SHORT REPORT

Child Fatality Individual Case Reports: A 24-Year National State-by-State Review

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Abstract

This study focused on the content of 1186 Child Fatality Review Board individual case reports collected nationally over a 24-year period (1995–2019). This information, in contrast to group data, may yield important insights into the causative factors, especially for child fatality resulting from neglect and inflicted injury. The reports were collected from six of the 50 states and evaluated for the quality and amount of information. They were also surveyed for data identifying causative factors for neglect and inflicted injury. Only 25 (2 per cent) of 1186 reports that are publicly available contained sufficient information about the four major causative factors—cause of death, prior child protection agency involvement by the family, evidence of professional negligence or error and family history of at-risk circumstances. The 25 cases were then reviewed and coded for presence of information about these factors. The findings demonstrate the need for federal intervention to provide specific guidelines for the states to track their cases, to use a common nomenclature, to investigate common causative factors and to practice common reporting procedures. In this way, a robust national database can be developed.

KEYWORDS
child fatality coding scheme, child fatality review, child maltreatment, child protective services, coding scheme

Key Practitioner Messages

- Only 2 per cent of 1186 publicly available Child Fatality Review (CFR) Board individual case reports contained sufficient information to enable information coding and analysis.
- US State CFR individual case reports contained wide variability in the kinds of information provided and in nomenclature used to describe findings.
- Standardisation of case reporting is needed to guide case investigation, management and procedures for case reporting.

INTRODUCTION

The first Child Fatality Review (CFR) team was established in 1978 to create a multidisciplinary team that could reduce preventable child mortality by systematically understanding and evaluating child fatalities (Christian & Sege, 2010; Durfee et al., 2009). In 1995, the United States advisory board focused on child abuse and neglect suggested the establishment of state and local child death review teams, which ultimately resulted in the formation of a national resource centre for child death review (Fraser et al., 2014). CFRs can include confirmed or suspicious for child abuse, preventable deaths, unexpected or unexplained deaths or all child deaths (Durfee et al., 2009). Systemic models for reviewing individual cases can identify fact patterns associated with adequately and inadequately protected children

(Brandon et al., 2012; Douglas & Lee, 2020). United States federal law requires every state to file child fatality reports, but there are no federal guidelines standardising the information, structure and composition of the multidisciplinary teams that create the individual case reports (Durfee et al., 2009; McCarroll et al., 2021; Posey & Neuilly, 2017).

The work carried out by CFR teams should be separated from internal or administrative reviews within child protective service agencies which are done primarily to ensure child protective investigators adhere to the policy and protocol of the agency and are not typically composed of multiple agencies (Hochstadt, 2006). While the National Center for Child Fatality Review Teams was established to offer support and training to CFR teams nationwide, CFR programmes have been found to vary by state in their organisation and content of reports (Quinton, 2017). For instance, in some states, teams do not engage in actual reviews on the state level, which allows them to support local teams. Furthermore, some teams only review cases with previous Child Protection Services (CPS) involvement (Durfee et al., 2009). Child maltreatment fatalities are often seen as underestimated, due to a lack of standard definitions, reporting systems and legal standards to approach maltreatment fatalities (Palusci & Covington, 2014; Schnitzer et al., 2008; Scott, 2020). Scott (2020) found that definitions of 'neglect' vary for each state CFR team from the very specific, including particular actions or needs failed to be provided and a specific person who should have provided those needs, to very broad, such as failure to provide care overall or any act that contributed to a child fatality. Palusci (2019) points out that a lack of information surrounding a child's death hinders the system's ability to research these tragedies to improve the systems so that such deaths do not happen again. States differ in how well these teams operate, cooperate and are funded, subsequently adding to the disparity in reports across the country (Christian & Sege, 2010; Durfee et al., 2009). Despite the variability among CFR teams among the nation, they possess similar functions, including the examination of preventable child deaths, identification of necessary changes for prevention of future fatalities, collection of data for public policy and public health and prevention programmes, facilitation of connections and collaboration between professionals and agencies to understand and improve services and outcomes (Hochstadt, 2006).

In countries like England and New Zealand, there are 'nationally coordinated, mandated and funded' systems set in place to conduct CFRs (Vincent, 2014, p. 119). Countries like the Netherlands have similar standards and procedures to CDR teams in the UK and US but only research a select subset of fatalities (perinatal, SUDI and fatal abuse) rather than all child deaths (Gijzen et al., 2017). The importance of researching and preventing child fatalities is recognised around the world, with researchers trying to establish more CFR teams (Okuyama, 2006) or propose the implementation of a CFR system in their country (Alsaif et al., 2018).

Consistency in investigation methods and greater information sharing can be facilitated by establishing standards of systematising CFR investigation across all states. Such coordination in these countries leads to standardisation practices of data at the national level which helps better track trends in child fatalities in order to implement better prevention initiatives and policy recommendations on the national level (Vincent, 2014, p. 127).

PRESENT STUDY

The use of consensus tools for the semi-structured and systematic investigation and analysis of child injury and fatality cases can facilitate greater uniformity in case report content. Thus, the aim of this study was to systematically examine CFR individual case reports by using a coding scheme with sufficient flexibility to accommodate the varying context of each case report. This study examined individual child fatality reports across several states over a 24-year time period (1995 to 2019) to evaluate the information within CFR individual case reports. The study also aimed to highlight issues and oversights within the reports.

METHODS

Data collection

Publicly available individual case reports were gathered from six states: Arizona, Connecticut, Oklahoma, Pennsylvania, Rhode Island and Washington: 1186 reports were collected and selected based on publicly available data of CFR reports on state agency websites (e.g. Department of Children and Families, DCF). Reports were also found on State Department of Health or State Department of Juvenile Justice websites. These six states were selected because most states have confidentiality or protection from disclosure statutes or regulations (e.g. Hawaii, Nevada and Maine). Reports dealing with aggregate data or summations of child fatalities were excluded from this study. Only reports with narrative accounts of the individual child fatality were selected and included. Data collection began in October 2019 and was stopped after attempts had been made to obtain individual case reports from each state. This study does not involve human subjects as it reviewed case reports made public and collected from government websites.

Case grading

Cases were assigned grades ranging from A to D, with A representing a high-quality report and D representing a low-quality report. Grades were assigned based on the length of the report, depth of information and the presence of recommendations provided by the CFR team. The average A case ranged from 10 to 20 pages, with at least one page explaining the child's cause of death, multiple pages dedicated to examining the child's life history and the remaining pages identifying agency shortcomings and recommending implementable solutions. B cases normally ranged from 5 to 10 pages and included a detailed summary of the case and recommendations for agency practices. C cases ranged 3–5 pages and included a short summary of the child's cause of death and may or may not include recommendations for agency practices. D cases ranged from 1 to 2 pages and included a minimal summary of the child's death. A grade cases were then reviewed using the coding scheme (see Figure 1).

Coding development

After the cases were assigned grades, a coding scheme was developed to evaluate the quality of individual case reports between and within each state. The development of the scheme considered the common language, sections of the reports and important details relevant to the case. The National Center for Fatality Review and Prevention's (NCFRP) (2016) case reporting system identifies four overarching evidentiary topics to be presented in reports: cause of death, prior child protection agency involvement, professional negligence and error, and family history and risk circumstances. Each question was designed to form a dichotomously coded yes/no answer.

Data coding

Five coders were assigned to code the information after receiving training on the coding scheme. Coders were all matriculated in a master's degree programme. The coders were paired into teams and assigned cases to code separately. The coders would convene and compare their schemes to discuss any discrepancies. The coding scheme was conducted in a two-step process for each category. Step one was to determine if information was available (available = 1; absent = 0) for the category. If coded 1, it would be followed by step two, which was to determine the presence (incident present = 1; absent = 0) of the category analysed (see Figure 2).
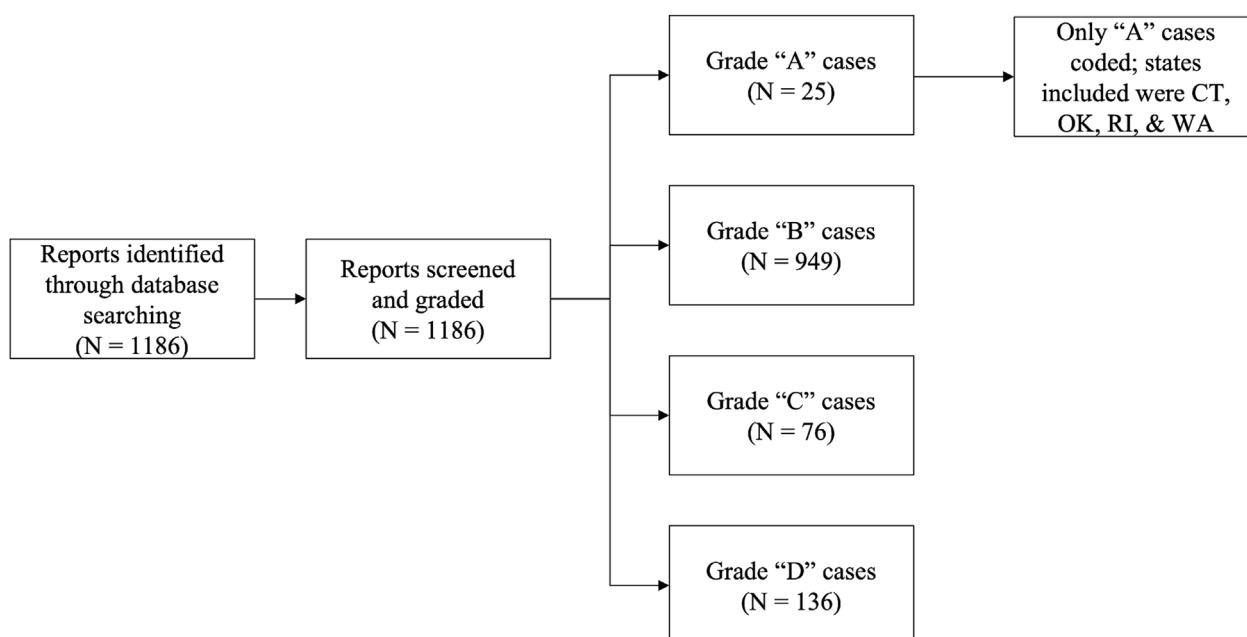

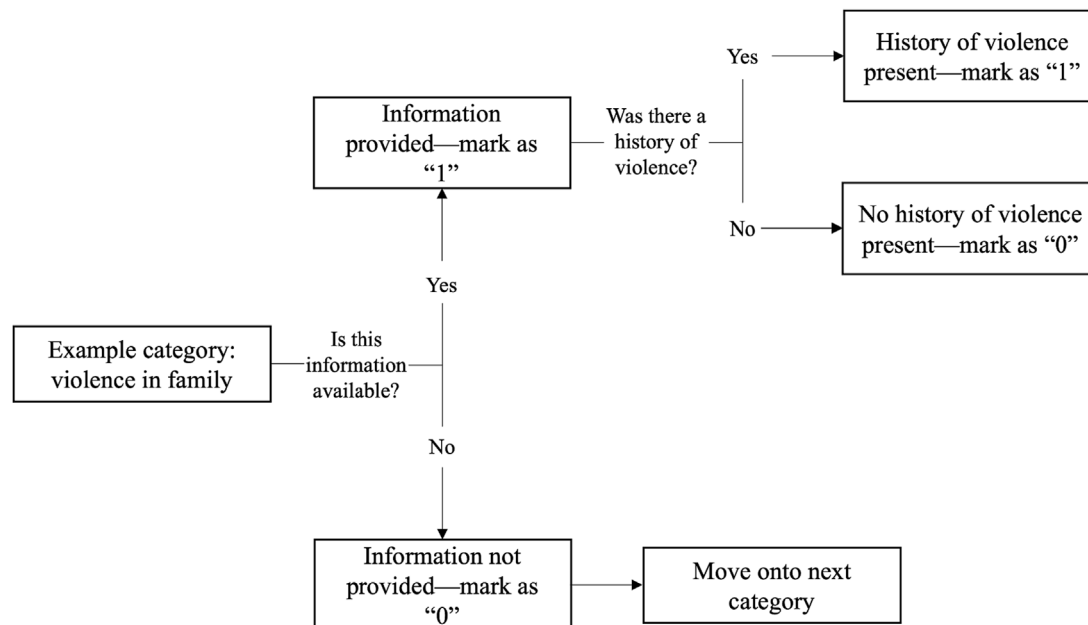**FIGURE 1** Child fatality individual case report grading flow chart.

FIGURE 2 Child Fatality Review (CFR) individual case report coding scheme—visualisation of coding process.

TABLE 1 Compiled grades of individual child fatality reviews (N = 1186).

		States					
Grade	Cases (n = 1186)	Arizona (n = 328)	Connecticut (n = 12)	Oklahoma (n = 29)	Pennsylvania (n = 679)	Rhode Island (n = 7)	Washington (n = 131)
A	25 (2%)		10 (83%)	3 (10%)		7 (100%)	5 (4%)
B	949 (80%)	296 (90%)	2 (17%)	17 (59%)	544 (80%)		90 (69%)
C	76 (6%)	32 (10%)		9 (31%)			35 (27%)
D	136 (11%)				135 (20%)		1 (1%)

Note: Arizona reviews all child deaths under 18, Connecticut reviews all child deaths at out-of-home care or any unexpected or unexplained cases under 18, Oklahoma reviews all unattended deaths and serious injuries/ near fatalities under 18, Pennsylvania reviews all deaths 21 and under, Rhode Island reviews sudden infant death, death by injuries, homicide, suicide, abuse/neglect or potentially preventable natural causes like asthma 17 and under, and Washington reviews all child deaths except extreme prematurity 17 and under (https://ncfrp.org/cdr-map/).

Data analysis

Cohen's κ was used to examine inter-rater reliability between coders. A cross-tabulation was performed for each pair of coder responses and Cohen's κ. Confidence intervals were also calculated for each pair using the asymptotic standard error generated from the cross-tabulation. All requirements for Cohen's κ were met and analyses were tested with a significance level of $p < 0.05$. Cohen's κ was interpreted based on criteria outlined by McHugh (2012). Descriptive statistics was then conducted to assess the sufficiency of information available.

RESULTS

A total of 1186 CFR individual case reports were collected from six states: Arizona, Connecticut, Oklahoma, Pennsylvania, Rhode Island, and Washington (see Appendix S1). The cases ranged from 1995 to 2019. Of the 1186 cases sampled, 25 were deemed A-grade cases and they were used in the sample for the coding. This means that only 2 percent met grade A criteria. A-grade cases were from states: Connecticut, Oklahoma, Rhode Island, and Washington (see Table 1).

Cohen's κ was run to determine inter-rater reliability between two coders on their coding. Agreement between coders for the three teams were κ = 0.328 (95 per cent CI, 0.216 to 0.440), κ = 0.636 (95 per cent CI, 0.544 to 0.728) and κ = 0.827 (95 per cent CI, 0.764 to 0.890), $p < 0.001$ respectively.

Table 2 displays the descriptive statistics of the coding scheme (see Appendix S2 for full coding scheme descriptive data). The coding revealed that there was some variety in what was reported in each report. All reports published information about cause of death and prior Department of Child and Families involvement. Most reports had information for the category professional negligence and its subcategories (ranging 72–100 per cent). However, reporting of family history and risk circumstances varied and were very limited, for example, information on presence of firearms in the household and low birth weight.

DISCUSSION

Few states published CFR individual case reports, and there is a wide variability in the information that CFR reports contain (Mantell et al., 2020). Inconsistent use of language and structure between reports are a challenge that other studies encountered (Douglas & Lee, 2020; Mantell et al., 2020). A broad coding scheme was developed in this study to account for such variability. The development of the coding scheme was informed by previous attempts to systematically analyse CFR reports. Mantell et al. (2020) used a coding system based on the Life Events Checklist to analyse CFR group and individual case reports. Many reports generalised the manner of death or did not specify a cause of death in reports.

Reports were often missing or contained conflicting information and these inconsistencies within a case led to an incomplete picture about the circumstances of the case and how it was viewed. Importantly, out of the four evidentiary topics set forth by the NCFRP, family history and risk factors were the least reported. This information is crucial as risk factors like family violence, drug use and history of mental illness in the family interplay with one another and can indicate potential harm to children (Fuller-Thomson et al., 2021; Vial et al., 2020). Furthermore, only 25 of 1186 cases contained sufficient information to be included in this analysis. Because this sample was from only six states and four of these states included in this study had A graded cases, this suggests that the quality of CFR individual case reports vary widely between and within states, emphasising the importance for policymakers at the state and federal level to adopt widespread standardised guidelines for CFR reporting.

One main potential reason why there was large variability in the content of these reports and the quality of them is that each state has a different state agency that leads the coordination of the CDR programme (NCFRP, 2016). These state agencies may be one of the many social service organisations in the state, the health department or even just the medical examiner, as a few examples. For this reason, it may appear that these are completely different review systems altogether, when in fact they all have the same goal: CFR reporting. National regulations would help streamline and standardise this process across all states, making these reports much more comparable and robust. Standardising CFR reporting can also help with initiation of preventative measures to spur companies and policymakers to create safer products and ads to decrease child fatalities (Alsaif et al., 2018). Regular nationwide reviews of the quality of CFR reporting should be also conducted, as there has not been any formal assessment of CFR processes for states in the US apart from Georgia (Vincent, 2014). CFR teams should also adhere to the National Fatality Review-Case Reporting System (NFR-CRS) (NCFRP, 2016) and best practices for formulating recommendations (Quinton, 2017). Furthermore, there is limited funding for CFR programmes (Quinton, 2017). The voluntary nature of local CFR teams and the lack of funding for staff makes it challenging to conduct reviews. There needs to be better funding for organisation as well as data collection and reporting (Quinton, 2017).

One limitation is the small sample size of cases ($N = 25$) which emerged from a non-representative selection of states based on the 24-year review of data from 50 states, though this also highlights the lack of availability and consistency of information across states. A diverse pool of cases from various states should be reviewed to gain a more comprehensive picture of the CFR process. Another limitation is the coding scheme itself; as this was the first time the scheme was developed and used, the only reference in this study for reliability is Cohen's κ. These scores varied from low (0.328) to strong (0.827). Variability of Cohen's κ scores could be due to different interpretations of case data and coding scheme by coders, or difficulty identifying relevant information throughout the reports. Lastly, the search for the sample used in this study was limited by state and federal laws. It is important to note that each state owns and chooses what data to share publicly. Due to potential privacy concerns, many CFR individual case reports are not available to the public. As such, our sample was limited to reports that were publicly available, thus the findings are only generalisable to publicly available reports. Reports that were not accessible were thus not included but they may have included reports that are more comprehensive and adhered to NCFRP protocols.

As the pool of adequately researched and described cases is increased, it is expected that a larger pool of cases will enable more robust findings both about causes and prevention steps and methods. Future studies could partner with state and federal agencies to perform a more comprehensive search of available CFR case reports. A more extensive search could identify major issues like understaffed agencies or incompetent reporting and training to create a plan to rectify these issues and save the lives of countless children. These issues should be rectified by putting greater resources

T A B L E 2 Descriptive statistics of the coding scheme.

Categories	Q1: information available		Q2: yes/present	
	N = 25	%	N = 25	%
Cause of death				
Cause of death	25	100	15	60
Manner of death			15	60
Age	25	100	19	76
Criminal charges	13	52	8	32
DCF involvement				
Listed agencies for CFR	25	100	25	100
Prior DCF involvement	25	100	20	80
Child abuse/neglect			20	80
Domestic violence			3	12
Removal			10	40
Reunification			8	32
Court hearing			10	40
Reunified with same caretaker			7	28
Professional negligence				
Failure to act	23	92	11	44
Failure to recognise risks	24	96	14	56
Failure to make timely mandatory report	18	72	4	16
Professional error	25	100	19	76
Medical error (abuse)			2	8
Social work			10	40
Mental health practitioner			3	12
Others			15	60
Identification of shortcomings	25	100	22	88
Family history and risk circumstances				
Lack of biological parental involvement	22	88	9	36
Age of parent	5	20	3	12
Presence of siblings	21	84	19	76
History of violence	15	60	11	44
History of neglect	21	84	20	80
Fatal wound by family	13	52	6	24
Physical abuse			7	28
Sexual abuse			2	8
IPV			2	8
Suspicious/unexplained child death	5	20	2	8
Presence of firearms	0	0	0	0
Legal entanglements	12	48	10	40
Family: history of mental illness	15	60	15	60
Family: history of neurological disorders	2	8	0	0
Familial behavioural extremeness	3	12	3	12
Emotional/temperamental/relationship disorders	5	20	5	20
Underweight at birth	3	12	0	0
Premature birth	3	12	1	4
Birth defects	6	24	3	12
Medically complex home	2	8	2	8
Medically complex child	2	8	2	8
Child: history of neurological disorders	2	8	1	4

T A B L E 2 (Continued)

Categories	Q1: information available		Q2: yes/present	
	N = 25	%	N = 25	%
Child: history of mental illness	12	48	11	44
Identification of treatment needs			10	40
Adequate health evaluation and treatment			5	20
Inadequate evaluation			2	8
Inadequate recommendations and planning			6	24
Inadequate resources			6	24
Failure to comply			6	24
Perpetrator education level	0	0		
SES of family	0	0		

Abbreviations: CFR, Child Fatality Review; DCF, Department of Children and Families; IPV, intimate partner violence; SES, socio-economic status.

into those functional problems, whether to provide more benefits to current and future employees or to provide greater access to training on how to report evidence.

CONCLUSION

This study is one of the first to attempt to systematically examine CFR individual case reports. We have highlighted a few limitations in current CFR reporting practices in several states through a coding scheme. Due to the dearth in the literature surrounding this topic, more systematic studies are required before any clear recommendations can be made to state agencies. The outcomes of future research would assist policymakers and child protection workers in elucidating current policies as well as formulating more effective protocols in response to child fatalities.

CONFLICT OF INTEREST STATEMENT
We have no conflict of interest to disclose.

DATA AVAILABILITY STATEMENT
Data that support the findings of this study are available from the corresponding author upon request.

ETHICS AND CONSENT STATEMENT
This study did not involve human or animal subjects, so ethics approval and informed consent was not required.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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