹ In 2006, more than 100,000 ignition interlocks were installed nationwide on the vehicles of convicted drunk drivers. By the middle of 2011, the number had risen to nearly 250,000.⁷⁰

INDICATOR 3: MOTORCYCLE HELMETS

FINDING: 19 states and Washington, D.C. have a universal helmet law requiring motorcycle helmets for all riders.

19 states and Washington, D.C. have a universal motorcycle helmet law requiring helmets for all riders.	31 states do NOT have a universal motorcycle helmet law requiring helmets for all riders
Alabama	Alaska
California	Arizona
District of Columbia	Arkansas
Georgia	Colorado
Louisiana	Connecticut
Maryland	Delaware
Massachusetts	Florida
Mississippi	Hawaii
Missouri	Idaho
Nebraska	Illinois
Nevada	Indiana
New Jersey	Iowa
New York	Kansas
North Carolina	Kentucky
Oregon	Maine
Tennessee	Michigan
Vermont	Minnesota
Virginia	Montana
Washington	New Hampshire
West Virginia	New Mexico
	North Dakota
	Ohio
	Oklahoma
	Pennsylvania
	Rhode Island
	South Carolina
	South Dakota
	Texas
	Utah
	Wisconsin
	Wyoming

Source: Governors Highway Safety Association⁷¹

More than 4,400 motorcyclists were killed in 2009, and 90,000 were injured.⁷² Per vehicle mile traveled, motorcyclists were about 25 times more likely than passenger car occupants to die in a

crash in 2009, and five times more likely to be injured. Thirty-five percent of all motorcycle riders involved in fatal crashes in 2009 were speeding, compared to 23 percent of passenger car drivers.

Helmets and Reducing Motorcycle Injuries

A number of studies have found that helmets decrease the severity of head injuries, the number of deaths and the overall cost of medical care. Some key findings include that:

- NHTSA estimates that motorcycle helmets reduce the likelihood of crash fatalities by 37 percent.⁷³
- NHTSA estimates that helmets saved the lives of nearly 1,500 motorcyclists in 2009. It estimates

that if all motorcyclists had worn helmets, more than 700 additional lives could have been saved.

- Of motorcycle drivers and passengers who died in crashes in 2009, 43 percent of drivers and 57 percent of passengers were not wearing helmets.
- A 2009 Cochrane Review of a range of evidence-based studies estimated that helmets were 42 percent effective at preventing death and 69 percent effective at preventing head injuries.^{74,75}

In 1967, the federal government required states to enact “universal” motorcycle helmet laws to qualify for certain highway safety funds. These laws required all motorcycle riders to wear helmets. By 1975, 47 states had complied. But the next year, Congress revoked federal authority to penalize states. Since then, many states have weakened their laws. These changes provided a natural laboratory for researchers to examine how different laws affect usage of motorcycle helmets, as well as how rates of helmet use affect motorcycle accident injury rates.

Currently, 19 states and Washington, D.C. have universal helmet laws; 28 states have partial laws, usually requiring riders under the age of 18 to wear helmets. Eighteen states require riders under the age of 18 to wear helmets: Alaska, Arizona, Colorado, Connecticut, Hawaii, Idaho, Indiana, Kansas, Minnesota, Montana, New Mexico, North

Dakota, Ohio, Oklahoma, South Dakota, Utah, Wisconsin and Wyoming. Delaware requires riders under the age of 19 to wear helmets.⁷⁶ Eight states require riders under the age of 21 to wear helmets: Arkansas, Florida, Kentucky, Michigan, Pennsylvania, Rhode Island, South Carolina and Texas. Three states, Illinois, Iowa and New Hampshire, do not have any helmet laws.

According to NHTSA, in states with helmet laws, nearly 100 percent of motorcycle riders wore helmets, compared to about 50 percent in states without helmet laws or laws applying to only some riders.⁷⁷ According to studies in the *American Journal of Public Health* and *Accident Analysis Prevention*, motorcycle-related deaths are lowest in states with helmet laws that cover all riders, and lower in states with even partial laws, than in states with no helmet laws.⁷⁸ States with universal laws also have lower rates of serious injury.

RECOMMENDATIONS:

TFAH and the report’s advisory committee recommend every state adopt a universal motorcycle helmet law.

These laws require all motorcycle riders and passengers of all ages to wear helmets whenever

riding.⁷⁹ In addition, ensuring helmets meet federal standards, use of protective clothing, education and training can help reduce motorcycle injuries along with highway engineering and installation of anti-lock braking systems.

EXAMPLES OF EFFECTIVENESS OF MOTORCYCLE HELMET LAWS IN STATES

The experience of individual states also shows how helmet laws can decrease rates of death and injury.⁸⁰

- In 1992, California imposed a universal law. Helmet use jumped from 50 percent to 99 percent, and motorcycle deaths dropped by more than a third;
- In 1989, Nebraska reinstated its universal law. The state had a 22 percent drop in serious head injuries among motorcyclists;
- After Kentucky repealed its universal helmet law in 1998, motorcycle deaths rose by 50 percent. When Louisiana did the same the next year, deaths doubled; and
- In Texas, the law has changed several times over the past four decades. From 1968 to 1977, the state had a universal helmet use law. In 1977, the law was changed, to apply only to riders under the age of 18. After the law was passed motorcycle fatalities rose by more than a third. In 1989, the state reinstated a universal law. By the next year, helmet use rate jumped to 98 percent, from 41 percent before the change. Serious injuries decreased by 11 percent. In 1997, the state legislature weakened its helmet law, requiring helmets only for riders below the age of 21. By the next year, helmet use fell to 66 percent, and motorcycle deaths rose by nearly a third.

INDICATOR 4: CHILD CAR SEATS AND BOOSTER SEATS

FINDING: 33 states and Washington, D.C. require that children must ride in a car seat or booster seat to at least the age of eight, meeting the standard set by the National Highway Traffic Safety Administration and the American Academy of Pediatrics.

33 states and Washington, D.C. require car or booster seat use to at least the age of eight (the standard set by the National Highway Traffic Safety Administration and the American Academy of Pediatrics).	17 states do NOT require car seat or booster seat use to at least the age of eight (the standard set by the National Highway Traffic Safety Administration and the American Academy of Pediatrics).
Alaska	Alabama
Arizona	Arkansas
California	Connecticut
Colorado	Florida
Delaware	Idaho
District of Columbia	Iowa
Georgia	Kentucky
Hawaii	Louisiana
Illinois	Mississippi
Indiana	Montana
Kansas	Nebraska
Maine	Nevada
Maryland	New Hampshire
Massachusetts	North Dakota
Michigan	Oklahoma
Minnesota	South Carolina
Missouri	South Dakota
New Jersey	
New Mexico*	
New York	
North Carolina	
Ohio**	
Oregon	
Pennsylvania	
Rhode Island	
Tennessee	
Texas	
Utah	
Vermont	
Virginia	
Washington	
West Virginia	
Wisconsin	
Wyoming	

Source: American Academy of Pediatrics 2011 State Legislation Report⁸¹ * New Mexico's law (Section 66-7-369 NMSA 1978) provides that "children seven years of age through twelve year of age shall be properly secured in a child passenger restraint device or by a seat belt" and defines criteria for when a child is properly secured in a adult seat belt. ** Ohio notes that their booster seat law is not a primary law, so there are gaps in enforcement ability and there is also an exemption for child care provider agencies.

Seat belts work by absorbing the energy caused by a rapid deceleration in a crash, reducing the risk of ejection from a vehicle and spreading the forces from a crash over hard bones rather than softer internal organs. But, they only work well if they properly fit.

Seat belts are not built to fit the small and ever-changing sizes of growing children. Engineers developed child car seats and booster seats to better protect children during crashes. Child car seats provide internal harnesses that can be adjusted to fit small children, typically children ages zero to four, and then booster seats help position children so that seat belts will fit them properly.

Experts have found that child car seats and booster seats are effective ways to reduce the number of children hurt in car crashes. From 1975 to 2008, an estimated 8,959 lives were saved by child safety seats, booster seats and/or seat belts.⁸² But motor vehicle crashes are still a significant cause of death for children ages zero to three and the leading cause of death for children ages three to 14.⁸³ Every day, an average of four children under the age of 15 die in motor vehicle crashes and more than 500 are injured.

Booster Seats for Children

Both NHSTA and AAP recommend that car seats be used for children under the age of four; that booster seats be used to help ensure seat belts fit children properly be used for children ages four to eight; and that children ride in the back seat of cars until the age of 13 (depending on the size of the child.)^{89,90}

This report uses whether a state requires the use of a booster seat from the age that a child has outgrown a car seat until the age of eight as an indicator.

RECOMMENDATIONS:

TFAH and the report's advisory committee recommend a comprehensive child passenger safety law be passed in every state that would require:

- Age and size appropriate car safety seats for most infants and children up to the age of four;

NHTSA and the American Academy of Pediatrics (AAP) recommend car seats for infants and toddlers, typically until a child reaches the age of four.^{84,85} Child safety seats reduce the risk of death in passenger cars by 71 percent for infants and by 54 percent for children between the ages of one to four.⁸⁶

After that, booster seats are recommended for children who are under the age of eight, so that a seat belt will fit them properly. Without a booster seat, the seat belt typically will not effectively protect smaller children. Using booster seats for children ages four to seven result in 59 percent fewer injuries.⁸⁷ Car seats or booster seats have also been shown to reduce the risk of death for children ages two to six by 28 percent compared to using seat belts alone.⁸⁸

There is strong evidence that child safety seat laws, safety seat distribution and education programs, community-wide education and enforcement campaigns, as well as incentive and education programs, can increase child safety seat use.

Currently, 33 states and Washington, D.C. require booster seat use to at least the age of eight or until a child is of the size where a safety belt fits correctly. Fifteen additional states require booster seat use until the age of six: Alabama, Arkansas, Connecticut, Idaho, Iowa, Louisiana, Mississippi, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma and South Carolina. Kentucky requires booster seat use until the age of seven.

- Belt-positioning booster seats for most children ages four to eight;
- Lap and shoulder seat belts for all children who have outgrown booster seats; and
- That all children under the age of 13 ride in the back seat.

DISTRACTED DRIVING — INCLUDING CELL PHONES AND TEXTING

Experts estimate that in 15 to 30 percent of crashes, at least one driver is distracted.⁹¹ NHTSA estimates that in 2009, 16 percent of fatal crashes and 20 percent of crashes that resulted in injuries involved at least one distracted driver.

Drivers who engage in non-driving activities are two to three times more likely to experience a near-crash or crash.⁹²

Cell Phone Use: Around two-thirds of drivers report using a cell phone while driving, one-third of those report using a cell phone routinely and around one-eighth of drivers report texting while driving.⁹³ NHTSA estimates that between 2000 and 2009, the number of drivers on the road using cell phones increased from four percent to nine percent; and NHTSA has found that talking on a cell phone doubles or triples the risk of crashes or near-crashes.^{94, 95}

An academic review of more than 34 cell phone studies found that talking on a cell phone increases crash risks, even when drivers used hands-free functions.⁹⁶

Texting: Texting while driving increases the risk of a high-risk driving event by 23 times compared to non-distracted driving.⁹⁷ A number of studies have documented an increase in texting while driving, particularly among younger drivers.

Cell and Texting Bans

A number of states have passed laws limiting handheld cell use and texting. However, there is little research to determine whether the bans work. A 2010 review of cell phone-driving studies found that bans appeared to reduce use. After New York banned hand-held cell phone use in 2001, studies found that use dropped soon after by about 47 percent. Cell phone use subsequently increased, but in 2008, use was almost a quarter lower than expected levels had there been no ban. After Washington, D.C. banned cell phone use in 2004, driver hand-held use dropped by 41 percent. In 2009, use was 43 percent lower than would have been expected without a ban.¹⁰¹

There is also little data on whether texting bans reduce such behavior. A 2010 study of such bans by the Highway Loss Data Institute found that the measures did not reduce collision claims. In fact, states that enacted texting bans saw a small rise in claims, compared to states without the bans. The researchers offered two possible explanations. Because the bans are hard to enforce, the laws may have no effect on texting rates. Or the bans may encourage drivers to hide their texting, which may make it more distracting because the act of hiding increases the distraction.¹⁰²

The state of California released a study in March 2012 showing that its 2008 ban on cell phones has reduced use and saved lives. The analysis, by researchers at the University of California, Berkeley, examined state crash records two years before and two years after the ban went into effect. After the ban, overall traffic deaths declined 22 percent, while deaths caused by use of a hand-held cell phones dropped by almost half. Re-

- Researchers at the Insurance Institute for Highway Safety (IIHS) surveyed more than 1,200 drivers from around the country. They found that 13 percent of drivers overall reported texting while driving; 43 percent of drivers between the ages of 18 and 24 reported texting, compared to two percent of drivers between the ages of 30 and 59. Twelve percent of drivers in states with texting bans reported texting while driving, compared with 14 percent in states with no ban.⁹⁸
- A survey of nearly 2,000 teen drivers in North Carolina high schools found that 30 percent had texted during their last driving trip. Four percent said they often initiated a text conversation while driving, 11 percent said they often replied to texts, and 23 percent said they often read text messages. Among those who texted while driving, 58 percent said they often wait until it feels safe to read and reply to text messages.⁹⁹
- A 2010 survey of 348 Kansas drivers between the ages of 18 and 30 found that only two percent said they never texted while driving. Seventy percent said they initiated texts while driving, 81 percent reported replying to texts, and 92 percent reported reading texts.¹⁰⁰

searchers found that the ban also reduced injuries, as well as the use of hands-free cell phones.¹⁰³

In California in 2011, more than 460,000 people were convicted of talking on a hand-held cell phone while driving.¹⁰⁴

Ten states and Washington, D.C. have laws that currently prohibit all drivers from using handheld cell phones: California, Connecticut, Delaware, Maryland, Nevada, New Jersey, New York, Oregon, Washington and West Virginia. In all of these states except for Maryland and West Virginia, the laws are “primary”: officers may cite drivers for using a handheld cell phone without another traffic offense taking place.

Thirty-one states and Washington, D.C. ban all cell phone use by novice drivers: Alabama, Arkansas, California, Colorado, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Nebraska, New Jersey, New Mexico, North Carolina, North Dakota, Oregon, Rhode Island, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia and Wisconsin.

Thirty-seven states and Washington, D.C. ban text messaging for all drivers: Alaska, Arkansas, California, Colorado, Connecticut, Delaware, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, Nevada, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Oregon, Pennsylvania, Rhode Island, Tennessee, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

Distracted Driving Countermeasures

Researchers, government officials, public health experts and private companies have developed and implemented a range of countermeasures designed to reduce distracted driving, as well as the harmful effects of distracted driving. These include:¹⁰⁵

- Roadway countermeasures, such as rumble strips to alert drivers that they are drifting from their lanes;
- Laws that penalize distracting behavior such as cell phone use, texting and other non-driving activities;
- Public education campaigns to highlight the importance of avoiding distractions while driving;
- Education aimed at new and novice drivers, who are more likely to have trouble handling distractions while driving;
- Technology that blocks or limits cell phone reception when the device is in a moving vehicle; and
- Company policies that discourage employees from multitasking while operating company vehicles.

RECOMMENDATIONS:

NTSB has recommended that states ban use of all portable electronic devices while driving. The proposed ban, which was announced in December 2011, includes hands-free and hand-held cell phones, as well as other devices such as iPods.¹⁰⁶

In addition, the Governors Highway Safety Association recommends that states should take the following actions to reduce distracted driving:¹⁰⁷

- Enact cell phone and texting bans for novice drivers;
- Enact texting bans for all drivers;
- Enforce existing cell phone and texting laws;
- Introduce programs that publicize existing cell phone and texting laws, and communicate how drivers can avoid distractions;
- Help employers develop and implement distracted driving policies and programs;
- Implement effective distracted driving countermeasures such as edgeline and centerline rumble strips on roads;
- Include “distracted driving” as a category in crash reports, to help evaluate distracted driving laws and programs; and
- Monitor the impact of existing hand-held cell phone bans before passing new laws. States that have not already passed handheld bans should wait until more definitive research and data are available on these laws’ effectiveness.

TFAH and the report’s advisory committee recommend that more research should be conducted about how to promote drivers being more attentive — including expeditious research on the effectiveness of cell phone and texting bans and campaigns and other ways to reduce distracted driving.

TEEN DRIVER SAFETY

Motor vehicle crashes are the leading cause of death for U.S. teenagers. A third of deaths among teenagers occurred in crashes. More than 3,000 teens between the ages of 15 and 19 were killed in crashes in 2009. The previous year, more than 350,000 were treated in emergency departments for crash injuries.^{108, 109} Crash-related injuries and deaths in 2005, among teens between the ages of 15 and 19, cost \$14 billion in medical care and productivity losses.¹¹⁰

Per mile driven, teen drivers are four times more likely than adult drivers to crash. The crash rates are highest during the first year a teen is licensed.¹¹¹ For teen drivers, the risk of a crash is highest at age 16. The crash rate per mile driven is twice as high for 16-year-old drivers as it is for 18- and 19-year-old drivers.¹¹²

Some areas of particular concern include:

- Lower rates of seat belt use: Compared with other age groups, teens have the lowest rate of seat belt use. Seat belt use among fatally injured drivers between the ages of 16 and 19 was 41 percent in 2009. Among fatally injured drivers between the ages of 20 and 29, the rate was 36 percent; among fatally in-

jured drivers over the age of 29, the rate was 48 percent.¹¹³

- Increased risk during nighttime driving: 18 percent of teen crash deaths occurred between 6 p.m. and 9 p.m.; 17 percent occurred between 9 p.m. and midnight; 16 percent occurred between midnight and 3 a.m.
 - ▲ When driving at night, male drivers between the ages of 16 and 19 are six times as likely to crash as male drivers between the ages of 30 and 59. Female drivers between the ages of 16 and 19 are three times as likely to crash as female drivers between the ages of 30 and 59.
- Increased risk driving with passengers: Compared with driving alone, 16- to 17-year-olds have a 40 percent increased risk of crashing when they have one friend in the car, twice the risk with two passengers, and almost four times the risk with three or more teenage passengers.¹¹⁴
 - ▲ Crash rates increase when schools have open campus meal policies, which allow groups of teenagers to drive away from school for lunch.¹¹⁵

Graduated Driver Licenses

Graduated driver licensing (GDL) systems are proven to be effective in reducing crash and injury rates among teen and new drivers.¹¹⁶ NHTSA and the American Association of Motor Vehicle Administrators developed a three stage program involving a learner's permit and an intermediate provisional license before being awarded a full license to help give young and new drivers more time to learn the skills required to operate a vehicle. As teens move through the stages of GDL, they are given extra privileges, such as driving at night or driving with passengers.

States that have adopted graduated licensing have seen crash rates among teenage drivers drop by 10 to 30 percent. Restrictions on nighttime driving and teen passengers and higher licensing ages have also reduced crash rates.¹¹⁷

Research has found that:

- If every state had a strong graduated driver's licensing policy, 175 fewer teens would die in crashes annually and about 350,000 fewer would be injured;¹¹⁸ and
- In states that ban driving at or before midnight, crash deaths for drivers between the ages of 15 and 17 dropped by 13 percent.

All 50 states and Washington, D.C. have adopted a three-tier system. All states except New Hampshire and Wyoming require a six month learner's permit.

While 47 states have night driving restrictions on unsupervised teens, only 10 of these states prohibit all unsupervised teen drivers from driving after 10 p.m. during the entire intermediate stage of their license: Delaware, Idaho, Michigan, New York, North Carolina, North Dakota, Oklahoma, South Carolina, South Dakota and West Virginia. Ten states have set the limit at 11 p.m. for all intermediate drivers: Arkansas, California, Connecticut, Hawaii, Louisiana, Montana, New Jersey, Pennsylvania, Tennessee and Wyoming. And 22 states have set the limit at between midnight and 1 a.m.: Alabama, Alaska, Arizona, Colorado, Georgia, Iowa, Kentucky, Maine, Maryland, Massachusetts, Missouri, Nebraska, New Hampshire, New Mexico, Ohio, Oregon, Rhode Island, Texas, Utah, Virginia, Washington and Wisconsin.

Five states and Washington, D.C. have restrictions that vary based on age, amount of driving experience, day of the week or the time of year. Illinois sets a limit of 10 p.m. between Sunday and Thursday and 11 p.m. on Friday and Saturday. Mississippi sets a limit of 10 p.m. between Sunday and Thursday and 11:30 p.m. on Friday and Saturday. Florida sets a limit of 11 p.m. for 16-year-olds and 1 a.m. for 17-year-olds. Indiana sets a limit of 10 p.m. for the first 180 days after a driver receives a license and 11 p.m. after that, until the driver turns 18. Minnesota sets a limit of midnight for the first six months after a driver receives a license; after that, drivers there do not have a night driving limit. Washington, D.C. sets a limit of 11 p.m. between September and June, and midnight for July and August.

RECOMMENDATIONS:

CDC, NHTSA and the American Association of Motor Vehicle Administrators recommend a three-stage graduated drivers' licensing policy:^{119, 120}

1. A learner's permit with a minimum age of 16 and a mandatory holding period of at least six months.
2. A probationary license with no unsupervised night driving from at least 10 p.m. to 5 a.m. This license would also allow a maximum of one teen passenger to accompany the driver without adult supervision. This limit would not include family members.
3. A full license, with a minimum age of 18.

In addition, NHTSA also recommends:

- Prohibiting cell phone use, both talking and texting, for teenage drivers;
- Allowing teenage drivers to be stopped and ticketed if they or their passengers are not wearing seat belts; and
- Vigorously enforcing zero-tolerance policies for underage drinking and driving.¹²¹

GRADUATED DRIVER'S LICENSES: SUCCESS STORIES

- A study of Florida's graduated license law found that the system reduced reported drunk driving, as well as riding with drivers who had been drinking.¹²²
- A study by NHTSA found that states with comprehensive graduated licensing programs had crash rates among 16-year-old drivers that were about 20 percent lower than states without graduated licensing programs;¹²³
- An examination of Michigan's graduated licensing program found that the program reduced overall crash risks for 16-year-old drivers by 29 percent. It reduced the risk of a fatal crash by 44 percent, and the risk of a nighttime crash by 59 percent;¹²⁴ and
- A study of North Carolina's graduated driver's license system found that crash rates declined sharply for all levels of severity among 16-year-old drivers after the program was implemented. For 16-year-olds, fatal crashes declined 57 percent, nighttime crashes decreased by 43 percent and daytime crashes decreased by 20 percent.¹²⁵

OLDER DRIVERS

Once drivers reach the age of 65, the risk of being injured or killed in a crash increases. Age-related declines in vision and cognitive functioning, as well as physical changes, may affect the driving ability of some older adults.¹²⁶

The number of older drivers in the United States has been increasing. There were 33 million licensed drivers over the age of 64 in this country in 2009. This is a 23 percent increase from a decade earlier.

Older drivers have relatively low rates of fatal crash involvement per licensed driver, but extremely high rates per vehicle mile traveled, especially after age 75. More than 5,500 older adults were killed in crashes in 2008, and more than 183,000 were injured.¹²⁷

Older drivers are less likely to drink and drive than other drivers. Only five percent of older drivers involved in fatal crashes

had a high BAC, compared to a quarter of drivers between the ages of 21 and 64.

Limits on Older Drivers

Thirty-three states and Washington, D.C. currently have limits for mature drivers, including shorter gaps between renewals, restrictions of online or mailed renewals, required vision and road tests and reduced or waived renewal fees. These states are: Alaska, Arizona, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, Rhode Island, South Carolina, Tennessee, Texas, Utah and Virginia.

RECOMMENDATIONS:

TFAH and the report's advisory committee recommend that more research be conducted to study the issues related to older drivers. The group recommends that:

- Research needs to be conducted to examine if the laws placing restrictions on older drivers have scientific merit and the quality of life and mental health impact of these restrictions;
- Steps should be taken to provide seniors with alternative, convenient modes of transportation such as expanded public transportation options and "neighbor care" ride programs; and
- Medical care providers should receive education about older driver issues and talk to their patients about risks and benefits of continued driving.

NHTSA recommends that states and municipalities make a range of changes to reduce risks among older drivers:¹²⁸

- Improve communications to older drivers, and encourage them to adjust their driving habits as they age;

- Avoid passage of reactive, unscientific legislation that overly restricts driving privileges of older drivers;
- Further investigate the usefulness of older driver training programs;
- Increase communication in and between states about older driver safety;
- Develop and promote evidence-based older driver licensing programs;
- Include medical advisory boards in the creation of these programs;
- Create a process by which potentially unsafe older drivers can be assessed by medical advisory boards;
- Train DMV personnel to recognize signs of potential cognitive or physical impairments in older drivers; and
- Train law enforcement personnel to recognize potentially unsafe older drivers and refer them to medical advisory boards.

THE AMERICAN MEDICAL ASSOCIATION'S OLDER DRIVERS PROJECT

The American Medical Association (AMA), in cooperation with NHTSA, has developed a Physician's Guide to Assessing and Counseling Older Drivers. The guide states that "By providing effective health care, physicians can help their patients maintain a high level of fitness, enabling them to preserve safe driving skills later in life and protecting them

against serious injuries in the event of a crash. By adopting preventive practices — including the assessment and counseling strategies outlined in this guide — physicians can better identify drivers at risk for crashes, help enhance their driving safety, and ease the transition to driving retirement if and when it becomes necessary."¹²⁹

SPEEDING

Speeding was a factor in nearly a third of all fatal crashes in 2009; these crashes killed 10,591 people.¹³⁰ According to NHTSA the cost of speed-related crashes is more than \$40 billion annually.¹³¹

Age, gender and alcohol are often related to crashes involving speeding:¹³²

- Of drivers involved in fatal crashes, young males are most likely to be speeding. NHTSA found that of those involved in a fatal crash in 2009, 39 percent of male drivers between the ages of 15 and 20, and 37 percent of those between 21 and 24, were speeding at the time of the crash.
- A NHTSA analysis of fatal crashes found that the fatal crashes of male drivers were more likely to be speed-related than those of female drivers. Nearly a quarter of male

drivers involved in fatal crashes were speeding at the time of the crash, compared to 15 percent of female drivers. This finding held true across all age groups.

- Drivers who drink are often involved in speeding-related crashes. Among drivers involved in fatal crashes in 2009, 43 percent of those who were speeding had high BAC, compared to only 17 percent of those who were not speeding.
- Of the speeding drivers under the age of 21 who were involved in fatal crashes in 2009, 29 percent had a high BAC. Just 13 percent of the non-speeding drivers in this category had a high BAC. Just over half of drivers between the ages of 21 and 24 who were involved in fatal crashes, and who were speeding, also had a high BAC, compared with only 27 percent of non-speeding drivers.

RECOMMENDATIONS:

The Department of Transportation recommends that states and municipalities take a range of steps to reduce the risk of speeding-related accidents and injuries:¹³³

- Identify and promote engineering measures to better manage speed. Increase the use of speed management techniques and technology that can be built into the current highway system;
- Increase public awareness of the dangers of speeding. If people are not aware of, or do not understand, the risks of speeding, they are less likely to adjust speeds for traffic and weather conditions, or to drive within the speed limit;

- Identify and promote effective speed enforcement efforts; and
- Improve cooperation of stakeholders, including traffic court judges, prosecutors, safety organizations, health professionals and policy makers.

TFAH and the report's advisory committee recommend that more research should be conducted into the link between speed and safety and new technologies to identify and ticket speeding drivers, including systems built into roadways and into vehicles. In addition, community design principles, such as those outlined in Complete Streets initiative, and health impact assessments can be used to inform how to reduce speed and increase road safety.

HISTORY OF SPEED LIMITS¹³⁴

Congress passed a law in 1973 that withheld highway funds from states that did not adopt a maximum limit of 55 mph. The National Research Council said decreased limits saved 4,000 lives in 1974, compared with the previous year.

Fifteen years later, Congress allowed states to increase speed limits on rural interstates to 65 mph. Eight years after that, it repealed the maximum limit altogether. Since then, every state but Alaska has raised its speed limits in some way. Many states have since raised speed limits significantly.

Studies by the Insurance Institute of Highway Studies show that deaths on rural interstates increased by 25 to 30 percent when states began increasing limits in 1987.

A study of the effects of the 1995 repeal found a 15 percent increase in fatalities on interstates and freeways. Another study found that states that increased limits to 75 mph had 38 percent more deaths per million vehicle miles traveled than expected. States that increased limits to 70 mph saw a 35 percent rise.

A study done in 2009 examining the effects of the 1995 repeal found a three percent increase in fatalities due to higher speed limits on all road types. The scientists estimated that between 1995 and 2005, more than 12,000 deaths were caused by the increased speed limits.

INDICATOR 5: BICYCLE AND OTHER VEHICLE SAFETY

FINDING: 21 states and Washington, D.C. require bicycle helmets for all children.

21 states and Washington, D.C. require bicycle helmets for all children	29 states do NOT require bicycle helmets for all children
Alabama	Alaska
California	Arizona
Connecticut	Arkansas
Delaware	Colorado
District of Columbia	Idaho
Florida	Illinois
Georgia	Indiana
Hawaii	Iowa
Louisiana	Kansas
Maine*	Kentucky
Maryland	Michigan
Massachusetts	Minnesota
New Hampshire	Mississippi
New Jersey	Missouri
New Mexico	Montana
New York	Nebraska
North Carolina	Nevada
Oregon	North Dakota
Pennsylvania	Ohio
Rhode Island	Oklahoma
Tennessee	South Carolina
West Virginia	South Dakota
	Texas
	Utah
	Vermont
	Virginia
	Washington**
	Wisconsin
	Wyoming

Source: American Academy of Pediatrics 2011 State Legislation Report¹³⁵

*Maine's law is for children up to age 16. ** Washington state notes that while they do not have a state law requiring bicycle helmet use by children, they have cities and counties that have adopted ordinances requiring helmet use by children.

Around 700 bicyclists are killed and 52,000 are injured each year.¹³⁶ Males represent 87 percent of the bicyclists killed, and 79 percent of those injured. The average annual cost of bicycle fatalities in children and teens below the age of 20 is around \$993 million, and the average annual cost of nonfatal bicycle injuries for children and youth is \$4.7 billion.¹³⁷

Bicyclists below the age of 16 accounted for 13 percent of all bicyclists killed in 2008, and a quarter of those injured. Children under 15 accounted for 45 percent of bicycle injuries treated in emergency departments.¹³⁸

Traumatic brain injuries account for more than 50 percent of bicycle fatalities among children and youth below the age of 20.

Bicycle deaths decreased by 25 percent from 1995 to 2009, and bicycle injuries dropped by 16 percent.¹³⁹

Bicycle Helmet Use

According to studies, wearing an approved helmet in the proper way provides up to an 88 percent reduction in the risk of head and brain injury for bicyclists of all ages. Helmets are the most effective way to reduce death and head injuries from bike crashes.¹⁴⁰

Bicycle helmet requirements for children were examined as an indicator for this report. Twenty-one states and Washington, D.C. currently require children to wear bicycle helmets. Studies have found that bicycle helmet use laws — which are mostly focused on children — when combined with education are effective in increasing helmet use and reducing head injuries.^{141, 142, 143}

This report used bicycle helmet requirements for children as an indicator. Twenty-one states and Washington, D.C. currently require children to wear bicycle helmets.

In addition, eight states require children to wear helmets when riding scooters and skateboards: California, Delaware, Maryland, Massachusetts, New Mexico, New York, Oregon and Rhode Island. Among children under the age of 14, skateboard-related injuries accounted for more than 68,000 emergency department visits and 1,500 hospitalizations in 2009.¹⁴⁴

A number of states and localities issue fines for violating the bicycle helmet requirements, for

instance, New Jersey issues a \$25 fine for first offenses and \$100 fines for subsequent offenses if it can be shown that the parent or guardian failed to exercise reasonable supervision or control over the person's conduct. Penalties may be waived if an offender or his parent or legal guardian presents suitable proof that an approved helmet was owned at the time of the violation or has been purchased since the violation occurred.

RECOMMENDATIONS:

TFAH and the report's advisory committee recommend that every state adopt a law requiring bicycle helmet use for all children and teens along with education campaigns, and that all laws relevant to bicycle safety should be enforced. In addition, TFAH and report's advisory committee recommend strong public education campaigns about the benefits of helmet use and adults should also be encouraged to use helmets, and that states and communities should:

- Create bicycle paths;
- Incorporate designated bicycle paths that will allow people to travel around the community safely when new communities are being built; and
- Consider how to create a safe environment for bicyclists when updating or modifying existing roads.

NHTSA has issued a set of recommendations that include a range of public education and policy steps including:¹⁴⁵

- Creating "Share the Road" public education efforts;
- Including components on safe bicycling and sharing the road in driver education programs;
- Expanding school-based and community-based bicycle safety programs that include increasing access to affordable helmets for both children and adults;
- Creating bicycle helmet safety campaigns, at national, state and local levels;
- Encouraging law enforcement agencies to enforce existing bicycle helmet laws;
- Monitoring and evaluate the effectiveness of existing helmet laws; and
- Improving the collection and quality of data on bicycle accidents and injuries.

COMPLETE STREETS INITIATIVES

Streets without safe places to walk, cross, catch a bus or bicycle put people at increased risk for being injured. More than 5,000 pedestrians and bicyclists died on U.S. roads in 2008, and more than 150,000 were injured.¹⁴⁶

Complete Streets are roadways that are designed and operated so users of all ages and abilities — including bicyclists, pedestrians, public transit riders, and motorists — can safely travel along and across them. There is a growing trend at both the state and local levels of government to adopt Complete Streets policies in order to foster safety, physical activity and promote healthy living and more environmentally friendly transportation use. Complete Streets policies require all new and renovated streets to be designed and built in a manner safe for all users.

A review by the National Conference of State Legislatures identified five state policy options that are most effective at encouraging safe biking and walking:¹⁴⁷

1. Incorporating sidewalks and bike lanes into community design;
2. Providing funding for biking and walking in highway projects;

3. Establishing safe routes to school;
4. Fostering traffic-calming measures (e.g., any transportation design to slow traffic); and
5. Creating incentives for mixed-use development.

According to the National Complete Streets Safety Coalition, Complete Streets policies have been adopted in 315 regional and local jurisdictions and in 26 states, including: California, Colorado, Connecticut, Delaware, Florida, Hawaii, Illinois, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, Washington and Wisconsin.

RECOMMENDATIONS:

TFAH and the report's advisory committee recommended every state and local jurisdiction adopt Complete Streets policies that incorporate safety and physical activity concerns into the built environment.

B. VIOLENCE-RELATED INJURIES

Nearly 17,000 Americans were murdered in 2009 and more than 37,000 committed suicide.¹⁴⁸ In addition, assaults are responsible for more than a million injuries annually.¹⁴⁹

Homicide and suicide rates are higher for teens and young adults than other ages. Homicide is the second-leading cause of death and suicide is third for this age range.¹⁵⁰

Overall, there are more than 740,000 children and teenager emergency room visits a year for injuries related to violence.^{151, 152} Child abuse and neglect, teen dating violence, school- and gang-related violence and bullying all contribute to the number of violence-related injuries.

For adults, violence within intimate relationships is also significant. More than one in three women and one in four men in the United States have experienced rape, physical violence and/or stalking by an intimate partner in their life time.¹⁵³ Violence by intimate partners

caused 2,340 deaths in 2007. Seventy percent of these victims were female.¹⁵⁴

Violent deaths resulted in \$47 billion in total medical and work loss costs in 2005.¹⁵⁵ The cost of suicides was \$26 billion. The cost of homicide was \$20 billion.

Experts have developed evidence-based ways to help reduce violence and violence-related injuries.

This report examines two violence-related indicators: the ability of people in dating relationships to get protection orders, and state grades in an analysis of teen dating violence laws by the Break the Cycle organization. In addition, this section also reviews information about homicides, suicide and assaults; teen violence, including gang- and school-related violence and bullying; and child abuse. It also includes strategies that have been found to be effective in reducing injuries related to these forms of violence.



INDICATOR 6: INTIMATE PARTNER VIOLENCE

FINDING: 44 states and Washington, D.C. allow people in dating relationships to get protection orders.

44 states and Washington, D.C. allow people in dating relationships to get protection orders	6 states do NOT allow people in dating relationships to get protection orders
Alabama*	Georgia
Alaska	Kentucky
Arizona	Ohio
Arkansas	South Carolina
California	South Dakota
Colorado	Utah
Connecticut	
Delaware	
District of Columbia	
Florida	
Hawaii	
Idaho	
Illinois	
Indiana	
Iowa	
Kansas	
Louisiana	
Maine	
Maryland	
Massachusetts	
Michigan	
Minnesota	
Mississippi	
Missouri	
Montana	
Nebraska	
Nevada	
New Hampshire	
New Jersey	
New Mexico	
New York	
North Carolina	
North Dakota	
Oklahoma	
Oregon	
Pennsylvania*	
Rhode Island	
Tennessee	
Texas	
Vermont	
Virginia*	
Washington	
West Virginia	
Wisconsin	
Wyoming	

Source: Break the Cycle, 2010: State Law Report Cards: A National Survey of Teen Dating Violence Laws¹⁵⁶

*Alabama, Pennsylvania and Virginia have updated their laws since the release of the 2010 Break the Cycle report to allow individuals in dating relationships to petition for protection orders or stalking protection orders.

More than one in three women and one in four men in the United States have experienced rape, physical violence and/or stalking by an intimate partner in their life time.¹⁵⁷ Violence by intimate partners caused 2,340 deaths in 2007. Seventy percent of these victims were females.¹⁵⁸ The medical care, mental health services and lost productivity cost of violence by intimate partners was nearly \$6 billion in 1995. In 2011 terms, that is nearly \$9 billion.

According to the 2010 National Intimate Partner and Sexual Violence Survey (NISVS):¹⁵⁹

- Around one in four women and one in seven men have experienced severe physical violence by an intimate partner (e.g., hit with a fist or something hard, beaten, slammed against something) at some point in their lifetime;
- Nearly one in 10 women has been raped by an intimate partner in her lifetime, and an estimated 16.9 percent of women and eight percent of men have experienced sexual violence other than rape by an intimate partner at some point in their lifetime. More than half of all female rape victims were raped by an intimate partner. More than four of five women who were raped, stalked or subjected to physical violence by an intimate partner reported significant short- or long-term impacts, such as post-traumatic stress disorder (PTSD), while 35 percent of men report such impacts from these experiences;
- An estimated 10.7 percent of women and 2.1 percent of men have been stalked by an intimate partner during their lifetime;
- Nearly half of all women and men have experienced psychological aggression by an intimate partner in their lifetime;

RECOMMENDATIONS:

TFAH and the report's advisory group recommend that states, counties and municipalities should take a public-health approach to reducing intimate partner violence by focusing on stopping violence before it happens in the first place, and that:

- Effective services for victims, such as shelters and legal aid, need to be maintained where they exist and expanded to serve those still in need;
- Services and programs must emphasize collaboration among federal, state and local governments and across agencies and types of services;
- Protection orders must be accessible to protect victims and their families;

- Among victims of intimate partner violence, more than one in three women experienced multiple forms of rape, stalking or physical violence. Ninety-two percent of male victims experienced physical violence alone, and 6.3 percent experienced physical violence and stalking; and
- In just the year prior to taking the survey, one in 17 women and one in 20 men experienced rape, physical violence and/or stalking by an intimate partner.

According to the survey, intimate partner violence risks are higher for some racial and ethnic groups:¹⁶⁰

- Approximately four out of every 10 Black, American Indian or Alaska Native women and one out of two multiracial non-Hispanic women have been the victim of rape, physical violence and/or stalking by an intimate partner violence in their lifetime. About one third of White women, more than a third of Hispanic women and around one-fifth of Asian or Pacific Islander women have experienced this type of violence; and
- Around 45 percent of American Indian or Alaska Native men and nearly four out of every 10 Black and multiracial non-Hispanic men reported being the victim of rape, physical violence and/or stalking by an intimate partner in their lifetime. Rates for these types of violence are nearly 27 percent for Hispanic men and more than 28 percent for White men.

Studies have found that the risk of intimate partner violence is lower when victims can obtain final protective orders from courts.^{161, 162}

- Data must include the collection of specific demographic information, such as race, ethnicity, disability status and sexual identity/orientation, which is also consistent with new HHS standards for self-reported surveys, to help understand patterns and target prevention strategies more effectively; and
- Under the new health reform law, the Affordable Care Act (ACA), most private insurance plans must cover many women's preventive health care services with no out of pocket costs to the patient. This includes screening and counseling for victims of intimate partner violence. These provisions should be fully supported, implemented and evaluated for their impact on women's physical and mental health.

INDICATOR 7: TEEN DATING VIOLENCE

FINDING: 6 states and Washington, D.C. received an “A” grade in the teen dating violence prevention laws from an analysis conducted by Break the Cycle.

6 states and Washington, D.C. received an “A” grade in the Break the Cycle, 2010 State Law Report Cards: A Survey of Teen Dating Violence Laws.	44 states did NOT receive an “A” grade in the Break the Cycle, 2010 State Law Report Cards: A Survey of Teen Dating Violence Laws.
California	Alabama (B/C)*
District of Columbia	Alaska (B)
Illinois	Arizona (B)
New Hampshire	Arkansas (C)
Oklahoma	Colorado (C)
Rhode Island	Connecticut (C)
Washington	Delaware (B)
	Florida (B)
	Georgia (F)
	Hawaii (C)
	Idaho (C)
	Indiana (B)
	Iowa (C)
	Kansas (C)
	Kentucky (F)
	Louisiana (C)
	Maine (B)
	Maryland (C)
	Massachusetts (B)
	Michigan (C)
	Minnesota (B)
	Mississippi (B)
	Missouri (F)
	Montana (C)
	Nebraska (C)
	Nevada (C)
	New Jersey (B)
	New Mexico (B)
	New York (B)
	North Carolina (C)
	North Dakota (D)
	Ohio (D)*
	Oregon (D)*
	Pennsylvania (C)*
	South Carolina (F)
	South Dakota (F)
	Tennessee (B)
	Texas (C)
	Utah (F)
	Vermont (B)
	Virginia (C)*
	West Virginia (B)
	Wisconsin (D)
	Wyoming (C)

Source: Break the Cycle, *2010 State Law Report Cards: A Survey of Teen Dating Violence Laws*¹⁶³

*At least five states have updated dating violence laws since the publication of the 2010 Break the Cycle report that would result in changes to their grades. Alabama: Law change to allow persons in dating relationships to petition for protection orders (Ala. Code § 30-5-2(5)(d)); Pennsylvania: Law changed to include intimate partners in persons eligible for a protection from abuse order (23 Pa. C.S.A. § 6102(a)); Virginia: Law changed to allow persons in dating relationships to petition for stalking protection orders (Va. Code § 18.2-60.3(A)); Ohio: Law Am Sub H.B. 10 allows adolescents or others on their behalf to seek Civil Protection Orders in Juvenile Court against persons under the age of 18 who create an immediate and personal danger and OH Sub HB 19 more broadly addressed school policy and training requirements related to teen dating violence; and Oregon: Law HB 4077 directs each school district board to adopt a policy regarding teen dating violence.

Recognition of the high rates of teen dating violence has grown in recent years. According to CDC, a quarter of adolescents are verbally, physically, emotionally or sexually abused by a dating partner each year.¹⁶⁴ One in 10 students nationwide report being physically hurt by a boyfriend or girlfriend in the past year.

Studies have found that:

- Teens who are victims are more likely to be depressed and do poorly in school.

Teen Dating Violence Laws

While all 50 states and Washington, D.C. have laws pertaining to interpersonal violence, the specificity and inclusiveness with respect to minors differ greatly. For instance, states differ in whether minors can obtain protective orders without adult consent, whether these orders can be obtained against minors, and what sensitive services (i.e. STD treatment or testing) are available to minors.

Break the Cycle, a group that focuses on youth dating violence issues, has developed a report card based on a systematic review of state laws for:

- A quarter of teens in a relationship say they have been called names, harassed or put down by their partner through cell phones and texting.
- Violent relationships in adolescence put victims at higher risk for substance abuse, eating disorders, risky sexual behavior and suicide.
- Studies have found that a quarter of adolescent mothers experience relationship violence before, during or just after pregnancy.
- Victimization among teens is as common among males as among females.

- Access to civil protection orders;
- Access to sensitive services; and
- School response to dating violence.

This indicator provides a point to states that receive an “A” in the Break the Cycle analysis. Seven states met this standard. Fifteen states received a “B,” 16 states received a “C,” four states received a “D,” and nine states received an “F.”

The full report card and state by state assessments are available on the Break the Cycle Web site: <http://www.breakthecycle.org/content/teen-dating-violence-state-law-report-cards>. The criteria are outlined in Appendix B.

RECOMMENDATIONS:

TFAH and the report’s advisory committee support the Break the Cycle recommendations that states provide prevention education about teen dating violence and pass laws that provide legal protection and services to ensure their safety.¹⁶⁵

Break the Cycle recommends that all states should enact laws that:

- Allow people in dating relationships to get civil protection orders;
- Offer victims of same-sex partner violence access to all civil domestic and dating violence remedies;
- Allow minors to get civil protection orders;
- Allow victims of intimate partner sexual abuse, stalking and harassment to get protection orders;
- Allow victims to petition for protection orders against minor abusers;
- Allow youth access to protection orders without the permission or knowledge of their parent or guardian;
- Allow minors to receive sensitive services needed to overcome the effects of abuse, without parental involvement;
- Require schools to teach evidence-based dating violence prevention education; and
- Require school districts to adopt dating violence policies, and provide resources to students.

HOMICIDE, ASSAULTS AND SUICIDE PREVENTION OVERVIEW

PREVENTING HOMICIDES AND ASSAULTS

Experts in reducing violence and violence-related injuries have developed sets of evidence-based strategies that have been shown to be effective. Many of these are focused on targeted concerns, such as intimate partner violence, youth and gang violence, school-based violence, bullying and child abuse and neglect.

A public health approach, which has support from CDC and other experts, includes:^{166, 167}

- An emphasis on primary prevention, that is, preventing violence before it occurs. This requires reducing the factors that put people at risk of being victims, as well as increasing factors that keep people from committing violence. This also includes strategies that promote safe communities as well as individual approaches.
- While stopping violence in the first place (primary prevention) is important, stopping individuals from engaging in re-

peat incidents (secondary prevention) is also essential and a potentially efficient use of resources since the target population of offenders is a fraction of the overall population.

- A focus on monitoring and tracking data using public health surveillance and other strategies, researching risk and protective factors and carefully evaluating interventions.
- An understanding that cooperation is crucial. Health, media, business, criminal justice, behavioral science, epidemiology, social science, faith, advocacy and education all can play a role in violence prevention.
- A population approach. Violence is a community problem, and its solutions are in part also community-based as well as individual and societal.

TFAH and the report's advisory committee recommend taking a public health approach to violence, which focuses on preventing violence before it happens.

FIREARM SAFETY AND CHILDREN

Forty-seven percent of Americans report they have a gun in their home or elsewhere on their property, according to a 2011 Gallup poll.¹⁶⁸ Most Americans who own firearms use them safely and responsibly.

Firearms were used in more than 11,400 homicides in 2009, and more than 18,700 suicides.^{169, 170}

More than 15,500 children and teens under the age of 20 were injured by a firearm in 2010. More than 3,000 of these injuries were unintentional.¹⁷¹

The firearm-related death rate for U.S. children under 15 is nearly 12 times higher than that for children in 25 other industrialized nations. The firearm-related suicide rate for American children between the ages of five and 14 is nearly 11 times higher than that for 25 other developed countries.¹⁷²

Nearly 3,000 children and youth under the age of 20 were killed by firearms in 2009. Around 400 were under the age of 15.¹⁷³ In addition, more than 13,700 children and teens were injured by firearms in 2009 and more than 20,500 were injured by firearms in 2008.

According to a number of studies, including a 2005 article in the *Journal of the American Medical Association (JAMA)*, keeping a gun locked, unloaded and storing ammunition in a locked and separate location can lower the risk of unintentional injuries and suicide among youth.¹⁷⁴

Studies have found in almost three-quarters of unintentional deaths and injuries, suicide and suicide attempts with a firearm involving children and teens under the age of 20, the firearm was stored in the home of the victim, a relative, or a friend.¹⁷⁵ In addition, an estimated 40 percent of homes where children are living and guns are stored, there is at least one unlocked firearm; in 13 percent the unlocked firearm was kept loaded, or was stored with ammunition.¹⁷⁶

RECOMMENDATIONS:

To help reduce homicides, injuries and suicides related to firearms, TFAH and the report's advisory committee also recommend that states and localities:

- Educate the public about safe storage of guns, including the use of lock boxes and gun locks and storing guns and ammunition separately;
- Require private gun sales to be subject to the same background check provisions as sales by licensed dealers. In states where those laws exist, they must be enforced;
- Ensure existing laws are enforced to keep guns from prohibited persons, such as individuals subject to domestic violence restraining orders; and
- Repealing laws that restrict the ability of physicians and other health care providers to talk to families about firearms and firearm safety.

PREVENTING SUICIDE

Suicide is the 10th leading cause of death in the United States.¹⁷⁷ There are nearly 37,000 suicides each year, which is nearly 12 suicides per 100,000 people. Suicide rates are highest for people between the ages of 40 and 59 years old.

Nearly one million Americans attempt suicide each year. Men are nearly four times as likely to die by suicide than women, but women attempt suicide three times as often as men.¹⁷⁸

The American Foundation for Suicide Prevention (AFSP) and the Suicide Prevention Action Network (SPAN) are focusing on a number of measures to improve suicide prevention activities in states, including:

- Encouraging states to have suicide prevention plans and initiatives, and that these plans and initiatives should address suicide prevention

across the lifespan and be fully implemented and evaluated;

- Encouraging states to mandate suicide prevention training for teachers and all other school personnel who interact regularly with students, and when possible, provide training materials as an option to satisfy those mandates; and
- Encouraging states to pass anti-bullying and anti-cyberbullying legislation and promote safe school environments.

RECOMMENDATIONS:

To prevent suicides, TFAH and the report's advisory committee recommend that states enact suicide prevention plans and programs and support school-based education programs, including anti-bullying efforts.

TEEN AND YOUNG ADULT VIOLENCE OVERVIEW

More than 5,700 people between the ages of 10 to 24 were murdered in 2007, an average of 16 per day. Eighty-four percent of these were killed with a firearm.¹⁷⁹

Youths between the ages of 10 and 17 make up less than 12 percent of the U.S. population, yet this group commits about a quarter of serious violent crimes.¹⁸⁰

Homicide is the second-leading cause of death for people between the ages of 10 to 24. It is the leading cause of death for Blacks between the ages of 10 to 24. It is the second-leading cause of death for Hispanics in this age group, and the third-leading cause of death for Asian/Pacific Islanders, and American Indians and Alaska Natives.¹⁸¹

The homicide rate among non-Hispanic, Black males between the ages of 10 to 24 is three times higher than the rate for Hispanic males in that age group, and more than 17 times higher than the rate for white males in that age group:

Males Between 10 and 24	Homicide Rate per 100,000
Non-Hispanic Blacks	60.7
Hispanics	20.6
Whites	3.5

More than 656,000 people between the ages of 10 to 24 were treated in emergency departments in 2008 for violence-related injuries.

A 2003 national survey conducted by CDC estimated that there were more than 1.5 million violent incidents against adults by perpetrators estimated to be between the ages of 12 to 20.¹⁸² A third of these incidents were serious violent crimes, including rape, robbery and aggravated assault. The other two-thirds did not involve a weapon, and did not cause an injury requiring more than two days in a hospital. Because survey respondents were the victims themselves, murder was not a category.

Violence prevention efforts targeted toward teens and young adults have been shown to help reduce violence.

SCHOOL-RELATED VIOLENCE

School-based programs to prevent violence have cut violent behavior among high school students by 29 percent.¹⁸³ CDC has found that universal school-based violence prevention programs are “an important means of reducing violent and aggressive behavior.”¹⁸⁴

According to CDC, school violence is a serious concern:¹⁸⁵

- Nearly four percent of high school students in a 2009 national survey said that at least once in the past year, they had been in a physical fight that resulted in injuries that had to be treated by a doctor or nurse.
- Nearly a third said they had been in a physical fight in the past year. The rates were 39 percent for males and nearly 23 percent for females.
- More than 17 percent of respondents said they had carried a weapon, such as a gun, knife or club, at least once in the past 30 days. Twenty-seven percent of males and seven percent of females had carried a weapon.
- Almost 10 percent of males and 1.7 percent of females had carried a gun at least once in past 30 days. More than five percent said they had brought a weapon onto school property at least once in the previous 30 days.
- Just over 11 percent of students in the survey — 15 percent of males and 6.7 percent of females — said they had been in a physical fight on school property in the past year.
- Five percent said they did not go to school at least once in the previous 30 days because they didn’t feel safe, either at school or on their way to or from school.

RECOMMENDATIONS:

The Prevention Institute has summarized the characteristics of effective school-based violence prevention programs, which includes:¹⁸⁸

- A strong commitment to reaching all students and staff with the message that violence, harassment and intolerance are unacceptable in the school environment;
- Involving all students, staff, parents and interested community members in learning about violence and how to prevent it;

- Almost eight percent said they had been threatened with or injured by a weapon on school property at least once in the previous year.

School violence is connected to a range of issues, such as family and interpersonal dynamics, the environment in any given school, the larger community that school is in and societal attitudes toward violence. According to The Prevention Institute, “Since the causes of violent behavior in school are multi-faceted, strategies to address this issue must also operate on a variety of levels. Plans that are developed collaboratively by students, teachers, administrators, parents, health professional, law enforcement officers, business and community leaders and other key community groups are more likely to succeed than those prepared by a single group of professionals acting alone.”¹⁸⁶

Since 1999, more than 275 school districts around the country have received federal grants as part of the Safe Schools/Healthy Students Initiative.¹⁸⁷ The initiative is jointly sponsored by the U.S. Department of Education, the U.S. Department of Justice and the U.S. Department of Health and Human Services. Grantees must take a comprehensive approach to reducing school violence that includes:

- Safe school environments and violence prevention activities;
- Alcohol and other drug prevention activities;
- Student behavioral, social and emotional supports;
- Mental health services; and
- Early childhood social and emotional learning programs.

- Eliminating barriers to communication among groups of students;
- Involving students in violence prevention initiatives as critical and valued partners;
- Collaborating closely and effectively with community, media and policing agencies.

Effective conflict resolution, peer mediation, full service schools and peer and adult mentoring programs have all shown results in reducing violence.

GANG-RELATED VIOLENCE

Gang homicides account for a large number of murders among youths in some U.S. cities.^{189, 190} Between 2002 and 2009, up to 1,300 homicides were estimated to be gang-related in the nation's largest cities.

Gang-related homicide appears to occur mostly in the largest cities, where there are higher numbers of gang members. CDC analyzed gang homicides in Los Angeles, Oklahoma City, Oakland, Long Beach and Newark, New Jersey between 2002 and 2008. The report found that these cities had 856 gang murders and 2,077 non-gang murders during that period.¹⁹¹ The report found that the majority of gang homicides were unrelated to drugs, and concluded that most of these killings were likely "quick, retaliatory reactions to ongoing gang conflict." According to the report:

- In Los Angeles and Oklahoma City, nearly a quarter of gang homicides were drive-by shootings, compared with between one percent and six percent of non-gang homicides.
- In Long Beach, gang homicides accounted for 69 percent of youth murders.
- In Los Angeles, gang homicides accounted for 61 percent of the murders among people between the ages of 15 and 24.

These estimates may be significant under counts, according to some experts.¹⁹²

CDC concluded that "gang homicides are unique violent events that require prevention strategies aimed specifically at gang processes. Preventing gang joining and increasing youths' capacity to resolve conflict nonviolently might reduce gang homicides."¹⁹³

GANGS IN THE UNITED STATES

The 2009 National Gang Center Survey estimates that there were more than 28,000 gangs in the country with an estimated 731,000 gang members in the United States.¹⁹⁴ This is the highest number since 1997. According to the survey:¹⁹⁵

- After declining from 1996 to a 2003, the number of gangs has risen steadily, increasing by more than 28 percent between 2002 and 2009;
- Just over 44 percent of gangs are in large cities; just over 29 percent are in small cities; another 21.4 are in suburban areas, while 5.4 percent are in rural counties; and
- More than 55 percent of gang members live in large cities (population above 400,000); 23.3 percent live in suburban counties; 18.3 percent live in small cities; and 2.7 percent live in rural areas. There are reports that gangs and gang violence is increasing in medium-sized cities.

RECOMMENDATIONS:

TFAH and the report's advisory committee recommend that the evidence-based, comprehensive approaches to preventing and reducing gangs and gang violence be implemented across the country. Some key components of a comprehensive approach include:

- Involvement and support of high level local government leaders;

- Collaboration with community leaders;
- Improving educational, vocational and social services as well as programs in schools and neighborhoods with high rates of violence.

In addition, TFAH and the report's advisory committee recommend continuing to build on promising research on cross-cutting policy strategies, such as a de-concentration of public housing and development of business improvement districts.

UNITY POLICY PLATFORM: WHAT CITIES NEED TO PREVENT VIOLENCE BEFORE IT OCCURS¹⁹⁶

Urban Networks to Increase Thriving Youth (UNITY) through Violence Prevention created “The Unity Policy Platform: What cities need to prevent violence before it occurs.” The follow-

ing is from an overview of the Platform, the full document is available at: <http://www.preventioninstitute.org/component/jlibrary/article/id-290/127.html>.

What Cities Need on the Ground to Prevent Violence

Cities need strategic plans to prevent violence and coordinate efforts across multiple sectors. The following strategies should be part of a balanced approach and include high-level leadership and community engagement in planning and implementation. Efforts should be driven by local data and evaluation.

- I. This strategy can reduce shooting and homicides by up to 70 percent in neighborhoods highly impacted by violence: Street outreach and interruption: Street outreach workers can detect and interrupt violence, prevent imminent death and injury. They can also begin changing community norms about violence and create favorable conditions for long-term prevention strategies and the return of business.
- II. These strategies reduce community and school violence by 50 percent in two to five years in neighborhoods highly impacted by violence: Universal, school-based violence prevention at all schools promotes a safe climate for children to learn and fosters positive social and emotional development. Treat mental health problems and substance abuse, and enhance protective factors among youth to prevent mental illness and substance abuse. Reduce young children’s exposure to violence in home and communities. Reduce family violence.

Build community capacity so residents can effectively address current and future problems, and sustain positive outcomes.

- III. These strategies reduce risk factors to sustain reductions in violence over the long term in neighborhoods highly impacted by violence: Social connections characterized by trust and concern for one another. Economic development, including youth employment. Conflict resolution: Enhance the skills of young people to resolve conflicts without violence. Youth leadership: Support and engage young people in decision-making. Quality after-school and out-of-school programming. Mentoring: Provide positive role models who can form strong and enduring bonds with young people. Quality early care and education: Foster social, emotional and cognitive skill development. Positive social and emotional development: Support growing self-awareness and self-regulation. Parenting skills: Train parents and caregivers on parenting practices and developmental milestones. Family support services: Provide integrated family services to promote self-sufficiency.
- IV. This strategy reduces recidivism and prevents the re-occurrence of violence: Successful re-entry: Support a successful transition from incarceration/detention to the community.

What Cities Need on the State and National Levels to Maximize Local Efforts

Investing in cities to prevent violence pays off, saving dollars at the federal, state and local levels in the long term. For local efforts to be successful and sustainable, cities need support in the following ways:

- **Allocate and align resources:** Cities need adequate, flexible financial resources to implement effective strategies on the ground, bring them to scale and coordinate them.
- **Create a high-level focal point for preventing violence** in federal and state governments. This would foster accountability and coordination across multiple agencies.
- **Establish a mechanism for multi-sector collaboration in federal and state governments.** This would provide a vehicle for aligning federal initiatives, establishing joint funding streams, coordinating data systems and sharing evaluation strategies.

- **Equip people with the necessary skills** to build a common language and foster understanding about one’s own role and each sector’s contribution.
- **Establish supportive data, research, and evaluation systems:** A national research agenda on effective prevention and disseminating multi-sector surveillance data on key risk and protective factors would inform and enhance local efforts. This information could be used to establish national baseline measures and standards.
- **Develop a communications campaign** to lend local efforts heightened visibility and added credibility. Convey positive messages about youth and make the case for prevention.
- **Enhance public health’s capacity and infrastructure** at the federal, state and local levels to address violence. Public health has a track record and proven methodology for changing behaviors that contribute to poor health and safety outcomes.

REDUCING TEEN AND GANG VIOLENCE SUCCESS STORIES

The following are examples compiled by The Prevention Institute of effective strategies for reducing youth and gang violence:¹⁹⁷

- Since introducing a “Blueprint for Action” violence prevention program, Minneapolis has seen a 40 percent drop in juvenile crime in the neighborhoods where the program is active.
- Gang violence decreased by 17 percent in San Diego in 2009 from a year earlier, and gang-related homicides dropped from 21 to nine percent. The improvement came after the city implemented a combination of moves: aggressive police efforts, prevention and intervention programs, including extended Friday hours at recreation centers, summer jobs for 3,000 youths, and biweekly curfew sweeps in certain areas.
- After instituting a program to strengthen community connections, and to help youth economic prospects, a neighborhood in Oakland, California, reduced violent crime by more than 40 percent — even as rates of violent crime in the city rose.

- In Chicago, the CeaseFire program uses street-savvy former gang members to work gangs to reduce violence. The program has reduced shootings and killings by between 41 and 73 percent, and eliminated retaliation murders. Similar programs now exist in other cities, including Baltimore and Boston.

In addition, a long-term study found that high-quality preschool can help reduce violence and criminal offenses for those individuals as they age:

- The study found that low-income Black children who received a high-quality preschool education at ages three and four were more likely to hold a job, commit fewer crimes and graduate from high school by the time they were 40. Overall, the research showed that for every dollar spent on the program, society received more than \$16 in benefits; 88 percent of the savings came from savings from crime-related expenses.^{198, 199}



BULLYING

Bullying is often defined as an aggressive pattern of behavior that involves unwanted, negative actions towards an individual or group perceived to have less power.²⁰⁰ It can have a long-term negative psychological impact on victims, and is also an indication of psychological issues of the individual engaging in bullying behavior.

According to the 2009 Youth Risk Behavior Study from CDC, nearly 20 percent of high school students report being bullied on school property in the previous 12 months.²⁰¹

According to a 2009 survey by the Associated Press and MTV, 60 percent of young people who have been bullied online report destructive behavior, such as smoking cigarettes, drinking alcohol, using illegal drugs or shoplifting (compared to 48 percent of those not bullied in this way). The survey found that those who had been bullied online were twice as likely to report having received mental health treatment, and nearly three times more likely to have considered dropping out of school.²⁰²

In addition, research by the Cyberbullying Research Center has found that bullied students are nearly twice as likely to have attempted suicide as those who had not experienced this kind of bullying.²⁰³

Other studies have also found that bullying has significant effects on victims:

- A review of studies of bullying and suicide found links between the two. Almost all of the studies found connections between being bullied and suicidal thoughts among children. Five studies found that bullying victims were up to nine times more likely than other children to have suicidal thoughts. The review found that bullying affects between nine and 54 percent of children.²⁰⁴
- A study from 2011 of more than 7,000 ninth-graders found that high schools with more bullying had lower average test scores. The researchers concluded that a bullying atmosphere may hinder learning.²⁰⁵
- A review study done in 2011 by researchers at the University of Pittsburgh found that gay, lesbian and transgender youths were significantly more likely to be bullied and abused in a range of ways. The scientists concluded that these higher rates may contribute to this group's subsequent high incidence of mental health problems, substance abuse, risky sexual behavior and HIV.²⁰⁶
- A survey done in 2010 of more than 2,100 teenagers found that 29 percent had been the victim of Internet bullying in the past year.²⁰⁷

Anti-Bullying Laws

Forty-nine states have anti-bullying laws as of March 2012, according to the federal government Web site, StopBullying.gov.²⁰⁸

According to a review by the National School Board Association, state anti-bullying statutes direct state educational agencies to, among other things: aggregate and report on information received from districts on incidents of bullying, provide training or materials to districts, review local policies, develop curriculum and standards for school safety specialist training, develop teacher preparation program standards on identification and prevention, develop model education and awareness programs, and/or provide technical assistance to districts. Some of these actions are in the form of administrative rule-making, to which local school boards will be subject. Of particular importance to local school boards is the requirement that the state agency issue a model policy that the local board must adopt in some form

RECOMMENDATIONS:

Stopbullying.gov, managed by the U.S. Department of Health and Human Services (HHS), includes a series of recommendations for how community, schools, parents, teens and children and other individuals can help prevent bullying.²⁰⁹

In terms of developing effective laws, the Anti-Defamation League recommends that state laws should:²¹⁰

- Include a strong definition of bullying, including cyberbullying;
- Address bullying motivated by race, religion, national origin, gender, gender identity, disability, sexual orientation and other personal characteristics;
- Include notice requirements for students and parents;
- Set clear reporting procedures; and
- Require regular training for teachers and for students about how to recognize and respond to bullying and cyberbullying.

TFAH and the report's advisory committee recommend taking a public health approach to preventing bullying and also recommend more research be conducted to understand cyberbullying, including what constitutes cyberbullying, who does it, against whom, how to punish it and how to stop it.

CHILD ABUSE AND NEGLECT

About 754,000 children were abused in 2010, according to a study by the Administration for Children and Families (ACF) at HHS. Rates of abuse and neglect are highest among infants and young children.²¹¹

More than 1,500 children died from abuse and neglect in 2010. Of these victims:

- Nearly 80 percent of these children were younger than four years old. About a third of these deaths were caused solely by neglect.
- More than 78 percent of victims suffered neglect. More than 17 percent suffered physical abuse. Just over nine percent suffered sexual abuse.
- Forty-five percent were White, 22 percent were Black, and 21 percent were Hispanic.
- The overall child abuse rate was around 10 per 1,000 children. Some groups had higher rates: Black, American Indian or Alaska Native, and multiple racial descents had the highest: 14.6, 11, and 12.7 victims per 1,000, respectively.

The total number of perpetrators of child abuse or neglect was more than 510,000 in 2010. Forty-five percent were men, and around 54 percent were women. More than 36 percent of perpetrators were between the ages of 20 and 29. More than 84 percent were between the ages of 20 and 49.²¹²

RECOMMENDATIONS:

In their publication *Addressing Common Forms of Child Maltreatment: Evidence-Informed Interventions and Gaps in Current Knowledge Research Brief, Casey Family Programs*, the nation's largest operating foundation focused entirely on foster care and improving the child welfare system, outlines the need for research-based, culturally-competent safety and risk assessment methods, highly trained child protective services staff, strong networks of alternative/differential response agencies and an array of effective family support agencies offering evidence-based services to address child maltreatment.²¹⁴

In addition, the non-profit group Prevent Child Abuse recommends that states take a range of actions to reduce and prevent child abuse:²¹⁵

- Increase evidence-based education programs for parents and other caregivers, to improve their parenting skills. These programs should focus particularly on single parents, teen parents and parents otherwise at greater risk of child abuse;
- Implement home visitation programs, in which public health workers visit pregnant mothers and families with new babies or young children in order to strengthen parenting skills;

A 2010 national study by HHS found that more than 1.25 million children experienced maltreatment over the course of a year— one in every 58 children in the United States. For this study, “maltreatment” encompassed both abuse and neglect. Abuse included physical, sexual and emotional abuse, while neglect included physical, emotional and educational neglect. Some other key findings included:²¹³

- Forty-four percent of these children, more than 553,000, were abused, while 61 percent, more than 771,000, were neglected. Some children were both abused and neglected, and were counted in both categories. More than five percent of the total, more than 68,000 children, were both abused and neglected;
- Fifty-eight percent of abused children, about 323,000, were physically abused. Slightly less than a quarter, about 135,000, were sexually abused, while 27 percent, about 148,000, were emotionally abused. Forty-seven percent of neglected children, more than 360,000, experienced educational neglect. Thirty-eight percent, more than 295,000, were physically neglected, and a quarter, more than 193,000, were emotionally neglected;
- The rate of abuse has dropped by 32 percent since 1996; and
- The study found that state and local child protective services agencies investigated only 32 percent of cases in which children experienced maltreatment.

- Implement respite and crisis care programs, which offer short-term child care to help parents and other caregivers in stressful situations;
- Implement programs to reduce and prevent Shaken Baby Syndrome, which involves violently shaking an infant or young child. These programs should include education as well as instruction in coping strategies; and
- Create a statewide child abuse prevention strategy, which includes a plan for developing family resource centers and enforcement of existing state laws.

The Department of Justice Office of Juvenile Justice and Delinquency Prevention also recommends that states require basic screening practices, pass laws authorizing criminal record checks and encourage education and training designed to prevent child abuse.²¹⁶

There are additional promising policy strategies to preventing child abuse and neglect that focus on strengthening families and support for parents, including allowing longer maternity leave time and other social and economic supports for parents and improve access to child care.

C. FALLS, DROWNING AND SPORTS- AND RECREATION-RELATED INJURIES

A significant number of accidents and injuries are related to daily life and recreational activities.

■ **TRAUMATIC BRAIN INJURIES:** There is increasing awareness of the number of traumatic brain injuries in the United States — which often occur during youth and adult sports and recreation. About 1.7 million people sustain a traumatic brain injury (TBI) annually. Each year, traumatic brain injuries contribute to a substantial number of deaths and cases of permanent disability. Recent data shows that, on average, approximately 1.7 million people sustain a traumatic brain injury annually.²¹⁷ TBI-related medical costs, as well as indirect costs such as lost productivity, totaled \$60 billion in the United States in 2000.

TBI is a contributing factor in more than 30 percent of all injury-related deaths in this country. About three-quarters of all TBIs in this country are concussions or other forms of mild TBI.²¹⁸

This report includes an indicator for laws requiring coaches of school sports to receive concussion training, and examines other interventions for preventing concussions and

improving responses to limit the impact of concussions.

■ **FALLS:** Falls are the third-leading cause of injury deaths for all ages. Injuries from falls disproportionately impact young children and older Americans. One in three Americans over the age of 64 experiences a fall each year and the number of falls by older Americans is expected to sharply increase as Baby Boomers age.²¹⁹ Falls can have devastating and long-term consequences including reduced mobility, loss of independence and premature death. There are few legal measures that can reduce falls, but there is strong evidence that clinical assessment, treatment and/or referral by a healthcare provider; exercise that improves balance and lower body strength; and multi-factorial fall prevention programs can help to significantly reduce the number of falls and the severity of fall-related injuries.²²⁰

■ **DROWNING:** Every day, around 10 Americans die from drowning. Two children under 15 die from drowning daily.²²¹ Public education and water safety programs have been shown to help reduce the risk of drowning.



INDICATOR 8: CONCUSSIONS AND TRAUMATIC BRAIN INJURIES

Finding: 37 states and Washington, D.C. have strong youth sport concussion safety laws.

37 states and Washington, D.C. have strong youth sport concussion laws	13 states do NOT have strong youth sport concussion laws
Alabama	Georgia
Alaska	Hawaii
Arizona	Maine***
Arkansas*	Michigan
California	Mississippi
Colorado	Montana
Connecticut	New Hampshire
Delaware	Ohio***
District of Columbia	South Carolina
Florida	Tennessee
Idaho	Vermont**
Illinois	West Virginia
Indiana	Wyoming**
Iowa	
Kansas	
Kentucky	
Louisiana	
Maryland	
Massachusetts	
Minnesota	
Missouri	
Nebraska	
New Jersey	
New Mexico	
New York	
North Carolina	
North Dakota	
Oklahoma	
Oregon	
Pennsylvania	
Rhode Island	
South Dakota	
Texas	
Utah	
Nevada	
Virginia	
Washington	
Wisconsin	

Sources: Network for Public Health Law and MomsTEAM.com²²² . ²²³

* Arkansas does not have a specific youth sports concussion law, but it has a series of laws and requirements that meet the three criteria for having a strong law in place.

** Vermont and Wyoming have concussion laws, but they do not meet the criteria for strong laws.²²⁴

*** Maine and Ohio have legislation still under as of consideration in May 2012.

Concussions are a form of TBI, often caused by a bump, blow, or jolt to the head or a fall or blow to the body.

Each year, emergency departments treat more than 173,000 sports- and recreation-related TBIs, including concussions, among children and youth younger than 19.²²⁵ Children and teens between the ages of 10 and 19 account for more than 70 percent of sports- and recreation-related TBI emergency department visits.

Over the last decade, emergency department visits for sports- and recreation-related TBIs (including concussions) among children and adolescents have increased by 60 percent. Some trends include that:²²⁶

- TBIs occur most often in football (more than 55,000 TBI injuries, a rate of .47 per 1,000 athlete exposures) and girls' soccer (more

than 29,000 TBI injuries, a rate of .36 per 1000 athlete exposures);

- Males account for almost three-quarters of all sports- and recreation-related TBI emergency department visits. For males between the ages of 10 and 19, sports- and recreation-related TBIs occurred most often while bicycling or playing football; and
- For females between the ages of 10 and 19, sports- and recreation-related TBIs occurred most often while bicycling, or playing soccer or basketball.

Repeated mild TBIs over a long period can result in cumulative neurological and cognitive deficits. Repeated TBIs occurring within hours, days or weeks can cause serious problems or even death. TBIs can cause epilepsy, and increase the risk for degenerative illnesses such as Alzheimer's disease and Parkinson's disease.

Preventing Concussions and Reducing the Impact of Concussions

A number of measures — including use of proper protective equipment — can be taken to help prevent concussions or to limit the harm caused by a concussion or suspected concussion.

The Zackery Lystedt law, passed by Washington state in 2009, is considered by a number of experts and organizations, such as MomsTEAM, as setting a standard for strong youth sport concussion safety laws, based on including three principle components:

- Informing and educating youth athletes, their parents and requiring them to sign a concussion information form;

- Removal of a youth athlete who appears to have suffered a concussion from play or practice at the time of the suspected concussion; and
- Requiring a youth athlete to be cleared by a licensed health care professional trained in the evaluation and management of concussions before returning to play or practice.

Thirty-six states and Washington, D.C. have laws that meet this standard. (Arkansas has a set of laws and guidelines that meet the standard). Vermont and Wyoming, have youth sport concussion laws but they do not have all three components of the Zackery Lystedt law.

RECOMMENDATIONS:

TFAH and the report's advisory group recommend that state laws relating to concussions and youth sports should contain:

- Validated screening tools should be used to measure individuals suspected of having a concussion;
- Removal from play if an athlete is suspected of having a concussion;
- Referral to a medical professional trained in the diagnosis and management of concussions and TBI;

- Requirement that an athlete must obtain written authorization from a medical or health care professional before returning to play;
- Education and training about how to prevent and understand the signs and symptoms and possible long term consequences of concussions for coaches, physical education teachers, parents, athletes and others; and
- Addressing the peer and cultural pressures so it becomes acceptable to sit out games instead of returning to play when injured.

FALLS

Among Americans aged 65 and older, the fall death rate has risen sharply over the past decade. Falls are also the most common cause of nonfatal injuries and hospital admissions for trauma. Emergency departments treated 2.3 million nonfatal fall injuries among older Americans in 2010; about 600,000 of these patients were hospitalized. The direct medical cost of fall injuries among older Americans is estimated to be \$28.2 billion (in 2010 dollars).²²⁷ CDC estimates that if the rate of increase in falls is not slowed, the annual cost under the Medicare program will reach \$59.6 billion by 2020;

Falls are a particular concern for older Americans. Each year, one in three Americans over the age of 64 experiences a serious fall.²²⁸ Falls can cause injuries such as hip fractures and head traumas, and can increase the risk of death. The chances of falling, and of being seriously injured from a fall, increase with age.

Among Americans over the age of 64, falls are the leading cause of injury-related death — nearly 20,000 older adults died from unintentional falls in 2008. Eighty-two percent of fall deaths in 2008 were among people 65 and older. In 2009, the rate of fall injuries for adults 85 and older was almost four times that for adults between the ages of 65 and 74.

- Fall death rates are around 46 percent higher for men than women;
- Women are 58 percent more likely than men to be injured in a fall;

Laws to Help Prevent Falls

The National Council on Aging has launched the Falls Free© Initiative, a national collaborative effort to educate the public and support and expand evidence-based programs and interventions that help communities, states, federal agencies, non-profits, businesses and older adults and their families fight back against falls. Forty-one states are developing or have Falls Prevention Coalitions in place www.ncoa.org/FallsMap.²³⁰ In 2011, 43 states, Puerto Rico and Washington D.C. participated in promoting National Falls Prevention Awareness Day <http://www.ncoa.org/FPAD>.²³¹

As of November 2011, eight states have enacted laws to address falls in older adults: California,

- Most fractures among older adults are caused by falls;
- Americans suffered 264,000 hip fractures in 2007; over 90 percent were caused by falls. The rate for women was almost three times the rate for men. White women have significantly higher hip fracture rates than black women;
- Falls are the most common cause of TBI. In 2000, TBI accounted for 46 percent of fatal falls among older adults;
- Twenty to 30 percent of people who fall suffer moderate to severe injuries such as lacerations, hip fractures, or head traumas; and
- Less than half of older people who fall tell their healthcare provider.

Falls are also a problem for children. Each year, around 100 children under the age of 14 dies from fall-related injuries, and there are around 2.3 million nonfatal fall-related injuries among children.²²⁹ Falls are the leading cause of unintentional injury for children ages 14 and under. Around 45 percent of nonfatal and 56 percent of fatal childhood fall injuries were among kids ages four and under. Young children are at risk for falls from windows, furniture, stairs and playground equipment. Children and teens are also at risk for sports- and recreation-related falls. Effective ways to protect children include window guards, stair gates and having appropriate equipment and energy absorbing surfacing on playgrounds.

Connecticut, Florida, Maine, Oregon, New York, Texas and Washington.²³² These laws establish commissions, coalitions and/or other programs. New York and Washington have allocated funds to address these initiatives.²³³

Thirty-three states have enacted laws relating to osteoporosis prevention programs and 14 have mandated insurance coverage of diagnosis and treatment.²³⁴

The Affordable Care Act (ACA) implemented annual wellness visits that include screening for fall risks; the Welcome to Medicare visit also screens for fall risk.

RECOMMENDATIONS:

TFAH and the report's advisory committee recommend additional research should be conducted to help create stronger policies and effective programs to prevent falls. In addition, TFAH and the report's advisory committee recommend:

- To prevent falls in older Americans, states and localities should adopt multi-strategy initiatives that assess and address known risk factors, such as problems with gait and balance, use of psychoactive medications, severely low blood pressure and visual or foot problems. Effective strategies include exercise programs that address strength, gait and balance; managing medications; and home hazard modification; as well as educating individuals, caretakers, families and healthcare providers about ways to reduce risks;²³⁵ and
- To prevent childhood falls and fall-related injuries, efforts should be taken by pediatricians, public health professionals and policymakers to communicate information about safety to parents and to ensure that local and state ordinances include playground safety standards. Some public education and encouragement of safety steps that should be taken include:
- Education about window safety and stair safety coupled with access to window guards and stair-gates, including providing affordable options for lower-income families;
- Compliance with baby walker recommendations from the Consumer Product Safety Commission; and
- Appropriate equipment and protective surfacing under and around playground equipment.

PREVENTING FALLS IN OLDER AMERICANS

CDC recommends older Americans can reduce their chances of falling by:²³⁶

- Increasing exercise levels. Programs that focus on improving leg strength and balance have been shown to reduce falls by as much as half among participants. Weight-bearing exercise can strengthen bones.
- Asking health professionals to review medicines and identify those that may cause dizziness or drowsiness.
- Having eyes checked at least once a year, and updating eyeglasses to optimize vision.
- Adding grab bars in the bathroom, railings along stairs, and additional lighting in unlit areas.
- Taking steps to decrease hip fracture risk. Older adults should check to make sure that they are getting adequate calcium and vitamin D, and should be screened and treated for osteoporosis.

DROWNING

Nearly 4,000 Americans die each year from drowning.²³⁷ Nearly 1,000 children under the age of 19 died from drowning in 2009, 450 of these deaths were among children between one and four years old.²³⁸

- Fatal drowning is the second-leading cause of accidental injury death for children ages one to 14.²³⁹
- Nearly 80 percent of people who die from drowning are male.²⁴⁰

A number of factors can increase the risk of drowning.²⁴¹ For young children, bathtubs and swimming pools can pose significant risks. Close supervision, formal swimming lessons and fences can help reduce these risks. Natural water

settings, lack of life jacket use in recreational boating and alcohol use increase drowning risks in adults. In addition, individuals with seizure disorders are at an increase risk for drowning.

RECOMMENDATIONS:

TFAH and the report's advisory committee recommend public education and safety campaigns to help Americans understand how to reduce the risk of drowning, including the importance of close supervision of children, swimming lessons, fences around swimming pools, use of life jackets in recreational boating, the use of cardiopulmonary resuscitation to improve outcomes in drowning victims and other measures.

D. INJURIES FROM POISONING

Around 40,000 Americans die from poisoning each year.²⁴² In 2009, poisoning surpassed traffic-related crashes as the leading cause of injury death in the United States.²⁴³ Poisoning deaths exceeded the number of motor vehicle-related deaths in 31 states.

Every day, nearly 82 people die as a result of unintentional poisoning; another 1,941 are treated in emergency departments.²⁴⁴ Between 1999 and 2007, unintentional poisoning deaths in the United States increased by 145 percent.²⁴⁵

- More than nine out of ten unintentional poisoning deaths in 2007 were caused by drugs and medicines.²⁴⁶ Pain medications that contain opiates were most commonly involved, followed by cocaine and heroin.
- Men died from unintentional poisoning at twice the rate of women in 2008. Native Americans had the highest death rate, followed by Whites and Blacks.

- The lowest mortality rates were among children younger than 15, due to children abusing drugs less frequently than adults.
- Unintentional poisoning deaths increased by 145 percent between 1999 and 2007.

Unintentional poisoning is also the cause for significant numbers of emergency room visits. Unintentional poisoning caused more than 708,000 emergency department (ED) visits in 2009. More than 150,000 of these visits led to hospitalization or transfer to another medical facility.

The accidental or intentional misuse of prescription drugs has become a growing concern, particularly since the number of painkillers prescribed has tripled in the past decade. Experts have found that programs to monitor these medications can help reduce the number of injuries related to prescription drugs. This report examines whether states have these programs in place as an indicator.



INDICATOR 9: PRESCRIPTION DRUG OVERDOSE OR MISUSE

FINDING: 48 states have an active or pending prescription drug monitoring program.

48 states have an active or pending prescription drug monitoring program	2 states and Washington, D.C. do NOT have an active prescription drug monitoring program
Alabama	Washington, D.C.
Alaska	New Hampshire**
Arizona	Missouri**
Arkansas*	
California	
Colorado	
Connecticut	
Delaware	
Florida	
Georgia*	
Hawaii	
Idaho	
Illinois	
Indiana	
Iowa	
Kansas	
Kentucky	
Louisiana	
Maine	
Maryland*	
Massachusetts	
Michigan	
Minnesota	
Mississippi	
Montana*	
Nebraska*	
Nevada	
New Jersey	
New Mexico	
New York	
North Carolina	
North Dakota	
Ohio	
Oklahoma	
Oregon	
Pennsylvania	
Rhode Island	
South Carolina	
South Dakota*	
Tennessee	
Texas	
Utah	
Vermont	
Virginia	
Washington	
West Virginia	
Wisconsin*	
Wyoming	

Source: Alliance of States with Prescription Monitoring Programs²⁴⁷

* In Arkansas, Georgia, Maryland, Montana, Nebraska, South Dakota and Wisconsin, legislation has been enacted, but the program was not yet operating as of April 2012. Wisconsin has a statute stating that the program will not be supported without federal funding or outside funding.

**In New Hampshire and Missouri, legislation is pending.²⁴⁸

Sales of prescription painkillers tripled from 1999 to 2010 — as did the number of fatal poisonings due to prescription pain medications.²⁴⁹ Enough prescription painkillers were prescribed in 2010 to medicate every American adult continually for a month.²⁵⁰

The growth in availability of these medications means more individuals are using leftover drugs for non-medical purposes. There has been a significant rise in prescription drug abuse — and a significant rise in unintentional overdoses.

- Sixteen million Americans over the age of 11 took a prescription pain reliever, tranquilizer, stimulant or sedative for non-medical purposes at least once in 2009.²⁵¹ About seven million people used prescription psychotherapeutic drugs for nonmedical purposes in 2009; more than five million people abused pain relievers; two million abused tranquilizers; about 1.3 million abused stimulants; and 400,000 abused sedatives.²⁵²
- A survey funded by the National Institute on Drug Abuse found that 2.7 percent of 8th graders, 7.7 percent of 10th graders and 8.0 percent of 12th graders had used Vicodin for nonmedical purposes at least once in the year prior to being surveyed. Just over two percent of eighth graders, 4.6 percent of 10th graders and 5.1 percent of 12th graders had abused OxyContin.²⁵³

Nearly 15,000 Americans died of overdoses involving prescription painkillers in 2008, which is more than the combined number who died from overdoses of cocaine and heroin.²⁵⁴ About half of prescription painkiller deaths involve at least one other drug, including benzodiazepines, cocaine and heroin, and alcohol is also involved in many overdose deaths.

The misuse and abuse of prescription painkillers was responsible for more than 475,000 emergency department visits in 2009. This is nearly double the amount from 2004.²⁵⁵

- Among the 708,000 non-fatal poison-related emergency room visits in 2008, opioid painkillers and benzodiazepines were the most frequent reason for treatment.²⁵⁶ The researchers only counted those who had used prescription or over-the-counter drugs non-medically.
- About 71,000 children and youth below the age of 18 were seen in EDs due to medication poisoning in 2004 and 2005. More than 80 percent of these visits occurred after an unsupervised child found and swallowed medicine.
- Children visit the ED twice as often for medication poisoning as for poisonings from household products such as cleaning solutions.

MOST COMMON PRESCRIPTION PAINKILLERS²⁵⁷

Opioids: Prescription opioids act on the same receptors as heroin and can be highly addictive. Abuse of opioids, alone or in combination with alcohol or other drugs, can depress respiration and lead to death. Injecting opioids also increases the risk of HIV and other infectious diseases through use of contaminated needles.

Central Nervous System Depressants are used to treat anxiety and sleep problems.

These drugs can be addictive. High doses can cause severe respiratory depression. The risk rises when the drugs are combined with other medications or alcohol.

Stimulants are used to treat ADHD and narcolepsy. These drugs can be addictive, and can cause a range of problems, including psychosis, seizures and heart ailments.

Prescription Drug Monitoring Programs

Prescription Drug Monitoring Programs (PDMPs) are state-run electronic databases used to track the prescribing and dispensing of controlled prescription drugs to patients. They are designed to monitor this information for suspected abuse or diversion — that is, the channeling of the drug into an illegal use — and can give a prescriber or pharmacist critical information regarding a patient’s controlled substance prescription history. This information can help prescribers and pharmacists identify high-risk patients who would benefit from early interventions. CDC recommends that PDMPs focus their resources on:

- ▲ Patients at highest risk in terms of prescription painkiller dosage, numbers of controlled

substance prescriptions, and numbers of prescribers;

- ▲ Prescribers who clearly deviate from accepted medical practice in terms of prescription painkiller dosage, numbers of prescriptions for controlled substances, and proportion of doctor shoppers among their patients; and
- ▲ CDC also recommends that PDMPs link to electronic health records systems so that PDMP information is better integrated into health care providers’ day-to-day practices.

Forty-eight states currently have a PDMP and received a point for this indicator. However, as of February 2012, the programs are not yet in operation in seven of those states.

Poison Control Centers

Poison control centers provide immediate expert treatment advice by telephone when people are exposed to hazardous substances or overdoses. They also serve as an important community educational resource in poisoning prevention and treatment. The nation’s 57 poison control centers handled more than 3.7 million calls in 2010 — an average of nearly 11,000 per day — and provided treatment advice for over 2.4 million human poison exposures.²⁵⁸ Poisonings resulted in \$33.4 billion in medical and productivity costs in 2005.²⁵⁹ IOM estimates that every dollar spent on poison control centers saves \$10 in health care costs annually.²⁶⁰

- Children younger than six accounted for about half of all of these calls and account for about two percent of the deaths.

■ Adults 20 and older accounted for 92 percent of all poisoning deaths. Adults between the ages of 40 and 49 have the highest number of poisoning deaths.

■ Seventy-two percent of all poison exposures in 2009 were managed over the phone, without a trip to a doctor or hospital.²⁶¹

■ Doctors and nurses also use the expertise of poison centers to guide treatment of patients: more than 400,000 calls were placed from a health care facility in 2009.

Almost a third of poison control centers report that they faced the threat of closure in the past five years.²⁶² Congress cut a quarter of federal funding for poison control centers in 2011.²⁶³

RECOMMENDATIONS:

In 2011, the White House released a new report *Epidemic: Responding to America’s Prescription Drug Abuse Crisis*.²⁶⁴ Working with states to establish effective PDMPs in every state, including leveraging state electronic health information exchange activities, and to require prescribers and dispensers to be trained in their appropriate use were among the goals and strategies mentioned in the report. In April 2012, the annually updated National Drug Control Strategy was released and reinforced a public health approach to responding to the national prescription drug abuse problem, focusing on education, monitoring, disposal and enforcement.²⁶⁵

TFAH and the report’s advisory group recommend states and municipalities take strong action and implement PDMPs to reduce the risk of prescription drug abuse and call for more research to be conducted on ways to prevent injuries resulting from prescription drug use.²⁶⁶

CDC recommends that:²⁶⁷

- PDMPs link to electronic health records systems so that providers have better access to prescription information, which should include real-time reporting, interoperability between states and proactive use of PDMPs to identify problem prescribers and patients;

- Programs such as Medicaid and workers' compensation monitor prescription claims information and PDMP data. For patients whose use of multiple providers cannot be justified on medical grounds, such programs should consider reimbursing claims for controlled prescription drugs from a single physician and from a single pharmacy. This can improve coordination of care and ensure appropriate access for patients who are at high risk for overdose;
- States ensure that providers follow evidence-based guidelines for use of prescription painkillers. Swift action against health care providers acting outside the limits of accepted medical practice can decrease painkiller abuse and overdose;
- States pass laws to prevent doctor shopping and the operation of rogue pain clinics, while at the same time safeguarding legitimate access to pain management services; and
- States increase access to substance abuse treatment programs, which can reduce overdose injuries and deaths among addicts.

Additional promising strategies include: regulating unlicensed pharmacy technicians; public outreach and education campaigns on the dangers of prescription drug abuse; training for pharmacists to detect doctor shopping and use of fraudulent prescriptions; regulating the online pharmacy industry; and establishing take-back days where patients can return unused drugs.²⁶⁸

TFAH and the report's advisory group also concur with the ten recommendations outlined by the IOM for maintaining and improving the nation's poison control center system.²⁶⁹

- All poison control centers should perform a defined set of core activities supported by federal funding. These activities include:
 - ▲ Managing telephone-based poison exposure and information calls;
 - ▲ Preparing and responding to all-hazards emergency needs, especially biological or chemical terrorism or other mass exposure events;
 - ▲ Capturing, analyzing and reporting exposure data;
 - ▲ Training poison control center staff, including specialists in poison information and poison information providers;

- ▲ Carrying out continuous quality improvement; and
- ▲ Integrating services into the public health system.
- Poison control centers should collaborate with state and local health departments to develop, disseminate and evaluate public and professional education activities;
- HHS and the states should establish a Poison Prevention and Control System that integrates poison control centers with public health agencies, establishes performance measures, and holds all parties accountable for protecting the public;
- CDC, HRSA, and states should continue to build an effective infrastructure for all-hazards emergency preparedness, including bioterrorism and chemical terrorism;
- HRSA should commission a review focusing on organizational determinants of cost, quality and staffing of poison control centers;
- Congress should amend the current Poison Control Center Enhancement and Awareness Act to provide sufficient funding to support the proposed Poison Prevention and Control System;
- Congress should amend existing public health legislation to fund a state and local infrastructure to support an integrated Poison Prevention and Control System;
- An external, independent body should be responsible for certifying poison control centers and specialists in poison information;
- The Secretary of Health and Human Services should instruct key agencies to convene an expert panel to develop a definition of poisoning that can be used in surveillance and data collection;
- HHS should increase health providers' awareness of the importance of keeping information on poisoning private, so that callers are not reluctant to call, or follow up; and
- CDC should ensure that exposure surveillance data generated by the poison control centers and reported in the Toxic Exposure Surveillance System are available to appropriate local, state and federal public health units and to the poison control centers on a real-time basis at no additional cost to these users.

E. RESEARCH TOOLS FOR REDUCING INJURIES

INDICATOR 10: EXTERNAL CAUSE OF INJURY CODES (E-codes)

FINDING: In 23 states, more than 90 percent of injury discharges of patients of emergency departments received Ecodes.

In 23 states, more than 90 percent of injury discharges of patients of emergency departments received E-codes in 2009	In 27 states and Washington, D.C., LESS than 90 percent of injury discharges of patients of emergency departments in 2009, or the number of E-codes was NOT provided to the Healthcare Cost and Utilization Project E-code Evaluation
Arizona	Alabama ¹
California	Alaska
Connecticut	Arkansas ²
Florida	Colorado ³
Georgia	Delaware ¹
Hawaii	Washington, D.C. ⁴
Iowa	Idaho ¹
Kansas	Illinois ⁵
Maine	Indiana
Maryland	Kentucky ⁵
Massachusetts	Louisiana ^
Missouri	Michigan ¹
Nebraska	Minnesota ⁵
New Hampshire	Mississippi ^
New York	Montana ¹
North Carolina	Nevada ⁴
Rhode Island	New Jersey
South Carolina	New Mexico ⁵
South Dakota	North Dakota ¹
Tennessee	Ohio
Utah	Oklahoma
Vermont	Oregon ⁵
Wisconsin	Pennsylvania ¹
	Texas ¹
	Virginia ¹
	Washington ¹
	West Virginia ^
	Wyoming

Source: Healthcare Cost and Utilization Project (HCUP) E-code Evaluation Addendum — Updated Information for 2009, Agency for Healthcare Research and Quality

TFAH worked with researchers at the Johns Hopkins Bloomberg School of Public Health to conduct phone interviews with states that did not report information to the HCUP E-code Evaluation.

1 State indicated no system is in place

2 State indicated system is in place in 2012 for the first time

3 State indicated data is collected for 75 percent of hospitals

4 State or Washington, D.C. indicated they have a unique system in place

5 Illinois noted that in the state, for the first three quarters of 2011, 92 percent of injury discharges of patients of emergency departments received E-codes.

Oregon noted they currently have a statewide hospital based system but not an emergency department data system, but an all pairs, all claims database that include emergency data is expected shortly, which will be for 2010 and forward.

Minnesota noted they have a voluntary system, not a mandated system, where they have a 93 percent reporting rate and high quality data, but training and encouragement of Health Information Management Staff in hospitals need to continue.

New Mexico notes the state's interim ED data captures about 60 percent of the E-codes expected in injury discharges from ED's. The collection of E-coding will increase as ED reporting becomes established in New Mexico.

Kentucky noted reporting more than 85 percent of injury discharges in EDs.

^ State did not respond to inquiries

Every year, about 50 million people in the United States are injured badly enough to require medical attention. Many of these people receive treatment in an emergency department or a hospital, which collect patients' healthcare data. There are currently three injury surveillance systems, including 1) the national vital statistics registry, 2) hospital discharge data systems, and 3) local emergency department data systems.

This data is often collected using a standard method for classifying types of injuries, known as external cause-of-injury coding, or E-coding.

These codes include information about an injury's cause and whether it was intentional or accidental. Hospitals and clinicians assign these codes to describe patient visits. Other types of regularly documented codes may describe what

the injury is (for example, a broken bone), but they do not necessarily indicate why the injury occurred (i.e. assault). This data is important because it helps researchers and health officials understand injury trends and evaluate prevention programs.

However, the quality of E-coding varies substantially from state to state, which limits the usefulness of the data. In many states, hospitals and clinicians are not required to document E-codes, and E-codes are not required for insurance reimbursement. In some states that do collect E-codes, the information is incomplete. A 2008 CDC report found that "the majority of states lack policies or adequate resources to implement ongoing quality-assurance practices that would ensure high quality E-coding."²⁷⁰

E-coding System and Practices in Place

Understanding patterns and trends in injuries is a crucial tool for developing successful and useful policies to reduce accidents, violence and injuries.

HHS has set priority health goals for the country in its *Healthy People 2020* report and has included two objectives for E-coding, including to:²⁷¹

- Increase the proportion of states and D.C. with statewide emergency department data systems that routinely collect external-cause-of-injury codes for 90 percent or more of injury-related visits; and
- Increase the proportion of states and D.C. with statewide hospital discharge data systems that routinely collect external-cause-of-injury codes for 90 percent or more of injury-related discharges.

RECOMMENDATIONS:

In a 2008 report, CDC offered a series of ideas to increase the use of E-codes, and improve the quality of E-coding data.²⁷² The report recommended that the agency should:

- Take the lead in working with other relevant federal agencies to increase the use of E-codes;
- Along with the Centers for Medicare and Medicaid Services (CMS) and state health departments, explore the possibility of linking E-codes to uniform billing procedures used for reimbursement in government health insurance systems;
- Work with state public health officials, the insurance industry and medical professional associations to examine how E-coding can drive injury prevention efforts;
- Consider the possibility of requiring narrative documentation and E-coding in electronic health and patient record systems;
- Demonstrate how E-coding can help health-care businesses;
- Examine the use of financial incentives, enforcements and mandates to improve the quality of E-coding;
- Develop methods that could track this improvement;
- Work with the International Collaborative Effort on Injury Statistics, as well as other international researchers, to share ideas on improving E-coding in this country;

- Work with the Safe States Alliance, SAVIR and the Council of State and Territorial Epidemiologists (CSTE) to improve E-coding through cost-effective quality assurance and evaluation;
- Work with state public health officials to educate healthcare workers, hospital association members, health plan staff and the public on the importance of E-codes.
- In collaboration with the Safe States Alliance, SAVIR and CSTE, CDC should develop training programs for hospitals and medical education programs to raise awareness of E-coding; and
- In collaboration with the Safe States Alliance, SAVIR and CSTE, CDC should work with medical professional groups to develop incentives and approaches to encourage collection of high-quality E-coding data.
- Conduct evaluations to examine the quality of E-coding in hospitals within their jurisdictions. States should provide feedback to hospitals on the results;
- Work with local health departments to highlight injury and injury prevention as public health priorities;
- Ensure that policymakers, program planners, researchers, and the public have easy online access to E-code data; and
- Health departments with an existing state-wide hospital discharge data system should participate in CDC's Injury Indicators Project to improve communication among states on the use of E-code data.

TFAH and the report's advisory committee also recommend the reporting of E-codes be used for reimbursement of Medicare and Medicaid claims of injury-related cases as part of the ACA efforts through Electronic Health Record/Meaningful Use criteria that CMS has established.

The report also had recommendations for state health departments:²⁷³



F. FIRE-RELATED INJURIES

In 2010, 3,120 Americans died in fires, not including firefighters. Home fires were responsible for 2,640 of these deaths, and they injured another 13,350. Fire departments responded to 384,000 home fires in 2010.²⁷⁴

Deaths from fires and burns are the third-leading cause of fatal home injury. Most fire victims die from smoke or toxic gases, not from burns.

Residential fires caused an estimated \$7.1 billion in home property losses in 2010.²⁷⁵ In addition, fire and burn injuries cost \$7.5 billion each year.²⁷⁶ Fatal fire and burn injuries cost \$3 billion a year.

Groups at increased risk of fire-related injuries and deaths include:²⁷⁷

- Children under the age of five;
- Adults over the age of 64;
- Blacks and Native Americans;
- The lowest-income Americans;
- People living in rural areas; and
- People living in manufactured homes or sub-standard housing.

Cooking is the primary cause of residential fires. Smoking is the leading cause of fire-related deaths. Alcohol use contributes to about 40 percent of residential fire deaths. Most residential fires occur in winter.²⁷⁸

Alarms and Sprinklers

Smoke alarms have long been recommended as a way to quickly detect and alert people about fires so they can immediately vacate a building. A number of policies exist, such as requiring landlords to install smoke detectors to meet National Fire Protection Association standards for all rental units and for smoke alarms to be installed in all new residential buildings. Most of these policies are city or local ordinances, although a few states have detector laws.

Working smoke alarms reduce the risk of death in a house fire by at least 50 percent. However, while a majority of Americans think they have working smoke alarms, follow-up home observations show that only about half of them are actually working.^{279, 280} Among homes with smoke alarms, most have too few alarms, incorrectly placed alarms or non-working alarms.

Between 2005 and 2009, smoke alarms were present in 72 percent of reported home and apartment fires. They sounded in 51 percent of these fires.²⁸¹

- Thirty-eight percent of home fire deaths resulted from fires in dwellings without alarms.
- Twenty-four percent of deaths were caused by fires in which smoke alarms were present

but failed to operate. Smoke alarm failures are usually caused by missing, disconnected or dead batteries.

- In 37 percent of fire deaths, smoke alarms sounded. One percent of the deaths were caused by fires too small to activate the alarm.

There is strong evidence that residential sprinklers are highly effective in quickly dampening the spread of fires and preventing injuries and deaths related to fires. For more than 100 years sprinkler systems have been used in commercial properties, and for decades they have been used with great success in hotels and multi-family residences. Sprinklers can help save the lives of families and firefighters, limit the damage and cost-of-damage from a fire and are environmentally friendly.²⁸² The 2009 International Residential Code (IRC) has adopted this requirement, but currently only three states have adopted the 2009 code (California, Maryland and South Carolina) while eight states have prohibited the adoption of the IRC sprinkler mandate. Some officials and builders have expressed concern over the costs of putting in residential sprinklers. Research by the Fire Protection Research Foundation indicates that the cost would not be prohibitive

RECOMMENDATIONS:

TFAH and the report's advisory committee recommend that:

- All states should adopt the 2009 International Residential Code requirement that all new one- and two-family homes include a residential sprinkler system;
- States should also encourage installing sprinklers in existing homes;
- There should be widespread public education to regularly change batteries regularly

and use 10 year lithium batteries instead of alkaline ones; and

- All states should require all landlords to install smoke alarms in all rental units; that these alarms should meet National Fire Protection Association standards; that smoke alarms be mandatory in all new residential buildings; and that smoke alarm installation be mandatory before changes in ownership of single family homes.

CARBON MONOXIDE

Carbon monoxide (CO) is an odorless, colorless gas produced when fossil fuels are burned in a furnace, vehicle, generator, grill, or elsewhere. The gas can build up in enclosed or semi-enclosed spaces, and can cause sudden illness and death if enough is breathed in.²⁸³

Unintentional CO exposure in this country annually accounts for about 500 deaths and 15,000 emergency department visits.²⁸⁴

The average daily number of CO-related deaths is greatest in January and December, and lowest in July and August. Nebraska had the highest CO mortality rate of any state.

Municipal fire departments responded to an estimated 61,100 carbon monoxide incidents in 2005, excluding incidents where nothing was found or there was a fire. The peak time for these incidents was between 6 p.m. and 10 p.m.²⁸⁵

RECOMMENDATIONS:

The National Council of State Legislators recommends that all states should:²⁸⁶

- Require carbon monoxide detectors in child care facilities, schools and hospitals;
- Require detectors on all floors of any housing unit;
- Require detectors in all new homes, condominiums and apartments;
- Require that landlords install detectors in every unit of all rental homes and apartments;
- Prohibit tenants from removing or tampering with these detectors;

- Require detectors on all floors in all hotels, motels, and other dwellings where occupants are transient;
- Require that detectors be installed in all homes, condominiums and apartments before these buildings are sold or rented;
- Require that detectors in all rental units and in all new homes be powered by both the building's electrical supply and by battery; and
- Require state fire authorities to develop a list of approved carbon monoxide detectors, and forbid the sale of any devices not on the list.

Conclusions

This report details a range of proven, evidence-based policies and strategies for reducing injury rates across the country.

Thousands of injuries could be prevented and billions of dollars could be saved in medical costs each year with the wider implementation of research-based policies and an increased investment in programs, enforcement and public education.

■ Increased Resources and Workforce are Needed for Injury Prevention

Currently, public health departments and researchers do not have the support they need to fully implement many of these strategies. Instead of increasing the investment, in the past several years, funding for public health has dramatically decreased. Injury prevention efforts require dedicated resources and staff in place to be effective.

■ The nation's public health system is responsible for improving the health of Americans. But, the public health system has been chronically underfunded for decades. Analyses from the IOM, The New York Academy of Medicine (NYAM), CDC and a range of other experts have found that federal, state, and local public health departments have been hampered due to limited funds and have not been able to adequately carry out many core functions, including programs to prevent disease and injuries and prepare for health emergencies.²⁸⁷

Federal funding for public health has remained at a relatively flat and insufficient level for years. The budget for CDC has decreased from a high of \$6.62 billion in 2005 to \$6.12 billion in 2011.²⁸⁸

At the state and local levels, public health budgets have been cut at drastic rates in recent years. According to a TFAH analysis, 40 states decreased their public health budgets from FY 2009-10 to FY 2010-11, 30 states decreased budgets for a second year in a row, 15 for three years in a row. A recent study conducted by the National Association of County and City Health Officials (NACCHO) found significant cuts to programs, workforce and budgets at local health departments (LHDs) around the country. Since 2008, LHDs have lost a total of 34,400 jobs due to layoffs and attrition.²⁸⁹ Combined state and local public health job losses total 49,310 since 2008.²⁹⁰ LHDs continue to struggle with budget cuts. In July, 2011 nearly half of LHDs reported reduced budgets, which is in addition to 44 percent that reported lower budgets in November 2010.²⁹¹ In addition, more than 50 percent of LHDs expect cuts to their budgets in the upcoming fiscal year.

■ Increased Investment is Needed for Injury Prevention Research

Research has generated strong evidence for a number of ways to reduce a wide range of injuries. This evidence is generated from surveillance data on injury problems, studies of the risk and protective factors, the development and evaluation of innovative solutions, and the widespread dissemination of effective programs and policies. However, limited resources mean limits on the ability to collect, analyze and evaluate data to move the field forward. For instance, more information is needed to evaluate whether bans of handheld devices and texting help reduce accidents or if they are encouraging more distraction for drivers to try to hide devices while they continue to engage in these practices. And, when there is a proven, effective policy, what are the most effective methods to implement and disseminate it to the broader population? For instance, graduated driver's license policies reduce teen deaths and injuries but more research can help better understand what the key ingredients are that make them effective and encourage more states to adopt them. Answering these and many other injury prevention questions are essential to more fully protecting the public in the future. In addition, improved data collection through widespread and standardized use of external cause-of-injury coding (E-codes) is essential to being able to analyze injuries in the United States and the effectiveness of strategies to prevent them.

■ Partnerships Between Public Health and Other Sectors Must Continue to Be Strengthened

Injuries have a wide range of causes. While harm to a person's wellbeing or even death are what defines an injury, it takes health experts working with other fields to identify and implement effective prevention strategies. For instance, motor vehicle policies and programs involve working with transportation officials, experts and members of industry, while violence reduction efforts can involve community organizations, social services, education, law enforcement, judicial system and other areas. These collaborations are key to success and working together can create win-win policy approaches across sectors. Public health officials bring the perspective of protecting safety and health to the development and implementation of policies and programs and should be integral in these decisions.



APPENDIX A: RATES METHODOLOGY

State death rates from injury include deaths for all ages, for injuries caused by both accidents and violence (unintentional and violence-related causes). In the rankings, states with a higher ranking had a higher rate of injury-related death. In other words, a state with the rank of “1” has the highest rate of injury fatalities, while a state with the rank of “51” has the lowest rate (the rankings include Washington, D.C. The rates and rankings are based on combined data for the years 2007-2009 to “stabilize” the death rates for com-

parison purposes. The data come from the U.S. Centers for Disease Control and Prevention’s Web-based Injury Statistics Query and Reporting System (WISQARS). The data are age-adjusted using the year 2000 as the reference point. The use of age-adjusted rates, which is recommended by CDC, accounts for differences in age distribution between states. The rates refer to deaths per 100,000 people. Childhood rates refer to state residents under the age of 20.

APPENDIX B: METHODOLOGY FOR THE BREAK THE CYCLE TEEN VIOLENCE REPORT CARD²⁹²

Break the Cycle calculated its state grades based on a system that analyzes 11 indicators, each of which received varying weights according to its relative importance. The system was developed by staff at Break the Cycle in conjunction with public health researchers at the University of Minnesota.

- Twenty percent of a state’s score depended on whether or not minors may be granted protection orders. States that prohibit minors from receiving protection orders automatically received a failing grade.
- Twenty percent of a state’s score depended on what kinds of relationships are eligible for protection orders. States that prohibit people in dating relationships from receiving protection orders also automatically received a failing grade.
- Ten percent of a state’s score depended on how easy it is for minors to file for a protection order themselves.
- Ten percent depended on whether a minor’s parents may be notified of the proceedings.
- Seven-and-a-half percent depended on whether same-sex couples can qualify for protection orders.
- Seven-and-a-half percent depended on whether a protection order can be granted against a minor accused of abuse.
- Five percent depended on the availability of options to minors who cannot file for protection orders themselves. Some states allow protection orders to be filed for minors by adults who are not the victim’s parents.
- Five percent depended on the types of abuse that qualify for protection orders. The group focused on whether states include property damage and the use of technology, such as texting, as part of their criteria for abuse.
- Five percent depended on whether or not minors’ cases are heard in courts familiar with domestic violence law.
- Five percent depended on whether a judge can modify the protection order once it is granted, to adjust to new circumstances.
- Five percent depended on the types of relief available, such as no-contact orders, orders of temporary custody and orders to vacate a home.

APPENDIX C: CDC INJURY PREVENTION FUNDING OVER THE YEARS

INJURY PREVENTION						
State	2011 Population	2006	2007	2008	2009	2010
Alabama	4,802,740	\$1,647,829	\$1,668,784	\$1,606,504	\$880,800	\$702,979
Alaska	722,718	\$642,278	\$676,061	\$716,303	\$724,618	\$783,728
Arizona	6,482,505	\$1,088,401	\$888,808	\$1,029,715	\$826,532	\$955,867
Arkansas	2,937,979	\$522,485	\$604,460	\$597,905	\$615,312	\$360,876
California	37,691,912	\$11,978,652	\$10,799,878	\$10,667,174	\$11,309,622	\$9,354,024
Colorado	5,116,796	\$3,172,098	\$2,653,532	\$2,651,679	\$3,277,852	\$2,592,307
Connecticut	3,580,709	\$736,656	\$1,009,162	\$1,015,488	\$1,028,270	\$720,475
Delaware	907,135	\$352,638	\$281,785	\$938,404	\$369,612	\$326,220
D.C.	617,996	\$1,315,862	\$892,053	\$1,443,710	\$924,164	\$2,391,935
Florida	19,057,542	\$2,973,747	\$2,781,663	\$2,493,462	\$3,091,803	\$3,005,635
Georgia	9,815,210	\$3,102,855	\$3,564,808	\$2,704,239	\$3,744,699	\$3,761,706
Hawaii	1,374,810	\$1,413,011	\$1,292,691	\$1,278,224	\$1,307,462	\$289,881
Idaho	1,584,985	\$186,607	\$181,166	\$177,987	\$237,903	\$175,742
Illinois	12,869,257	\$3,202,406	\$3,868,633	\$3,660,418	\$4,544,521	\$4,899,876
Indiana	6,516,922	\$868,260	\$842,236	\$827,452	\$921,069	\$818,171
Iowa	3,062,309	\$1,842,645	\$1,835,479	\$1,800,086	\$1,374,088	\$1,331,251
Kansas	2,871,238	\$1,263,239	\$875,405	\$901,144	\$1,133,151	\$896,812
Kentucky	4,369,356	\$1,073,024	\$1,332,881	\$1,025,303	\$1,541,605	\$1,497,161
Louisiana	4,574,836	\$755,525	\$671,354	\$733,017	\$736,631	\$727,039
Maine	1,328,188	\$300,658	\$265,747	\$299,528	\$501,812	\$497,509
Maryland	5,828,289	\$5,453,917	\$5,744,544	\$5,387,689	\$3,433,809	\$2,538,979
Massachusetts	6,587,536	\$4,823,129	\$3,546,824	\$3,397,499	\$3,360,026	\$2,401,285
Michigan	9,876,187	\$4,545,341	\$2,289,724	\$1,867,310	\$2,936,248	\$4,063,644
Minnesota	5,344,861	\$1,524,316	\$1,521,112	\$1,355,836	\$1,551,309	\$1,241,054
Mississippi	2,978,512	\$437,445	\$540,227	\$533,290	\$533,578	\$525,788
Missouri	6,010,688	\$878,534	\$1,118,627	\$1,137,008	\$2,280,545	\$2,145,919
Montana	998,199	\$477,171	\$347,763	\$264,217	\$398,673	\$389,055
Nebraska	1,842,641	\$362,797	\$369,679	\$358,751	\$386,959	\$356,924
Nevada	2,723,322	\$403,669	\$1,668,784	\$380,548	\$400,949	\$395,469
New Hampshire	1,318,194	\$178,324	\$472,955	\$759,452	\$769,650	\$466,357
New Jersey	8,821,155	\$1,473,069	\$1,376,050	\$1,351,378	\$1,446,267	\$1,831,255
New Mexico	2,082,224	\$574,664	\$562,743	\$547,132	\$562,669	\$557,453
New York	19,465,197	\$6,191,453	\$6,098,930	\$5,987,693	\$6,291,674	\$6,711,930
North Carolina	9,656,401	\$4,142,136	\$3,706,593	\$3,143,141	\$3,556,821	\$4,920,673
North Dakota	683,932	\$362,286	\$357,743	\$300,651	\$415,003	\$406,358
Ohio	11,544,951	\$2,754,889	\$3,052,586	\$3,122,255	\$4,125,695	\$3,463,374
Oklahoma	3,791,508	\$1,716,690	\$1,498,172	\$1,099,710	\$1,262,710	\$1,135,529
Oregon	3,871,859	\$2,295,298	\$2,210,149	\$2,204,876	\$1,367,448	\$1,508,716
Pennsylvania	12,742,886	\$6,405,867	\$7,060,939	\$6,646,094	\$5,818,679	\$5,914,536
Rhode Island	1,051,302	\$969,185	\$925,777	\$688,136	\$891,985	\$1,053,249
South Carolina	4,679,230	\$3,243,390	\$2,263,146	\$1,996,408	\$1,681,488	\$1,670,480
South Dakota	824,082	\$109,833	\$106,574	\$104,705	\$104,663	\$313,183
Tennessee	6,403,353	\$1,932,586	\$2,002,395	\$1,988,161	\$1,898,183	\$1,886,618
Texas	25,674,681	\$3,731,166	\$3,168,552	\$3,445,513	\$3,419,333	\$3,236,691
Utah	2,817,222	\$889,997	\$699,016	\$684,230	\$729,666	\$721,619
Vermont	626,431	\$205,798	\$218,156	\$201,641	\$212,177	\$208,954
Virginia	8,096,604	\$3,199,708	\$3,083,717	\$2,930,250	\$2,604,511	\$3,087,972
Washington	6,830,038	\$3,308,127	\$3,159,094	\$2,556,079	\$2,023,557	\$2,115,388
West Virginia	1,855,364	\$1,133,434	\$1,121,637	\$1,106,200	\$1,222,208	\$1,355,274
Wisconsin	5,711,767	\$2,373,326	\$3,041,586	\$2,952,773	\$2,926,375	\$3,138,437
Wyoming	568,158	\$72,655	\$70,601	\$69,363	\$69,207	\$68,356
U.S. Total	311,591,917	\$104,609,076	\$100,390,981	\$95,135,731	\$97,773,591	\$95,919,713

	State	Nominal 2011	2011 Per Cap	Nominal % change 06-11	Real 2011 (adjusting for inflation-in 2006 dollars)	Real % change 06-11 (adjusting for inflation)
	Alabama	\$543,390	\$0.11	-67.0%	\$486,986	-70.4%
	Alaska	\$632,047	\$0.87	-1.6%	\$566,441	-11.8%
	Arizona	\$1,010,519	\$0.16	-7.2%	\$905,627	-16.8%
	Arkansas	\$327,659	\$0.11	-37.3%	\$293,648	-43.8%
	California	\$9,077,880	\$0.24	-24.2%	\$8,135,596	-32.1%
	Colorado	\$3,995,468	\$0.78	26.0%	\$3,580,738	12.9%
	Connecticut	\$416,711	\$0.12	-43.4%	\$373,456	-49.3%
	Delaware	\$310,217	\$0.34	-12.0%	\$278,016	-21.2%
	D.C.	\$1,061,078	\$1.72	-19.4%	\$950,938	-27.7%
	Florida	\$3,113,286	\$0.16	4.7%	\$2,790,127	-6.2%
	Georgia	\$3,401,924	\$0.35	9.6%	\$3,048,804	-1.7%
	Hawaii	\$299,856	\$0.22	-78.8%	\$268,731	-81.0%
	Idaho	\$159,880	\$0.10	-14.3%	\$143,284	-23.2%
	Illinois	\$3,993,832	\$0.31	24.7%	\$3,579,272	11.8%
	Indiana	\$742,055	\$0.11	-14.5%	\$665,030	-23.4%
	Iowa	\$1,259,040	\$0.41	-31.7%	\$1,128,352	-38.8%
	Kansas	\$864,988	\$0.30	-31.5%	\$775,202	-38.6%
	Kentucky	\$1,504,002	\$0.34	40.2%	\$1,347,887	25.6%
	Louisiana	\$608,683	\$0.13	-19.4%	\$545,502	-27.8%
	Maine	\$357,159	\$0.27	18.8%	\$320,086	6.5%
	Maryland	\$4,133,961	\$0.71	-24.2%	\$3,704,856	-32.1%
	Massachusetts	\$2,205,176	\$0.33	-54.3%	\$1,976,279	-59.0%
	Michigan	\$3,826,157	\$0.39	-15.8%	\$3,429,002	-24.6%
	Minnesota	\$1,537,645	\$0.29	0.9%	\$1,378,037	-9.6%
	Mississippi	\$348,489	\$0.12	-20.3%	\$312,316	-28.6%
	Missouri	\$1,988,646	\$0.33	126.4%	\$1,782,225	102.9%
	Montana	\$370,152	\$0.37	-22.4%	\$331,730	-30.5%
	Nebraska	\$510,330	\$0.28	40.7%	\$457,358	26.1%
	Nevada	\$243,043	\$0.09	-39.8%	\$217,815	-46.0%
	New Hampshire	\$152,806	\$0.12	-14.3%	\$136,945	-23.2%
	New Jersey	\$1,674,222	\$0.19	13.7%	\$1,500,438	1.9%
	New Mexico	\$404,234	\$0.19	-29.7%	\$362,275	-37.0%
	New York	\$6,254,499	\$0.32	1.0%	\$5,605,282	-9.5%
	North Carolina	\$5,047,383	\$0.52	21.9%	\$4,523,465	9.2%
	North Dakota	\$392,142	\$0.57	8.2%	\$351,438	-3.0%
	Ohio	\$3,093,519	\$0.27	12.3%	\$2,772,412	0.6%
	Oklahoma	\$943,683	\$0.25	-45.0%	\$845,729	-50.7%
	Oregon	\$1,660,625	\$0.43	-27.7%	\$1,488,252	-35.2%
	Pennsylvania	\$4,932,813	\$0.39	-23.0%	\$4,420,787	-31.0%
	Rhode Island	\$1,112,095	\$1.06	14.7%	\$996,660	2.8%
	South Carolina	\$699,924	\$0.15	-78.4%	\$627,272	-80.7%
	South Dakota	\$356,310	\$0.43	224.4%	\$319,325	190.7%
	Tennessee	\$942,160	\$0.15	-51.2%	\$844,364	-56.3%
	Texas	\$3,158,658	\$0.12	-15.3%	\$2,830,789	-24.1%
	Utah	\$807,119	\$0.29	-9.3%	\$723,340	-18.7%
	Vermont	\$76,550	\$0.12	-62.8%	\$68,604	-66.7%
	Virginia	\$2,726,596	\$0.34	-14.8%	\$2,443,575	-23.6%
	Washington	\$1,519,356	\$0.22	-54.1%	\$1,361,647	-58.8%
	West Virginia	\$1,290,213	\$0.70	13.8%	\$1,156,289	2.0%
	Wisconsin	\$2,498,116	\$0.44	5.3%	\$2,238,812	-5.7%
	Wyoming	\$62,558	\$0.11	-13.9%	\$56,064	-22.8%
	U.S. Total	\$88,648,854	\$0.28	-15.3%	\$79,447,103	-24.1%

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