

Tracking Child Abuse and Neglect: The Role of Multiple Data Sources in Improving Child Safety

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INTRODUCTION

Nearly one out of every 100 children in the United States were identified by state child protective service (CPS) agencies as victims of abuse and neglect in 2010.¹ This is the lowest rate of reported maltreatment in 20 years, leading to speculation that child maltreatment is on the decline. Unfortunately, it is unclear if declines in CPS-reported cases can be interpreted as decreases in the actual incidence of maltreatment. CPS agencies can only report data based on cases they are aware of, and many children suffer from abuse and neglect without coming to the attention of CPS. The National Incidence Studies of Child Abuse and Neglect (NIS), a periodic research effort mandated by Congress, has confirmed undercounting of child maltreatment by reporting a higher number of maltreated children using both CPS and non-CPS data sources.²⁻⁵ This can be an unsettling and unexpected finding for child welfare administrators attempting to use data to better understand prevalence of maltreatment in their jurisdiction, and more importantly improve outcomes for children.

National trends in child abuse and neglect are often based exclusively on CPS data. This practice hinders comprehensive tracking of child maltreatment in communities and detection of trends that are captured by agencies outside of child welfare. Studies relying on alternative data sources from public health have reported different trends in some forms of child maltreatment.^{6,7} The variation in reported prevalence from different sources highlights the importance of using multiple sources of information to better track child maltreatment at the population level.

The goal of child abuse and neglect data tracking or “surveillance” is to systematically collect, analyze, and interpret data in order to inform an effective response to child maltreatment at the population level. Surveillance systems are used routinely for population health issues such as seasonal influenza, in which multiple agencies contribute data to inform emergency preparedness and response initiatives. Developing surveillance systems that reliably and accurately capture population-level trends in child maltreatment can increase public awareness of the issue, maximize the impact of limited resources, and improve practices in child protection. Similar to other major population health issues, ongoing surveillance of child maltreatment can inform the development of policies that respond to the needs of children and families.

This PolicyLab Evidence to Action Brief provides an overview of data sources and data collection systems relevant to child maltreatment in order to stimulate a broader discussion about the development of more robust surveillance systems in this area. Understanding data can help agency administrators and other decision-makers better interpret the information and use existing data to respond to and prevent child maltreatment.

- ➡ Part 1 describes five major data sources in health and human services that can be used in surveillance of child maltreatment. This section also presents data collection systems that store one or more of these data sources.
- ➡ Part 2 outlines three strategies for improving surveillance of child maltreatment and examples of jurisdictions using these approaches.
- ➡ Part 3 presents major conclusions of the brief.

PART 1: MAJOR HEALTH AND HUMAN SERVICES DATA FOR SURVEILLANCE OF CHILD MALTREATMENT

Child maltreatment is captured by multiple data sources associated with child welfare/human services or health agencies. These sources are housed in large-scale research repositories or public agencies that ultimately submit their information to data collection systems. While some data sources are purposely used for surveillance, these data are often used as performance indicators. Although some attempt has been made to review child maltreatment trends through multiple data sources,^{8,9} data are used in isolation in most cases. A consideration of multiple data sources can allow for better understanding of trends in child maltreatment and can inform tailored responses to address child and family needs. Key characteristics and limitations of major data sources are presented below followed by a table of commonly cited data collection systems that contain data from these sources.

Child Protective Service Agency Data

Across the states, child welfare systems are charged with responding to suspected abuse and neglect cases. These systems are often stand-alone agencies or housed within a larger human services agency that might also include Medicaid, child care, disability services, among other programs. Within child welfare systems, child protective service (CPS) agencies are responsible for assessing suspected cases, documenting their findings, and making a determination as to whether or not abuse or neglect has occurred. While not mandated to do so, most CPS agencies also report this information to major data collection systems such as the National Child Abuse and Neglect Data System (NCANDS) and the National Incidence Studies of Child Abuse and Neglect (NIS).

CPS data are a valuable source of information on cases known to child welfare agencies. However, the common practice of using this source, often exclusively, to present national trends should be considered carefully in light of the data's limitations.

First, CPS captures only children who are reported to child welfare agencies, thereby not counting abused children who do not come in contact with CPS. Second, CPS agencies are not mandated to report data to NCANDS, thus the number and characteristics of reporting agencies vary over time. There is also variation in the type of data that agencies report to the system; some report only substantiated cases, whereas others also report all cases that are referred to CPS for investigation. Third, while CPS agencies are federally mandated to meet certain minimum standards in their definitions of child maltreatment, states and counties have unique definitions of child abuse and neglect that make it difficult to compare across jurisdictions.^{8,10,11} This is also true for procedures at the local level, where agency-specific assessment protocols and reporting standards may impact how children served by CPS are classified and ultimately counted.^{12,13} Lastly, the lack of uniformity in what CPS agencies report and when they report it makes it difficult to compare maltreatment rates over time.

Hospital Administrative Data

Hospital administrative data also contribute to the understanding of child maltreatment, especially in relation to more severe forms of abuse. These data are derived from clinical documentation of suspected maltreatment by healthcare providers and use the International Classification of Diseases (ICD) system to identify health conditions and procedures associated with hospital use. The ICD system includes clinical diagnosis codes for various types of child maltreatment as well as for injuries and medical conditions that may result from abuse. Children diagnosed in the hospital with child maltreatment and/or injuries resulting from maltreatment are reported to CPS in order to link victims and families with appropriate services. While hospital administrative data have not been used extensively for surveillance of child maltreatment, recent studies show important contributions of these data in understanding state-level incidence of non-fatal maltreatment,¹⁴ trends of physical abuse admissions across children's hospitals in the U.S.,¹⁵ and national estimates of abuse among young children who are hospitalized.^{7,16,17} For example, PolicyLab researchers conducted a study using data from 38 pediatric hospitals to examine trends in hospital admissions for child physical abuse over a 10-year period

and to compare admission rates with economic hardship indicators.¹⁵ The study showed that severe physical abuse has increased across these children's hospitals, a finding that may not be reflected in other sources of data. The use of hospital administrative data is an important source for effective monitoring of child maltreatment trends and can potentially lead to changes in response. Major data collection systems using this data source include the Pediatric Health Information System (PHIS), Nationwide Inpatient Sample (NIS), and Kids' Inpatient Database (KID).

As with all data sources, hospital administrative data have limitations. First, they only present information on youth who are seen in the emergency department and/or hospitalized. Second, the data capture the most severe cases of abuse, which may not mirror overall trends in child abuse and neglect. Further, hospital data rely on healthcare providers' recognition of maltreatment and clear documentation of the diagnosis of abuse or neglect in the chart as well as accurate coding of the diagnosis by hospital coders. Hospital data may undercount child maltreatment cases if medical professionals under-recognize maltreatment or if the appropriate diagnosis codes are not used.¹⁸⁻²⁰

Death Certificate Data

For child maltreatment fatalities, a death certificate is an important data source that includes clinical diagnosis codes reflecting injury and cause of death of a child. Death certificates have been used in public health efforts to gain a population-level view of maltreatment-related child fatalities.^{21,22} Deaths identified by healthcare facilities, medical examiner offices, and other agencies, including law enforcement, are reported to county and/or state vital statistics departments, which in turn submit death certificates to the National Vital Statistics System (NVSS).

While capturing only a subset of maltreated children, death certificates have limited information about

circumstances and signs of abuse and/or neglect.²³ In fact, death certificates have been shown to identify only 10-20% of child abuse fatalities in some states.²¹ There are several factors that contribute to this undercounting. A death certificate may lack the appropriate diagnosis codes to define the case as a child death attributed to maltreatment. Factors such as inaccurate reporting of an event, missed clinical diagnosis and/or documentation of signs of abuse or neglect, and missed referral of a child death to in-depth case review^a can impact the official cause of death listed on death certificates and in vital statistics registries. Without information from other data sources, a death certificate may not reflect the conditions that truly led to the child's death.

Law Enforcement Data

Local law enforcement agencies are responsible for criminal investigations, and their response to cases of child maltreatment focuses on protecting the victim, identifying the offender, and collecting and preserving evidence needed for a criminal case. For both non-fatal and fatal cases of maltreatment, police are charged with linking information from interviews, medical examinations, and crime scene evaluations with criminal prosecution and/or CPS-led intervention to protect affected children.²⁴ Law enforcement reports are used by the Federal Bureau of Investigation (FBI) Uniform Crime Reporting program, the primary crime statistics system for the U.S.

The policies and practices that guide investigations have implications for the data that can be obtained from

law enforcement agencies. For one, police can only identify cases of child maltreatment that come to their attention. Second, police carrying out investigations may have limited training in collecting and evaluating evidence specific to cases of child maltreatment, thus resulting in loss of information.²⁵ In cases of suspected child deaths due to maltreatment, investigation teams work under particular definitions for homicides that may be inclusive of “intent to harm” circumstances, such as physical and sexual abuse. However, these definitions may not capture cases in which neglect contributes to child death, thereby missing cases that involve the omission of adequate care rather than the commission of a harmful act.

Survey Data

A survey is a systematic approach to gather information from individuals to describe characteristics of the larger population. Surveys on child maltreatment and exposure to violence present another method of capturing abuse based on reports from youth and caregivers of young children. Key national surveys shown in the following table are sponsored by federal agencies and either conducted by the host agency or research institution with the capacity to manage and analyze data. National studies such as the National Survey of Children’s Exposure to Violence (NatSCEV), National Crime Victimization Survey (NCVS), and the Developmental Victimization Survey (DVS) represent large-scale efforts to gather survey data on exposure to violence from respondents across the U.S.

These surveys often report higher rates of abuse than those reported by other sources but the results should be considered in context of data limitations. Most national surveys are conducted at infrequent intervals, likely due in part to the expensive and time-consuming nature of this method. Additionally, some national surveys may not collect information on children younger than 12 years old, a population that is considered at highest risk for some forms of abuse. Surveys are also subject to the limitations of data collection procedures, including the practice of telephone random-digit dialing that may miss hard-to-reach populations and respondent bias in which reports from caregivers or professionals in contact with victims may differ from self-reports by victims.

²⁴Multidisciplinary and multiagency child fatality review team existing at state and/or local level that performs extensive evaluation of child deaths for follow-up and prevention; team uses information from law enforcement, autopsy report, medical record, and death certificate among other sources to fully investigate the circumstances of child death and potentially modify death certificate after review.

Data Collection Systems

Data Type	Data System	Data Sources ¹	Population	Frequency	Type of Child Maltreatment Represented
Child Protective Services Agency Data	National Child Abuse and Neglect Data System (NCANDS)	CPS agencies in up to 50 states, District of Columbia, U.S. territories	Children <18 years	Annual since 1990	Cases of child abuse and neglect investigated and substantiated by CPS agencies
Hospital Administrative Data	Pediatric Health Information System (PHIS)	Up to 43 children's hospitals	Pediatric hospital visits; no age restriction but majority of patients <21 years	Quarterly since 1992	Hospitalizations for injuries and conditions attributed to maltreatment
	Nationwide Inpatient Sample (NIS)	Up to 1,050 community hospitals	Hospital visits, no age restriction	Annual since 1988	Hospitalizations for injuries and conditions attributed to maltreatment
	Kids' Inpatient Database (KID)	Up to 4,000 community hospitals	Hospital discharges, patients <20 years	Every 3 years since 1997	Hospitalizations for injuries and conditions attributed to maltreatment
Death Certificate Data	National Vital Statistics System (NVSS)	Reports of births and deaths from 50 states, District of Columbia, U.S. territories ²	No age restriction	Annual since 1900 for select states; nationwide since 1933	Child fatalities attributed to maltreatment
Law Enforcement Data	FBI Uniform Crime Reporting Program	Reports from 17,000 law enforcement agencies nationwide	Offenders and victims, no age restriction	Annual since 1980	Non-fatal child abuse/neglect; child fatalities classified as homicides
Survey Data	Developmental Victimization Survey (DVS)	Surveys from 2,030 households nationwide	Caregivers of children ages 0-9; children ages 10-17	Conducted in 2002-2004	Exposure to violence in home and community
	National Survey of Children's Exposure to Violence (NatSCEV)	Surveys from 4,500 households nationwide; adapted from DVS	Caregivers of children ages 0-9; children ages 10-17	Conducted in 2007-2008	Exposure to violence in home and community
	National Crime Victimization Survey (NCVS)	Surveys from 40,000 households nationwide	Adolescents 12 years and older	Annual since 1973	Non-fatal criminal victimization
Multi-source Data	National Violent Death Reporting System (NVDRS)	Death certificates, police reports, medical examiner reports from up to 17 states	No age restriction	Annual since 2003	Child fatalities attributed to maltreatment
	National Incidence Study of Child Abuse and Neglect (NIS)	CPS reports, surveys from non-CPS agencies, including schools, hospitals, and law enforcement	Children <18 years	Periodic NIS-1: 1979-80 NIS-2: 1986 NIS-3: 1993 NIS-4: 2005-06	Abuse and neglect evaluated under harm standard and endangerment standard ³

¹The exact number of participating entities may vary over time.

²Territories include Puerto Rico, Virgin Islands, Guam, American Samoa, Commonwealth of Northern Mariana Islands.

³NIS defines two standards for capturing cases of maltreatment: 1) harm standard, children who have experienced an act or omission of act resulting in demonstrable harm; 2) endangerment standard, children who are not harmed but considered at risk for maltreatment by non-CPS professional (e.g. school, hospital, law enforcement) or determined as substantiated maltreatment by CPS professional.

PART 2: STRATEGIES TO IMPROVE SURVEILLANCE OF CHILD MALTREATMENT

While there has been some recognition of the value of monitoring trends in child maltreatment to better understand the problem, additional consideration is warranted.²⁶ Despite challenges that exist in using and interpreting data, several initiatives are underway within the federal government and in state and local jurisdictions to improve surveillance. Some of these efforts have demonstrated outcomes relevant to changes in policy and practice while recent initiatives have yet

to report the impact of this work. These efforts revolve around three major strategies: 1) comparing aggregate results from multiple data sources, 2) linking case-based data from multiple sources, and 3) establishing uniform data definitions and data collection protocols. These strategies are outlined below and supported by examples of recent and/or ongoing initiatives to improve surveillance of child maltreatment.

1) Compare aggregate results from multiple data sources

Comparing information from multiple data sources can be useful in understanding maltreatment trends. This approach is actively used to address other population health issues. It relies on using aggregate data that are already captured by various agencies without having to develop and/or manage data repositories. Comparing data can serve as a consistent and timely approach to monitoring maltreatment at the local level.

Example 1: Alaska initiative to compare information from multiple sources

Recognizing that maltreated children may come in contact with different public agencies, the Alaska Surveillance of Child Abuse and Neglect Program (Alaska SCAN) provides surveillance reports by comparing data from a number of agencies, including child protection, law enforcement, child advocacy centers, healthcare facilities, and child death reviews. Reviews of data from participating agencies are presented every year to state legislators alongside CPS to inform evaluations of Alaska's current home visitation and abusive head trauma prevention programs. Surveillance efforts are promoted by the Children's Justice Act Task Force of the Alaska Office of Children's Services, a multidisciplinary development team that promotes interagency collaboration.^{27,28}

Example 2: California initiative to compare foster care and CPS data^b

The Center for Social Services Research (CSSR) of the University of California at Berkeley and the California Department of Social Services maintain a public website that aggregates CPS agency and foster care data into customizable tables that are available on a quarterly basis.²⁹ Known as the California Child Welfare Performance Indicators Project, the longstanding project helps administrators and public officials track trends in key child welfare indicators and use this information to guide agency decisions. The Project has promoted regular use of data among child welfare professionals and has co-produced quarterly data reports for all counties in California.³⁰

^bTo learn more about California Child Welfare Performance Indicators Project, visit http://cssr.berkeley.edu/ucb_childwelfare/

2) Link case-based data from multiple sources

State and local leaders have linked case-based data from various sources to better identify the scope of abused children and to generate richer data about victims of abuse and neglect. Data linkages bring together information about a particular child who has records in separate but related agencies.

Example 1: State initiatives to link case-based data on child fatalities

Deaths attributed to child maltreatment are often underreported and undercounted in data from state child welfare agencies.²⁶ Funded by the Centers for Disease Control and Prevention (CDC), California, Michigan, and Rhode Island developed and evaluated surveillance programs focused on identifying children who died from abuse or neglect. The programs linked child records available from multiple data sources, including death certificates, medical examiner records, child death review teams, crime reports, and child welfare agency data. By combining at least two data sources, these states ascertained more than 90% of child maltreatment deaths in their jurisdiction — a result that would have been lower by relying exclusively on one source of data.²¹

Example 2: California initiative to link case-based data from child welfare and vital statistics

In efforts to establish fatal and non-fatal surveillance systems in California, social work researchers from the Center for Social Services Research (CSSR) of the University of California at Berkeley have developed a repository of linked birth, death, and CPS records from the state. The linkage project is used to describe the profile of children who come in contact with CPS and to identify factors associated with maltreatment. The combination of data provides richer description about children affected by maltreatment and generates information that can be used to tailor prevention programs for children at risk of abuse and neglect.^{31,32}

3) Establish uniform data definitions and data collection protocols

A lack of uniform definitions of child maltreatment is an issue that limits the use and interpretation of all types of data sources. For both national repositories of data and the data sources that feed into them, standards for consistent definitions and data collection can make it easier to use agency-specific information over time.

Example 1: CDC initiative to establish case definitions for hospital data

Hospital administrative data can be used effectively to identify trends in abusive injuries among children. To date, a standard set of clinical diagnosis codes for identifying maltreatment in administrative data has not been established resulting in the use of varied definitions in surveillance studies. However, the CDC have recently developed operational case definitions based on diagnosis codes for non-fatal abusive head trauma, a serious injury attributable to abuse. These case definitions can be used systematically with hospital administrative data.⁷

Example 2: North Carolina initiative to establish uniform definitions across agencies^c

North Carolina has designed a single-county pilot for a surveillance system grounded on the use of uniform definitions across participating agencies. These definitions will not supplement existing legal definitions at each agency; rather, they are created for the sole purpose of surveillance using multiple data sources. The state's progress is informed by recommendations from the North Carolina Institute of Medicine Task Force on Child Abuse Prevention.³³

^cTo learn more about North Carolina pilot surveillance project, contact Meghan Shanahan at shanahan@unc.edu.

PART 3: CONCLUSION

This PolicyLab Evidence to Action brief aims to promote a broader discussion about improving surveillance of child maltreatment. The primary goal continues to focus on responding to and preventing child maltreatment in communities. In order to meet this challenge effectively, the problem must be as clearly defined as possible through surveillance. While some initiatives within the federal government and in state and local jurisdictions have informed planning and practice decisions, others have not reached this stage given their recent development. Continued improvements to surveillance will shape understanding and monitoring of child maltreatment, leading to responses that are guided by data.

As outlined in this brief, multiple data sources and affiliated data collection systems can be used in surveillance of child maltreatment. In addition to child protective service agency data, other health and human services data can be used to inform trends in child abuse and neglect. With the goal of effectively addressing child maltreatment, it is imperative that states and agencies consider a wide range of information to develop targeted responses to child abuse and neglect. PolicyLab hopes this brief can support the continued discussion of this issue to improve data tracking of abuse and neglect and, ultimately, better outcomes for children and their families.

ABOUT THIS BRIEF

This brief grows out of findings from the following study:

Wood JN, Medina SP, Feudtner C, Luan X, Localio R, Fieldston ES, et al. Local Macroeconomic Trends and Hospital Admissions for Child Abuse, 2000–2009. *Pediatrics*. 2012.

This retrospective study described the trend in child abuse admissions to 38 pediatric hospitals from 2000 to 2009. The study examined the relationship between local macroeconomic indicators and physical abuse admission rates

to pediatric hospitals over time. In addition to finding a geographic association between severe physical abuse and foreclosure rates, results from the study confirmed an overall increase in cases of severe physical abuse over the past 10 years. This finding was in contrast to national data from CPS sources, demonstrating the importance of tracking child abuse rates via multiple sources.

For more information, please visit:

bit.ly/Oy2SQ5

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