
Child Abuse and Neglect

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Objective.—Children enrolled in Medicaid have disproportionately high emergency department (ED) visit rates. Despite the growing importance of patient reported quality-of-care assessments, little is known about the association between parent-reported quality of primary care and ED utilization for these high-risk children. Our goal was to determine the association between parent-reported primary care quality and subsequent ED utilization for children in Medicaid. **Methods.**—We studied a retrospective cohort of children enrolled in Wisconsin Medicaid. Parents of children sampled during fall 2002 and fall 2004 completed Consumer Assessment of Healthcare Providers and Systems surveys assessing their child's primary care quality in 3 domains: family centeredness, timeliness, and realized access. Primary outcomes were the rates of subsequent nonurgent and urgent ED visits, extracted from claims data for the year after survey completion. Negative binomial regression was used to determine the association between the domains of care and ED utilization.

Results.—A total of 5468 children were included. High-quality family centeredness was associated with a 27% (95% confidence interval [95% CI] 11%–40%) lower nonurgent ED visit rate, but no lowering of the urgent visit rate. High-quality timeliness was associated with 18% (95% CI, 3%–31%) lower nonurgent and 18% (95% CI, 1%–33%) lower urgent visit rates. High-quality realized access was associated with a 27% (95% CI, 8%–43%) lower nonurgent visit rate and a 33% (95% CI, 14%–48%) lower urgent visit rate.

Conclusions.—Parent-reported high-quality timeliness, family centeredness, and realized access for a publicly insured child are associated with lower nonurgent ED, with high-quality timeliness and realized access associated with lower urgent ED utilization.

KEY WORDS: Medicaid; pediatrics; quality of care; utilization

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The publication of “The Battered Child” by C. Henry Kempe and coworkers¹ introduced child maltreatment (CM) to the pediatric literature, and in the 46 years following its publication, the knowledge in the field has expanded. CM pervades every area of pediatrics. Pediatricians are mandated reporters and play an important role in the identification of child abuse and neglect. This article seeks to inform the primary care clinician about the current state of knowledge of child abuse and neglect. The epidemiology and diagnosis of the different types of abuse, the effects of abuse on children, documentation, reporting, and prevention are covered. The intent of the article is to

help primary care clinicians more accurately identify and report child abuse and neglect.

Epidemiology

Two large administrative sources provide information about the US annual incidence of child maltreatment, the National Child Abuse and Neglect Data System (NCANDS) and the National Incidence Studies of Child Abuse and Neglect (NIS). NCANDS contains aggregate and case-level data on child abuse reports received by state Child Protective Service (CPS) agencies.² Over 45 states and territories provide information annually about the outcomes of child abuse reports, types of maltreatment, child and family factors, and services being provided. National estimates of the overall numbers of CM victims (substantiated or indicated CPS reports) as well as victims identified with the major forms of CM (physical abuse, sexual abuse, neglect, medical neglect, and psychological maltreatment) are provided in Figure 1. The NIS have

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provided separate, periodic estimates from a growing number of sentinel professionals in a representative group of US counties to determine the actual number of CM victims.³ In 1993, NIS-3 sampled over 5600 professionals in 842 agencies serving 42 counties to identify children in any or all of the agencies under two standards: the harm standard (relatively stringent in that it generally requires that an act or omission result in demonstrable harm in order to be classified as abuse or neglect) and the endangerment standard (which allows children who were not yet harmed by maltreatment to be counted if the CM was confirmed by CPS or identified as endangerment by professionals outside CPS, either by their parents or by other adults).

Child Physical Abuse

In 2006, nearly 3.6 million children were investigated and 905,000 CM victims were identified in NCANDS, translating into a national annual incidence of 12.1 cases of CM per 1000 children. Of these, 144,800 (16%) were physically abused.² This represents a decrease from a high of 261,605 cases in 1996, following similar trends in other national crime statistics.⁴ Independent surveys have found higher than expected rates, such as a survey in the Carolinas that found an incidence of harsh physical discipline in 4.3% of respondents (2.4% shaking infants)⁵ and in a retrospective prevalence survey where 24% of adolescents reported being physically assaulted.⁶ The range of incidence rates of abusive head trauma has been found to be 27.5-32.2 per 100,000 in a large US inpatient database.⁷ Child abuse fatalities were at 1530 in 2006 (2.04 per 100,000), but this is thought to be an underestimate due to underrecognition, lack of standard terminology, and flaws in investigation procedures.²

In NIS-3, boys and poor children have increased risk for child physical abuse, but minority populations did not. Mothers were responsible for more child physical abuse in NIS-3, but in other studies, more fathers and adult males were responsible for fractures and abusive head trauma.³ Males were more likely responsible for deaths of older infants and young children.⁸ Children living in households with unrelated adults were 47.6 times more likely to die from inflicted injuries than

were those in two parent households.⁹ Overall, Zhou et al found that infant maltreatment can best be predicted when there are young mothers less than 20 years old, who are unmarried, who are without adequate prenatal care, who are poor, who smoke during the pregnancy, or when there are three or more siblings.¹⁰ In an NCANDS sample, parent emotional problems, alcohol abuse, and other family violence were found to be associated with the recurrence of physical abuse of infants before age 3 years.¹¹

Child Sexual Abuse

Unlike physical abuse, neglect, and psychological maltreatment, child sexual abuse has been shrouded by the cloak of social taboo surrounding human sexuality and sexual contact with children and therefore may be underreported. Child sexual abuse now consistently comprises 10-15% of CM reports annually in the US and Canada,^{2,12} but it is estimated that less than one-third of all child sexual abuse cases are reflected in current incidence figures. The number of child sexual abuse victims recorded in NCANDS, while rising during the late 1980s, actually declined during much of the 1990s and early into the 21st century, from a peak of 144,760 cases in 1991 to 79,640 in 2006. In NIS, sexual abuse nearly doubled during 1986-1993, rising to an estimated 217,700 cases

Children living in households with unrelated adults were 47.6 times more likely to die from inflicted injuries than were those in two parent households.

under the “harm standard” and 338,900 cases under the “endangerment standard.” Despite the variability of study results, it does appear that overall child sexual abuse incidence is declining in the US, and a variety of explanations have been offered for this decline.^{4,13,14} These include the following: more conservatism in CPS substantiation of sexual abuse; exclusion of cases reported to NCANDS that do not involve caretakers; changes in data collection methods; fewer reports of sexual abuse to CPS; changes in the number of previously undisclosed cases of sexual abuse available for new disclosures; or a real decline in child sexual abuse.^{13,14}

Psychological Maltreatment

The true incidence of psychological maltreatment is difficult to determine given the difficulty in establishing the diagnosis and making a determination in the child welfare system. The number peaked at 67,683 confirmed

U.S. Child Maltreatment Victims (NCANDS)

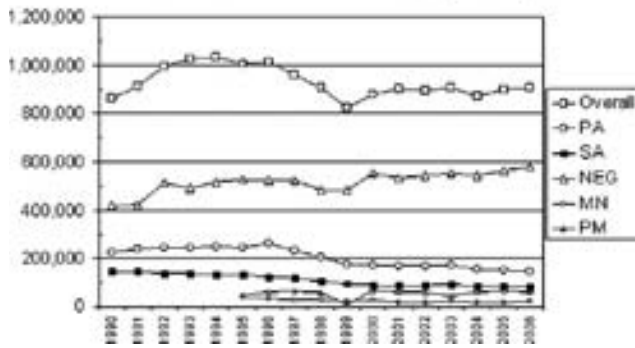


FIG 1. National estimates of the overall numbers of child maltreatment victims. Abbreviations: PA, physical abuse; SA, sexual abuse; NEG, neglect; MN, medical neglect; PM, psychological maltreatment.

reports in the US in 2000, and rates are currently 0.5-1.0 per 1000.² Under the harm standard in NIS-3, boys were more likely than girls to be emotionally neglected, and children in single parent households had a 64% increased risk over those with both parents present. Children in poor families had increased risk for emotional abuse and emotional neglect. Kairys et al noted that isolated psychological maltreatment had the lowest rate of substantiation of any type of CM, comprising 6.1% of reports in the US compared to 15% in England.¹⁵ Few studies have looked at the incidence of psychological maltreatment in special populations, and given its central significance in all subtypes of CM, the rates are likely much higher and inadequately identified in current administrative databases.

Neglect

Neglect is divided into “neglect” and “medical neglect” in NCANDS, and there was a high of 581,010 cases of neglect in 2006 (7.8 per 1000), comprising 64.9% of confirmed reports.² There were 19,910 medical neglect cases in 2006 (0.3 per 1000, 6.6% of reports). In the US, medical neglect accounts for 2.3% of all substantiated cases of CM; only the most egregious and intractable cases are likely to be reported and confirmed.¹⁶ In a separate analysis, Jones and coworkers noted that while physical and sexual abuse were declining, there appeared to be geographic specific factors masking similar declines in child neglect.¹⁷

A manifestation of neglect is failure to thrive. Poverty is the greatest single factor for failure to thrive in the

TABLE 1. History: Physical abuse

History of current episode
Prior episodes of trauma
Medical history
Birth history
Past medical problems, including hospitalizations
Source of ongoing care
Chronic medical conditions, if any
Developmental history—age appropriate or delayed
Family medical history

US and worldwide.¹⁸ Other risk factors that should be considered include inadequate social interactive behavior, young parents, prior history of abuse, prematurity, prolonged hospitalization, lack of extended family, social isolation, single parents, substance abuse, family violence, and employment instability.

Physical Abuse

Definition

Physical abuse is defined as any nonaccidental injury inflicted or allowed to be inflicted by a parent or caretaker. There is specific legislation in each state that further defines physical abuse, including such factors as the age of children protected by such laws.

Evaluation

The medical workup can be very straightforward when a child presents with apparent signs of inflicted injuries and/or a history of abuse. If such symptoms or history come to light during the course of an otherwise routine visit, it is imperative that the health care provider be able to initiate the appropriate evaluation and coordinate care with other members of the medical team. Regardless of the manner of presentation, the evaluation must include the history given by the parent(s)/caretaker(s), history from the child (when possible), a thorough physical examination, and laboratory tests and radiographic studies as indicated. In the seriously injured child, the history-taking may be done by medical personnel other than the treating physician, necessitating careful review of all the gathered information once the child is stabilized.

History

The historian in most child-related visits is a parent or guardian. If both parents are present and there is a concern of abuse, every effort should be made to

interview the parents separately. It is imperative that separate interviews be conducted if there is a possibility of domestic violence. Such precautions should also be observed when interviewing a verbal child. The important aspects of the history are listed in Table 1.

History of Current Episode. The interviewer should address the details of the presenting symptoms with careful questioning focused on the sequence of events surrounding the incident. There are criteria that should alert the interviewer to the possibility of abuse. These are listed in Table 2.

Prior History. Prior history of trauma that the child may have experienced should be reviewed. A parent's comment that the child is "clumsy" when explaining bruising and recurrent fractures should be noted.

Medical History. Medical history that is obtained at routine pediatric visits is very important in the assessment of possible abuse. This should include information about the birth, such as whether the child was premature or experienced birth trauma or other neonatal events. Past medical issues such as hospitalizations and prior injuries should also be noted. One should inquire as to the source of ongoing pediatric care, a potential resource that knows the family and may be able to document consistency of care. This is especially helpful in any child with chronic medical problems. The clinician should ask about the child's temperament, developmental milestones, and the family's method of discipline. The family history should also be explored for the presence of excessive bleeding, skin disorders, and frequent fractures in family members and/or siblings.

Physical Examination

When child maltreatment is suspected, the physical examination has the three following objectives: (1) medical—to assess the physical injury to the child and develop an appropriate treatment plan; (2) psychological—to afford the child a sense of safety; and (3) legal—to provide physical documentation that may be used as evidence.

Until recently, no study actually showed that participation in a prevention program resulted in reduced rates of sexual abuse for participants.¹¹⁷ A recent study, however, showed that college women (n 825) who had participated in a child sexual abuse prevention program as children were significantly less likely to experience subsequent sexual abuse than those who had not had such a program.¹¹⁸ Additionally,

although some argue that sexual abuse has not decreased as a result of sexual abuse prevention efforts,¹¹⁹ actual rates of sexual abuse do seem to be decreasing and one proposed explanation is that prevention efforts may be at least part of the reason.¹³

References

1. Kempe CH, Silverman FN, Steele BF, Droegemueller W, Silver HK. The battered child syndrome. *JAMA* 1962; 181:17-24.
2. U.S. Department of Health and Human Services. Child Maltreatment 1990-2006: Reports from the states to the national child abuse and neglect data system. US Government Printing Office, Washington, DC, 1992-2008.
3. Sedlak AJ, Broadhurst DD. The Third National Incidence Study of Child Abuse and Neglect (NIS-3). US Department of Health and Human Services, Washington, DC, 1996.
4. Finkelhor D, Jones L. Why have child maltreatment and child victimization declined? *J Soc Iss* 2006;62:685-716.
5. Theodore AD, Chang JJ, Runyan DK, Hunter WM, Bangdiwala SI, Agans R. Epidemiologic features of the physical and sexual maltreatment of children in the Carolinas. *Pediatrics* 2005;115:e331-7.
6. Hussey JM, Chang JJ, Kotch JB. Child maltreatment in the United States: prevalence, risk factors and adolescent health consequences. *Pediatrics* 2006;118:933-42.
7. Ellingson KD, Leventhal JM, Weiss HB. Using hospital discharge data to track inflicted traumatic brain injury. *Am J Prev Med* 2008;34(4S):S157-62.
8. Paulozzi L. Variation in homicide risk during infancy: United States, 1989-1998. *MMWR Morb Mortal Wkly Rep* 2002;51:187-9.
9. Schnitzer PG, Ewigman BG. Child deaths resulting from inflicted injuries: household risk factors and perpetrator characteristics. *Pediatrics* 2005;116:687-93.
10. Zhou Y, Hallisey EJ, Freymann GR. Identifying perinatal risk factors for infant maltreatment: an ecological approach. *Int J Health Geo* 2006;5:53-63.
11. Palusci VJ, Smith EG, Paneth N. Predicting and responding to physical abuse in young children using NCANDS. *Child Youth Serv Rev* 2005;27:667-82.
12. Trocmé NM, Fallon B, MacLaurin B, Daciuk J, Felstiner C, Black T, et al. Canadian Incidence Study of Reported Child Abuse and Neglect—2003: major findings. Ottawa: Minister of Public Works and Government Services Canada, 2005.
13. Finkelhor D, Jones LM. Explanations for the decline in child sexual abuse cases. *OJJDP Juvenile Justice Bulletin* 2004; January (NCJ 199298).
14. Jones LM, Finkelhor D, Kopiec K. Why is sexual abuse declining? A survey of state child protection administrators. *Child Abuse Negl* 2001;25:1139-58.
15. Kairys SW, Johnson CF, Committee on Child Abuse and Neglect. The psychological maltreatment of children—technical report. *Pediatrics* 2002;109:e68.
16. Jenny C, the Committee on Child Abuse and Neglect. Recognizing and responding to medical neglect. *Pediatrics* 2007;120:1385-9.