

KIDS COUNT Indicator Brief

Reducing the Child Death Rate

The Annie E. Casey Foundation

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Reducing the Child Death Rate

During the 20th century, breakthroughs in medicine and sanitation sharply reduced child mortality. By the century's end, infection was no longer the most serious threat to children's well-being. In 2002, accidental injury was the leading cause of death among children ages one to 14. Nearly a third of child deaths from accidental injury were caused by motor vehicle accidents and nearly a third were the combined result of drowning and choking. Congenital abnormalities are the second most common cause of death among children ages one to four. For children ages five to 14, cancer is the second most common cause of death. The third most common causes of death are homicide (ages one to four), congenital abnormalities (ages five to nine) and suicide (ages 10 to 14).

Between 1980 and 2003, death rates for children decreased dramatically. For children ages one to four, the rate was reduced from 64 to 31 per 100,000 children. Children between the ages of five and 14 also dropped, from 31 to 17 per thousand (Child Trends Data Bank, 2005).

Not all segments of the population have benefited equally, however. To a large extent, the racial and ethnic disparities in child mortality that prevailed early in the last century have persisted. As of 2003, for example, the mortality rate for black children was more than one and a half times that of both white and Hispanic children (Child Trends Data Bank, 2003). Research has not uncovered all the reasons for these disparities, but they appear to have more to do with the economic and structural conditions of whole communities than with susceptibilities or behaviors of particular individuals (FIFCFS, 1998; Scheidt, 1995).

This *KIDS COUNT Indicator Brief* considers strategies to address both the larger socioeconomic forces and some of the specific hazards that threaten the well-being of children ages 1 to 14:

- **Focus Intensively on Motor Vehicle Safety**
- **Target Other Leading Safety Hazards**
- **Address Adult Behaviors that Endanger Children**
- **Support Parents and Families in their Caretaking Roles**
- **Protect Children's Health and Safety by Strengthening Communities**

1. Focus Intensively on Motor Vehicle Safety

Motor vehicle injury is the leading cause of accident-related child mortality. In the United States during 2003, 1,591 children ages 14 and younger died in motor vehicle crashes, and approximately 220,000 were injured. (NHTSA, 2004a). More than half of the children under age 14 who died in motor vehicle crashes in 2003 were unrestrained (NHTSA, 2004). Riding without appropriate restraints (seat belts or properly installed child safety seats) is the greatest risk factor for death and injury among child occupants of motor vehicles.

- **Foster the use of seat belts and safety seats.** The American Academy of Pediatrics recommends that all children who are passengers in motor vehicles should use the restraint device offering maximum protection for their size and age. The AAP publishes lists of recommended car safety seats (AAP, 2005). No matter which restraint device is used, children should ride in the back seat. All 50 states have child occupant protection laws; however, these laws vary widely in their age requirements, exemptions, enforcement procedures, and penalties. Only 17 states plus the District of Columbia currently have safety belt laws that provide for primary enforcement (National Safety Council, 2001). Safety studies have shown that in states where officers may stop and ticket drivers for seat-belt violations, there are lower fatality and injury rates (National Highway Traffic Safety Administration, 1999).
- **Encourage the proper use of child safety seats.** Today, although 96 percent of parents place their children in car seats and safety belts, studies continually show that 4 out of 5 parents unintentionally secure the devices incorrectly, putting their children at risk of being injured or killed in a crash (NTSB). Most public health departments can provide instructions on the proper use of child car seats. In addition, many provide car seats to economically disadvantaged parents free of charge, have a loaner program, or make them available for purchase on a sliding-fee scale (National Center for Injury Prevention and Control, 1999). In February 2000, the Centers for Disease Control and Prevention recommended that states also require the use of belt-positioning booster seats in conjunction with vehicle lap/shoulder belts for small children who have outgrown their car seats.
- **Promote the use of bicycle helmets.** If all bicycle riders wore safety helmets, 500 bicycle-related deaths would be prevented every year (National Safety Council, 2001; Bicycle Helmet Safety Institute, 1999). Helmets significantly decrease the risk of head injuries (Rivara,

1997), but helmet use across the nation varies. It is estimated that no more than 25 percent of young riders wear bicycle helmets on a regular basis, and that the figure for inner city and rural kids is 10 per cent or less. It is thought that, overall, no more than 25 percent of cyclists in the U.S. use helmets all or most of the time (Bicycle Helmet Safety Institute; Rodgers, 1995). Fewer than 20 states have a statewide helmet use law. These laws vary by age affected, penalty and type of enforcement (NSKC, 1996).

- **Address the dangers of motorized vehicles for children.** Public health experts have recently pointed to a new public health problem: motorized vehicles for children. Many kinds of motorized two- and four-wheeled vehicles are now available to children at younger and younger ages. Policymakers have been slow to mandate age limits, safety measures (such as helmets) or to require training or licenses for such vehicles (Pomerantz et al, 2005).

2. Target Other Leading Safety Hazards

Safety experts believe that as many as 90 percent of unintentional injuries could be prevented (National Safe Kids Campaign. 1998).

- **Increase water safety.** In 2001, 859 children ages 0 to 14 years died from drowning (CDC 2003). While drowning rates have slowly declined (Branche 1999), it remains the second leading cause of unintentional injury-related death among children under age 15 and the leading cause among children between the ages of one and five (CDC 2003; NCIPC, 1998). Childhood drownings and near-drownings can happen in a matter of seconds, and typically occur when a child is left unattended or during a brief lapse in supervision (NSKC, 1999). The American Academy of Pediatrics therefore recommends that whenever infants and toddlers are in or around water, a supervising adult should be within an arm's length providing "touch supervision." The AAP further advises that children are not generally developmentally ready for formal swimming lessons until age 4, and some with motor or cognitive disabilities may not be ready until a later age. In any case, swimming lessons do not provide "drown proofing" for children at any age (AAP, 2003).

States and communities can make swimming safer by passing laws requiring fencing around residential pools and by ensuring that pools accessible to the public have lifeguards with current CPR certification (AAP 2003). Older children are more likely to drown in open water sites, such as lakes, rivers and oceans. In these locations, lifeguards, personal flotation devices (such as life preservers) and water safety instruction offer the best protection. Boating

safety is also important. It has been estimated that 85 percent of boating-related drownings could have been prevented if the victim had been wearing a life preserver (NCJPC, 1998). Many states do not yet have boating safety laws requiring children to wear personal flotation devices at all times when on boats or near open bodies of water.

- **Prevent deaths from fires, burns and smoke inhalation.** Child deaths from fire and flame injury have declined in recent years due to a combination of factors, including the increased use of smoke alarms in homes and new smoke-alarm laws, public education campaigns, and the availability of consumer products such as child-proof lighters and flame-retardant sleepwear.

When home fires do occur, however, children (especially young children) continue to be at the highest risk of death and injury (NSKC, 1998). In 2001, 493 children ages 14 and under lost their lives in residential fires. More than half of those children were age 4 and under. Children in homes without smoke detectors/alarms are more likely to suffer fire-related injuries or death. Children ages 5 and under, who represent 9 percent of the population but more than 17 percent of all fire-related deaths in the home, are more than twice as likely to die in a fire as the rest of the population. In addition, African American children, children from low-income families and those who live in rural areas are at greater risk for fire-related death (NSKC). Fireworks-related injuries also endanger children. Nearly half of all persons injured from fireworks or sparklers are children under the age of 15 (Greene & Race, 2004). Fireworks can also cause life-threatening residential fires.

The chances of dying in a residential fire are cut in half when a smoke alarm is present. As of 1995, the great majority of homes in the United States had at least one smoke alarm, but in almost three-quarters the smoke detector(s) did not work, usually due to rundown batteries (National Center for Injury Prevention and Control, 1998). Currently, seven states have no comprehensive smoke alarm laws, and many more have limited laws covering specific categories of housing such as new buildings or multi-occupancy dwellings. Carbon monoxide alarms—a different kind of alarm—are important, because carbon monoxide results in more fatal unintentional poisonings in the U.S. than any other agent (NCIPC, 2005).

- **Prevent deaths caused by airway obstructions.** In 2001, 864 children ages 14 and under died from unintentional airway obstruction injuries. A full 87 percent of those deaths were in children age four and under (NSKC, 2004). That same year, 695 children ages 14 and under

died from unintentional suffocation, strangulation and entrapment. Families and child care providers need more information about how to prevent suffocation, choking, and strangulation.

- **Prevent deaths from firearms.** Children between the ages of 10 and 14 have the highest rate of death from accidental firearm injuries. While this rate declined substantially from 1987 to 2000, the rate of firearm death of children under age 15 is significantly higher in the U.S. than in other industrialized nations (CDC, 1999). About one-third of states have passed laws that hold gun owners criminally liable if children use their loaded weapons to harm themselves or others; such laws have been shown to reduce child mortality (Cummings et. al., 1997). State safe-storage laws and safety devices (childproof gunlocks and load indicators) have been shown to significantly reduce unintentional firearm deaths. A national gun policy survey found that 88 percent of Americans support laws requiring all new handguns be childproofed (NSKC, 1998). While these laws have indeed helped to reduce firearm-related child deaths, in about 13 percent of the homes with children and firearms (roughly 2.6 million children), the manner in which the firearms makes them accessible to children. Moreover, in less than half of these homes are firearms kept locked and separate from ammunition (RAND, 2001)

3. Focus on Adult Behaviors that Endanger Children

- **Expand mental health services for families, including alcohol and drug treatment programs.** Direct approaches to improving children's health and safety are not always sufficient. For example, in the eighties most parents complied with laws in all 50 states mandating child restraints in cars, but the number of car accident fatalities for child passengers under age five actually increased. Researchers point to the fact that children are spending more time in cars (Lewit and Baker, 1995). But it is also true that more than two-thirds of fatally injured children were riding with drivers who had been drinking (Shults, 2004). Such calamities can only be prevented with more effective alcohol prevention and treatment programs for adults.
- **Strengthen efforts to prevent child abuse and neglect.** Data on confirmed cases in 2002 show that 1,400 children died from maltreatment. (DHHS, 2004). The actual number may be higher. Interpreting trends in child abuse deaths remains difficult because of reporting gaps and different state methodologies for investigating and substantiating causes of death. One

study has suggested that each year, about 85 percent of deaths from child abuse or neglect are misclassified as accidental (Lewit and Baker, 1995). Successful preventive interventions include parenting education, especially for teen parents; respite care for families at-risk; support groups and networking for teen mothers; better detection and intervention training for social workers and health care providers; and more effective long-term tracking of patterns of abuse within families.

4. Ensure That Children Have Safe Places to Learn and Play When They are Away from Home

Ensuring that people have safe public spaces in which to gather is essential to expanding or reinforcing social networks in communities. It is also a key strategy for safeguarding children.

- **Improve playground availability and safety.** Playgrounds and recreation areas can help keep children off the streets and away from traffic. But these areas are not always the safe havens that parents hope for. In 2002, a national survey of playground safety found that hard surfaces, equipment that is too high, openings that can entrap children, and swings that are too close together pose serious threats at a majority of public playgrounds. Some 200,000 children ages 14 and younger require hospital emergency room treatment each year because of playground accidents—most often falls. Forty-five percent are severe—fractures, internal injuries, concussions, dislocations, and amputations. While all children who use playgrounds are at risk for injury, girls sustain injuries slightly more often than boys (Tinsworth, 2001). Safe equipment and construction are crucial, but so is close supervision (Fise, Morrison & Weintraub, 2000).
- **Take steps to guarantee health and safety in child care settings.** Many parents worry about their children's safety in early care and education settings. In too many cases, their concerns are warranted. In 1999, about 31,000 children under the age of five were treated in U.S. hospital emergency rooms for injuries in early care and education settings (U.S. Consumer Product Safety Commission, 1997). While injured children represent only a small percentage of those in non-parental care, the number is much too high considering that most of these injuries are preventable. Parents can play a role in monitoring safety, but policymakers also have a role to play. The CPSC reviewed state licensing requirements for child care and found that most of the hazards addressed in the study were not covered. For

example, many states did not require day care centers to use cribs that meet federal regulations or voluntary safety standards.

- **Take steps to promote health and safety in schools.** Two out of three deaths among school-aged children and adolescents result from injury-related causes. Schools have a responsibility to prevent injuries on school grounds and school-sponsored events, but they can also promote health and safety in other ways. Researchers have found that students who like their school and feel connected to it are less likely to experience emotional upset and suicidal thoughts, are less likely to drink alcohol, carry weapons, or engage in other delinquent behaviors, and are more likely to wear seat belts and bicycle helmets. In an era when schools are under pressure to focus on academic achievement and test performance, it is important to give full weight to programs and policies that engage students, ensure that they are well known to the adults in the school community, and prevent and address bullying (Acosta et al., 2001).
- **Expand parents' access to the tools and information needed to monitor child care safety.** A study by the U.S. Consumer Product Safety Commission (CPSC) looked at 220 licensed child care settings across the nation, including both child care centers and family child care homes, and found that two-thirds of them had at least one safety hazard (unsafe cribs or bedding, unsafe playground surfaces, windows without child safety gates, window blind cords, drawstrings in children's clothing, or recalled children's products). And these were *licensed* programs. Parents can help protect their children by asking providers to resolve any and all safety problems, using checklists available from many resource and referral (R&R) agencies, or from the U.S. Consumer Product Safety Commission. Parents have an even more important role to play in monitoring safety in unregulated child care settings.
- **Encourage home-based providers to seek licensing, and create support systems for "informal" providers.** Many parents assume that all child care providers have to meet some kind of health or safety standards, but in fact, millions of children are cared for by providers who are exempt from all regulation. Providers are more likely to seek licensing, or to stay in business despite regulation, if they feel that they benefit from their new status. One solution is to create networks that help family child care providers meet regulatory standards, and provide other advantages. Some networks are sponsored by states or cities, but businesses can also create child care networks linking their employees' child care providers. Employers who want to create such a network can now turn to organizations (for-profit or not-for-profit)

specializing in this area. Community-based child care resource and referral services are natural centers for family child care providers. In addition to matching families with providers in their communities, R&Rs provide a wide range of support services both to families and providers. They frequently offer training to child care providers.

- **Link child care providers with medical homes.** Providers need to have a medical contact for every child in their care. Many health experts believe that the providers themselves need to have an ongoing relationship with a pediatrician or clinic that can become a “medical home” for the program. The American Academy of Pediatrics and the National Association of Pediatric Nurse Associates and Practitioners have urged their members to “adopt” an early care and education program.

5. Support Parents and Families in their Caretaking Roles

In recent decades, accidental injury has become the greatest danger to children, causing more than half of all childhood mortality (Population Reference Bureau, 2001; National Library of Medicine, 2001). States and communities can take many steps to strengthen consumer protection and create safer public spaces. Better products and stronger legislation can help to protect children, but they do not take the place of informed, responsible adults who are able to look after children’s health and safety. In recent decades, national and local regulations requiring better safety labeling, child safety seats in automobiles, residential smoke detectors, and window guards markedly lowered the child mortality rate. But because some parents have more access to this information than others, the safety gap between children of more and less educated parents has actually widened (Francis, 2001).

- **Expand family support and parent education initiatives, and increase attention to safety within those programs.** Expanding family support, home visitation, and parent education initiatives can strengthen parents’ ability to safeguard their children and to act as effective advocates or “brokers” for their children’s receipt of community services. Programs aimed at helping parents look after their children’s health and safety need to extend beyond the first year of life, recognizing youngsters’ vulnerability throughout childhood.
- **Involve parents and other community members in planning health services.** Researchers say that difficulties in immunizing young children and identifying those with special needs stem in part to a lack of parental involvement in the design and implementation of health services (Brooks-Gunn, 1996). This is especially true in low-income neighborhoods.

Programs that aim to identify young children at risk for illness or injury and refer them for appropriate services are effective only when they engage parents.

- **Create accessible health-and-safety-related materials in a variety of media, and to distribute them in places where families are likely to be receptive to them.** Today, more safety information is available to parents than ever before, thanks to mandatory safety labeling, safety-oriented websites, public service announcements, and more coverage of safety in parenting manuals. For example, the amount of safety information in Dr. Benjamin Spock's popular manual of baby and child care has more than quadrupled since 1957 (National Bureau of Economic Research, 1999). But isolated families, immigrant parents, or those with low literacy levels may not benefit fully from these materials. Closing the safety gap will require intensive efforts to give all families access to the information and support they need, in a variety of media and languages. Examples of effective strategies include well targeted public service announcements on television and radio; wide distribution of informative videos to new parents in childbirth classes, clinics, and hospitals; and distribution of safety and health information in frequently visited stores or fast food restaurants.

6. Protect Children's Health and Safety by Strengthening Communities

A convergence of research from several fields, notably social epidemiology, lends support to the notion that children do better when their families thrive, and families do better in communities that offer economic opportunity, strong social networks, and responsive human services.

- **Build on promising research to expand knowledge of the linkages between community conditions and children's health outcomes.** A growing body of scientific evidence is confirming what many Americans have always suspected: healthy communities are associated with healthy outcomes for children, while communities that are disorganized and have few resources tend to produce poor outcomes (Kubisch, 1996). In recent years, the National Institutes of Health undertook an ambitious effort to understand the pathways that lead from adverse conditions to poor health (Singer and Ryff, 2001).

Recent research has focused on racial and ethnic disparities in early childhood health and health care. It showed that Hispanic and African American children are significantly less likely than whites to be in excellent or very good health care (72, 79, and 90 percent respectively) and are more likely to be uninsured (31, 18, and 9 percent respectively).

Providers refer Hispanic and African American children to specialists (11 and 17 percent

respectively) significantly less often than white children (22 percent). Minority parents are less likely to be satisfied with their providers or phone doctors' offices with concerns or questions. One indication of a possible obstacle to care was the finding that minority parents are more often asked about violence, smoking, drinking and drug use during pediatric visits (Flores, F., Olson, L. & Tomany-Korman, S.C., 2005).

One promising approach, made possible by new Geographic Information Systems (GIS) technology, involves mapping environmental "hot spots" for disease and mortality. Data on health outcomes can now be linked to local-level and even address-level factors, such as unemployment statistics, building code violations, the number of liquor stores in the area, etc. With these new research tools, researchers will be better able to identify factors that undermine or promote children's health and safety.

Another approach to learning more about how community conditions affect health outcomes is to conduct social experiments. An example is the Moving to Opportunity program implemented in five cities by HUD. This program distributed housing vouchers to randomly selected residents of housing projects, allowing them to move to neighborhoods with greater resources. The idea is to study the effects of dispersing concentrated poverty. Early results from the Boston Moving to Opportunity project showed that children who were taken out of very distressed neighborhoods had a significantly lower prevalence of injuries and asthma attacks and scored higher on several indices of personal well being (Singer and Ryff, 2001).

- **Incorporate new understandings of these linkages into community-building efforts.** Research shows that children and families living in tough neighborhoods fare better when strong institutions (such as employers, faith institutions, block associations, or active schools) create places for people to gather and help to strengthen the community's social fabric (Ellen & Turner, 1997). It seems that strong social networks can literally save lives. For example, in neighborhoods where adults share a vision of community life, are willing to engage with others, and have a sense of ownership of public space, rates of violent crime are low (Earles & Visher, 1997; Sampson, Raudenbush & Earles, 1997; Travis, 1997). As researchers shed additional light on the linkages between community conditions and child well-being, existing programs to support families and strengthen communities can be reconsidered and improved.
- **Design strategies for safeguarding children that reflect local realities and cultural diversity.** Injury prevention is not a one-size-fits-all project. Some groups have made

headway on longstanding safety issues by consulting with community-based organizations and conducting focus groups among residents. An example is the challenge of increasing car seat use by Hispanic families. Researchers report a significantly higher death rate from motor vehicle crashes for Hispanic than for non-Hispanic children (US. Department of Transportation, 2001). Focus group research has shown that Hispanic parents feel safer and more nurturing when they hold young children in their laps rather than relying on car seats to protect them. Collaborative public information efforts by government agencies, Hispanic advocacy groups, and private insurers have resulted in bilingual public information campaigns about the importance of seatbelts for children that have begun to make a difference. Cultural as well as linguistic barriers need to be addressed. A creative solution that sprang from community brainstorming was asking priests to bless car seats--an “intervention” that is helping to promote passenger safety (National Latino Child Institute, 2001).

While it is important to target specific accidents and illnesses, many children today are threatened less by particular diseases or safety hazards than by economic and social forces that affect the communities in which they live. In the long run efforts to reduce the child mortality rate will have to both focus on accident prevention and take into account the larger forces, including poverty, racial discrimination, and segregation, that threaten children’s well-being and make some groups of youngsters more vulnerable than others to illness or injury.

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