# Preventing Childhood Emergencies:
## A Guide to Developing Effective Injury Prevention Initiatives

***Revised Edition***

*"The sleeping giant of health care is awakening to its new role in society. As we move from a system designed to care for illness to one that emphasizes wellness, we change our measuring rod of success. Injury prevention takes on a new and more important dimension, not only for improving the health of the nation, but also in the ability to truly control health care costs".*

--Ricardo Martinez, MD, *JAMA*, 1994

## Introduction

Injury is the leading cause of death and disability for children and adolescents. The scope of childhood injury is staggering. Each year, more than 19,000 children and adolescents ages 0-19 are killed by a preventable injury, shattering the lives of their families and communities (Baker et al, 1996). Children and adolescents die each year in a variety of incidences, including motor vehicle crashes, bicycle crashes, drownings, and firearms. Table 1 and 2 on the following page indicates national figures on the causes of injury deaths for children ages 0-19 in 1995.

**Table 1**
**Injury Deaths by Cause and Age, 1995, United States**

| Injury Cause | 0-4 | 5-9 | 10-14 | 15-19 | Total |
|---|---|---|---|---|---|
| *Motor Vehicle Traffic* | 873 | 851 | 1,076 | 4,962 | 7,762 |
| *Occupant* | 487 | 369 | 513 | 3,311 | 4,680 |
| *Pedal cyclist* | 8 | 96 | 126 | 62 | 292 |
| *Pedestrian* | 245 | 285 | 262 | 308 | 1,100 |
| *Unspecified* | 133 | 101 | 175 | 1,281 | 1,690 |
| *Firearm* | 102 | 103 | 622 | 4,312 | 5,139 |
| *Unintentional* | 20 | 32 | 129 | 259 | 440 |
| *Suicide* | 0 | 1 | 183 | 1,266 | 1,450 |
| *Homicide* | 82 | 70 | 310 | 2,787 | 3,249 |
| *Suicide (no firearm)* | 0 | 5 | 137 | 506 | 648 |
| *Suffocation* | 0 | 3 | 123 | 371 | 497 |
| *Poisoning* | 0 | 2 | 14 | 135 | 151 |
| *Drowning* | 631 | 229 | 246 | 461 | 1,567 |
| *Fire/burn* | 566 | 249 | 115 | 84 | 1,014 |
| *Suffocation (includes choking)* | 538 | 74 | 60 | 67 | 739 |
| *Fall* | 61 | 27 | 33 | 97 | 218 |
| *Cutting/piercing* | 19 | 6 | 33 | 245 | 303 |
| *Poisoning* | 38 | 14 | 28 | 178 | 258 |
| *Other* | 588 | 54 | 77 | 215 | 934 |

*Source: National Center for Injury Prevention and Control, Centers for Disease Control, 1998.*

**Table 2**
**Injury Deaths by Cause and Sex for Individuals ages 0-19, 1995, United States**

| Injury Cause | Male | Female | Total |
|---|---|---|---|
| Motor Vehicle Traffic Total | 5,022 | 2,918 | 7,940 |
| Firearm Total | 4,568 | 717 | 5,285 |
| Drowning | 1,159 | 408 | 1,567 |
| Fire/flame | 564 | 433 | 997 |
| Suffocation/hanging | 974 | 464 | 1,438 |
| Cutting/piercing | 230 | 93 | 323 |
| **Total Injuries** | 12,517 | 5,033 | 17,550 |

*Source: National Center for Injury Prevention and Control, Centers for Disease Control, 1998.*

Fatalities are a relatively small component of all childhood injuries. In fact, injury deaths represent less than 15% of all injuries. In teenagers, for every unintentional injury death there are 41 hospitalizations and 1,132 emergency department visits related to unintentional injury (Gallagher, Finison, Guyer, & Goodenough, 1984). The short-term and long-term results of these nonfatal injuries are profound-each year, tens of thousands of children and teenagers are permanently disabled by a preventable injury. Other children may have less significant injuries than these, yet there is still a tremendous impact on the financial and emotional stability of their families.

In all, nearly 22 million children are injured each year in the United States, many of whom are seen in emergency departments throughout the country (Gallagher, 1996). Morever, children and adolescents ages 20 and under experience an estimated 13.56 million injury-related emergency department visits each year (Weiss, 1997). These numbers represent a significant threat to the health of our communities, affecting health care costs, productivity, and quality of life. According to the Children's Safety Network Economics and Insurance Resource Center, in 1995 injuries among United States children ages 0-19 was more than $457 billion in costs associated with medical care, future earnings, and quality of life (see Table 3).

**Table 3**
**Costs of Injuries in 1995 by Cause, Ages 0-19, in 1997 Dollars**
**(in Millions)**

| | Medical Care | Future Earnings | Quality of Life | Total |
|---|---|---|---|---|
| Gun | $909 | $7,815 | $20,784 | $29,507 |
| Motor Vehicle | 5,550 | 17,682 | 65,871 | 89,103 |
| Fall | 3,173 | 7,264 | 38,242 | 48,679 |
| Poisoning | 821 | 2,055 | 6,705 | 9,581 |
| Fire | 148 | 1,434 | 5,059 | 6,640 |
| Scald Burn | 128 | 244 | 1,069 | 1,441 |
| Near Drowning | 84 | 1,892 | 5,190 | 7,166 |
| Cut | 654 | 1,760 | 6,646 | 9,061 |
| Rape | 544 | 2,565 | 96,394 | 99,504 |
| Other | 8,433 | 10,313 | 138,087 | 156,833 |
| **Total** | **$20,447** | **$53,024** | **$384,046** | **$457,516** |

*Source: Miller, T., Children's Safety Network Economics and Insurance Resource Center, 1998.*

Because injuries represent a major public health threat with a profound impact on all aspects of health care, many medical providers and health-related organizations and agencies have made prevention a priority. This guide will help your Emergency Medical Services for Children (EMSC) Program to be a part of this effort and to identify strategies and resources to create and carry out effective injury prevention programs.

## The Role of EMSC in Injury Prevention

As the first responders to most injuries, emergency medical services (EMS) personnel are logical leaders in injury prevention campaigns. And because of their unique perspective of injury, they are

excellent advocates, program planners, and educators for helping prevent injuries from occurring in the first place. In essence, their dedication to primary prevention will position EMS professionals as key leaders in community health, and establish or improve relationships with other agencies and community organizations.

To solidify this commitment to primary prevention, in 1996 a group of EMS professionals and injury prevention experts developed the *Consensus Statement on the EMS Role in Primary Injury Prevention*. Sponsored by the National Highway Traffic Safety Administration (NHTSA) and the Health Resources and Services Administration, this statement says:

> *"Emergency medical services (EMS) organizations and individual providers must participate in primary injury prevention activities. This participation will benefit patients, communities, and the EMS system . . . . implementation of primary injury prevention activities is an effective way to reduce death, disabilities, and health care costs. EMS has an obligation to actively participate in primary injury prevention activities."*

In developing this statement, the consensus committee identified essentials primary injury prevention activities for leaders, decision makers, and individual providers of EMS systems nationwide to carry out. Use these recommendations as a guide in developing your strategies:

## Essential Activities for EMS Leaders and Decisionmakers:

- Protecting individual EMS providers from injury;
- Providing education to EMS providers in the fundamentals of primary injury prevention;
- Supporting and promoting the collection and utilization of injury data;
- Obtaining support and resources for primary injury prevention activities;
- Networking with other injury prevention organizations;
- Empowering individual EMS providers to conduct primary injury activities in the local community;
- Interacting with the media to promote injury prevention; and
- Participating in injury prevention interventions in the community.

## Essential Injury Prevention Knowledge Areas for Individual EMS Providers:

- Principles of primary injury prevention;
- Personal injury prevention and role modeling;
- Safe emergency vehicle operation;
- Injury risk identification;
- Documentation of injury data; and
- One-on-one safety education.

To order the *Consensus Statement on the EMS Role in Primary Injury Prevention*, contact NHTSA at (202) 366-9794.

Increasing EMSC involvement in injury prevention requires effective prevention training programs for EMS personnel. How can your state help in this effort? For one, you can encourage EMS personnel to participate as injury prevention educators and advocates. Second, your state could integrate injury prevention education into EMS training curricula and continuing education classes. Several EMS injury prevention curricula have already been developed, including *New Hampshire's Planning to Avoid Childhood Emergencies* (PACE), New Mexico's *An EMT Handbook for Injury Prevention and Community Action*, and NHTSA's *Safety Advice from EMS* (SAFE). Please refer to the Recommended Resources section for more information on these resources.

## What Is Injury Prevention?

Creating effective injury prevention programs requires a basic understanding of injuries and assessing who is at risk for them. An injury is defined as: "Any intentional or unintentional damage to the body resulting from acute exposure to thermal, mechanical, electrical, or chemical energy or from the absence of such essentials as heat or oxygen" (National Committee for Injury Prevention and Control, 1989). It is important to emphasize that injuries are not random, uncontrollable events, but rather are predictable and preventable incidences with identifiable risk factors.

Research tells us who is at risk for particular injuries and what prevention methods work. For example, we know that bicycle helmets reduce the risk of head injuries by 85%, but only 15% of bicycle riding children wear them. We also know that child safety seats greatly reduce the risk of injury during a motor vehicle crash, but a majority of young children are either not restrained or improperly restrained in motor vehicles. Moreover, research has documented that together alcohol and drugs are significant factors in a majority of violent injuries and motor vehicle crashes.

Each injury incident is a complex interaction between a number of factors, including the host, agent, and physical and sociocultural environment. Dr. William Haddon, one of the first theorists in injury prevention, developed the Haddon Matrix to describe the inter-action between these elements during three phases: pre-event (before the injury occurs), event (while the injury in occurring), and post event (after the injury has occurred). The matrix helps professionals to assess the different elements of an injury and identifies which ones can be used to prevent injury. Figure 2 is an example of the Haddon Matrix as applied to a motor vehicle crash.

**Figure 2**
**The Haddon Matrix**

| Phase | Host (Human) | Agent (Vehicle) | Physical Environment | Sociocultural Environment |
|---|---|---|---|---|
| Pre-event | Driver vision<br>Alcohol intoxication<br>Experience and judgement | Brakes<br>Tires<br>Speed of travel | Visibility of hazard<br>Road curvature<br>Signals, intersections<br>DUI laws | Attitudes about:<br>Alcohol<br>Speed limits |
| Event | Safety belt use<br>Position in vehicle | Vehicle size<br>Automatic restraints<br>Crash worthiness | Recovery areas<br>Median barriers<br>Enforcement of child safety seat laws | Attitudes about:<br>safety belt use |
| Post-event | Physical condition<br>Age | Fuel system integrity | EMS<br>Communications<br>Distance to and quality of EMS personnel | Support for trauma care<br>Training of EMS |

*Source: Adapted from* Injury Prevention, Meeting the Challenge*, p. 8.*

## Types of Prevention Interventions

Just as an injury requires interaction between many factors, preventing an injury may require a combination of interventions or countermeasures. These interventions fall into three categories: education, enforcement/legislation, and engineering/technology.

- **Education** efforts include activities such as public awareness media campaigns, school programs and curriculum changes, one-on-one counseling by physicians, bicycle rodeos, and new parent education programs.
- **Enforcement/legislation** interventions include efforts such as child safety seat laws, bicycle and motorcycle helmet laws, regulation (building codes for smoke detectors, etc.), enforcement of speed limits, and driving while under the influence (DUI) enforcement programs.
- **Engineering/technology** interventions may involve flame retardant sleepwear, impact-friendly guard rails, earthquake resistant buildings, window guards, bike lanes and trails, traffic signals, reduced speed limits, airbags, bicycle helmets, and child car safety seats.

Consider using a combination of these approaches for an effective injury prevention initiative. All too often, a strong focus on just one approach leads to gaps in formalizing comprehensive changes. For example, a program may dedicate all resources to an expensive public awareness campaign but neglect to identify potential legislative approaches. In contrast, a comprehensive program includes multiple approaches. In an effort to reduce the incidence of motor vehicle occupant injuries, for instance, a community may carry out several efforts: increase enforcement of its primary restraint

law, implement public education programs on appropriate and correct use of child restraint systems, and establish a free child safety seat distribution program to low income families. Other interventions may include speed law enforcement, drunk driver awareness programs, improved signals at high risk intersections, and improved emergency medical technician (EMT) training in EMSC for secondary and tertiary prevention of injuries that have already occurred.

### Reviewing Possible Interventions

To help assess the interventions, refer to Haddon's 10 possible countermeasures to prevent injuries, which can be applied to any situation.

***Haddon Countermeasures***

- Prevent the creation of the hazard in the first place (stop producing poisons).
- Reduce the amount of hazard (package toxic drugs in smaller, safe amounts).
- Prevent the release of a hazard that already exists (make bathtubs less slippery).
- Modify the rate or spatial distribution of the hazard (require automobile air bags).
- Separate, in time or space, the hazard from the host (use sidewalks to separate pedestrians from automobiles).
- Separate the hazard from that which is to be protected (pool barriers, gun lock boxes).
- Modify relevant basic qualities of the hazard (make crib slat spacing too narrow to strangle a child).
- Make what is to be protected more resistant to damage from the hazard (improve the host's physical condition through appropriate nutrition and exercise programs).
- Begin to counter the damage already done by the hazard (provide emergency medical care).
- Stabilize, repair, and rehabilitate the object of the damage (provide acute care and rehabilitation facilities).

*Source: Haddon,* Advances in the Epidemiology of Injuries as a Basis for Public Policy*, 1980.*

## Developing Outcome-oriented Programs

As you evaluate childhood injuries in your state, you will face an important challenge: how to develop appropriate and outcome-oriented interventions that can reduce the number of these tragic incidences and produce measurable results. You do not have to solve this public health issue alone, however. There are many agencies and organizations dedicated to childhood injury prevention that produce extensive resources that can help.

You can approach this effort in a number of ways: support an activity that has already been developed; provide leadership and advocacy for another agency's work; or if you have the resources available, develop a new injury prevention initiative in collaboration with other agencies. The most effective prevention strategies use a collaborative, systems-based approach, that is, one that incorporates all allied and health care disciplines and the appropriate agencies. Remember, injuries are complex incidences and require the expertise of many individuals. For more information on working with other agencies and organizations, refer to *Reaching Out: A Guide to Effective Coalition*

*Building*. To obtain one complimentary copy of this publication, contact the EMSC Clearinghouse at (703) 902-1203.

Use the following five steps as a guide for developing or expanding an injury prevention effort. Remember that every state has unique issues and resources, so carefully review all available information associated with injury and injury prevention in your state. This will be the most important action you will take.

***Step 1: Conduct a Community Assessment***

Conduct a comprehensive community assessment to identify potential injury prevention interventions. Do this by first reviewing the injury statistics in your state to develop a profile of the injury issue, identify what incidences of injury are most common, and prioritize your targets. This review should provide the demographic characteristics of the populations that are at high risk (i.e., age, ethnicity, income, residence, etc.) Review Section V, Evaluation and Data Sources, for recommendations on data sources and individuals who can help with data collection and analysis.

Complete a community resources assessment to determine what is already being accomplished in your state. Because schools, hospitals, and public health and service organizations may all be conducting their own injury prevention campaign, this is another reason to involve a broad range of agency representatives in your planning. Review Section VI, Injury Prevention Partners, to identify possible collaborative agencies. Funding agencies look for effective collaborations that produce quantifiable results when deciding which programs to support. Moreover, resources are to precious to create programs that duplicate others or that do not address a high priority issue or needy population.

***Step 2: Define the Injury Problem***

Based on your community assessment, define the injury problem in specific, quantitative terms. Find a person with a thorough understanding of injury epidemiology—the who, where, when, what, and how of injuries in your state—to help analyze the data. This analysis will allow you to more narrowly define the most critical injury problems in your state. For example, you should be able to answer the following questions:

- What are the most frequent causes of fatal and non-fatal childhood injuries?
- What populations (age, location, and other characteristics) are at the highest risk for these injuries, and when and where are the injuries occurring?
- What other factors are associated with these causes (host, agent, and environmental factors)?
- What if anything, is being done to prevent these injuries and who is involved?
- Is there an effective intervention available?

- What resources do you have to develop, implement, and evaluate injury prevention initiatives?
- Is there a community/agency *desire* to prevent the injury? Are people more worried about a different issue?

Childhood injury issues are often stated in terms that are too broad. For example, you may have been aware that burn injuries are a concern in your state. However, as the injury problem is defined in more precise terms, you may conclude that scald burns to children under one years of age living in low socioeconomic neighborhoods, are occurring at rates above the state average. With this type of narrow statement, you are more clearly defining the population at risk and the specific mechanism causing the burn injuries.

### *Step 3: Setting Goals and Objectives*

Now that the injury problem has been identified and an inventory of resources is available you are ready to state the goals and objectives for the prevention plans. To help guide you in writing them a definition of each is provided.

> ***Goals***: Make this a broad, general statement about the long-term changes the prevention initiatives are designed to make. For example: "The motor vehicle safety program will decrease preventable injuries on state highways."
>
> ***Objectives***: Make these specific, time-limited, and quantifiable statements about what the prevention initiative will accomplish. There are two types of objectives: process objectives, which state how your program will be implemented and outcome objectives**,** which state what your program will change, including, behaviors, attitudes, and injury incidences.
>
> An example of a process objective would be: "One hundred child safety seats will be distributed to low income families by December 1997." An example of an outcome objective would be: "The bicycle safety program will increase the rate of bicycle helmet use by 15% by the end of 1997." Baseline data are required to determine outcomes. Define how the baseline data were measured. The evaluation of this objective can be done in the same way.

### *Step 4: Plan and Test Interventions*

Interventions are the actions you take to accomplish your goals and objectives. They generally fall into one of the three previously discussed injury prevention categories: education, enforcement/legislation, or engineering/technology (see Figure 3). If possible, choose an intervention that has been tested and proven effective. For guidance, refer to *Injury Prevention: Meeting the Challenge* (see section, Recommended Resources). By using interventions that have been previously tested on populations similar to yours, you might avoid duplicating certain injury rate outcome measures. For example, if smoke detectors have been proven to decrease fire- related burns and deaths, you would only need to document the effective installation and use of the smoke detectors.

When planning interventions, be sure to evaluate the resources available to you and define the priorities for your EMSC program. For example: Does your EMSC program have an injury prevention objective and allocated resources? Also, review potential partnerships to help determine if other agencies can offer you resources. Other factors to consider are time constraints for launching

your initiatives, political factors, and the receptivity of your target population.

As the prevention interventions develop, stay focused on the actions that directly address your objectives. Also, thoroughly evaluate your target population to ensure that your interventions are culturally appropriate, understandable, and acceptable. In fact, conduct focus groups with your target population before implementing a program—it's an excellent way to refine your intervention.

***Step 5: Implement and Evaluate Interventions***

Implementation and evaluation are actually a combination of smaller, reoccurring steps. For example, at the time you launch your initiatives, you will at the same time be evaluating the process and making improvements. Remember, implementation is not a one-time effort. Prevention programs may take place over a number of months and require constant monitoring and improvement.

**Figure 3**
**Sample Injury Prevention Interventions**

| Injury Mechanism | Education | Enforcement/ Legislation | Engineering/ Technology |
|---|---|---|---|
| Motor Vehicle | Implement a media campaign about correct use and positioning of child safety seats; and provide consumer training for correct child safety seat use. | Help to enforce primary restraint laws, improve child safety seat laws, establish child safety seat check points, increase speed limit and DUI enforcement programs, and create "800" safety seat hotlines. | Distribute free child safety seats to low income families, improve signals at problem intersections, and reduce speed limits in neighborhoods with children and around schools. |
| Pedestrian | Motivate medical professionals to counsel parents about traffic dangers, and provide pedestrian safety programs at elementary schools. | Promote the enactment of pedestrian right-of-way laws. | Improve lighting and crosswalks at problem intersections, and distribute reflector tape products. |
| Bicycle | Conduct bicycle safety rodeos at schools and community fairs and increase bicycle safety information in health curricula. | Promote bicycle helmet legislation and help enforce current bicycle helmet laws. | Distribute free bicycle helmets to low income families, provide free bicycle repair workshops, and increase bicycle lanes and trails. |
| Fires/Burns | Educate homeowners and rental property owners about scald burn risks and smoke detectors, and encourage fire fighters to conduct school assemblies | Encourage building code officials to enforce building codes for smoke detector use and to require hot water heater settings under 120 degrees. | Promote the use of anti-scalding device products. |

| Injury Mechanism | Education | Enforcement/ Legislation | Engineering/ Technology |
|---|---|---|---|
| | on fire safety. | | |
| Home (falls, poison) | Educate parents about gates and stairs; sharp-edged furniture; furniture near windows; proper crib construction; mini-blind cords, and locking up poisons, medicines, and alcohol. | Rally against the sale of baby walkers and encourage officials to inspect childcare facilities and schools for fall hazards. | Distribute no-choke tubes to determine which objects are safe for small children, encourage use of window guards, and distribute cabinet locking products. |
| Firearms/Violence | Develop a media campaign promoting trigger locks and lock boxes and provide conflict resolution, anger management, and other prevention programs in schools. | Encourage restrictive licensing for handguns and enforcement of existing firearm laws. | Work with local police on community policing initiatives, and promote the development of product modifications for handguns. |
| Child Abuse | Provide parent education programs to young and at-risk parents and develop self-help groups. | Work with local officials to maximize effectiveness of child protective services. | Support home visitor programs for new parents and affordable day care. |
| Playgrounds | Provide seminars on playground safety for school officials, park and recreation administrators, and child care providers. | Promote mandating the use of U.S. Consumer Product Safety Commission standards for playground equipment and surfaces. | Support community development projects that improve playground equipment and surfaces. |
| Sports | Provide parents, students, and coaches with educational materials on proper sports equipment and physical conditioning. | Promote mandating the use of proper safety equipment by school and community sports programs. | Promote the use of breakaway bases, mouth guards, and eye protection equipment. |
| Drowning | Provide information to pool owners about drown risks and appropriate pool barriers. | Encourage the enforcement of pool barrier codes for community and public pools. | Promote the use of pool barriers, including four-sided isolation fencing. |

## Conducting an Evaluation and Collecting Data

Program evaluation begins with program design. In essence, by carefully defining your goals and objectives, and carrying out focused prevention initiatives, your are better able to effectively evaluate your prevention. Given limited resources and funding sources, evaluation is now a top priority for community health initiatives. Moreover, evaluation does not signal the end of a program but rather acts as a foundation for building future effective prevention initiatives. In fact, upon completing a community assessment, you will have identified potential data sources and community resources available for tracking the outcomes of your goals and objectives.

## Process Evaluation

Just as there are two categories of objectives, there are two categories of evaluation—process and outcomes evaluation. Process evaluation answers questions such as: How many people did the program reach and who are they? Was the time schedule for implementation followed? Is the program being carried out within the established budget? These measures will not tell you what behaviors your program changed, or if any injury rates changed, but they will help you identify how the program is being implemented and what changes may be needed to improve the program or its ability to reach the target population.

The National Committee for Injury Control suggests using three methods for collecting data for process evaluation:

- Tabulating and analyzing program records on program activities;
- Interviewing or surveying program participants and program staff; and
- Observing the program in action.

Essentially, process evaluation allows you to maintain tight control over program implementation and gauge early quality indicators (*Injury Prevention: Meeting the Challenge*). For example, measuring how many people attended a class on the proper use of child safety seats, determining the demographics of the attendees with a questionnaire, and measuring what they learned with post-test are all evaluation tools that would help determine the effectiveness of this intervention.

## Outcome Evaluation

Outcome evaluations measure results in changing injury rates, knowledge, attitudes, behaviors, or physical environment of the target population, or the public policy or practice related to the injury. Outcome evaluations tend to be more expensive than process evaluations and usually involve a longer time frame. For example, it may take several years to document changes in injury rates. Also, it may be difficult to control all the other contributing factors, such as high profile media events, new laws, or other programs that may affect large-scale population measures. However, you can use approaches such as surveys and observations to quantify outcomes for injury prevention activities.

Measures of injury morbidity are the most significant indicators, but direct observations of behavior change or the environment modifications are also beneficial. Unfortunately, measures of knowledge and attitudes are ranked lower because they do not always lead to behavior changes. Still, regardless of the outcome measures, it is important to complete baseline measures before launching an injury prevention program. Also, if using an untested intervention, you may need to carry out a more complex evaluation that includes control and experimental groups.

When establishing a budget for injury prevention initiatives, be sure to include funds for evaluation. Some experts recommend that you allocate 15% of a prevention budget to evaluation. You should also identify other resources that can assist with evaluation.

The following types of experts may be able to help with your evaluation:

- **Epidemiologists** from state health departments, academic and research institutions, and epidemiology consulting firms. Seek the assistance of graduate students, too.
- **Statisticians and biostaticians** from state health and motor vehicle departments, academic and research institutions, and corporations.
- **Nosologists** (experts in the classifications of morbidity and mortality data) and medical records technicians from hospitals, state health departments, and the state hospital association.
- **Medical record abstractors** from academic, hospitals, and clinical settings.
- **Individuals with expertise in economics, acute care, rehabilitation, and biomechanics** from academic, hospital, and clinical settings, and engineering schools.
- **Individuals with knowledge of computers and statistical software** from the local health department, academia, hospitals, and corporations.

*Source:* Injury Prevention, Meeting the Challenge, *The National Committee for Injury Prevention and Control.*

## Collecting Data Sources

Finding injury data that can be used to identify risks and plan interventions is a challenge. One issue concerns the fact that data on fatal childhood injuries is much easier to find than information on non-fatal injuries. However, fatal and non-fatal injury data are necessary to develop an accurate view of the broader picture of childhood injury. Death certificates, trauma registries, and medical examiner reports provide good quality data, including cause of injury related deaths. However, deaths are only a very small portion of the total incidence of injury. Other incidences, including injuries treated in physicians' offices, urgent care centers, or at home, have not been tracked. Estimates indicate that these incidents are twice the number of those seen in the emergency department, or 2,600 non-fatal injuries for every injury related death. These numbers constitute what is known as the "injury pyramid" (Gallagher, et al., 1984).

Another issue confounding injury data collection efforts is the use of E-codes and N-codes, a coding system some hospitals use to describe injuries. Whereas N-codes describe the nature of an injury, E-codes describe the external cause of an injury. For example, an N-code identifies that a patient has a fracture of the left arm (nature of injury), and an E-code identifies that this injury was due to a fall from playground equipment (external cause of injury). Often referred to as the "missing link in injury prevention," E-codes are important factors used to develop injury prevention strategies since they focus on factors leading to the injury (New England Network to Prevent Childhood Injuries; Education Development Center, 1989).

If all hospitals were required to consistently record E-codes on hospital discharge and emergency room data sheets, it would help collect "casual" information for planning injury prevention programs. In fact, your may want to consider as one of your injury prevention initiatives an effort to advocate for wider use of E-codes by hospitals in your state. Figure 4 is a list of data sources for injury information in your state. For a more complete list, refer to *Injury Prevention: Meeting the Challenge*.

**Figure 4**
**Injury Data Resources**

| Source | Data Type | National and/or State | Available Information |
|---|---|---|---|
| National Vital Statistics | Mortality | Both | Motor vehicle vs. non-motor vehicle |
| National Health Interview Survey | Knowledge, attitudes, behaviors | Both | Motor vehicle vs. non-motor vehicle |
| National Hospital Dis-charge Survey | Morbidity | National | When available |
| National Ambulatory Medical Care Survey | Morbidity | National | None |
| NHTSA/NCSA Fatal Accident Sampling System | Mortality | Both | Weather, speed, alcohol, etc. |
| NHTSA/NCSA National Accident Sampling System | Morbidity | National | Road Conditions, alcohol, use, etc. |
| Centers for Disease Control, Behavioral Risk Factor Surveillance | Risk Factor | Both | Focus on causes |
| Vital Statistics, State Office of Vital Statistics | Mortality | State, local | Cause of death demographics |
| Medical Examiner/Coroner | Mortality | State, local | Varies, often a good source |
| Uniform Hospital Discharge Data Sets | Morbidity | State | Diagnosis, medical costs, E-Codes if available, and disposition |
| Hospital Emergency Room Data | Morbidity and Mortality | Local | Cause, demographics |
| Ambulance and EMS Data | Morbidity | State, local | Cause and cofactors, can correlate with hospital data |
| Trauma Registries | Morbidity and Mortality | Local or regional | Diagnosis, treatment and outcomes |
| State Motor Vehicle Data – police, highway patrol, and motor vehicle department reports | MVA, pedestrians, suicide, homicide | State, local | Data collected on motor vehicle, pedestrian, and other |

## Seeking Partners in Prevention

Remember to look for partners in your state and community with whom to build strong interventions, such as:

- Local and government agencies and other elected officials;
- City and county councils, mayors and their staff, the governor and his/her staff, the state attorney general and his/her staff, and state representatives and senators on relevant committees;
- Law enforcement agencies (police chief, sheriff's department, police unions, and police training programs);
- Schools, parent-teacher associations, and student groups (teachers, principals, superintendents and their associations; school boards; Students Against Drunk Driving (SADD) and other student organizations; school nurse associations; college and university administrators and faculty; athletic trainers; directors and coaches; and school health personnel);
- Media (editorial boards, op-ed page editors, city desk reporters, consumer reporters, and traffic reporters);
- Health care providers (pediatricians; family physicians; school-based clinic staff; nurses; trauma and emergency room physicians; emergency medical services for children and emergency medical services personnel; other health professionals; local hospitals and trauma centers; health maintenance organizations; rehabilitation facilities; coroner and medical examiners' offices; local medical societies; social workers; and the state chapters of the American Academy of Pediatrics, the American College of Emergency Physicians, and Emergency Nurses Associations);
- Business community (mass merchandisers and other retailers that sell safety products, realty associations, hardware and home improvement stores, sports equipment stores, car dealers, car rental companies, automobile service chains, gas stations, insurance companies, and chamber of commerce);
- Civic groups and service clubs (Kiwanis Clubs, League of Women Voters, Junior League, Rotary Clubs, Girl Scouts and Boy Scouts, other boys and girls clubs, 4-H clubs, Moose, Elks, RSVP, and volunteer action centers);
- Nonprofit organizations (local and state SAFE Kids Coalitions; local chapter of the National Association of Women Highway Safety Leaders, Inc; local Mothers Against Drunk Driving chapters; local Red Cross chapters; local American Automobile Association clubs; local and state consumer groups; bicycle clubs and associations; tenant associations; domestic violence programs; rape crisis organizations; alternative youth programs; local chapter of the National Association for the Advancement of Colored People; community and neighborhood violence prevention initiatives; and local and state coalitions affiliated with the Center to Prevent Handgun Violence);
- National Highway Traffic Safety Administration Regional Offices
- Sports related organizations (little league, equestrian associations and riding schools, bicycle clubs and associations, gymnastics teams, skateboarding and in-line skating groups, and soccer clubs);

- Child care centers and family child care home administrators, staff, licensing and regulatory agencies, and Head Start;
- Local and national celebrities;
- Fire departments, fire fighters, and fire fighters unions;
- Research institutions (Centers for Disease Control and Prevention-funded Injury Control Research Centers, state and local universities, and community colleges);
- Religious communities and places of worship;
- Foundations; and
- Survivors of injuries and their families.

*Source:* Adapted from Building Safe Communities, *Children's Safety Network*

## Recommended Resources

***General Injury Prevention Programs:***

**Arizona EMSC Adopt-a-School Program**

Developed by the Arizona EMSC Project, this comprehensive injury prevention, curriculum includes educational materials, fact sheets, overheads, and handouts for teaching school children the various risks of injury and the principles of injury prevention. For more information: Contact Cindy Rutter, Arizona EMSC project coordinator, University of Arizona, College of Medicine, 1501 N. Campbell, Tucson, AZ 85724; (602) 318-7122.

**Planning to Avoid Childhood Emergencies (PACE)**

This curriculum was developed by the New Hampshire EMSC project to guide emergency medical technicians in conducting school- and community-based injury prevention activities. For more information, contact Janet Houston at (603) 650-1813 or Laurie Warnock at (603) 650-1814. Copies of the curriculum can be obtained from the EMSC Clearinghouse at (703) 902-1203.

**Risk Watch, National Fire Protection Association (NFPA)**

Risk Watch is a comprehensive injury prevention curriculum, presented in five teaching modules for children in preschool through grade eight. Each module addresses eight risk areas and can be used independently. Risk Watch can be taught as a stand-alone unit or easily integrated into core curriculum subjects. For more information, contact NFPA at (617)984-7284. To order, call NFPA Customer Service at (800) 344-3555.

**The Injury Prevention Program (TIPP)**

This program includes developmentally and age-appropriate safety sheets with descriptions of risk and specific courses of preventative action. Produced by the American Academy of Pediatrics (AAP), and revised in 1994. Copies are available for $17.95 per 100 from AAP's publications division at (847) 228-5005.

**Think First, The National Head and Spinal Cord Injury Prevention Program**

This curriculum is devoted to injury prevention, specifically head and spinal cord injuries. For more information, contact Susan Morton, program development coordinator at the Think First

Foundation, at (847) 692-2740; fax, (708) 692-2589; mail, 22 South Washington Street, Park Ridge, IL 60068.

***General Injury Prevention Publications:***

***Building Safe Communities: State and Local Strategies for Preventing Injury and Violence*** Twenty-nine case studies describing how health departments and others at the state, county, and community level have implemented creative programs and strategies to prevent injury and violence among children and youth. For copies, contact the Maternal and Child Health Clearinghouse at (703) 902-1203, Ext. 254 or fax requests to (703) 821-2098. Cost of single copies is $24, which is reduced when ordering two or more copies. For content questions, contact the Children's Safety Network at (202) 842-4450; e-mail at emsc@circsol.com.

***An Emergency Medical Technician's Handbook for Injury Prevention and Community Action.*** The New Mexico EMSC project. Copies of the handbook are available from the EMSC Clearinghouse at (703) 902-1203.

***Demonstrating Your Programs Worth, A Primer on Evaluation from Programs to Prevent Unintentional Injury.*** Thompson, NJ, McClintock HO, Centers for Disease Control, National Center for Injury Prevention and Control, Atlanta, 1998.

***Injury Prevention: Meeting the Challenge***. The National Committee for Injury Prevention and Control, supplement publication to the *American Journal of Preventive Medicine*, Oxford University Press; New York, NY; 1989. Copies of this publication are limited. For more information, contact the Education Development Center, Newton, MA at (617) 969-7100.

***The Injury Fact Book, Second Edition.*** Baker, S.P., O'Neill, B., Ginsburg, M.J., and Guohua, L.; Oxford University Press; New York, NY; 1992.

***Saving Children: A Guide to Injury Prevention.*** Wilson, M.H., Baker, S.P., Teret, S.P., Shock, S., and Garbarino, J.; Oxford University Press; New York, NY; 1991.

***Injury in America: A Continuing Health Problem.*** Committee on Trauma Research, Commission on Life Sciences, National Research Council and the Institute of Medicine, National Academy Press; Washington, DC; 1985.

***Childhood Injuries in the United States.*** Division of Injury Control, Center for Environmental Health and Injury Control, Centers for Disease Control; *American Journal of Disease in Children*; Vol. 144; June 1990; pp. 627-646.

***Injury Control for Children and Youth.*** Committee on Injury and Poison Prevention, American Academy of Pediatrics; Elk Grove Village, IL; 1987. Request copies from the American Academy of Pediatrics, P.O. Box 927, 141 Northwest Point Blvd., Elk Grove Village, IL 60009-0927.

***Child and Adolescent Fatal Injury Data Book.*** Children's Safety Network, Injury Data

Technical Assistance Center, California Center for Childhood Injury Prevention, San Diego State University; November 1994. Copies are available from the Maternal and Child Health Clearinghouse at, (703) 821-8955, Ext. 254.

***Putting It Together: A Model for Integrating Injury Control System Elements.*** (Summary) U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA). U.S. Government Printing Office, 1994. To obtain copies, contact NHTSA's Health Care Task Force at (202) 366-2105; or fax (202) 366-2106.

**"The Incidence of Injuries Among 8,700 Massachusetts Children and Adolescents: Results of the 198-81 Statewide Childhood Injury Prevention Program Surveillance System."** Gallagher, S.S., Finison, K., Guyer,, B., Goodenough, S.; *American Journal of Public Health*, Vol. 74, no. 2; December 1984.

**"Parental Attitudes and Knowledge of Child Safety: A National Survey"**, Eichelberg, M.R., Gotschall, C.S., Feely, H.B., Harstad, P. And Bowman, L.M.; *American Journal of Disease in Children*; Vol. 144; June 1990; pp. 714-720.

***Preventing Childhood Injury: Developmental and Mental Health Issues***. Garbarino, J.; Erikson Institute for Advanced Study in Child Development; Chicago, IL; 1987.

**"Childhood Injuries: Causes, Preventative Theories and Case Studios."** Fisher, L.; *Journal of Environmental Health*; Vol. 50, No. 6; May/June 1988; pp 355-360.

**"Childhood Injury Prevention Counseling in Primary Care Settings: A Critical Review of the Literature."** Bass, J.L., Christoffel, K.K., Widome, M., Boyle, W., Scheidt, P., Stanwick, R., and Roberts, K.; *Pediatrics*; Vol. 92, No. 4; October 1993; pp. 544-550.

***Bibilio Alert! Focus on Alcohol and Injury.*** Children's Safety Network. Copies available from the Maternal and Child Health Clearinghouse at (703) 821-8955, Ext. 254, fax (703) 821-2098.

***Preventing Injury Through Community Mobilization: A Resource Directory.*** North Carolina Department of Environment, Health and Natural Resources, Injury Control Section; Raleigh, NC; 1991.

**"Injury Prevention in the Community: A Systems Approach."** Micik, S. and Miclette, M.; *Pediatric Clinics of North America*; Vol. 32, No. 1; February 1985; pp. 251-265.

**"Launching an Injury Prevention Coalition."** Diver, J.; *Childhood Injury Prevention Quarterly*; Spring 1991; Copies available from the National SAFE KIDS Campaign, (202) 662-0600.

***Cost of Injury in the United States: A Report to Congress 1989.*** Rice, D.P., MacKenzie, E.J., and associates; University of California and Injury Prevention Center, and The Johns

Hopkins University, 1989. Copies may be requested from the National Center for Injury Prevention and Control, Office of Health Communications at, (770) 488-1506; fax (770) 488-1667.

**"The Cost of Medical Care for Injuries to Children."** Malek, M. et al.; *Annals of Emergency Medicine*; Vol. 20, No. 9; September 1991; pp. 997-1005.

***Childhood Injury : Cost and Prevention Facts.*** Miller, Ted et al.; Children's Safety Network; Landover, MD; 1994. Copies available from the Maternal and Child Health Clearinghouse at (703) 821-8955.

***Assessing the Impact of a Community-Based Program.*** Cook. T.J., Braddy, B.A., and Orenstein, D.; Research Triangle Institute, Center for Policy Studies; 1990.

***Child and Adolescent Emergency Department Visit Databook***. Weiss H.B., Mathers LJ, Forjuoh S.N., and Sinnane J.M.; Center for Violence and Injury Control, Allegheny University of the Health Sciences. Copies available through the EMSC Clearinghouse at 703-902-1203.

***Injuries in the School Environment, A Resource Guide*** (Second Edition). Children's Safety Network; 1997. Copies available from Children's Safety Network at (617) 969-7100, Ext. 2207.

***Motor Vehicles Programs***:

**Safety Advice From EMS (SAFE).** This program includes traffic safety lesson plans for EMS, fire, and rescue personnel. Lesson plans cover motor vehicle, bicycle, and pedestrian issues for children and adults. Prepared by the National Council of EMS Training Coordinators, Inc., under contract with the National Highway Traffic Safety Administration. For further information or to obtain a copy of the manual, write to the Emergency Medical Services Divison, National Highway Traffic Safety Administration, NTS-42, 400 Seventh Street, SW, Washington, DC 20590. Requests also can be sent by fax to (202) 366-7721, or call the EMS division at (202) 366-5440.

**Traffic Safety Digest.** Quarterly compendium of traffic safety programs in various areas compiled by NHTSA. For more information or to be put on the mailing list, contact NHTSA's Division of State and Community Services, NSC-01, 400 Seventh Street, SW, Washington, DC 20590; fax, (202) 366-7394. Also available on the internet at www.nhtsa.dot.gov . Once here go to "people" then "communities and outreach."

**Air Bag Safety Campaign.** Developed by the National Safety Council, this kit includes resources for addressing air bag safety issues. Contact Janet Dewey, executive director, at (202) 293-2270, ext. 492; or www.nsc.org/airbag.htm.

**Safety Belt Safe USA for Children and Adults.** Fact sheets and other educational materials are available by writing to: 123 West Manchester Blvd., Inglewood, CA 90301;

(310) 673-266 or (800) 745-SAFE; fax, (310) 677-5777.

***Motor Vehicles Publications:***

***Four Seasons Traffic Safety Program Planner.*** Produced by the National Safety Belt Coalition, National Safety Council, this guide will help you plan a traffic safety program, and including other educational and programmatic resources. For more information, contact Carole Guzzetta, director, National Safety Belt Coalition at (202) 296-6263; 1019 19th Street, NW, Suite 401, Washington, DC 200365-5105; (202) 293-0032, fax.

**"Childhood Motor Vehicle Occupant Injuries."** Agran, P., Castillo, D., and Winn, D.; *American Journal of Diseases in Children*; Vol. 144; June 1990; pp. 653-662.

***Fatalities and Injuries Associated with Riding in Cargo Areas of Pickup Trucks.*** National Transportation Safety Board; Washington, DC; 1981.

**"Pediatric Injuries in the Back of Pickup Trucks."** Angran, P.F., Winn, D.G., and Castillo, D.; *Journal of the American Medical Association*; Vol. 264, No. 6; August 8, 1990; pp. 712-716.

**"Preventing Motor Vehicle-Occupant and Pedestrian Injuries in Children and Adolescents."** Wilson, M.H. and Shock, S.; *Current Opinion in Pediatrics*; Vol 5; 1993; pp. 284-288.

***Who's Who in Traffic Safety, A Guide to Agencies and Organizations.*** This guide describes the major federal agencies and national, state, and local groups identified as potential partners for collaboration. For more information, contact the Education Development Center, Inc., 55 Chapel Street, Newton, MA 02158-1060; (617) 969-7100.

***Pedestrian Injuries Programs***

**Walk-Ride-Walk: Getting to School Safely.** This pedestrian safety program targets children in kindergarten through the sixth grade. Seven one-half hour lessons focusing on different aspects of pedestrian safety, with individual teacher's guides, student videos, and brochures for bus drivers and parents. For more information and to obtain materials, contact the National Safety Council at (800) 621-7619; 1121 Spring Lake Drive, Itasca, IL, 60143-3201; fax, (630) 285-0797; web, www.nsc.org.

**Wary Walker Pedestrian Safety Curriculum**. Produced by the Harborview Injury Prevention and Research Center, this elementary school-based curriculum is for teaching children pedestrian and pedestrian safety, including practice in the actual traffic environment. Contact the Haborview Injury Prevention and Research Center at 325 Ninth Avenue, ZX-10, Seattle, WA 98104-2499; (206) 521-1520; fax, (206) 521-1526.

***Pedestrian Injuries Publications***

**"Child Pedestrians Injuries in the United States: Current Status of the Problem, Potential Intervention, and Future Research Needs."** Rivara, F.P.; *American Journal of*

*Disease in Children*; Vol. 144; June 1990; pp. 692-696.

**"The Epidemiology and Prevention of Child Pedestrians Injury."** Malek, M., Guyer, B., and Leschoier, I.; *Accident Analysis and Prevention*; Vol. 22, No. 4; 1990; pp. 301-313.

***Bicycle Injuries Programs***

**Comfort-N-Safety (CNS) National Helmet Program.** This program assists communities in implementing bicycle safety and helmet distribution programs. Helmets are available for $7.45, which are both ANSI and Snell approved. For more information, contact CNS National Helmet Program at 18370 Olympic Ave, S. Tukwila, WA 98188; (800) 642-3123; fax (206) 251-5996.

**SAFE Kids Cycle Smart**. Produced by the National SAFE Kids Campaign, this program provides information on setting up a bicycle safety campaign, including helmet distribution, working with the media, and proposing legislation. Contact Angela Mickalide, program director, at (202) 662-0600 or visit their web page at www.safekids.org.

***Bicycle Injuries Publications***

***The Guide to Bicycle Rodeos*.** Williams, J. and Burden, D. Adventure Cycling Association; Outdoor Empire Publishing, Inc., Seattle, WA. a step-by-step guidelines booklet for putting on a bike rodeo. For more information , contact the Publications Department, Outdoor Empire Publishing, Inc., 511 Eastlake Avenue East, Seattle, WA 98109; (206) 624-3845.

**"Incidence, Severity, and Outcome of Brain Injuries Involving Bicycles."** Kraus, J. R., Fife, D., and Conroy, C.; *American Journal of Public Health*; Vol. 77, No. 1; January 1987; pp. 76-78.

**"Pediatric Bicycle Trauma."** McKenna, P.J., Welsh, D.J., and Martin L.W.; *The Journal of Trauma*; Vol. 31, No.3; March 1991; pp. 392-394.

**"Bicycle Accidents and Injuries: An Overview."** Kiburz, D.W.; *Emergency Medical Services* Vol. 16, No. 7; August 1987; pp. 27-30, 74.

**"The Seattle Children's Bicycle Helmet Campaign."** Bergman, A.B., Rivara, F.P., Richards, D.D., and Rogers, L.W.; *American Journal of Diseases in Children*; Vol. 144; June 1990; pp. 727-731.

**"Disability from Bicycle-Related Injuries in Children."** Nakayama, D.K., Gardner, M.J. and Rogers, K.D.; *The Journal of Trauma*; Vol. 30, No. 11; November 1990; pp. 1390-1394.

**"Bicycle Helmet Use by Children: Evaluation of a Community-wide Helmet Campaign."** DiGuiseppi, C.G, Rivara F.P., Koespell, T.D., and Polissar, L.; *Journal of the American Medical Association*; Vol. 262, No. 16; October 27, 1989; pp. 2256-2261.

**"Evaluation of a Promotional Strategy to Increase Bicycle Helmet Use by Children."**

Parkin, P.C., Spence, L., Xiaohan, H., Kranz, K.E., Shortt, L.G., and Wesson, D.E.; *Pediatrics*; Vol. 91, No. 4; April 1993; pp. 772-777.

*Fire and Burn Injuries Programs*

**Learn not to Burn.** Developed by the National Fire Protection Association (NFPA), this curriculum is targeted at kids in pre-school through the eighth grade. It focuses on traffic injuries, drowning, fires and burns, unintentional firearm injuries, falls, and poisoning. For information, contact Meri K. Appy of NFPA at (617) 984-7288; fax, (617) 770-0200.

*Fire and Burn Injuries Publications*

**"The Causes, Cost, and Prevention of Childhood Burn Injuries."** McLoughlin, E. and McGuire, A.; *American Journal of Diseases in Children*; Vol. 144; June 1990; pp. 677-683.

*Child Abuse Publications*

**Adolescent Maltreatment: Youth as Victims of Abuse and Neglect (Maternal Health and Child Bulletin**). Hutchinson J, MD, MPH, Langlykke K, RN, MSN. National Center for Education in Maternal and Child Health, Arlington, VA 1998.

*Drowning Programs*

**Stay on Top of It.** Produced by the Washington State Drowning Prevention Project, the program outlines tips and includes materials for children, adolescents, and adults. For more information, contact Tamar Krevsky, project assistant, at (206) 368-4836; fax, (206) 368-4816, or write to P.O. Box 5371/CL-06, Seattle, WA 98105-0371.

**Tucson Area SAFE KIDS Coalition Drowning Prevention Project.** For more information, contact Randy Ogden, project director, at (602) 791-4511.

*Drowning Publications*

**"Accidental Toddler Drowning in 5-Gallon Buckets."** Jumbelic, M.I. and Chambliss, M.; *Journal of the American Medical Association*; Vol. 263, No.14; April 11, 1990; pp. 1952-1953.

**"Childhood Drowning and Near-Drowning in the United States."** Winetmute, G.J.; *American Journal of Diseases in Children*; Vol. 144; June 1990; pp. 662-669.

*Firearms and Violence Programs*

**Program Against Violent Events (PAVE).** Developed as a peer role model intervention for gun violence, this program trains EMSC personnel to be violence prevention educators. For more information, contact Katherine Christoffel, MD, MPH, or Karen Sheehan at (312) 880-3830.

**Step to Prevent Firearm Injury (STOP).** The Center to Prevent Handgun Violence developed this educational program to assist pediatricians and other health care providers in providing gun safety counseling. This program is being expanded to include the emergency room setting. For more information, contact Angel Pride, health education coordinator, at (202) 289-5777, or write the Center at 1225 Eye Street, NW, Suite 1100, Washington DC.

20005.

***Firearms and Violence Publications***

**"Firearms and Youth Suicide."** Boyd. J.H. and Miscicki, E.K.; *American Journal of Public Health*; Vol. 76, No. 10; Ocotver 1986; pp. 1240-1242.

**"Firearms in the Home and Child Safety."** Patterson, P. and Smith L.R; *American Journal of Diseases in Children*; Vol. 141, No.2; February 1987; pp. 221-223.

***Preventing Violence in Contra Costa County: A Countywide Action Plan and A Framework for Action.*** 1994. Contra Costa County Health Services Department Prevention Program, 75 Santa Barbara Rd., Pleasant Hill, CA 94523; (510) 646-6511.

**"The Impact of Violence on Children: What Can Done to Counter the Trend?"** Christoffel, K.K.; Keynote speech at the Second Annual Healthy Children Coordinators' Conference; June 17, 1993. Copies are available from the National Association of Children's Hospitals and Related Institutions, 401 Wythe Street, Alexandria, VA 22314; (703) 684-1355, fax, (703) 684-1589.

***Biblio Alert! Focus on Firearms.*** Published by the Children's Safety Network, this bibliography list firearm audiovisual materials, books, reports, research articles, and resource catalogs. Available through the National Maternal and Child Health Clearinghouse at, (703) 821-8955, Ext. 254; fax, (703) 821-2098.

***Firearm Facts: Information on Gun Violence and Its Prevention.*** This fact sheet is published by the Children's Safety Network Copies are available from the National Material and Child Health Clearinghouse at, (703) 821-8955, Ext. 254; fax, (703) 821-2098.

**"Firearm Violence in America: An Annotated Bibliography."** Eastern Association for the Surgery of Trauma, Violence Prevention Task Force; 1994. Copies are available for $5. Mail or fax orders to Tamir Bloom, violence prevention coordinator/trauma, Hospital of the University of Pennsylvania, 3400 Spruce St., Philadelphia, PA 19140; (215) 662-7320; fax, (215) 349-5917.

***What Works in Preventing Rural Violence: Strategies, Risk Factors, and Assessment Tools.*** Amherst H.; Wilder Foundation, St. Paul, MN; 1995, To order, call (800) 274-6024 or fax your request to: (612) 642-2061.

***Combating Violence and Delinquency: The National Juvenile Justice Action Plan Summary.*** Coordinating Council on Juvenile Justice and Delinquency Prevention; March 1996. To order, call (800) 638-8726.

***Matrix of Community-Based Initiatives, Office of Juvenile Justice and Delinquency Prevention.*** September 1995. To order, contact the Juvenile Justice Clearinghouse at, (800) 638-8736.

***Public Recreation in High Risk Environments: Programs That Work.*** National Parks and Recreation Association; 1996. To order, contact the Juvenile Justice Clearinghouse at, (800) 638-8736.

***Reducing Youth Gun Violence: An Overview of Programs and Initiatives***. Office of Juvenile Justice and Delinquency Prevention, May 1996. To order, contact the Juvenile Justice Clearinghouse, (800) 638-8736.

***Preventing Crime & Promoting Responsibility: 50 Programs that Help Communities Help Their Youth.*** The President's Prime Prevention Council; September 1995. To order, contact the National Criminal Justice Reference Service at, (800) 851-3420.

***Taking Action to Prevent Adolescent Violence: Educational Resources for Schools and Community Organizations.*** The Children's Safety Network, Adolescent Violence Prevention Resource Center, Education Development Center, Inc.; June 1995. To order, contact the Education Development Center, at, (617) 696-7100.

***Agriculture (Farm) Injury Publications***

***Prevention of Injury in Children of Migrant and Seasonal Farm Laborers: A Resource List***. For more information, contact the Children's Safety Network, Rural Injury Prevention Resource Center, National Farm Medicine Center, 1000 North Oak Avenue, Marshfield, WI 54449, (715) 387-9298 or (800) 662-6900.

***Home Safety Programs***

**Handle with Care: Shaken Baby Syndrome.** This curriculum for the prevention of shaken baby syndrome was developed by the Junior League of Saint Paul, Inc. and Midwest Children's Resource Center at Children's Hospital of Saint Paul. For more information, write to: Children's Hospital of St. Paul, Midwest Children's Resource Center, 345 North Smith Avenue, Saint Paul, MN 55102.

**Don't Shake the Baby.** For more information, contact the Pueblo City-County Health Department, 151 Central Main Street, Pueblo, CO 81003-4927; (800) 858-5222; fax, (614) 836-8359.

**When Your Baby Cries**. Developed by the Oklahoma EMSC project in 1993, this educational video targets the Native American population in reference to shaken baby syndrome. To order, contact the National EMSC Resource Alliance (310) 328-0720. Price $18.

***Home Safety Publications***

**Home Safety Tips: You Can Keep Your Baby Safe.** Developed by the Injury Prevention Subcommittee of the National Healthy Mothers, Healthy Babies Coalition, this identifies injury risk areas in all rooms of the home and gives specific tips for preventing injury. For copies, contact the Children's Safety Network or the National Center for Education in

Maternal and Child Health (703) 524-7802.

**Baby Safety Showers, A Community Partnership Program**. The U.S. Consumer Product Safety Commission has developed a new way to teach new and expectant parents how to reduce the risk of home injuries. The Baby Safety Shower How-to Kit provides detailed instructions on organizing and hosting a baby safety shower. Guests take home the Baby Safety Checklist, which contains twelve safety messages. The checklist and how-to kit can be ordered through the Consumer Product Safety Commission's web site at www.cpsc.gov.

***Sports and Recreational Injuries***

***Playground Publications***

**Handbook for Public Playground Safety.** This handbook presents playground equipment safety information in the form of guidelines. To order, contact the U.S. Consumer Product Safety Commission, Office of Information and Public Affairs, Washington, DC 20207.

**ASTM/CPSC Playground Audit Guide.** This handbook provides and audit outline that follows the playground equipment guidelines found in the Handbook for Public Playground Safety. Provided as a public service by PlayDesigns, P.O. Box 527, New Berlin, PA 17855, (800) 327-7571; fax, (717) 966-3030.

**Playing It Safe: A Second Nationwide Safety Survey of Public Playgrounds**: 1994, Consumer Federation of America, U.S. Public Interest Research Group.

***Sports Publications***

**Epidemiology of Sports Injuries.** Caine and Lindner; 1996; Human Kinetics, P.O. Box 5076 Champaign, IL 61825-5076; (800) 747-4427.

***Equestrian Safety Publications***

**Equestrian Safety Project.** Educational materials and resources are available through the Harborview Injury Prevention and Research Center, 325 Ninth Avenue, ZX-10, Seattle, WA 98104, (206) 521-1520.

***Work Related Injuries***

**Protecting Working Teens.** This public health resource guide includes data sources, agency lists, and publications related to adolescent work injuries. To order, contact the Children's Safety Network at, (617) 969-7100, or visit its web site at www.edc.org.

## National Organizations

**American Automobile Association**
National Headquarters
Traffic Safety Department
1000 AAA Drive
Heathrow, FL 32746
Phone: (407) 444-7000

Fax: (407) 444-7380
Web: www.aaa.com

**American Automobile Association Foundation for Traffic Safety**
1440 New York Avenue, NW
Washington, DC 20005
Phone: (202) 942-2050
Fax: (202) 638-5943
Web: www.aaafts.org

**Brain Injury Association (formerly the National Head Injury Foundation)**
2200 Kernan Hospital
Baltimore, MD 21207
Phone: (410) 448 –2924 or
(800) 221-6443
Fax: (410) 448-3541
Web: www.biausa.org.

**Children's Safety Network**
**National Injury and Violence Prevention Resource Center**
1250 24th Street, NW
Washington, DC 20037
Phone: (202) 466-0540
Fax: (202) 223-4059
Web: www.edc.org

**Children's Safety Network**
**National Injury and Violence Prevention Resource Center**
Education Development Center, Inc.
55 Chapel Street
Newton, MA 02158-1060
Phone: (617) 969-7100, Ext. 2207
Fax: (617) 244-3436
Web: www.edc.org

**Children's Safety Network**
**Economics and Insurance Resource Center**
National Public Services Research Institute
8201 Corporate Drive, Suite 220
Landover, MD 20785
Phone: (301) 731-9891
Fax: (301) 731-6649
Web: www.edc.org

**Children's Safety Network**
**Adolescent Violence Prevention Resource Center**
55 Chapel Street
Newton, MA  02158-1060
Phone: (617) 969-7100, 2374
Fax: (617) 244-3436
Web: www.edc.org

**Children's Safety Network**
**Injury Technical Assistance Center**
California Center for Childhood Injury Prevention
Graduate School of Public Heath
Material and Child Health Division
San Diego State University
6505 Alvarado Road, Suite 208
San Diego, CA 92120
Phone: (619) 594-3691
Fax: (619) 594-1995
Web: www.greyware.com/CCCIP/

**Coalition to Stop Gun Violence**
1000 16th Street, NW
Suite 603
Washington, DC 20036
Phone: (202) 530-0340
Fax: (202) 530-0331
Web: www.gunfree.org

**Farm Safety 4 Just Kids.**
Marilyn Adams, President
110 S. Chestnut Avenue
P.O. Box 458
Earlham, IA 50072
Phone: (515) 758-2827
Fax: (515) 758-2517
Web: www.fs4jk.org

**Health Resources and Services Administration**
5600 Fishers Lane, Room 1405
Rockville, MD  20857
Phone: (301) 443-2216
Fax: (301) 1246
Web: www.hrsa.dhhs.gov

**Juvenile Justice Clearinghouse**
P.O. Box 6000
Rockville, MD 20850
Phone: (800) 638-8736
Fax: (301) 519-5212
Web: www.nejrs.org

**National Center for Injury Prevention and Control**
**Centers for Disease Control**
4770 Buford Highway, K02
Atlanta, GA 30341
Phone: (770) 488-4696
Fax: (770) 448-8295
Web: www.ncipc.gov

**National Children's Center for Rural & Agricultural Health & Safety**
National Farm Medicine Center
Marshfield Clinic
1000 North Oak Avenue
Marshfield, WI 54449-5790
Phone: (715) 399-4999 or (888) 924-7233
Fax: (715) 389-4996
Web: www.marshmed.org/nfmc

**National Clearinghouse for Alcohol and Drug Abuse Information**
P.O. Box 2345
Rockville, MD 20847-2345
Phone: (800) 729-6686
Fax: (301) 251-5212
Web: www.health.org

**National Clearinghouse on Child Abuse and Neglect Information**
P.O. Box 1182
Washington, DC 20012-1182
Phone: (703) 385-7565 or
(800) 394-3366
Fax: (703) 385-3206
Web: www.calib.com/nccanch

**National Committee to Prevent Child Abuse**
220 South Michigan Avenue
17th Floor
Chicago, IL 60604-4357
Phone: (312) 663-3520 or
(800) 835-2671

Fax: (312) 939-8962
Web: www.childabuse.org

**National Council on Child Abuse and Family Violence**
1155 Connecticut Avenue, NW
Suite 400
Washington, DC 20036
Phone: (202) 429-6695
Fax: 408-655-3930
E-mail: nccafv@aol.com

**National Crime Prevention Council**
1700 K Street, NW
2nd Floor
Washington, DC 20006
Phone: (202) 466-6272
Fax: (202) 296-1356
Web: www.ncpc.org

**National Evaluation Data and Technical Assistance Center (NEDTAC)**
10530 Rosehaven Street, Suite 400
Fairfax, VA 22030
Phone: (703) 385-3200 or
(800) 7-NEDTAC
Fax: (703) 395-3206
Web: www.calib.com/nedtac

**National Highway Traffic Safety Administration.**
400 Seventh Street, SW
Washington, DC 20059
Phone: (202) 366-5440 or
Fax: (202) 366-7721
Web: www.nhtsa.dot.gov

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