

PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Child Fatality Review

Cindy W. Christian, Robert D. Sege, The Committee on Child Abuse and Neglect,
The Committee on Injury, Violence, and Poison Prevention and The Council on
Community Pediatrics

Pediatrics 2010;126;592-596; originally published online Aug 30, 2010;
DOI: 10.1542/peds.2010-2006

The online version of this article, along with updated information and services, is
located on the World Wide Web at:

<http://www.pediatrics.org/cgi/content/full/126/3/592>

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2010 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™





Policy Statement—Child Fatality Review

abstract

FREE

Injury remains the leading cause of pediatric mortality and requires public health approaches to reduce preventable deaths. Child fatality review teams, first established to review suspicious child deaths involving abuse or neglect, have expanded toward a public health model of prevention of child fatality through systematic review of child deaths from birth through adolescence. Approximately half of all states report reviewing child deaths from all causes, and the process of fatality review has identified effective local and state prevention strategies for reducing child deaths. This expanded approach can be a powerful tool in understanding the epidemiology and preventability of child death locally, regionally, and nationally; improving accuracy of vital statistics data; and identifying public health and legislative strategies for reducing preventable child fatalities. The American Academy of Pediatrics supports the development of federal and state legislation to enhance the child fatality review process and recommends that pediatricians become involved in local and state child death reviews. *Pediatrics* 2010; 126:592–596

INTRODUCTION

The preventable death of a child is an unparalleled tragedy for a family. Similarly, a nation's ability to reduce child mortality rates is a measure of that society's overall well-being, and failure to address preventable causes of child mortality is a national tragedy. Each year in the United States, more than 17 000 infants and children die from injury, which remains the leading cause of child mortality in the United States.¹ Add to this the number of preventable noninjury deaths, including many deaths related to prematurity, and it becomes clear that a majority of American child deaths are preventable. The 1999 American Academy of Pediatrics (AAP) policy statement "Investigation and Review of Unexpected Infant and Child Deaths"² supported analysis of child deaths, standards for adequate investigations for individual deaths, and the importance of child death review. The purpose of this AAP policy statement is to highlight the importance of child fatality review in the public health approach to prevention of child deaths and to advocate for improving this process through attention to better training, data collection, and data dissemination.

Reducing preventable child mortality requires a systematic and integrated evaluation of fatality causes, which begins with accurate vital statistics data. Vital statistics data do not, however, accurately capture all causes of child fatality (eg, deaths attributable to child maltreatment). National and state mortality statistics, which rely on the *International Classification of Diseases* (ICD) coding system to define cause of death on death certificates, underestimate child fatalities attribut-

THE COMMITTEE ON CHILD ABUSE AND NEGLECT, THE COMMITTEE ON INJURY, VIOLENCE, AND POISON PREVENTION, and THE COUNCIL ON COMMUNITY PEDIATRICS

KEY WORDS

child fatality review teams, child deaths

ABBREVIATIONS

AAP—American Academy of Pediatrics

CFRT—child fatality review team

This document is copyrighted and is property of the American Academy of Pediatrics and its Board of Directors. All authors have filed conflict of interest statements with the American Academy of Pediatrics. Any conflicts have been resolved through a process approved by the Board of Directors. The American Academy of Pediatrics has neither solicited nor accepted any commercial involvement in the development of the content of this publication.

www.pediatrics.org/cgi/doi/10.1542/peds.2010-2006

doi:10.1542/peds.2010-2006

All policy statements from the American Academy of Pediatrics automatically expire 5 years after publication unless reaffirmed, revised, or retired at or before that time.

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2010 by the American Academy of Pediatrics

able to homicide and unintentional death. Detailed review of child deaths in Missouri, North Carolina, Colorado, and, more recently, Michigan, California, and Rhode Island has revealed that approximately half of child abuse fatalities are unrecognized in vital statistics data.⁵⁻⁶ The incidence of sudden infant death syndrome (SIDS) has decreased significantly since the 1992 AAP recommendations for safe sleeping positions for infants.^{7,8} Evaluation of more recent declines in SIDS rates in the United States suggest that, despite the significant decreases in SIDS deaths over the past 15 years, more recent declines might be attributable to an increase in diagnostic coding of asphyxia, suffocation, and other causes of sudden, unexpected infant death. These discoveries have resulted from coordinated, multidisciplinary investigations of child deaths at local and state levels through a child fatality review process. Ultimately, the purpose of child fatality review is to identify effective prevention and intervention processes to decrease preventable child deaths through systematic evaluation of individual child deaths and the personal, familial, and community conditions, policies, and behaviors that contribute to preventable deaths.

CHILD FATALITY REVIEW TEAMS

Child fatality review teams (CFRTs), multidisciplinary committees comprising representatives from law enforcement, child protective services, the office of the coroner/medical examiner, prosecuting attorney's office, the medical community, and/or public health and other community stakeholders, were first established to review suspicious child deaths involving possible abuse or neglect.⁹ Although originally developed to improve identification and prosecution of fatal abuse,¹⁰ the role of CFRTs has expanded toward a public health model

of prevention of child fatality through systematic review of child deaths from birth through adolescence.¹¹ In addition to reviewing child fatalities related to maltreatment, many CFRTs now review all child fatalities in the jurisdiction covered by the team.¹² Approximately half of all states report reviewing child deaths from all causes.¹¹ This expanded approach can be a powerful tool in understanding the epidemiology and preventability of child death locally, regionally, and nationally; improving accuracy of vital statistics data; and identifying public health and legislative strategies to reduce preventable child fatalities. In addition, CFRTs remain an effective surveillance tool for identifying victims of fatal maltreatment.⁶

Another challenge in reducing preventable child deaths is to find ways to implement prevention strategies that have been determined to be effective. In general, identifying public health problems and increasing public and professional awareness of them is more easily accomplished than planning and implementing reasonable and well-tested solutions.¹³ CFRTs can serve to highlight local, state, or national contributors to preventable child deaths and serve to catalyze action to prevent these deaths and provide a means of monitoring the effectiveness of these changes. These functions of scientific data collection in evidence-based decision-making form a cornerstone of evidence-based public health¹⁴ and provide the type of data described in a recent Institute of Medicine report on evidence-based decision-making.¹⁵

In the few years since their establishment, child fatality review processes have been used to inform local and state prevention strategies to reduce child deaths. For example, Rimsza et al¹⁶ published the experience of a statewide review process that exam-

ined 95% of child deaths in Arizona over a 5-year period. Evaluation of local CFRT data revealed that 29% of the 4806 child deaths were preventable and that preventability increased with age. Leading causes of preventable deaths included motor vehicle crashes, medical illness, and drowning. The ability to accurately assess local and regional causes of death enabled the Arizona chapter of the AAP, in partnership with other advocates, to work with state legislators to establish a graduated driver's license program for teenagers.

In Massachusetts, the state CFRT found that a large proportion of sudden, unexpected infant deaths occurred while bed-sharing with adults. As a result, the state launched a publicity campaign to highlight this danger and included letters to all 3500 child health care providers in the state.¹⁷ Georgia enacted improved child restraint laws as a result of a statewide child fatality review process that identified large numbers of child fatalities that were related to the inappropriate use of child restraints in motor vehicles.¹⁸ The state of Nevada, after focused child fatality reviews in Las Vegas, Reno, and rural Nevada, instituted widespread changes to its child welfare system, including additional funding, training, policy improvements, interagency protocols, new laws, and improvements to the medical examiner/coroner, child protective services, and health systems throughout the state.

These examples illustrate the promise of using local data to prompt public policy discussion and action. In fact, the determination of many of the leading causes of preventable deaths have resulted in implementation of prevention procedures (eg, child safety restraints and pool fencing), and child fatality data have been used to emphasize the need for enforcing existing

laws and improving public education related to existing strategies.^{15,19}

In addition to improved surveillance of child mortality data, the child fatality review process can improve inter-agency collaboration and coordination of public health and law enforcement efforts, improve accuracy of death-certificate data, decrease misclassification of deaths, uncover missed child homicides, and foster the development and implementation of interventions to prevent mortality and morbidity attributable to injury.^{5,6,20–22}

Fatality review can also identify failures or oversights in medical care; gaps in community services, including emergency medical services for children; improve allocation of limited resources; improve policy and procedures at local and state agencies; and identify legislative initiatives to improve child health.^{23,24} Both the AAP and American Bar Association have endorsed child death reviews.^{2,25}

ESTABLISHMENT OF CFRTs

In the past, a variety of mechanisms were used to establish CFRTs, including state legislation that enabled or mandated child death reviews, executive orders established by governors, or community establishment of teams that were not legislated or mandated. This variability—from legislative mandate to grass roots community efforts—engendered great differences in program organization and process. Most states have CFRTs that are established by statute, and approximately three-quarters of state laws include mandatory review; the remainder of them provide for discretionary formation of teams. CFRTs exist at both the state and local levels but vary by state in the membership of teams, the relationship of the state and local teams, the criteria for case review, the timing of the reviews, the data collected, and team policies and

procedures.¹¹ Within the past few years, however, there has been a national effort to develop standards for child death review, and many states are working to implement these standards.^{26,27} In addition, the Maternal and Child Health Bureau funded a National Center for Child Death Review in 2001, and the Health Resources and Services Administration has provided funds for the development of an Internet-based case-reporting system, which is now in use by slightly more than half of the states in the United States.

Despite these recent efforts, no federal funds have been directly appropriated for state or local child death review, and not all states have attained the level of funding or leadership commitment necessary to meet national standards.

In contrast to the local variations in definitions and procedures inherent in the current child fatality review system, the long-established transportation-related Fatality Analysis Review System and the newer National Violent Death Reporting System (NVDRS) both illustrate the power of developing and implementing national standards for data collection in addressing preventable deaths. The NVDRS, which is currently active in approximately one-third of the states, collects data on fatalities associated with child maltreatment and has potential synergy with CFRTs.²⁸

CFRTs support the public health approach of using data collection or surveillance to define the issues; identify risk factors, protective factors, and barriers within individual families and the greater community; develop interventions that are based on analysis; implement interventions at the community level; and use evaluation results to modify and improve the initial interventions.¹⁶

SUMMARY

A national network of CFRTs offers the potential to harness public health models to reduce the large number of preventable child deaths in the United States. National leadership and support are critical for expanding child death review and preventing unnecessary childhood deaths. Measures that require a uniform national approach that could improve the child fatality review process include:

1. standardizing the process of child death review;
2. providing standardized definitions for fatality coding and structure for standard data collection;
3. providing training, technical assistance, and support for CFRTs that review deaths and for public health officials in collecting, accessing, and using these data;
4. establishing criteria for quality improvement in CFRT data collection, evaluation, and dissemination;
5. providing mechanisms to enable interstate and cross-jurisdictional data-sharing;
6. establishing standardized confidentiality protocols and legal protections for team members; and
7. publishing online annual reports of CFRT data to compare program effectiveness across states and to provide robust data regarding national child fatality causes.

THE PEDIATRICIAN'S ROLE

The pediatrician can influence the child fatality review process for individual patients and, more broadly, for their communities and states. The following recommendations are based on the epidemiologic evidence discussed above and the expert opinions of the authors and the AAP committees involved in preparing this statement. The AAP recommends the following.

1. Pediatricians should advocate for proper death certification for children. Recognize that such certification is only possible for sudden, unexpected deaths after comprehensive death investigation that involves an immediate evaluation at the scene of the death and includes an autopsy.
2. Pediatricians should work with their state AAP chapters to advocate for and support state legislation that requires autopsies in deaths of children younger than 6 years that result from trauma; that are unexpected, including sudden, unexplained infant death; and that are suspicious, obscure, or otherwise unexplained. These same guidelines for unexplained deaths should apply to all children, including those with chronic diseases.
3. Pediatricians should work with their state AAP chapters to advocate for and support state legislation and other public policies that establish comprehensive and fully funded child death investigation and review systems at the local and state levels and that the data from child death investigations be aggregated, analyzed, and disseminated nationally.
4. Child fatality review committees at both the state and local levels should include pediatricians who serve as expert members in reviewing case files of the medical examiner or other agency investigating the deaths of children who were patients. Pediatricians should also serve as consultants to the child fatality teams on medical issues that need clarification as well as on social issues and community resources that might contribute to the prevention or causation of preventable child deaths. Physicians should receive payment commensurate with the time and value of their services on such teams. Primary care physicians, emergency medicine physicians, and child abuse specialists are ideally suited for participation on such review teams. Other physicians, such as obstetricians, would be valuable partners in reviewing deaths from prematurity.
5. Pediatricians should work collaboratively to ensure that information from child fatality reviews is used to inform local, state, and national policies to reduce preventable child deaths.
6. Public policy initiatives directed at preventing childhood deaths should be supported at the national and chapter levels provided that they are based on information acquired at the local and state levels from adequate death investigations, accurate death certifications, and systematic death reviews. The AAP Division of State Government Affairs offers assistance and guidance to AAP chapters in developing state public policy on CFRTs; for more information, call the division at 800-433-9016, extension 7799, or e-mail stgov@aap.org.

LEAD AUTHORS

Cindy W. Christian, MD
Robert D. Sege, MD, PhD

COMMITTEE ON CHILD ABUSE AND NEGLECT, 2008–2010

Cindy W. Christian, MD, Chairperson
Carole Jenny, MD, MBA, Past Chairperson
James Crawford, MD
Emalee G. Flaherty, MD
Roberta Hibbard, MD
Rich Kaplan, MD
John Stirling Jr, MD

LIAISONS

Harriet MacMillan, MD – *American Academy of Child and Adolescent Psychiatry*
Janet Saul, PhD – *Centers for Disease Control and Prevention*

STAFF

Tammy Piazza Hurley
turley@aap.org

COMMITTEE ON INJURY, VIOLENCE, AND POISON PREVENTION, 2008–2010

H. Garry Gardner, MD, Chairperson
Carl R. Baum, MD
Dennis R. Durbin, MD, MSCE
Beth E. Ebel, MD
Richard Lichenstein, MD
Mary Ann Poquiz Limbos, MD
Joseph O'Neil, MD, MPH
Kyran P. Quinlan, MD, MPH
Seth Scholer, MD
Robert D. Sege, MD, PhD
Michael S. Turner, MD

LIAISONS

Julie Gilchrist, MD – *Centers for Disease Control and Prevention*
Lynne Janecek Haverkos, MD, MPH – *National Institute of Child Health and Human Development*
Jonathan D. Midgett, PhD – *Consumer Product Safety Commission*
Alexander Sandy Sinclair – *National Highway Traffic Safety Administration*
Natalie Yanchar, MD – *Canadian Paediatric Society*

STAFF

Bonnie Kozial

COUNCIL ON COMMUNITY PEDIATRICS, 2008–2010

Deise Granado-Villar, MD, MPH, Chairperson
Suzanne C. Boulter, MD
Jeffrey M. Brown, MD, MPH
Lance Chilton, MD
William H. Cotton, MD
Beverly Gaines, MD
Thresia B. Gambon, MD
Benjamin A. Gitterman, MD
Peter A. Gorski, MD, MPA
Murray L. Katcher, MD, PhD
Colleen A. Kraft, MD
Alice Kuo, MD, PhD, MEd
Ronald V. Marino, DO, MPH
Gonzalo J. Paz-Soldan, MD
Karen B. Sokal-Gutierrez, MD, MPH
Barbara Zind, MD

LIAISONS

Michael Bartholomew, MD – *Indian Health Special Interest Group*
Melissa A. Briggs, MD – *Section on Medical Students, Residents, and Fellowship Trainees*
Frances J. Dunston, MD, MPH – *Commission to End Health Care Disparities*
Charles Robert Feild, MD, MPH – *Prevention and Public Health Special Interest Group*
Robert E. Holmberg, MD, MPH – *Rural Health Special Interest Group*
Steven A. Holve, MD – *Indian Health Special Interest Group*
Ed Ivancic, MD – *Rural Health Special Interest Group*

REFERENCES

- Centers for Disease Control and Prevention. Web-Based Injury Statistics Query and Reporting System (WISQARS). Available at: www.cdc.gov/injury/wisqars/index.html. Accessed October 25, 2009
- American Academy of Pediatrics, Committee on Child Abuse and Neglect and Committee on Community Health Services. Investigation and review of unexpected infant and child deaths. *Pediatrics*. 1999;104(5 pt 1): 1158–1160
- Herman-Giddens ME, Brown G, Verbiest S, et al. Underascertainment of child abuse mortality in the United States. *JAMA*. 1999; 282(5):463–467
- Ewigman B, Kivlahan C, Land G. The Missouri child fatality study: underreporting of maltreatment fatalities among children younger than five years of age, 1983 through 1986. *Pediatrics*. 1993;91(2): 330–337
- Crume TL, DiGuseppi C, Byers T, Sirotnak AP, Garrett CJ. Underascertainment of child maltreatment fatalities by death certificates, 1990–1998. *Pediatrics*. 2002;110(2 pt 1) Available at: www.pediatrics.org/cgi/content/full/110/2/e18
- Schnitzer PG, Covington TM, Wirtz SJ, Verhoek-Oftedahl W, Palusci VJ. Public health surveillance of fatal child maltreatment: analysis of 3 state programs. *Am J Public Health*. 2008; 98(2):296–303
- Malloy MH, MacDorman M. Changes in the classification of sudden unexplained infant deaths: United States, 1992–2001. *Pediatrics*. 2005;115(5):1247–1253
- American Academy of Pediatrics, Task force on Sudden Infant Death Syndrome. The changing concept of sudden infant death syndrome: diagnostic coding shifts, controversies regarding the sleeping environment, and new variables to consider in reducing risk. *Pediatrics*. 2005;116(5): 1245–1255
- Durfee M, Durfee DT, West MP. Child fatality review: an international movement. *Child Abuse Negl*. 2002;26(6–7):619–636
- Durfee MJ, Gellert GA, Tilton-Durfee D. Origins and clinical relevance of child death review teams. *JAMA*. 1992;267(23): 3172–3175
- Webster RA, Schnitzer PG, Jenny C, Ewigman BG, Alario AJ. Child death review: the state of the nation. *Am J Prev Med*. 2003;25(1):58–64
- National Center for Child Death Review. *2007 Survey on the Status of CDR in the United States*. Washington, DC: National Center for Child Death Review; 2008. Available at: www.childdeathreview.org. Accessed October 25, 2009
- Krugman RD. The review of child maltreatment fatalities: snatching victory from the jaws of defeat. *Child Abuse Negl*. 1995;19(7): 843–845
- Brownson RC, Baker EA, Leet TL, Gillespie KN. *Evidence-Based Public Health*. New York, NY: Oxford University Press; 2003
- Institute of Medicine. *Bridging the Gap in Obesity Prevention: A Framework to Inform Decision Making*. Washington, DC: National Academies Press; 2010
- Rimsza ME, Schackner RA, Bowen KA, Marshall W. Can child deaths be prevented? The Arizona Child Fatality Review Program experience. *Pediatrics*. 2002;110(1 pt 1) Available at: www.pediatrics.org/cgi/content/full/110/1/e11
- Moreira NF. Infant deaths spur co-sleeping warning: doctors urged to relay dangers. *Boston Globe*. June 22, 2006 Available at: www.boston.com/news/local/massachusetts/articles/2006/06/22/infant_deaths_spur_co_sleeping_warning. Accessed July 12, 2010
- Luallen JJ, Rochat RW, Smith SM, O'Neil J, Rogers MY, Bolen JC. Child fatality review in Georgia: a young system demonstrates its potential for identifying preventable childhood deaths. *Southern Med J*. 1998;91(5): 414–419
- Parkin PC, Howard AW. Advances in the prevention of children's injuries: an examination of four common outdoor activities. *Curr Opin Pediatr*. 2008;20(6):719–723
- Onwuachi-Saunders C, Forjuoh SN, West P, Brooks C. Child death reviews: a gold mine for injury prevention and control. *Inj Prev*. 1999;5(4):276–279
- Bowen KA, Marshall WN. Child deaths of unknown cause: review of 7 years' experience. *Clin Pediatr (Phila)*. 2004;43(9): 803–808
- Gellert GA, Maxwell RM, Durfee MJ, Wagner GA. Fatalities assessed by the Orange County child death review team, 1989–1991. *Child Abuse Negl*. 1995;19(7):875–883
- Elster NR, Alcalde MG. Currents in contemporary ethics: child fatality review—recommendations for state coordination and cooperation. *J Med Law Ethics*. 2003; 31(2):303–307
- American Academy of Pediatrics, Committee on Child Abuse and Neglect and Committee on Community Health Services. Investigation and review of unexpected infant and child deaths. *Pediatrics*. 1993;92(5): 734–745
- Anderson TI, Wells SJ. *Data Collection for Child Fatalities: Existing Efforts and Proposed Guidelines*. Chicago, IL: Child Maltreatment Fatalities Project, American Bar Association, Center on Children and the Law, and American Academy of Pediatrics; 1991
- Covington TM, Rich SK, Gardner JD. Effective models of review that work to prevent child deaths. In: *Alexander R, ed. Child Fatality Review: An Interdisciplinary Guide and Photographic Reference*. St Louis, MO: GW Medical Publishing Inc; 2007: 429–457
- Covington TM, Foster V, Rich SK. *A Program Manual for Child Death Review*. Washington, DC: National Center for Child Death Review; 2005. Available at: www.childdeathreview.org/Finalversionprotocolmanual.pdf. Accessed October 25, 2009
- Bennett MD Jr, Hall J, Frazier L Jr, Patel N, Barker L, Shaw K. Homicide of children aged 0–4 years, 2003–04: results from the National Violent Death Reporting System. *Inj Prev*. 2006;12(suppl 2):ii39–ii43

Child Fatality Review

Cindy W. Christian, Robert D. Sege, The Committee on Child Abuse and Neglect,
The Committee on Injury, Violence, and Poison Prevention and The Council on
Community Pediatrics

Pediatrics 2010;126;592-596; originally published online Aug 30, 2010;
DOI: 10.1542/peds.2010-2006

Updated Information & Services	including high-resolution figures, can be found at: http://www.pediatrics.org/cgi/content/full/126/3/592
References	This article cites 18 articles, 10 of which you can access for free at: http://www.pediatrics.org/cgi/content/full/126/3/592#BIBL
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): Office Practice http://www.pediatrics.org/cgi/collection/office_practice
Permissions & Licensing	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: http://www.pediatrics.org/misc/Permissions.shtml
Reprints	Information about ordering reprints can be found online: http://www.pediatrics.org/misc/reprints.shtml

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

