ABSTRACT

This article describes the methodology of the first Canada-wide study of the incidence and characteristics of reported child abuse and neglect. Child welfare investigators from a random sample of 51 child welfare service areas completed a three-page survey form describing the results of 7,672 child maltreatment reports received during the months of October to December 1998. The study documented a 90% participation rate and a 95% item completion rate. An estimated 135,571 child maltreatment investigations were completed, a rate of 21.52 investigated children per 1,000 children in Canada in 1998. The Canadian Incidence Study of Reported Child Abuse and Neglect is a rich database that will provide researchers with important contextual information on reported child maltreatment in Canada and a comprehensive source of information on factors associated with key service decisions made by child welfare investigators.

ABRÉGÉ

Cet article présente la méthode de la première étude pancanadienne de l'incidence et des caractéristiques des rapports de mauvais traitements et de négligence envers les enfants. Des enquêteurs de 51 secteurs de service de protection de l'enfance sélectionnés au hasard ont décrit, dans un questionnaire de trois pages, les résultats de 7 672 rapports de violence envers les enfants présentés entre octobre et décembre 1998. Le taux de participation était de 90 %, et le taux de réponse, de 95 %. En 1998 au Canada, on aurait fait enquête sur 135 571 cas de violence envers les enfants, soit 21,52 enquêtes pour 1 000 enfants. Cette étude constitue une riche base de données qui offre d'importants renseignements contextuels sur les cas de violence envers les enfants signalés au Canada, ainsi qu'une source exhaustive d'information sur les facteurs associés aux décisions prises par les services de protection.

Canadian Incidence Study of Reported Child Abuse and Neglect: Methodology

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There currently is no source of comprehensive, Canada-wide statistics on children and families investigated because of suspected child abuse and neglect. In Canada most child maltreatment statistics are kept on a provincial or territorial basis. Differences both in definitions of maltreatment and methods for counting cases mean that it is not possible to aggregate provincial and territorial statistics.¹ The amount of information collected at the provincial and territorial level is itself very limited, providing few details on children and families investigated by child welfare services. This paucity of provincial and national data hampers the ability of governments and social service providers to develop national and regional policies and programs that address child maltreatment. The absence of uniform national data is also a major obstacle for child maltreatment researchers who do not have access to the epidemiological data needed to contextualize findings based on clinical samples.

The only Canada-wide child maltreatment study that has been conducted examined the self-reported childhood prevalence of sexual abuse in a nationally representative sample of adult men and women.² In addition, several province-wide population prevalence studies examining self-reported physical and sexual abuse have been conducted.^{3,4} While these studies provide critical information about prevalence and correlates of child physical and sexual abuse,

they do not include information on cases that are reported to child welfare authorities, and do not cover neglect or emotional maltreatment. The 1993 Ontario Incidence Study of Reported Child Abuse and Neglect (OIS) is the only province-wide study to examine the full range of forms of maltreatment investigated by child welfare authorities and a precursor of the present study.⁵

Child maltreatment statistics are limited in most countries⁶ with the exception of the United States. In addition to numerous population based prevalence studies, there are two major sources of statistics on reported child maltreatment in the United States. The National Child Abuse and Neglect Data System (NCANDS) provides the most extensive annual statistics on investigated maltreatment in the United States.⁷ Beyond state official statistics, three cycles of the National Incidence Study (NIS)⁸ have collected data directly from child protection workers and from other professionals who may be aware of cases that are not reported to protective services. Outside of the United States, however, there is little information on national data collection efforts.

The Canadian Incidence Study of Reported Child Abuse and Neglect (CIS)⁹ is the first Canadian study designed to examine the scope and characteristics of reported child abuse and neglect across Canada and to monitor the short-term outcomes of these investigations, including substantiation, placement, child welfare court and criminal charges. The study uses a sample survey design similar to the design used in the OIS⁵ and to the child protection services portion of the NIS⁸ in the United States. This paper describes the study methodology and reports on the incidence estimates.

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METHODS

The CIS collected information directly from child welfare workers about investigated children and their families as they came into contact with child welfare authorities (Figure 1). Screened-out uninvestigated reports were not included because screening out practices vary considerably across Canada, and tracking these cases would have significantly increased the study costs and response burden for participating offices. Likewise, because most child welfare authorities do not have a systematic mechanism for tracking new allegations on open cases, new allegations on already open cases were not included.

A stratified cluster sampling design was used first to select a representative sample of child welfare offices and then to sample cases within these offices. All but four sites were randomly selected from each province and territory (Figure 2). The non-randomly selected sites were included on the basis of representativeness and accessibility. To ensure adequate representation, Aboriginal child welfare authorities were sampled from a separate stratum. Cases opened for service between October 1 and December 31, 1998 were eligible for inclusion. The Province of Alberta collected data from September 15 - December 15, 1998 due to a major change in the administrative structure of child protection services scheduled for January 1, 1999. Three months was considered to be the optimum period to maintain participation and compliance with study procedures. Consultation with service providers indicated that activity during the study period is typical of the whole year, although potential seasonal effects in the types of cases investigated were not examined. Opened cases were screened by the investigating workers to identify cases that met CIS definitions of suspected maltreatment (Figure 2: Box 3). While investigating alleged maltreatment is the core mandate for most child welfare authorities, situations that are considered to involve children at risk of maltreatment are also opened for preventive service. In Quebec, agencies are also mandated to investigate non-maltreatment situations involving child behaviour problems (Loi de la pro-

TABLE I
Information Collected on CIS Child Maltreatment Investigations

	Caregivers	Household	Child
Demographic Characteristics	Age Gender Education Income source Ethno-cultural background Language	Other children in the home Other adults in home Custody dispute	Age Gender
Functioning / Risk Factors	Childhood history of abuse Substance abuse Criminal activity Cognitive impairment Physical & mental health Social supports	Income level Housing	Developmental disabilities or delays, health conditions & FAS Depression, anxiety, self-harming, & substance abuse Special education class & irregular school attendance Behaviour problem, negative peer involvement, violence, running away from home, prostitution, criminal activity
Maltreatment Investigation	Response to investigation Response to abuse (in confirmed sexual abuse cases)	Previous child welfare contact Referrals for additional services	Forms of maltreatment Alleged perpetrators Duration of maltreatment Physical & emotional harm Substantiation of maltreatment Criminal and child welfare court Out of home placement

tection de la jeunesse (Youth Protection Act), L.R.Q., chapitre P-34.1). For jurisdictions using family-based case counts, a final case selection stage was required to identify the specific children who had been investigated. The final sample consists of 7,672 child maltreatment investigations involving children under 16 (Figure 2: Box 4).

Instruments

The main CIS survey instrument – based on instruments used in the OIS⁵ and the NIS⁸ – is a three-page scanable fixed response form designed to capture information directly from investigating child welfare workers. During pilot testing, workers estimated that the instrument took an average of 10 minutes to complete. The first page serves as a screen to identify cases of suspected maltreatment (see Figure 2). The second page covers information on up to two parents, as well as information about the family's child welfare service history. The third page collects information on every investigated child and on child-specific investigations outcomes (Table I).

A significant challenge for the study was to overcome the variations in definitions of maltreatment used by different jurisdictions. The CIS uses a common classification system across all jurisdictions which includes 22 forms of maltreatment subsumed under 4 main categories: physical abuse, sexual abuse, neglect, and emotional maltreatment. This classification reflects a broad definition

of child maltreatment, and includes several forms of maltreatment that are not specifically included in some child welfare statutes (e.g., educational neglect and exposure to family violence). To ensure that cases involving multiple forms of maltreatment were tracked, every investigation could be classified under up to 3 forms of maltreatment.

Data collection

On-site training was provided to participating child welfare workers to introduce them to the study and review the instruments and data collection procedures. Using case vignettes, workers completed study forms and discussed discrepancies in ratings to ensure consistency. Each worker was given a study guide with definitions for all the items and a summary of study procedures. Researchers provided additional support during follow-up site visits. Training and site visits proved to be successful strategies for promoting participation in the CIS. The average participation rate was 90%, ranging from a low of 75% to a high of 100%. Item completion rates were over 95% on all items.

Completed forms were sent to the two central data entry locations in Toronto and Montreal. Forms were verified twice for completeness and inconsistent responses: first on site and then a second time at the data entry locations. Every effort was made to contact workers if there was incomplete information on key variables or major

inconsistencies. Consistency in form completion was examined by comparing the selected maltreatment codes to the brief case narratives provided by the investigating workers. Reliability of the verification procedure was checked by comparing project staff's ratings of the case narratives on a sample of 220 cases (20 cases randomly selected from cases collected by the 11 site-based researchers). Percentage of agreement varied from a low of 82% (Cohen's kappa = 0.58) between site-based researchers and central office researchers, to a high of 94% agreement (Cohen's kappa = 0.87) between central office researchers.

Data processing

Two sets of weights were applied to derive national annual incidence estimates. Results were annualized to estimate the volume of cases investigated by each study site over the whole year. The annualization weights are the ratio of cases opened by each site in 1998 to cases sampled for the CIS. The average annualization weight was 4.76, excluding three larger sites where further case sampling during the three months generated a higher annualization weight of 9.58. To account for the non-proportional sampling design, regional weights were applied to reflect the size of each site relative to the child population in the region that the site was sampled from. The average regionalization weight was 5.18. National incidence estimates were calculated by dividing the weighted esti-

TABLE II
Estimated Count, Percent of Investigation, Incidence Rate, Standard Error and Coefficients of Variation for
Primary Categories of Maltreatment in Canada in 1998

Primary Category of Maltreatment	Number of Child Investigations	Percentage of Investigations	Incidence per 1,000 Children	Standard Error	Coefficient of Variation
Physical Abuse	41,551	30.6%	6.59	0.61	9.3
Sexual Abuse	14,406	10.6%	2.29	0.28	12.3
Neglect	53,922	39.8%	8.56	1.02	12.0
Emotional Maltreatment	25,694	19.0%	4.08	0.68	16.6
Total Child Investigations	135,573	100%	21.52	2.20	10.1

mates by the child population (0 to 15 year olds).

Some investigations involved children who were previously investigated in the same year. While each investigation represents a new incident of maltreatment, confusion arises if these investigations are taken to represent an unduplicated count of children. The CIS estimates cannot be unduplicated because the annualization weights are based on unduplicated service statistics provided by the study sites. To avoid confusion, the CIS uses the term "child investigations" rather than "investigated children" since the unit of analysis is the child investigation. Although most child welfare data systems report numbers of investigations as opposed to investigated children, the 1996 NCANDS in the United States found that for states reporting both duplicated and unduplicated counts, unduplicated counts were 15% lower than incident-based counts.⁷

Sampling error was estimated on the basis of the stratified cluster sampling design used. Because in most instances there was only one site (cluster) per strata, comparable strata were collapsed and variance was estimated from the variability between sites within the collapsed strata.¹⁰

RESULTS

An estimated 135,573 child maltreatment investigations were conducted, a rate of 21.52 maltreated children per 1,000 children in Canada in 1998. Investigating workers could identify a minimum of one and a maximum of three categories of maltreatment for each investigation. The primary category was the type of maltreatment that best characterized the investigation. Some form of neglect was identified as the primary category of maltreatment for almost 40% of all investigated mal-

treatment investigations, a rate of 8.56 investigated children per 1,000 in Canada during 1998. Investigating workers identified physical abuse as the primary category of maltreatment in more than 30% of the estimated investigations, or 6.59 children per 1,000 in Canada. Emotional maltreatment was the primary reason for the investigation for an additional 19% of the estimated investigations, while sexual abuse was indicated for the remaining 10.6% of the investigations or 2.29 per 1,000 children in Canada in 1998. For most estimates, standard errors were within an acceptable range, with coefficients of variation (CVs) ranging between 8 and 16%. Statistics Canada considers CVs under 16 to be reliable, warns that CVs between 16 and 33.3 should be treated with caution, and recommends that CVs above 33.3 be suppressed. Coefficients of variation were above 16% in instances involving low frequency events (e.g., where the number of sampled cases was under 100) or in instances involving variables with unusually large variability.

DISCUSSION

As the first Canada-wide survey of investigated child abuse and neglect, the primary benefit of the CIS is that it forms the cornerstone of a national health surveillance system. As such it forms a national definitional framework for studying child maltreatment and provides a baseline for future incidence studies and for international comparisons. While further analyses of this rich database will explore relationships between child, family and investigation factors associated with maltreatment, the focus of this first paper has been to describe the study methodology. The CIS methodology was developed in order to overcome the obstacles inherent in trying to collect ser-

vice statistics in an area where service standards are determined by provincial and territorial statutes and where there are no national – and in some instances no provincial – standards for collecting and documenting such statistics. The challenge was to develop a methodology based on a standardized data collection method, that captures as much information as feasible, that minimizes the burden on participating service providers, and that uses a cost-effective design. Judged by the high participation rates and the quality of the data collected, the CIS has been a success. This success can be attributed to a number of factors, the salience of the study topic to service providers being probably the most important one. Most child welfare service providers have very limited access to data about their own services, and even less information about the broader context of child welfare services in Canada. In some jurisdictions the CIS will provide a first source of data about investigated child neglect, and in most jurisdictions it will be the first source of statistics on substantiation rates and on rates of injury. Several other factors contributed to the success of the study: 1) the study was national in scope, 2) site directors had well-established research records in their respective jurisdictions, 3) the data collection form was short and simple to complete, 4) data collection procedures matched site-specific administrative case recording requirements, and 5) researchers conducted numerous site visits and used an array of site-specific strategies to support workers in completing the CIS instruments.

Some caution is required in interpreting the study findings. Most ratings provided by investigating workers could not be independently confirmed. Most noteworthy is the classification of types of maltreatment and level of substantiation. These often are

not independently observable events, but are judgements made by the worker at the end of an investigation on the basis of information collected during the investigation. The constraints of the sampling design used are a second limitation that should be considered in qualifying the CIS data. Because of the clustering methods used, the variance between sites determines the standard error estimates. It is possible that a different stratification design might have yielded more homogenous strata and led to relatively smaller standard errors. Other limitations that were noted earlier in the article should be restated. The CIS only documents cases investigated by child welfare authorities. Excluded from the study are non-reported cases, cases only reported to the police, cases that are screened out before a full investigation is completed, and reports made on already open cases.

Despite these limitations, the CIS represents an important step in collecting national statistics on child maltreatment. The study provides statistics on rates of different forms of investigated maltreatment, levels of substantiation, documented injuries and many other case characteristics that are not currently documented by Canadian child welfare service systems. Within the context of the data collection challenges that are faced in any such effort, the use of sample survey techniques to systematically gather institutional data provides a timely and cost-effective strategy.

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