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Case, Service and Family Characteristics of Households that Experience a Child Maltreatment Fatality in the United States

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Child maltreatment fatalities have increasingly received attention over the past three decades and yet there is a dearth of information concerning case, service and family/household factors associated with maltreatment fatalities. This is a US multi-state study of 135 child welfare workers who experienced the death of a child on their caseload. They reported on the case, service and family/household characteristics of a child who died on their caseload. Results indicate that workers had seen victims one week prior to their death and were closely monitoring families. The most frequently mentioned family characteristics included: parental unemployment, parental mental health, experiencing a major life event and parents' inappropriate age expectations of the child. Parental alcohol and substance use were more common among infant victims; and parental perceptions of the child being 'difficult' were more common among older victims. The results are discussed with regard to future research and prevention for the field.

'A US multi-state study of 135 child welfare workers who experienced the death of a child on their caseload'

KEY PRACTITIONER MESSAGES:

The primary findings of this study indicate that:

- Workers have regular contact with children leading up to the time of their death.
- Children die even when they are being closely monitored and have had a full-risk assessment.
- Families where children died were not using very many services.

'Families where children died were not using very many services'

KEY WORDS: child maltreatment fatality; service characteristics; child welfare workers; online survey methods

In 2009, 1770 children, or 2.34 per 100 000 children, in the US died as a result of abuse or neglect (US Department of Health and Human Services, 2010). These deaths are most often the responsibility of the victims' parents or caregivers (Kunz and Bahr, 1996). The field has increasingly paid attention to this

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particular outcome of child maltreatment. As a result, we know many of the child and perpetrator risk factors that are associated with child maltreatment fatalities (CMFs) (Chance, 2003; Douglas, 2005; Douglas and Cunningham, 2008; Durfee *et al*., 2002; Ewigman *et al*., 1993; Sabotta and Davis, 1992; Schnitzer and Ewigman, 2008), but large gaps in our knowledge remain, especially with regard to case and service characteristics and some family/household factors. The purpose of this paper is to present results from a US multi-state study of child welfare workers (CWWs) about the case, service and family/household characteristics of children on their caseloads who have died.

'The case, service and family/household characteristics of children on their caseloads who have died'

CMFs

According to official US statistics, in 2009, 1770 children died from maltreatment (US Department of Health and Human Services, 2010), but research confirms that the true number is likely much higher (Ewigman *et al*., 1993; Herman-Giddens *et al*., 1999). CMFs describe a wide range of causes of death that include active (e.g. assault/shaking) and passive behaviours (e.g. neglect/lack of supervision). In 2009, 36.7 per cent of the 1770 identified CMF victims died from a combination of abuse and neglect, 35.8 per cent from neglect and 23.2 per cent from physical abuse; the cause of death for the rest was due to less prevalent types of maltreatment such as medical, psychological or sexual abuse (US Department of Health and Human Services, 2010).

Victim Characteristics

'The strongest risk factor for becoming a CMF victim is age'

The strongest risk factor for becoming a CMF victim is age. Research overwhelmingly finds that younger children, especially under the age of one, are at the greatest risk of being killed. Data collected by the US federal government in 2009 found that 46 per cent of CMF victims were less than one year of age and 76 per cent were three years or younger (US Department of Health and Human Services, 2010). These findings are consistent with the literature using other national (Kunz and Bahr, 1996) and state datasets (Anderson *et al*., 1983; Beveridge, 1994).

'Racial and ethnic minorities are often over-represented among CMF victims'

Most studies have found a slightly higher rate of male victimisation in fatal maltreatment than female victimisation. National data show that in 2009, 53 per cent of CMF victims were male (US Department of Health and Human Services, 2010); between 1976 and 1985, 55 per cent of victims were also male (Kunz and Bahr, 1996). Similar findings have been reported at state-level (Anderson *et al*., 1983; Beveridge, 1994; Lucas *et al*., 2002). Racial and ethnic minorities are often over-represented among CMF victims. This has been true in both national and state statistics, especially among African Americans (Herman-Giddens *et al*., 2003; Kunz and Bahr, 1996; US Department of Health and Human Services, 2010). For example, one study found that African American children were represented at three times their rate in the general population (Levine *et al*., 1994).

Perpetrators of CMFs

The majority of perpetrators of CMFs are parents. National US statistics report that 75 per cent of fatalities in 2009 were perpetrated by biological parents

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(or biological parents acting in combination with another person). Of those parents, 32 per cent were committed by mothers or mothers and another individual, 16 per cent were committed by fathers or fathers and another individual and 22.5 per cent were committed by mothers and fathers together, with the remainder of cases being committed by non-parental caregivers (US Department of Health and Human Services, 2010). Data from the US Uniform Crime Reports indicate that of parent-child homicides, 52.5 per cent of perpetrators were mothers (Kunz and Bahr, 1996), the same is true for neglect-related deaths (Margolin, 1990). When the perpetrator is not the natural parent, he is most likely to be the parent's partner – a step-father or mother's boyfriend (Levine *et al*., 1994). Further, most perpetrators are young adults under the age of 30 (Chance and Scannapieco, 2002; Herman-Giddens *et al*., 2003; Kunz and Bahr, 1996). A handful of studies have found parental mental illness to be a contributing factor to CMFs (Fein, 1979; Korbin, 1987; Margolin, 1990), especially among older children (Lucas *et al*., 2002). Other research has found that parental mental health concerns, substance abuse, domestic violence and social isolation have no influence on distinguishing between fatal and non-fatal maltreatment (Chance and Scannapieco, 2002). The research on such risk factors for CMF has been understudied and deserves further attention.

'Of parent-child homicides, 52.5 per cent of perpetrators were mothers'

Parent-Child Relationship

Research suggests that the parent-child relationship may be key to understanding fatal child maltreatment. In a study of fatally and non-fatally maltreated children involved with child welfare services, the authors found that fatal maltreatment was associated with parents' unrealistic expectations of their children and parents' perceptions of their children's provoking behaviours (Chance and Scannapieco, 2002). Other research has found that maternal perpetrators often felt rejected by their children or interpreted their children's behaviour as intentional acts of provocation – even among infants and toddlers. Research has suggested that children who have parents with low levels of caring and attachment are at an increased risk for fatality (Graham *et al*., 2010). The parent-child relationship, however, remains largely unexplored and it warrants further attention.

'The parent-child relationship may be key to understanding fatal child maltreatment'

'The parent-child relationship, however, remains largely unexplored and it warrants further attention'

Family/Household Characteristics

Major life stressors, such as moving, unemployment and the birth of a child, are present in many of the families who fatally maltreat children (Lucas *et al*., 2002), especially among older children. One study found that in 26 per cent of families experiencing a CMF, the primary provider was unemployed, 40 per cent of the families had moved within the last year and, overall, the families had a high degree of mobility (Anderson *et al*., 1983). Household composition is also an important risk factor for maltreatment fatalities. As compared with children who die of natural deaths, children who live with non-family members are ten times more likely to become CMF victims than children who live only with two biological parents

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(Stiffman *et al*., 2002). CMF victims have more people, both children and adults, residing in their homes and are likely to have had a recent change in household composition (Chance and Scannapieco, 2002).

Gaps in the Literature and Current Study

'There is little information on the case and service characteristics of families'

Despite the knowledge that we have about CMF victims, perpetrators and their families/households, important gaps in the literature remain. For example, there is little information on the case and service characteristics of families where children die as a result of maltreatment. Among children who die, we do not know how long their families have been receiving services, when their CWW last saw them, the types of services that were recommended and if the family was compliant with services. The case and service characteristics of CMF victims and their families are the primary focus of this study.

There are a number of risk factors for non-fatal child maltreatment which have received little attention in the literature on CMFs; the field is largely silent on issues pertaining to parental substance abuse, domestic violence and parental psychiatric history (Lucas *et al*., 2002). Family and household characteristics will also be described in this study, however, there will be no comparison made with non-fatal cases because such data were not available. Thus, while it is not the primary focus, this paper also provides basic descriptive information about family and household characteristics including: parental mental health/substance abuse, domestic violence, major life events, social isolation, mobility/household composition and the parent-child relationship. The literature suggests that parental mental health will be a concern among the majority of families experiencing a CMF (Fein, 1979; Korbin, 1987), families will have recently experienced a major life event (Lucas *et al*., 2002), they will be especially mobile (Anderson *et al*., 1983) and, in a majority of families, the parent-child relationship will be a source of stress (Chance and Scannapieco, 2002). Finally, since infants are more at risk for fatality, this paper explores whether the case, service and family characteristics differ by age and sex of the victim; limited research has examined the influence of age on risk factors for CMFs (Kunz and Bahr, 1996; Lucas *et al*., 2002; Smithey, 1998). The literature only suggests that mental health concerns and major life stressors will be more prevalent among older (non-infant) victims.

'The literature suggests that parental mental health will be a concern among the majority of families'

'Mental health concerns and major life stressors will be more prevalent among older (non-infant) victims'

The following questions were addressed in this paper:

1. What are the case and service characteristics of victims' families who are involved with the child welfare system and who die from maltreatment?
2. What are the family and household characteristics of a child who dies from a maltreatment fatality?
3. Do the case, service and family characteristics of CMF victims differ by age of the victim?

These questions were addressed using a convenience sample of 135 CWWs from across the US. The use of a convenience sample was beneficial because most research on CWWs and maltreatment fatalities is office or agency-specific (Cooper, 2005; Regehr *et al*., 2002). Thus, results are usually agency-bound and may have limited generalisability. Thus, the use of a US multi-state sample

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allowed an examination of trends that were potentially common across agencies and states. Second, a study that involves many states and is not tied to specific agencies allows workers to participate without responses being tied to specific individuals. CMFs are rare enough events that responses or experiences could be traced back to individuals in agency-based studies. Finally, although as a convenience sample it is not representative of all CWWs, it is similar to nationally representative samples of CWWs (Barth *et al*., 2008).

'Examination of trends that were potentially common across agencies and states'

Methods

Procedure

Data for this study were collected as part of a larger study, Child Maltreatment Fatalities: Perceptions and Experiences of Child Welfare Professionals, from September 2010–January 2011. CWWs and managers were recruited to participate in an online survey that focused on CWWs' perceptions of and experiences with CMFs. Potential participants were recruited through: (1) online advertisements (e.g. Child Welfare League of America); and (2) postings on the Facebook pages of the National Association for Social Work and chapter affiliates. Most responses, however, came from (3) announcements to the Child Maltreatment Research Listserv (maintained by the National Data Archive on Child Abuse and Neglect, Cornell University), where members in the field forwarded the recruitment statement to workers and supervisors; and (4) through direct appeals that were emailed to the most appropriate and easily identified agency administrator in each state.

Individuals who responded to the solicitation were directed to the online survey which was created using Survey Monkey. Potential participants were informed of their rights as a participant in the study, including that some of the questions may cause them distress. Individuals were assured that they could skip any questions that they liked and cease participation at any time. On the final page of the survey, participants were given resources to national hotlines and websites where they could seek assistance for psychological distress should they need it after taking the survey. The methods for this study were approved by the Institutional Review Board at Bridgewater State University.

'Individuals were assured that they could skip any questions'

Workers received a definition about the topic of the study, CMFs, from the National Child Abuse and Neglect Data System (2000) and were asked if they had experienced the death of a child on their caseload. In most instances, the responses concerning the death of the client were clear. In 54 instances, additional coding was required, which was performed by the researcher with the assistance of a former state child welfare administrator with 30 years of experience in the child welfare profession. First, despite the introduction to the survey and instructions, 34 deaths were determined to be non-CMF and included instances of deaths due to car accidents, illness, suicide, etc. Second, five cases were coded as CMFs and primarily concerned instances of physical neglect, such as a young child drowning in a bathtub or pool without supervision. Third, 12 cases indicated that a fatality occurred, but did not provide further information; they were considered CMFs and retained for analyses. Fourth, in three instances, CWWs provided information about the death, but did not indicate the level of responsibility, such as 'child drowned'; these cases were excluded.

'In most instances, the responses concerning the death of the client were clear'

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'This paper presents the results of 135 workers who experienced a maltreatment fatality of a child on their caseload'

This paper presents the results of 135 workers who experienced a maltreatment fatality of a child on their caseload. Of the 452 participants in this study, 445 answered the question pertaining to losing a client. Specifically, 43.4 per cent (n = 193) had experienced the death of a child; in 7.5 per cent of cases (n = 34), the death was a non-CMF; 35.8 per cent (n = 154) had dealt with a death that was a CMF; and only 30.5 per cent (n = 135) of the total sample provided enough information about their CMF experience to be retained for analyses.

Participants

CWWs

Table 1 shows that almost 15 per cent of CWWs in this sample identified as a racial or ethnic minority, with the largest per cent being African Americans/Blacks (9.5%). The remainder (85.7%) of the CWWs identified as White. The sample of CWWs was mid-career with a mean age of 44.7; it was well educated, with 41.7 per cent reporting that they had a bachelor's degree and 57.5 per cent a master's degree. The majority of the sample had a degree in social work (58.7%) or human services (4.8%). Over a quarter of the sample (28.6%) had a degree in another social science discipline (28.6%), the rest (7.9%) had a degree in another field. The CWWs came from 16 different states, with large percentages in California (26.0%), North Carolina (18.9%), Wisconsin (14.2%), Louisiana (10.2%) and New York (10.2%).

'This sample is comparable to a nationally representative sample of CWWs'

This sample is comparable to a nationally representative sample of CWWs (Barth *et al*., 2008) in terms of gender (87% female in the current study vs 81% in the nationally representative sample); it has more workers with a social work degree (59% vs 40%), but fewer with a master's degree (58% vs 69%); and there is less racial diversity – the sample was more White (86% vs 76%) and had fewer African American/Blacks (10% vs 20%) or Latinas (6% vs 9%).

Maltreatment Fatality Victims

The characteristics of CMF victims about which the CWWs reported are displayed in Table 1. The majority of CMFs (74.62%) took place between 2000 and 2011. With the exception of three variables (age of CMF victim, $t = -2.34$, $p = 0.02$; length of time that child welfare services were involved before the CMF, $t = -2.04$, $p = 0.04$; and whether parents had a psychological evaluation, $t = 2.08$, $p = 0.05$), there were no statistically significant differences in the reporting of these data based on the year in which the fatality occurred.

'Two-thirds of the child sample was male; the majority were infants under the age of one'

Two-thirds of the child sample (65.15%) was male; the majority (50.76%) were infants under the age of one. The remainder of the child sample was very young, with only 9.86 per cent of the sample eight years or older. Over half (54.93%) of the CMF victims died as a result of physical abuse, followed by 'other causes of maltreatment' (25.93%) and then physical neglect (22.96%). The relationship of the perpetrator to the victim was most often mothers (35.77%), followed by fathers (19.51%), unknown (19.51%) and step-fathers (18.70%). The remaining persons responsible for the deaths are listed in Table 1, as well as the region in which the victims resided.

Instrument

The survey asked participants about their knowledge of risk factors for CMF, their experience of having a child die on their caseload, an assessment of their

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Table 1. Demographics of child welfare workers and maltreatment fatality victims

Demographic characteristic	Per cent/Mean(SD)
CHILD WELFARE WORKERS	
Current age – Mean(SD)	44.7(10.30)
Gender – Female (%)	87.3
Race/Ethnicity	
American Indian	0.8
Asian	1.6
African American/Black	9.5
Latino/Hispanic	6.3
Pacific Islander	0.8
White	85.7
Current education	
Associate's degree	0.8
Bachelor's degree	41.7
Master's degree	57.5
Area of specialisation	
Social work	58.7
Human services	4.8
Other social science field	28.6
Other	7.9
Current region of employment	
North (MA, NY, PA)	11.1
South (LA, NC, OK, TX, VA, WV)	38.5
Midwest (IN, OH, WI)	20.7
West (CA, CO, OR, WA, WY)	29.6
CHILD MALTREATMENT FATALITY VICTIMS	
Year of fatality	
1970–79	1.54
1980–89	5.38
1990–99	18.46
2000–09	63.85
2010–11	10.77
Age of child (%)[a]	
Less than 1 year	50.76
1 year	8.35
2 years	15.91
3 years	8.33
4–7 years	6.82
8–11years	7.58
12–15 years	2.28
Gender of child – Male (%)	65.15
Cause of death[b] **(Select all that apply)**	
Medical neglect	12.59
Physical abuse	54.93
Physical neglect	22.96
Psychological abuse	1.48
Sexual abuse	1.48
Other causes of maltreatment	25.93
Individual responsible for fatality (n = 123)	
Mother	35.77
Father	19.51
Step-mother/Intimate partner of parent	0.81
Step-father/Intimate partner of parent	18.70
Sister	0.0
Brother	1.63
Grandmother	2.44
Grandfather	1.63
Foster mother	5.69
Foster father	0.81
Day care provider	2.44
Unknown	19.51
Region in which the fatality victim resided (%)	
North (CT, MA, NY, PA)	11.9
South (LA, NC, OK, TX, VA, WV)	38.1
Midwest (IL, IN, OH, WI)	20.9
West (CA, CO, OR, WA, WY)	29.1

[a, b] Categories used in other sources including the Department of Health and Human Services (2010).

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practice behaviours, a measure of their trauma symptomatology and demographic questions. The current paper focuses only on questions to CWWs pertaining to having a child die on their caseload. The survey inquired about the demographic questions of the children, the family's involvement with child welfare services, parent characteristics, family/household characteristics, the parent-child relationship and services provided to the family. Questions that inquired about the child, parent, family/household and parent-child relationship asked CWWs to rate the extent to which they agreed with each statement on a scale of 1–4, where 1 = Strongly Disagree and 4 = Strongly Agree. For example, 'Parental drug use was a major problem in this child's family,' 'This child's family had non-family members living in the household' and 'This child's parents/caregivers saw their child as 'difficult' or ill behaved, in general.' These questions were developed from a review of the literature (see Douglas, 2005) and focused on areas where there are gaps in knowledge. The survey was also pre-tested on a small sample of caseworkers and supervisors in Massachusetts and Texas before full implementation for data collection.

'The survey was also pre-tested on a small sample of caseworkers and supervisors before full implementation for data collection'

Results

Case and Service Characteristics

Table 2 displays the results of the case and service characteristics of families who suffered a CMF. The table displays the per cent of CWWs who selected Agree or Strongly Agree for each of the survey questions. Families had been involved with the child welfare system for about ten months (median = 10.38, range = 0–300 months) and workers had last seen the children just over one week (median = 1.00 weeks, range = 0–104 weeks) before the CMF, with 85 per cent seeing the child within the past four weeks. Most of the cases on which the CWWs reported were known to child welfare agencies before the fatality. Some respondents (11.9%) volunteered that the CMF was the impetus for opening the case, but this question was not part of the survey.

The survey asked CWWs to report on the services that were provided to families before the fatality. A high proportion (81.60%) reported that the agency had conducted a full-risk assessment on the family and two-thirds (63.49%) reported that the agency was closely monitoring the family when the child died, even though almost 40 per cent of families were not regularly using the services to which they had been referred. About one-third of families had been involved with psychotherapy, parenting education classes and psychological testing at the time of the child's death. A small proportion of families (13.9%) were using homemaker services.

'About one-third of families had been involved with psychotherapy, parenting education classes and psychological testing'

Family and Household Characteristics

Responses to each question in this section were dichotomised so that Strongly Agree/Agree = 1 and Strongly Disagree/Disagree = 0. This allowed for the computation of percentages to determine how common each characteristic was for families. These results are presented in Table 2. Table 2 also displays the results of family and household characteristics of cases that experienced a CMF. The parents presented with a wide range of challenges. CWWs were asked to report on four family characteristics: domestic violence, alcohol use,

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Table 2. Case, service and family/household characteristics of families suffering a child maltreatment fatality[a]

Characteristic	Median/Per cent[c]
Case characteristics	
Opened as a new case upon death (%)	11.9
Time family involved with CPS in months (Median)	10.38 months
Time since caseworker saw the child, in weeks (Median)	1.00 week
Saw child within last four weeks	85.4
Services provided	
Full-risk assessment conducted on family	81.60
Family was closely monitored when child died	63.49
Parents attending/completed parenting education	35.48
Parents had psychological evaluation completed	29.03
Parents receiving counselling/psychotherapy when child died	36.37
Parents receiving homemaker services when child died	13.94
Parents referred for social services, not using regularly	39.67
Parent characteristics	
Domestic violence major problem	41.52
Parental alcohol use major problem	23.72
Parental drug use major problem	36.44
Parental mental illness major problem	55.93
Parent-child relationship	
Parents had reasonable attachment to child	67.24
Parents had inappropriate age expectations of child	65.25
Parents had reasonable knowledge of child development	51.72
Parents saw their children as difficult/ill-behaved	35.34
Family/household characteristics	
Family experienced frequent unemployment	63.25
Family moved a lot	35.04
Family recently experienced major life event	50.86
Family was geographically isolated	13.56
Family was socially isolated	44.92
Non-family members living in household	30.25

CPS = Child Protective Services
[a] The sample size for these questions ranges from $n = 116–125$.
[b] The data are presented in alphabetical order.
[c] Per cent reporting Agree or Strongly Agree

drug use and mental illness. Parents whose children suffer a CMF were most likely to have a mental illness, 55.93 per cent, as reported by the workers. The prevalence of the remaining characteristics, in descending order, were domestic violence (41.52%), drug use (36.44%) and alcohol use (23.72%). The dichotomised parental characteristics were also summed in order to gain an overall understanding of the complexities that families faced. This count variable ranged from 0 to 4, with a mean of 1.58 different parental concerns endorsed for families where children died. The majority of families struggled with one or two parental problem areas.

'Parents whose children suffer a CMF were most likely to have a mental illness'

Between one and two-thirds of the CWWs endorsed items that were related to the parent-child relationship. The most common characteristics were that parents had a reasonable attachment to the child (67.24%), reasonable knowledge of child development (51.72%), but also inappropriate age expectations of the child (65.25%). At the lowest end, 35.34 per cent of parents saw their children as difficult or ill-behaved. The parent-child relationship variables were also summed in order to create a count variable. This variable ranged from 0 to 4, with a mean of 2.17. The majority of families struggled with two or three parent-child problems areas.

'The parent-child relationship variables were also summed in order to create a count variable'

With regard to household characteristics, almost two-thirds (63.25%) of families who experienced a CMF were frequently unemployed. Other more common problem areas included recently experiencing a major life event

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(50.86%) and being socially isolated (44.92%). Family characteristics that were less common included moving a lot (35.04%), having non-family members living in the household (30.25%) and being geographically isolated (13.56%). The family/household characteristic variables were also summed into a count variable, which ranged from 0 to 6, with a mean of 2.36. The majority of families struggled with two or three household problem areas.

'The majorityof families struggled with two or three household problem areas'

Differences based on the Victim's Age

Bivariate analyses were conducted to determine if the case, service or family/household characteristics varied by age of the victim. Children are most at risk for death during the first year of life, thus the sample was divided into two groups: infants (n = 67) and non-infants (n = 68). Table 3 displays the summary statistics for *t*-tests: infants were more likely to have parents who abused drugs and alcohol and experienced frequent unemployment. Infants were less likely to have non-family members living in the household and parents of infants were also less likely to see their children as difficult or ill-behaved. There was also a trend towards significance ($p = 0.065$) among families with infants who had experienced a major life event within the past year, which could have included the birth of the child itself.

Discussion

The purpose of this study was to examine the case characteristics and services provided to families by the child welfare system before a child unexpectedly died as a result of maltreatment. CWWs described these services, in addition to the victims and their family/household. The results indicate that CMF victims were closely monitored in the days/weeks leading up to their fatality, but less than half of families were receiving standard social services.

'CMF victims were closely monitored in the days/weeks leading up to their fatality'

Services Received

This is among the first US studies to have explored services provided by the child welfare system to children/families in the events leading up to a child's death. According to the CWWs in this study, the children who died had been seen relatively recently by a child welfare agency worker. On average, families had been involved with protective services for ten months and had been seen by a worker just over one week before their child's death. Over 85 per cent of the workers reported seeing the child within the past month – a standard that is commonly used in child welfare practice and policy (Child and Family Services Improvement Act 2006, Social Security Act, title IV-B, s. 3525. United States Congress). Further, two-thirds of families were reportedly being closely monitored by the agency when the child died. Only 12 per cent of cases in this study were opened as a new case upon the death of a child. Other research has found that between 30 and 40 per cent of cases were previously known to child welfare prior to death (Anderson *et al*., 1983; Beveridge, 1994). The likely discrepancy between the finding in this paper and that in the literature is that this study focused on children who were already known to child welfare services and died. Some workers volunteered that the death prompted the case to open when asked how long the case had been open prior to the death of the child.

'Over 85 per cent of the workers reported seeing the child within the past month'

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Table 3. Summary statistics for *t*-test of family, child and service characteristics of families suffering a child maltreatment fatality by age of the child[a]

	Infants		Non-infants					
Characteristics: Case, service, family	Mean	SD	Mean	SD	*df*	*t*	*p*	Cohen's *d*
Case characteristics								
Time since caseworker saw child before death, in weeks	4.09	14.70	7.49	19.37	89	-0.95	0.344	-0.201
Time CPS was involved with child before death, in months	28.81	49.35	21.29	35.28	122	0.98	0.331	0.177
Services provided								
Full-risk assessment conducted on family	3.21	0.71	3.13	0.81	123	0.65	0.519	0.117
Family was closely monitored when child died	2.71	0.91	2.59	0.92	124	0.71	0.479	0.128
Parents attending/completed parenting education	2.16	0.85	2.18	0.91	122	-0.10	0.919	-0.018
Parents had a psychological evaluation completed	2.31	0.89	2.11	0.81	122	1.32	0.190	0.240
Parents receiving counselling/psychotherapy	2.23	0.83	2.16	0.95	119	0.43	0.670	0.079
Parents receiving homemaker services	1.95	0.76	1.82	0.68	120	1.04	0.301	0.190
Parents referred for social services, not using regularly	2.35	0.83	2.31	0.91	119	0.31	0.755	0.057
Parent characteristics								
Domestic violence major problem	2.29	0.79	2.38	0.90	116	-0.58	0.566	-0.108
Parental alcohol use major problem	2.22	0.88	1.85	0.68	107	2.57	0.011	0.497
Parental drug use major problem	2.53	1.03	2.02	0.87	111	2.94	0.004	0.558
Parental mental illness major problem	2.66	0.97	2.57	0.96	116	0.50	0.619	0.093
Parent-child relationship								
Parents had inappropriate age expectations	2.71	0.88	2.75	0.91	116	-0.26	0.795	-0.048
Parents had reasonable knowledge of child development	2.41	0.84	2.52	0.71	114	-0.72	0.474	-0.135
Parents saw child as difficult or ill-behaved	2.05	0.83	2.41	0.89	113	-2.21	0.029	-0.416
Parents had reasonable attachment to child	2.65	0.81	2.75	0.71	114	-0.68	0.496	-0.127
Family/household characteristics								
Family experienced frequent unemployment	2.81	0.82	2.47	0.94	112	2.13	0.035	0.402
Family moved a lot	2.27	0.83	2.17	0.90	115	0.62	0.538	0.116
Family recently experienced major life event	2.60	0.84	2.33	0.76	114	1.86	0.065	0.348
Family was geographically isolated	1.79	0.64	1.97	0.82	116	-1.27	0.205	-0.236
Family was socially isolated	2.31	0.84	2.39	0.85	116	-0.55	0.586	-0.102
Non-family members living in household	1.98	0.75	2.40	0.89	114	-2.76	0.007	-0.517

Note: The family characteristics are measured on a scale of 1–4, where 1 = Strongly Disagree and 4 = Strongly Agree
CPS = Child Protective Services
[a] The data are presented in alphabetical order.

Families suffering a CMF were receiving a variety of services. A large majority of CWWs (82%) reported that the agency had conducted a full-risk assessment on the family before the child died. Roughly one-third of families were using some form of services: counselling/psychotherapy, psychological evaluation and parenting education, although families might have been receiving additional services that were just not part of the current study. These findings are consistent with US national research on child welfare families, which found similar rates of use of psychotherapy services (Staudt and Cherry, 2009). At the same time, almost 40 per cent of the sample had been referred for services, but were not regularly using them. Compliance with service plans is an integral part of child welfare services (Dawson and Berry, 2002; Smith, 2008) and failure to comply is usually accompanied with higher levels of risk for children (Littell, 2001). That said, a review of the literature indicates that drop-out rates for therapeutic services ranges from 35 to 70 per cent (Dawson and Berry, 2002), thus, it is possible that lack of compliance with social services does not place children at risk for a fatality. The relationship between service compliance and CMF is an area for future research.

'Compliance with service plans is an integral part of child welfare services'

Family and Household Characteristics

This study also explored the characteristics of victims' families/households and how these differed by age; some of these had only been examined

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previously by single studies. The characteristics displayed by at least half of the sample included: frequent unemployment, experiencing a major life event, parental mental illness and parent-child relationship factors. The first two are likely closely tied to the age of the child. Parents of infant victims were more likely to have recently experienced a major life event, which includes having a new child. Parents with infants, especially mothers, are especially likely to be unemployed at this particular time in their lives (Percheski, 2008). Thus, these characteristics are likely related to each other.

'Over half of CWWs reported that parents of children who died of maltreatment had mental health concerns'

Over half of CWWs reported that parents of children who died of maltreatment had mental health concerns. Previous research has suggested that parental mental illness may play an important role in understanding CMFs, but this characteristic has not been systematically examined. One study that did examine the potential role of parental mental illness in predicting which children suffer fatal versus non-fatal injuries found no relationship between a history of parental mental problems and CMF (Chance and Scannapieco, 2002). Parental alcohol and drug use ranged from 24 to 36 per cent, respectively, and was more prevalent among infant victims. This finding is somewhat higher than a large national study of child welfare families, which found a rate of 23 per cent (Staudt and Cherry, 2009).

Parental mental health was once considered the primary source of child maltreatment, before it was rejected in the 1970s in favour of a social stress model of maltreatment (Gelles, 1973, 1996; Sedlak, 1997; Stith *et al*., 2009). Research on a national US child welfare sample found that 25 per cent of mothers working with the system were depressed (Administration for Children and Families, 2008); a study of hundreds of thousands of US case-level records found that about 17 per cent of child welfare cases involved parental mental health problems (Staudt and Cherry, 2009). These percentages are both lower than the results of this study, thus, parent psychopathology may be more pertinent to maltreatment fatalities, as opposed to general areas of maltreatment. Undoubtedly, this is an area which deserves significant attention in future research.

'About two-thirds of parents whose children experienced a maltreatment fatality had inappropriate age expectations of their children'

About two-thirds of parents whose children experienced a maltreatment fatality had inappropriate age expectations of their children. A study of mothers incarcerated for child homicide had similar findings (Korbin, 1987). Research on child welfare populations has found that children of parents who have inappropriate expectations of their children are at an increased risk for fatal maltreatment (Chance and Scannapieco, 2002); likewise, children of parents who are considered to have low levels of 'parenting capacity' are also at an increased risk for death, as compared with other children in the child welfare system (Graham *et al*., 2010).

On the other hand, two-thirds of the parents were rated as having a 'reasonable' attachment to their deceased child and about half of the parents were judged to have 'reasonable' knowledge of child development. Previous research in this area has yielded differing results. One study found that the level of parenting skills was not related to an increased risk for fatality (Chance and Scannapieco, 2002); another found that children with parents who have a poor quality of connection to their children and who score low in caring and knowledge about parenting are at an increased risk for fatality (Graham *et al*., 2010).

About one-third of parents whose children suffered a fatality saw their children as difficult or ill-behaved, a finding that was more true among non-infants. This is consistent with previous research; a nationally representative sample of children involved with the child welfare system found that 25–30 per cent under the age of

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six had behavioural problems (Stahmer *et al*., 2005). Previous research has shown that children who engage in provoking behaviours are at an increased risk for CMF (Chance and Scannapieco, 2002; Graham *et al*., 2010).

Finally, over 40 per cent of the families in this study also experienced domestic violence. This is higher than a national study of general child welfare families, which found a rate of 29 per cent (Hazen *et al*., 2004). Thus, domestic violence is an area that deserves more attention in future research on CMFs.

'Over 40 per cent of the families in this study also experienced domestic violence'

Limitations

There are several limitations of this study. First, as noted, the sample of CWWs is a convenience sample. It is not representative of CWWs in the US, nor the states in which they work. The sample is similar to CWWs nationwide, as discussed in the Methods section. Second, the sample is not representative of US CMF cases or cases outside of the US. It is, however, similar to national US samples (US Department of Health and Human Services, 2010). The present sample did not include a measure of child race and ethnicity, which is a limitation as well.

'The sample of CWWs is a convenience sample'

Third, the data come from a secondary, as opposed to primary, source of information. CWWs reported about the cases where a child had experienced a maltreatment fatality as they best remembered it. There is a chance that they remembered the details of the incident incorrectly or in such a way that was favourable to them, or there was case information that was simply unknown to them. That said, large bodies of research are conducted using retrospective data, especially those that involve significant life events (Arias, 2004; Carson *et al*., 1991; Derevensky and Deschamps, 1997; Finkelhor *et al*., 1997), and it is considered to be a legitimate method in social science research (Brennan *et al*., 2007; Kenkel *et al*., 2003). Fourth, the CWWs reported on cases that were sometimes decades old. Nonetheless, almost three-quarters of the deaths occurred within the last decade and there were only three statistically significant differences based on the year of death. Finally, the data presented in this paper are descriptive only; there was no comparison group of non-fatally maltreated children. Nevertheless, the results provide information on a variety of case, service and family/household indicators that were previously unexplored.

'The results provide information on a variety of case, service and family/household indicators that were previously unexplored'

Conclusions and Recommendations

This study is among the first to report on the case and service characteristics of families where a child dies from maltreatment. Data are also presented on many family/household characteristics that were either unexplored prior to this study or had received limited attention in the literature. This paper makes important contributions to the field by reporting on the services that families received in the events leading up to the fatality. The victims of this study had been seen by their workers a median of one week before their deaths. Thus, even with close monitoring, the child welfare system was unable to stop the deaths of the children who are the subject of this study, even if the deaths of other children from other families may have been averted. Further, CWWs reported having conducted a full-risk assessment on the families and a minority indicated that their agency was closely monitoring the family when the child died. Finally, only about one-third of families were receiving some form of

'Unexplored prior to this study or had received limited attention in the literature'

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'Future research should assess the efficacy of child welfare practice techniques to prevent CMF'

services about which this study asked when their children died. This is among the first descriptive information that the field has concerning the provision and use of services among families where a child is fatally maltreated. The results suggest that workers had close contact with the families, but that only a minority of them were using social services. Future research should assess the efficacy of child welfare practice techniques to prevent CMF, how agencies prepare CWWs to recognise signs for potential CMF and how they support them to take protective action.

The findings of this study also indicate that the CMF victims and their families presented with a wide range of challenges and co-occurring risk factors. Nonetheless, the characteristics which affected the largest majority of families were: (1) parental unemployment, (2) parental mental illness, (3) experiencing a major life event and (4) parents having inappropriate expectations of their child. The findings in this study are worthy of replication, with either samples similar to those reported in this study or samples that come from state or national-level child welfare data systems. These findings may be a useful guide for CWWs, visiting nurses and other service providers working with vulnerable families. Children and families exhibiting some of these characteristics may be at an increased risk for CMF and, thus, may warrant additional assessments, support or intervention.

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