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### Trends in mandated reporting patterns for hospital referrals in Ontario

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<td>Date Submitted by the Author:</td>
<td>02-Oct-2018</td>
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<td>Complete List of Authors:</td>
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Trends in mandated reporting patterns for hospital referrals in Ontario

Abstract

Background and Objectives: There is a dearth of literature surrounding mandated reporters to child welfare services in the Canadian child welfare context. This paper examines 20 years of reporting patterns from hospitals, which represent 5% of all referrals to child welfare services in Ontario.

Methods: The Ontario Incidence Study of Reported Child Abuse and Neglect (OIS) is a representative study that has taken place every five years since 1993. The OIS is a multi-stage cluster sample design, intended to produce an estimate of reported child abuse and neglect in the year the study takes place.

Results: There have been significant changes in referral patterns over time. Hospital referrals in 2013 are more likely to involve a concern of neglect, risk of maltreatment or intimate partner violence (IPV). In 1993 children were more likely to be referred from a hospital for a concern of physical abuse. Between 1993 and 1998 there was a significant drop in the number of sexual abuse investigations referred from a hospital. Hospitals have low rates of substantiation across all of the OIS cycles.

Conclusion: This is the first study to examine hospital-based referral patterns in Canada. The relatively low percentage of hospital referrals across the cycles of the OIS is consistent with the extant literature. The findings warrant further discussion and research. This study is foundational for future research that can assist in identifying and developing responses across sectors that meet the complex needs of vulnerable families, and that ultimately promote children’s safety and well-being.

Funding: Funding for the Ontario Incidence Study was provided by the Ontario Ministry of Children and Youth Services, Government of Ontario and support for this secondary analysis was provided through a Social Sciences and Humanities Research Council Connections Grant (#611-2015-0137).
Child maltreatment is recognized as a public health problem [1-3]. It is well-established that maltreatment can adversely impact the development and well-being of children [3]. Professionals across sectors contribute to the recognition of and response to child abuse and neglect [4]. Mandatory reporting facilitates the early detection of child maltreatment, the protection of children, and the alignment of services with identified needs [5]. There is evidence suggesting that suspected child maltreatment is under-reported [4,6–8]. The reporting of suspected child abuse and neglect is enshrined in legislation in all provinces and territories in Canada [9,10]. In Ontario, every person is legally obligated to report their suspicion based on reasonable grounds to child welfare authorities [10,11]. Officials and professionals who work directly with children have a particular responsibility and failure to report a suspicion during the course of duties can result in a fine. Health professionals contribute to a small proportion of reports to child protection authorities [4]. The World Health Organization has noted that health professionals are among the best positioned groups of professionals to gather evidence with respect to child maltreatment [12].

The health care system is an important point of contact for children who have experienced maltreatment or are at risk of experiencing maltreatment [13]. Within a Canadian child welfare context, referrals from hospital-based personnel (i.e., doctor, nurse, social worker) comprise a small proportion of all investigations [9,14]. The contribution of health care professionals to the recognition and reporting of child maltreatment is particularly important for younger children who are typically less visible in the community than school-aged children [13,15,16]. Canadian and provincial incidence studies show that hospital-based personnel are the most common referral source of maltreatment-related investigations involving infants [17,18].
Gilbert and colleagues [4] noted that maltreatment adversely affects child well-being more often than physical safety. Studies exploring the detection of child maltreatment in hospital settings have focused on children presenting with injuries; however, a very small proportion of children who are injured as a result of child maltreatment visit or are admitted to hospital [13,19]. In the 2013 cycle of the Ontario Incidence Study of Reported Child Abuse and Neglect (OIS-2013), physical harm was identified in five percent of cases substantiated for maltreatment; however, medical treatment was required in only one percent of those cases [14].

Numerous barriers are identified in the literature with respect to reporting by health care professionals. These include: previous negative experiences with child protection services, concerns with the ramifications of reporting on relationships with families, court-related consequences, and a lack of knowledge about child maltreatment (e.g., [20,21]). Studies that have focused on barriers to reporting experienced by hospital-based personnel indicate that concerns relating to the accurate assessment and identification of child maltreatment [22] and lack of confidence in social service interventions [23] contribute to reporting reluctance. Gilbert and colleagues [4] suggest that in order to understand the reasons for under-reporting, greater understanding is needed around the patterns of recognition and responses of various professionals. McTavish and colleagues’ [7] recent meta-synthesis explored the experiences of mandated reporters and found that less overt forms of maltreatment were challenging to identify and there was reluctance to report suspicions in the absence of physical evidence [7].

Despite the important role of hospital-based professionals in detecting and reporting suspicions of child maltreatment, there is minimal literature that has examined this reporting source. The Ontario Incidence Study of Reported Child Abuse and Neglect (OIS) provides an unmatched opportunity to understand mandatory reporting patterns within a Canadian provincial child welfare context. The OIS
is the only source of aggregated provincial data on reported and investigated child maltreatment over time. The objective of this study is to explore hospital reporting patterns and the child welfare system’s response over the last 20 years in Ontario using data from the five cycles of the OIS (1993, 1998, 2003, 2008, and 2013) [9,14,24–26].

Methods

The OIS is a cyclical provincial study that occurs every five years and uses a multi-stage sampling design [27]. In each cycle, data are collected directly from investigating workers using a standardized data collection instrument, the Maltreatment Assessment Form. Completed at the conclusion of the investigation, this instrument includes clinical information that is routinely gathered by child welfare workers during the course of conducting the investigation, including characteristics relating to the caregiver, child, case, and short-term service dispositions (e.g., transfers to ongoing child welfare services, placement out-of-home). The instrument had a very high completion rate; item completion rates for most items in 2013 were over 99%. This instrument requests information specifically about the source of the allegation or referral. The OIS defines a referral from a hospital as originating from any hospital personnel, including a doctor, nurse, or social worker. The OIS examines the case up until the point of the initial investigation; thus, the study is limited to the type of information available to workers at that time.

Each of the five cycles utilized a multi-stage sampling design [27]. In the first stage, a representative sample of child welfare sites is selected from a sampling frame that includes all mandated child welfare organizations in Ontario. The second sampling stage involves selecting cases opened in the study sites from October 1 to December 31 in the year the study takes place. A three-month duration is considered optimal to ensure high participation rates and good compliance with study procedures [14]. Commencing in the 2008 cycle, investigations were tracked that assessed future
risk of maltreatment where there was no specific event of maltreatment alleged or suspected in
addition to maltreatment investigations. As cases in Ontario are reported at the family-level, the final
stage of sampling consists of identifying individual children investigated because of maltreatment-
related concerns. In each OIS cycle, the sample is weighted with regionalization and annualization
weights to derive estimates of the provincial annual rates of maltreatment investigations in Ontario
[28]. See Table 1 for the number of agencies, sample sizes and estimates of investigations in each OIS
cycle year.

<Table 1 here [29]>

Analytic Plan

Annual provincial incidence rates were calculated by first dividing the weighted estimate by
the population of children 15 years of age and under and subsequently multiplying by 1,000 to produce
a rate per 1,000 children. The estimates, investigation rates, and proportions of investigations by
specific referral sources for maltreatment-related investigations were determined in each of the five
OIS. Referral sources were analyzed by four categories: any professional referral, hospital referrals as
a subtype of professional referrals, non-professional referral sources (e.g., parent, child, relative), and
other/anonymous referral sources (e.g., legal, dental service provider). Analyses were also conducted
on hospital referrals and the rates of children referred to the child welfare system were produced by
child age (<1 year, 1-3 years, 4-7 years, 8-11 years, and 12-15 years) and maltreatment type (physical
abuse, sexual abuse, neglect, emotional maltreatment, exposure to intimate partner violence, and risk)
across cycles of the OIS. SPSS Statistics version 24 was used to conduct the analysis. WesVar 5.1
software was used to produce tests of significance. Statistical tests of significance were conducted at
95% level of confidence and used to assess differences in hospital investigations from the previous
OIS cycle.
Results

Table 2 presents information on referrals to child welfare from hospital personnel in Ontario from 1993 to 2013. The incidence of referrals from hospital personnel increased significantly from 0.77 (95% CI [0.10, 1.45]) per 1,000 children in 1998 to 1.74 (95% CI [1.15, 2.31]) per 1,000 children in 2003. Between 2003 and 2008, there was a smaller, but still significant increase in hospital referrals. Incidence rates remained relatively stable between 2008 and 2013.

<Table 2 here>

Table 3 presents the specific referral sources for investigations involving maltreatment-related concerns from 1993 to 2013. The incidence of professional referrals more than doubled from 16.78 per 1,000 children in 1998 to 37.93 per 1,000 children in 2003.

<Table 3 here>

Table 4 presents information on the incidence rates of hospital referrals based on child age and maltreatment type. Infants have the highest incidence rate of referral consistently across each of the five cycles. In 1993, children were more likely to be referred from a hospital for a concern of physical abuse. Between 1998 and 2003, the incidence of neglect more than doubled (from 0.38 per 1,000 children in 1998 to 0.82 per 1,000 children in 2003) and has subsequently dropped with the introduction of the classification “risk only investigations” in 2008 (to 0.50 and 0.44 per 1,000 children in 2008 and 2013, respectively). A large proportion of hospital referrals to child welfare in 2008 and 2013 involved an allegation of suspected risk of future maltreatment. The incidence of intimate partner violence (IPV) significantly increased between 2003 and 2008 (from 0.13 per 1,000 children to 0.15 per 1,000 children) and between 2008 and 2013 (from 0.15 per 1,000 children to 0.4 per 1,000 children).
<Table 4 here>

Table 5 describes the service dispositions made at the conclusion of the hospital-reported investigation. Substantiated investigations (investigations in which the evidence suggests abuse or neglect occurred) resulting from hospital referrals nearly tripled between 1998 and 2003 (from 0.22 per 1,000 children in 1998 to 0.64 per 1,000 children in 2003). The substantiation rate significantly decreased from 2003 to 2008 and then significantly increased again in 2013 (from 0.13 per 1,000 children to 0.82 per 1,000 children). Incidence rates for cases transferred to ongoing services tripled between 1998 and 2003 (from 0.21 per 1,000 children in 1998 to 0.63 per 1,000 children in 2003). Incidence rates of formal placements have increased over time, but remain relatively low, with the highest rate in 2008 (0.25 per 1,000 children).

<Table 5 here>

Discussion

This is the first study to explore hospital-based referral patterns in a Canadian child welfare context. There are numerous findings and implications that require further consideration. Hospital reports to Ontario child welfare authorities have consistently accounted for a small proportion of overall reports over the last 20 years. Further research is needed to identify and understand factors that influence hospital personnel reporting behaviour. It is also important to understand the experiences of hospital personnel in reporting to child protection authorities in Ontario. The majority of studies included in a meta-synthesis by McTavish and colleagues [7] found that mandatory reporters had negative experiences with the reporting process.

Despite the low proportions of hospital-referred investigations, there are notable patterns that have emerged from analyses by age and maltreatment type. Investigated maltreatment rates for hospital referrals between 1993 and 2013 doubled. This increase is consistent with the increase in
investigated maltreatment rates in the same period for all reported maltreatment in Ontario, which is believed to be driven by significant changes to policy and legislation in Ontario over the last two decades [14, 22]. For example, lowering of thresholds for risk of harm and intervention are among the factors that are believed to have led to an increase in investigated maltreatment rates between 1998 and 2003. The addition of the risk category in 2008 has resulted in a shift in the profiles of hospital-referred investigations. Once the risk category was introduced in the OIS-2008, it became the most commonly identified maltreatment-related concern for the two subsequent cycles for hospital-referral investigations, paralleling the larger provincial trend for all investigations during that same period. Almost 6 of every 10 hospital-referred investigations conducted in 2008 and 2013 involved the assessment of future risk of maltreatment or exposure IPV. Investigations have shifted from assessing a specific incident of maltreatment towards assessing factors that increase concern of the likelihood of future maltreatment (e.g., caregiver mental health). Broader provincial and Canadian investigative trends show that there is an increasing focus on the long-term impact of family challenges on child well-being rather than on immediate child safety [29,30].

The finding that infants are the most commonly referred group of children from hospitals is consistent with other studies that suggest that younger children are more likely to be identified as at-risk in health care settings [6,15,31]. Infants are particularly vulnerable to the deleterious impact of maltreatment on their physical safety and well-being and are more likely to be admitted to hospital for child maltreatment’s most dire consequences, injury and death [13]. Maltreatment in the early years has been linked to adverse physical, developmental and mental health outcomes that can reach beyond childhood given the rapidity of brain development [32]. The findings of this paper further underscore the important role that hospital personnel can play with regard to recognizing and responding to
maltreatment in the early years, particularly in the absence of school and other early education programs [13].

Since 1998, there have been increases in the incidence rates and proportions of hospital-referred investigations transferred to ongoing child welfare services. In 2013, child welfare workers deemed that ongoing support from the child welfare system was needed in 4 of every 10 hospital-referred investigations. One quarter of all investigations in 2013 were transferred to ongoing services [14]. Studies have suggested that child welfare systems may respond differentially to allegations of suspected maltreatment based on reporting source (e.g., [33–35]). An exploration of the child welfare system’s responses and decisions as a result of referral source is an important avenue for future research in a Canadian context.

Limitations

The OIS is cross-sectional and so does not track longer-term case outcomes. Further, there is no consideration of broader worker, organizational, or environmental factors. The data captured in this study only include cases that are reported to and investigated by child welfare agencies. Therefore, cases that are unreported, screened out, or only reported to police are not included.

Conclusion

Ontario legislation outlines that all people are legally obligated to report suspected child maltreatment [11]. Ensuring that professionals working with children, including hospital personnel, understand and are adequately trained on their responsibilities to report is pertinent for the protection of vulnerable children in this province. Understanding the signs of, not only physical or sexual abuse, but of other forms of maltreatment including intimate partner violence, is of the utmost importance for these professionals to be able to protect children. In order to appropriately identify and report relevant cases to child welfare services, hospital staff need to be trained on identifying cases where there is risk
of future maltreatment. Finally, the ability to refer families to further supports and services within the community will help professionals address problems related to these specific families. Overall, an understanding of the profile of children typically referred to child welfare services by hospitals and the general provincial trends as well as a knowledge of professionals’ duty to report will better enable hospital personnel to identify and report children at risk of maltreatment. As the first study to look at hospital referrals to child welfare services in Canada, this study is foundational for future research that can assist in advancing the evidence base with respect to how the child welfare system and hospitals meet the needs of vulnerable families and work to promote children’s safety and well-being.
What is already known on this topic:

Mandatory reporters report perceived barriers to the reporting of suspected child maltreatment.

The child welfare sector’s response to reported child maltreatment differs based on referral source.

Very young children tend to be referred from hospitals to child welfare agencies.

What this study adds:

This is the first study to look at hospital-based referral patterns in Canada.

This study allows for a longitudinal analysis by looking at 20 years of Ontario data.

Neglect and risk tended to be the primary concerns for children referred to child welfare agencies from hospitals.


Table 1. Sites and Sample Sizes for the Ontario Incidence Study of Reported Child Abuse and Neglect (OIS) from 1993 to 2013

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Selection (sample/total)</td>
<td>15/51</td>
<td>13/53</td>
<td>16/53</td>
<td>23/53</td>
<td>17/46</td>
</tr>
<tr>
<td>Case Selection</td>
<td>1898</td>
<td>2193</td>
<td>4175</td>
<td>4415</td>
<td>3118</td>
</tr>
<tr>
<td>Investigated Children</td>
<td>2447</td>
<td>3053</td>
<td>7172</td>
<td>7471</td>
<td>5265</td>
</tr>
<tr>
<td>Provincial estimate of child maltreatment-related investigations</td>
<td>46,683</td>
<td>64,658</td>
<td>128,108</td>
<td>128,748</td>
<td>125,281</td>
</tr>
</tbody>
</table>

Table 2: Hospital Referrals for Maltreatment Related Concern Investigations in Ontario (1993-2013)

<table>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Referral Investigations</td>
<td>2,463</td>
<td>1.12</td>
<td>0.91, 1.34</td>
<td>0.77*</td>
<td>0.10, 1.45</td>
</tr>
<tr>
<td>Total</td>
<td>46,860</td>
<td>100%</td>
<td>21.41</td>
<td>18.38, 24.42</td>
<td>64,658</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.01, ***p<0.001

Table 3: Specific Referral Sources for Maltreatment Related Concern Investigations in Ontario (1993-2013)

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>24,986</td>
<td>11.41</td>
<td>53%</td>
<td>39,563</td>
<td>16.78</td>
</tr>
<tr>
<td>- Hospital</td>
<td>2,463</td>
<td>1.12</td>
<td>5%</td>
<td>1,822</td>
<td>0.77*</td>
</tr>
<tr>
<td>Non-professional</td>
<td>22,182</td>
<td>10.13</td>
<td>47%</td>
<td>18,493</td>
<td>7.85</td>
</tr>
<tr>
<td>Anonymous/ Other</td>
<td>4,303</td>
<td>1.97</td>
<td>9%</td>
<td>7,893</td>
<td>3.35</td>
</tr>
<tr>
<td>Total</td>
<td>46,860</td>
<td>21.41</td>
<td>100%</td>
<td>64,658</td>
<td>27.43</td>
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*p<0.05, **p<0.01, ***p<0.001
Table 4: Child Age and Maltreatment Type in Investigations referred from Hospital for Maltreatment Related Concern in Ontario (1993-2013)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Physical Abuse</th>
<th>Sexual Abuse</th>
<th>Neglect</th>
<th>Emotional Maltreatment</th>
<th>Exposure to Intimate Partner Violence</th>
<th>Total Investigations</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIS-1993</td>
<td>Estimate</td>
<td>Rate per 1,000</td>
<td>Estimate</td>
<td>Rate per 1,000</td>
<td>Estimate</td>
<td>Rate per 1,000</td>
</tr>
<tr>
<td>&lt;1 Year</td>
<td>478</td>
<td>3.23</td>
<td>537</td>
<td>3.78</td>
<td>1,433</td>
<td>10.08***</td>
</tr>
<tr>
<td>1-3 years</td>
<td>712</td>
<td>1.65</td>
<td>463</td>
<td>1.05</td>
<td>875</td>
<td>1.99*</td>
</tr>
<tr>
<td>4-7 years</td>
<td>495</td>
<td>0.81</td>
<td>267</td>
<td>0.44**</td>
<td>658</td>
<td>1.08**</td>
</tr>
<tr>
<td>8-11 years</td>
<td>189</td>
<td>0.32</td>
<td>153</td>
<td>0.26</td>
<td>609</td>
<td>1.03**</td>
</tr>
<tr>
<td>12-15 years</td>
<td>569</td>
<td>0.99</td>
<td>402</td>
<td>0.70</td>
<td>584</td>
<td>1.01</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>971</td>
<td>0.44</td>
<td>648</td>
<td>0.29</td>
<td>1,054</td>
<td>0.44</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>524</td>
<td>0.24</td>
<td>†</td>
<td>†</td>
<td>133</td>
<td>0.06</td>
</tr>
<tr>
<td>Neglect</td>
<td>664</td>
<td>0.30</td>
<td>885</td>
<td>0.38</td>
<td>1,951</td>
<td>0.82*</td>
</tr>
<tr>
<td>Emotional Maltreatment</td>
<td>100</td>
<td>0.05</td>
<td>239</td>
<td>0.10*</td>
<td>707</td>
<td>0.30**</td>
</tr>
<tr>
<td>Exposure to Intimate Partner Violence</td>
<td>--</td>
<td>--</td>
<td>†</td>
<td>†</td>
<td>314</td>
<td>0.13</td>
</tr>
<tr>
<td>Total Investigations</td>
<td>2,443</td>
<td>100%</td>
<td>1,822</td>
<td>100%</td>
<td>4,159</td>
<td>100%</td>
</tr>
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</table>

*p<0.05, **p<0.01, ***p<0.001, † Estimate is too small to report
Table 5: Service Dispositions for Child Maltreatment Related Investigations from Hospital Referrals, Ontario (1993-2013)

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<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>Rate per 1,000</td>
<td>Estimate</td>
<td>Rate per 1,000</td>
<td>Estimate</td>
</tr>
<tr>
<td>Substantiation</td>
<td>852</td>
<td>0.39</td>
<td>35%</td>
<td>523</td>
<td>0.22</td>
</tr>
<tr>
<td>Transfer to Ongoing Services</td>
<td>604</td>
<td>0.28</td>
<td>25%</td>
<td>497</td>
<td>0.21</td>
</tr>
<tr>
<td>Placement (Formal)</td>
<td>193</td>
<td>0.09</td>
<td>8%</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>Total Investigations</td>
<td>2,443</td>
<td>1,822</td>
<td>4,159</td>
<td>6,506</td>
<td>5,798</td>
</tr>
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*p<0.05, **p<0.01, ***p<0.001, t Estimate is too small to report
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<td>Fallon, Barbara; University of Toronto, Factor-Inwentash Faculty of Social Work Filippelli, Joanne; University of Toronto, Factor-Inwentash Faculty of Social Work Joh-Carnella, Nicolette; University of Toronto, Factor-Inwentash Faculty of Social Work Miller, Steven; University of Toronto, Department of Pediatrics, Division of Neurology; SickKids Research Institute, Neurosciences and Mental Health Denburg, Avram; The Hospital for Sick Children, Haematology/ Oncology</td>
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Trends in investigations of abuse or neglect referred by hospital personnel in Ontario

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Keywords: child abuse, social work

Word count: 2,482
Abstract

**Background**: There is a dearth of literature surrounding mandated reporters to child welfare services in the Canadian context. This paper examines 20 years of reporting patterns from hospitals, which represent 5% of all referrals to child welfare services in Ontario.

**Methods**: The Ontario Incidence Study of Reported Child Abuse and Neglect (OIS) is a representative study that has taken place every five years since 1993. The OIS is a multi-stage cluster sample design, intended to produce an estimate of reported child abuse and neglect in the year the study takes place.

**Results**: There have been significant changes in referral patterns over time. Hospital referrals in 2013 are more likely to involve a concern of neglect, risk of maltreatment or exposure to intimate partner violence (IPV). In 1993 children were more likely to be referred from a hospital for a concern of physical abuse. Between 1993 and 1998 there was a significant drop in the number of sexual abuse investigations referred from a hospital. Hospitals have low rates of substantiation across all of the OIS cycles.

**Conclusion**: This is the first study to examine hospital-based referral patterns in Canada. The relatively low percentage of hospital referrals across the cycles of the OIS is consistent with the extant literature. The findings warrant further discussion and research. This study is foundational for future research that can assist in identifying and developing responses across sectors that meet the complex needs of vulnerable families, and that ultimately promote children’s safety and well-being.
Introduction

Child maltreatment is a public health problem [1-3]. It is well-established that maltreatment can adversely impact the development and well-being of children [3]. Professionals across sectors contribute to the recognition of and response to child abuse and neglect [4]. Mandatory reporting facilitates the early detection of child maltreatment, the protection of children, and the alignment of services with identified needs [5]. There is evidence suggesting that suspected child maltreatment is under-reported [4,6–8]. The reporting of suspected child abuse and neglect is enshrined in legislation in all provinces and territories in Canada [9,10]. In Ontario, every person is legally obligated to report their suspicion based on reasonable grounds to child welfare authorities [10,11]. Officials and professionals who work directly with children have a particular responsibility and failure to report a suspicion during the course of duties can result in a fine. Health professionals contribute to a small proportion of reports to child protection authorities [4]. The World Health Organization has noted that health professionals are among the best positioned groups of professionals to gather evidence with respect to child maltreatment [12].

The health care system is an important point of contact for potentially maltreated children [13]. Within a Canadian child welfare context, referrals from hospital-based personnel (i.e., doctor, nurse, social worker) comprise a small proportion of all investigations [9,14]. The contribution of health care professionals to the recognition and reporting of child maltreatment is particularly important for younger children who are typically less visible in the community than school-aged children [13,15,16]. Canadian and provincial incidence studies show that hospital-based personnel are the most common referral source of maltreatment-related investigations involving infants [17,18].
Maltreatment adversely affects child well-being more often than physical safety [4]. Studies exploring the detection of child maltreatment in hospital settings have focused on children presenting with injuries; however, a very small proportion of children who are injured as a result of child maltreatment visit or are admitted to hospital [13,19]. In the 2013 cycle of the Ontario Incidence Study of Reported Child Abuse and Neglect (OIS-2013), physical harm was identified in five percent of cases substantiated for maltreatment; however, medical treatment was required in only one percent of cases [14].

Barriers are identified in the literature with respect to reporting by health care professionals. These include: previous negative experiences with child protection services, concerns with the ramifications of reporting on relationships with families, court-related consequences, and a lack of knowledge about child maltreatment (e.g., [20,21]). Studies that have focused on barriers to reporting experienced by hospital-based personnel indicate that concerns relating to the accurate assessment and identification of child maltreatment [22] and lack of confidence in social service interventions [23] contribute to reporting reluctance. Gilbert and colleagues [4] suggest that in order to understand the reasons for under-reporting, greater understanding is needed around the patterns of recognition and responses of various professionals. McTavish and colleagues’ [7] recent meta-synthesis explored mandated reporters’ experiences and found that less overt forms of maltreatment were challenging to identify and there was reluctance to report suspicions without physical evidence [7].

Despite the important role of hospital-based professionals in detecting and reporting suspicions of child maltreatment, there is minimal literature that has examined this reporting source. The Ontario Incidence Study of Reported Child Abuse and Neglect (OIS) provides an unmatched opportunity to understand mandatory reporting patterns within a Canadian provincial
child welfare context. The OIS is the only source of aggregated provincial data on reported and investigated child maltreatment. The objective of this study is to explore hospital reporting patterns and the child welfare system’s response over the last 20 years in Ontario [9,14,24–26].

Methods

The OIS is a cyclical provincial study that occurs every five years and measures the incidence of reported and investigated child maltreatment [27]. To date, there have been five cycles of the OIS, and results from the sixth cycle (OIS-2018) will be available in 2020. In each cycle, data are collected directly from investigating workers using a standardized data collection instrument, the Maltreatment Assessment Form. Completed at the conclusion of the investigation, this instrument includes clinical information that is routinely gathered by child welfare workers during the course of conducting the investigation, including characteristics relating to the caregiver, child, case, and short-term service dispositions (e.g., transfers to ongoing child welfare services, placement out-of-home). The instrument has a very high completion rate; completion rates for most items in 2013 were over 99%. This instrument requests information specifically about the source of the allegation or referral. The OIS defines a referral from a hospital as originating from any hospital personnel, including a doctor, nurse, or social worker.

Each of the five cycles utilized a multi-stage sampling design [27]. In the first stage, a representative sample of child welfare sites is selected from a sampling frame that includes all mandated child welfare organizations in Ontario. The second sampling stage involves selecting cases opened in the study sites from October 1 to December 31 in the year the study takes place. A three-month duration is considered optimal to ensure high participation rates and good compliance with study procedures [14]. Commencing in the 2008 cycle, investigations were
tracked that assessed future risk of maltreatment where there was no specific event of maltreatment alleged or suspected in addition to maltreatment investigations. As cases in Ontario are reported at the family-level, the final stage of sampling consists of identifying individual children investigated because of maltreatment-related concerns. In each OIS cycle, the sample is weighted to derive estimates of the provincial annual rates of maltreatment investigations in Ontario [14]. See Table 1 for the number of agencies, sample sizes and estimates of investigations in each OIS.

Table 1  
Sites and sample sizes for the Ontario Incidence Study of Reported Child Abuse and Neglect (OIS) from 1993 to 2013  

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Site selection (sample/total)</td>
<td>15/51</td>
<td>13/53</td>
<td>16/53</td>
<td>23/53</td>
<td>17/46</td>
</tr>
<tr>
<td>Case selection</td>
<td>1898</td>
<td>2193</td>
<td>4175</td>
<td>4415</td>
<td>3118</td>
</tr>
<tr>
<td>Investigated children</td>
<td>2447</td>
<td>3053</td>
<td>7172</td>
<td>7471</td>
<td>5265</td>
</tr>
<tr>
<td>Provincial estimate of child maltreatment-related investigations</td>
<td>46,683</td>
<td>64,658</td>
<td>128,108</td>
<td>128,748</td>
<td>125,281</td>
</tr>
</tbody>
</table>

Analytic Plan

Annual provincial incidence rates were calculated by first dividing the weighted estimate by the population of children 15 years of age and under and subsequently multiplying by 1,000 to produce a rate per 1,000 children. The estimates, investigation rates, and proportions of investigations by specific referral sources for maltreatment-related investigations were determined in each of the five OIS. Referral sources were analyzed by four categories: any professional referral, hospital referrals as a subtype of professional referrals, non-professional referral sources (e.g., parent, child, relative), and other/anonymous referral sources (e.g., legal, dental service provider). Analyses were also conducted on hospital referrals and the rates of children referred to the child welfare system were produced by child age (<1 year, 1-3 years, 4-7 years, 8-11 years, and 12-15 years) and maltreatment type (physical abuse, sexual abuse, neglect,
emotional maltreatment, exposure to intimate partner violence [IPV], and risk) across cycles of the OIS. SPSS Statistics version 24 was used to conduct the analysis. WesVar 5.1 software was used to produce tests of significance. Statistical tests of significance were conducted at 95% level of confidence and used to assess differences in hospital investigations from the previous OIS cycle.

**Patient and Public Involvement**

The OIS uses a file review methodology in which workers answer a series of questions about their initial child welfare investigations, including information about investigated children and their families. As such, these children and families are not directly involved in the study design, data collection, or reporting processes. However, for each cycle, a major findings report is made available to the public.

**Results**

Table 2 presents information on referrals to child welfare from hospital personnel in Ontario from 1993 to 2013. The incidence of referrals from hospital personnel increased significantly from 0.77 (95% CI [0.10, 1.45]) per 1,000 children in 1998 to 1.74 (95% CI [1.15, 2.31]) per 1,000 children in 2003. Between 2003 and 2008, there was a smaller, but still significant increase in hospital referrals. Incidence rates remained relatively stable between 2008 and 2013.
## Table 2
Hospital referrals for maltreatment-related concern investigations in Ontario (1993-2013)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>%</td>
<td>Rate per 1,000</td>
<td>95% CIs</td>
<td>Estimate</td>
<td>%</td>
<td>Rate per 1,000</td>
<td>95% CIs</td>
<td>Estimate</td>
<td>%</td>
<td>Rate per 1,000</td>
<td>95% CIs</td>
<td>Estimate</td>
<td>%</td>
</tr>
<tr>
<td>Hospital referral investigations</td>
<td>2,463</td>
<td>5%</td>
<td>1.12</td>
<td>0.91, 1.34</td>
<td>1,822</td>
<td>3%</td>
<td>0.77*</td>
<td>0.10, 1.45</td>
<td>4,159</td>
<td>3%</td>
<td>1.74**</td>
<td>1.15, 2.31</td>
<td>6,506</td>
<td>5%</td>
</tr>
<tr>
<td>Total investigations</td>
<td>46,860</td>
<td>100%</td>
<td>21.41</td>
<td>18.38, 24.42</td>
<td>64,658</td>
<td>100%</td>
<td>27.43</td>
<td>21.73, 38.13</td>
<td>128,108</td>
<td>100%</td>
<td>53.59</td>
<td>41.04, 67.14</td>
<td>128,748</td>
<td>100%</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.01, ***p<0.001
Table 3 presents the specific referral sources for investigations involving maltreatment-related concerns from 1993 to 2013. The incidence of professional referrals more than doubled from 16.78 per 1,000 children in 1998 to 37.93 per 1,000 children in 2003.

**Table 3**

Specific referral sources for maltreatment-related concern investigations in Ontario (1993-2013)

<table>
<thead>
<tr>
<th>Source</th>
<th>OIS-1993</th>
<th>Rate per 1,000</th>
<th>%</th>
<th>OIS-1998</th>
<th>Rate per 1,000</th>
<th>%</th>
<th>OIS-2003</th>
<th>Rate per 1,000</th>
<th>%</th>
<th>OIS-2008</th>
<th>Rate per 1,000</th>
<th>%</th>
<th>OIS-2013</th>
<th>Rate per 1,000</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>24,986</td>
<td>11.41</td>
<td>53%</td>
<td>39,563</td>
<td>16.78</td>
<td>61%</td>
<td>90,685</td>
<td>37.93</td>
<td>71%</td>
<td>91,517</td>
<td>38.42</td>
<td>71%</td>
<td>93,802</td>
<td>39.92</td>
<td>75%</td>
</tr>
<tr>
<td>Hospital</td>
<td>2,463</td>
<td>1.12</td>
<td>5%</td>
<td>1,822</td>
<td>0.77*</td>
<td>3%</td>
<td>4,159</td>
<td>1.74**</td>
<td>3%</td>
<td>6,506</td>
<td>2.73*</td>
<td>5%</td>
<td>5,798</td>
<td>2.47</td>
<td>5%</td>
</tr>
<tr>
<td>Non-professional</td>
<td>22,182</td>
<td>10.13</td>
<td>47%</td>
<td>18,493</td>
<td>7.85</td>
<td>29%</td>
<td>26,610</td>
<td>11.13</td>
<td>21%</td>
<td>29,722</td>
<td>12.50</td>
<td>23%</td>
<td>25,465</td>
<td>10.84</td>
<td>20%</td>
</tr>
<tr>
<td>Anonymous/ other</td>
<td>4,303</td>
<td>1.97</td>
<td>9%</td>
<td>7,893</td>
<td>3.35</td>
<td>12%</td>
<td>7,409</td>
<td>3.10</td>
<td>6%</td>
<td>10,937</td>
<td>4.60</td>
<td>8%</td>
<td>9,104</td>
<td>3.87</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td>46,860</td>
<td>21.41</td>
<td>100%</td>
<td>64,658</td>
<td>27.43</td>
<td>100%</td>
<td>128,108</td>
<td>53.59</td>
<td>100%</td>
<td>128,748</td>
<td>54.05</td>
<td>100%</td>
<td>125,281</td>
<td>53.32</td>
<td>100%</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.01, ***p<0.001
Table 4 presents information on the incidence rates of hospital referrals based on child age and maltreatment type. Infants have the highest incidence rate of referral consistently across each of the five cycles. In 1993, children were more likely to be referred from a hospital for a concern of physical abuse. Between 1998 and 2003, the incidence of neglect more than doubled (from 0.38 per 1,000 children in 1998 to 0.82 per 1,000 children in 2003) and has subsequently dropped with the introduction of the classification “risk only investigations” in 2008 (to 0.50 and 0.44 per 1,000 children in 2008 and 2013, respectively). A large proportion of hospital referrals to child welfare in 2008 and 2013 involved an allegation of suspected risk of future maltreatment. The incidence of exposure to IPV significantly increased between 2003 and 2008 (from 0.13 per 1,000 children to 0.15 per 1,000 children) and between 2008 and 2013 (from 0.15 per 1,000 children to 0.4 per 1,000 children).
### Table 4
Child age and maltreatment type in investigations referred from hospitals for maltreatment-related concerns in Ontario (1993-2013)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>Rate per 1,000</td>
<td>%</td>
<td>Estimate</td>
<td>Rate per 1,000</td>
</tr>
<tr>
<td>&lt;1 Year</td>
<td>478</td>
<td>3.23</td>
<td>20%</td>
<td>537</td>
<td>3.78</td>
</tr>
<tr>
<td>1-3 years</td>
<td>712</td>
<td>1.65</td>
<td>29%</td>
<td>463</td>
<td>1.05</td>
</tr>
<tr>
<td>4-7 years</td>
<td>495</td>
<td>0.81</td>
<td>20%</td>
<td>267</td>
<td>0.44**</td>
</tr>
<tr>
<td>8-11 years</td>
<td>189</td>
<td>0.32</td>
<td>8%</td>
<td>153</td>
<td>0.26</td>
</tr>
<tr>
<td>12-15 years</td>
<td>569</td>
<td>0.99</td>
<td>23%</td>
<td>402</td>
<td>0.70</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>971</td>
<td>0.44</td>
<td>40%</td>
<td>648</td>
<td>0.29</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>524</td>
<td>0.24</td>
<td>21%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Neglect</td>
<td>664</td>
<td>0.30</td>
<td>27%</td>
<td>885</td>
<td>0.38</td>
</tr>
<tr>
<td>Emotional maltreatment</td>
<td>100</td>
<td>0.05</td>
<td>4%</td>
<td>239</td>
<td>0.10*</td>
</tr>
<tr>
<td>Exposure to intimate partner violence</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Risk</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Total investigations 2,443 100% 1,822 100% 4,159 100% 6,506 100% 5,798 100%

*p<0.05, **p<0.01, ***p<0.001, †Estimate is too small to report
Table 5 describes the service dispositions made at the conclusion of the hospital-reported investigation. Substantiated investigations (investigations in which the evidence suggests abuse or neglect occurred) resulting from hospital referrals nearly tripled between 1998 and 2003 (from 0.22 per 1,000 children in 1998 to 0.64 per 1,000 children in 2003). The substantiation rate significantly decreased from 2003 to 2008 and then significantly increased again in 2013 (from 0.13 per 1,000 children to 0.82 per 1,000 children). Incidence rates for cases transferred to ongoing services tripled between 1998 and 2003 (from 0.21 per 1,000 children in 1998 to 0.63 per 1,000 children in 2003). Incidence rates of formal placements have increased over time, but remain relatively low, with the highest rate in 2008 (0.25 per 1,000 children).

### Table 5
Service dispositions for child maltreatment-related investigations from hospital referrals in Ontario (1993-2013)

<table>
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</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>Rate per 1,000</td>
<td>%</td>
<td>Estimate</td>
<td>Rate per 1,000</td>
</tr>
<tr>
<td>Substantiation</td>
<td>852</td>
<td>0.39</td>
<td>35%</td>
<td>523</td>
<td>0.22</td>
</tr>
<tr>
<td>Transfer to ongoing services</td>
<td>604</td>
<td>0.28</td>
<td>25%</td>
<td>497</td>
<td>0.21</td>
</tr>
<tr>
<td>Placement (formal)</td>
<td>193</td>
<td>0.09</td>
<td>8%</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>Total investigations</td>
<td>2,443</td>
<td>1,822</td>
<td>4,159</td>
<td>6,506</td>
<td>5,798</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.01, ***p<0.001, i Estimate is too small to report
Discussion

This is the first study to explore hospital-based referral patterns in a Canadian child welfare context. Hospital reports to Ontario child welfare authorities have consistently accounted for a small proportion of overall reports over the last 20 years. Further research is needed to identify and understand factors that influence hospital personnel reporting behaviour. The ability to link administrative hospital and child welfare data to examine trends would provide valuable insights into services children receive. However, the infrastructure does not exist in Ontario to allow for these linkages to be made [28]. It is also important to understand the experiences of hospital personnel in reporting to child protection authorities in Ontario. The majority of studies included in a meta-synthesis by McTavish and colleagues [7] found that mandatory reporters had negative experiences with the reporting process.

Despite the low proportions of hospital-referred investigations, there are notable patterns that have emerged from analyses by age and maltreatment type. Investigated maltreatment rates for hospital referrals between 1993 and 2013 doubled. This increase is consistent with the increase in investigated maltreatment rates in the same period for all reported maltreatment in Ontario, which is believed to be driven by significant changes to policy and legislation over the last two decades [14, 22]. Lowering of thresholds for risk of harm and intervention are among the factors that are believed to have led to an increase in investigated maltreatment rates between 1998 and 2003. Specifically, an increase in investigations of exposure to IPV due to the identification and interpretation of IPV in the province’s screening tool is thought to have contributed to this increase as well as clarity around mandatory reporting.

The addition of the risk category in 2008 has resulted in a shift in the profiles of hospital-referred investigations. Once the risk category was introduced in the OIS-2008, it became the
most commonly identified maltreatment-related concern for the two subsequent cycles for hospital-referral investigations, paralleling the larger provincial trend for all investigations during that same period. Almost 6 of every 10 hospital-referred investigations conducted in 2008 and 2013 involved the assessment of future risk of maltreatment or exposure to IPV. Investigations have shifted from assessing a specific incident of maltreatment towards assessing factors that increase concern of the likelihood of future maltreatment (e.g., caregiver mental health). Broader provincial and Canadian investigative trends show that there is an increasing focus on the long-term impact of family challenges on child well-being rather than on immediate child safety [29,30].

The finding that infants are the most commonly referred group of children from hospitals is consistent with other studies that suggest that younger children are more likely to be identified as at-risk in health care settings [6,15,31]. Infants are particularly vulnerable to the deleterious impact of maltreatment on their physical safety and well-being and are more likely to be admitted to hospital for child maltreatment’s most dire consequences, injury and death [13]. Maltreatment in the early years has been linked to adverse physical, developmental and mental health outcomes that can reach beyond childhood given the rapidity of brain development [32]. The findings of this paper further underscore the important role that hospital personnel can play with regard to recognizing and responding to maltreatment in the early years, particularly in the absence of school and other early education programs [13].

Since 1998, there have been increases in the incidence rates and proportions of hospital-referred investigations transferred to ongoing child welfare services. In 2013, child welfare workers deemed that ongoing support from the child welfare system was needed in 4 of every 10 hospital-referred investigations. One quarter of all investigations in 2013 were transferred to
ongoing services [14]. Studies have suggested that child welfare systems may respond
differentially to allegations of suspected maltreatment based on reporting source (e.g., [33–35]).
An exploration of the child welfare system’s responses to allegations from various referral
sources is an important avenue for future research in a Canadian context.

Limitations

The OIS is cross-sectional and so does not track longer-term case outcomes. Further,
there is no consideration of broader worker, organizational, or environmental factors. The data
captured in this study only include cases that are reported to and investigated by child welfare
agencies. Therefore, cases that are unreported, screened out, or only reported to police are not
included. Lastly, for investigations of children under one year of age, these data cannot
distinguish whether the referral made was for a prenatal or perinatal concern.

Conclusion

Ontario legislation outlines that all people are legally obligated to report suspected child
maltreatment [11]. Ensuring that professionals working with children, including hospital
personnel, understand and are adequately trained on their responsibilities to report is pertinent for
the protection of vulnerable children in this province. Understanding the signs of, not only
physical or sexual abuse, but of other forms of maltreatment including exposure to IPV and risk
of future maltreatment, is of the utmost importance for these professionals to be able to protect
children. The ability to refer families to further supports and services within the community will
help professionals address problems related to these specific families. Overall, an understanding
of the profile of children typically referred to child welfare services by hospitals and the general
provincial trends as well as a knowledge of professionals’ duty to report will better enable
hospital personnel to identify and report children at risk of maltreatment. As the first study to
look at hospital referrals to child welfare services in Canada, this study is foundational for future research that can assist in advancing the evidence base with respect to how the child welfare system and hospitals meet the needs of vulnerable families and work to promote children’s safety and well-being.
What is already known on this topic:

Mandatory reporters report perceived barriers to the reporting of suspected child maltreatment.

The child welfare sector’s response to reported child maltreatment differs based on referral source.

Very young children tend to be referred from hospitals to child welfare agencies.

What this study adds:

Contrary to public perception, neglect and risk are the primary reasons children are referred to child welfare agencies from hospitals in Ontario.

Young children (under 3 years old) are more likely to be referred to child welfare by hospital personnel in Ontario than older children.

One third of hospital-referred investigations to child welfare are substantiated, 42% receive ongoing services, and 9% of children are placed during their initial investigations.
References


33 King CB, Scott KL. Why are suspected cases of child maltreatment referred by educators so often unsubstantiated? *Child Abuse Negl* 2014;38:1–10. doi:10.1016/j.chiabu.2013.06.002


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There are no competing interests.

**Contributions:** BF conceptualized the paper. BF, JF, and NJC synthesized the literature, conducted data analyses and interpretation, and wrote the manuscript. All authors contributed to data interpretation and had input into the manuscript. All authors read and approved the final manuscript.
# Trends in investigations of abuse or neglect referred by hospital personnel in Ontario

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<td>19-Dec-2018</td>
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<td>Complete List of Authors:</td>
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Trends in investigations of abuse or neglect referred by hospital personnel in Ontario
Abstract

Background

Methods

Results:

Conclusion:
Introduction

Child maltreatment is a public health problem [1-3]. It is well-established that maltreatment can adversely impact the development and well-being of children [3]. Professionals across sectors contribute to the recognition of and response to child abuse and neglect [4]. Mandatory reporting facilitates the early detection of child maltreatment, the protection of children, and the alignment of services with identified needs [5]. There is evidence suggesting that suspected child maltreatment is under-reported [4,6–8]. The reporting of suspected child abuse and neglect is enshrined in legislation in all provinces and territories in Canada [9,10]. In Ontario, every person is legally obligated to report their suspicion based on reasonable grounds to child welfare authorities [10,11]. Officials and professionals who work directly with children have a particular responsibility and failure to report a suspicion during the course of duties can result in a fine. Health professionals contribute to a small proportion of reports to child protection authorities [4]. The World Health Organization has noted that health professionals are among the best positioned groups of professionals to gather evidence with respect to child maltreatment [12].

The health care system is an important point of contact for potentially maltreated children [13]. Within a Canadian child welfare context, referrals from hospital-based personnel (i.e., doctor, nurse, social worker) comprise a small proportion of all investigations [9,14]. The contribution of health care professionals to the recognition and reporting of child maltreatment is particularly important for younger children who are typically less visible in the community than school-aged children [13,15,16]. Canadian and provincial incidence studies show that hospital-based personnel are the most common referral source of maltreatment-related investigations involving infants [17,18].
Maltreatment adversely affects child well-being more often than physical safety [4]. Studies exploring the detection of child maltreatment in hospital settings have focused on children presenting with injuries; however, a very small proportion of children who are injured as a result of child maltreatment visit or are admitted to hospital [13,19]. In the 2013 cycle of the Ontario Incidence Study of Reported Child Abuse and Neglect (OIS-2013), physical harm was identified in five percent of cases substantiated for maltreatment; however, medical treatment was required in only one percent of cases [14].

Barriers are identified in the literature with respect to reporting by health care professionals. These include: previous negative experiences with child protection services, concerns with the ramifications of reporting on relationships with families, court-related consequences, and a lack of knowledge about child maltreatment (e.g., [20,21]). Studies that have focused on barriers to reporting experienced by hospital-based personnel indicate that concerns relating to the accurate assessment and identification of child maltreatment [22] and lack of confidence in social service interventions [23] contribute to reporting reluctance. Gilbert and colleagues [4] suggest that in order to understand the reasons for under-reporting, greater understanding is needed around the patterns of recognition and responses of various professionals. McTavish and colleagues' [7] recent meta-synthesis explored mandated reporters’ experiences and found that less overt forms of maltreatment were challenging to identify and there was reluctance to report suspicions without physical evidence [7].

Despite the important role of hospital-based professionals in detecting and reporting suspicions of child maltreatment, there is minimal literature that has examined this reporting source. The Ontario Incidence Study of Reported Child Abuse and Neglect (OIS) provides an unmatched opportunity to understand mandatory reporting patterns within a Canadian provincial context.
Methods

The OIS is a cyclical provincial study that occurs every five years and measures the incidence of reported and investigated child maltreatment [27]. To date, there have been five cycles of the OIS, and results from the sixth cycle (OIS-2018) will be available in 2020. In each cycle, data are collected directly from investigating workers using a standardized data collection instrument, the Maltreatment Assessment Form. Completed at the conclusion of the investigation, this instrument includes clinical information that is routinely gathered by child welfare workers during the course of conducting investigations, including characteristics relating to the caregiver, child, case, and short-term service dispositions (e.g., transfers to ongoing child welfare services, placement out-of-home). The instrument has a very high completion rate; completion rates for most items in 2013 were over 99%. This instrument requests information specifically about the source of the allegation or referral. The OIS defines a referral from a hospital as originating from any hospital personnel, including a doctor, nurse, or social worker. Each of the five cycles utilized a multi-stage sampling design [27]. In the first stage, a representative sample of child welfare sites is selected from a sampling frame that includes all mandated child welfare organizations in Ontario. The second sampling stage involves selecting cases opened in the study sites from October 1 to December 31 in the year the study takes place. A three-month duration is considered optimal to ensure high participation rates and good compliance with study procedures [14]. Commencing in the 2008 cycle, investigations were tracked that assessed future risk of maltreatment where there was no specific event of
Analytic Plan
Patient and Public Involvement

Results

Table 2 presents information on referrals to child welfare from hospital personnel in Ontario from 1993 to 2013. The incidence of referrals from hospital personnel increased significantly from 0.77 (95% CI [0.10, 1.45]) per 1,000 children in 1998 to 1.74 (95% CI [1.15, 2.31]) per 1,000 children in 2003. Between 2003 and 2008, there was a smaller, but still significant increase in hospital referrals. Incidence rates remained relatively stable between 2008 and 2013.
## Table 2
Hospital referrals for maltreatment-related concern investigations in Ontario (1993-2013)

<table>
<thead>
<tr>
<th>Year</th>
<th>% Estimate</th>
<th>Rate per 1,000</th>
<th>95% CIs</th>
<th>% Estimate</th>
<th>Rate per 1,000</th>
<th>95% CIs</th>
<th>% Estimate</th>
<th>Rate per 1,000</th>
<th>95% CIs</th>
<th>% Estimate</th>
<th>Rate per 1,000</th>
<th>95% CIs</th>
<th>% Estimate</th>
<th>Rate per 1,000</th>
<th>95% CIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIS-1993</td>
<td>2.463</td>
<td>5%</td>
<td>1.12</td>
<td>0.91, 1.34</td>
<td>1.822</td>
<td>3%</td>
<td>0.77*</td>
<td>0.10, 1.45</td>
<td>4.159</td>
<td>3%</td>
<td>1.74**</td>
<td>1.15, 2.31</td>
<td>6.506</td>
<td>5%</td>
<td>2.73*</td>
</tr>
<tr>
<td>OIS-1998</td>
<td>4.159</td>
<td>3%</td>
<td>1.74**</td>
<td>1.15, 2.31</td>
<td>6.506</td>
<td>5%</td>
<td>2.73*</td>
<td>1.83, 3.63</td>
<td>5.798</td>
<td>5%</td>
<td>2.47</td>
<td>1.24, 3.69</td>
<td>5.798</td>
<td>5%</td>
<td>2.47</td>
</tr>
</tbody>
</table>

*p*<0.05, **p**<0.01, ***p***<0.001
Table 3 presents the specific referral sources for investigations involving maltreatment-related concerns from 1993 to 2013. The incidence of professional referrals more than doubled from 16.78 per 1,000 children in 1998 to 37.93 per 1,000 children in 2003.

Table 3
Specific referral sources for maltreatment-related concern investigations in Ontario (1993-2013)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>Rate per 1,000</td>
<td>Estimate</td>
<td>Rate per 1,000</td>
<td>Estimate</td>
</tr>
<tr>
<td>Professional</td>
<td>24,986</td>
<td>11.41</td>
<td>53%</td>
<td>39,563</td>
<td>16.78</td>
</tr>
<tr>
<td>Hospital</td>
<td>2,463</td>
<td>1.12</td>
<td>5%</td>
<td>1,822</td>
<td>0.77*</td>
</tr>
<tr>
<td>Non-professional</td>
<td>22,182</td>
<td>10.13</td>
<td>47%</td>
<td>18,493</td>
<td>7.85</td>
</tr>
<tr>
<td>Anonymous/other</td>
<td>4,303</td>
<td>1.97</td>
<td>9%</td>
<td>7,893</td>
<td>3.35</td>
</tr>
<tr>
<td>Total</td>
<td>46,860</td>
<td>21.41</td>
<td>100%</td>
<td>64,658</td>
<td>27.43</td>
</tr>
</tbody>
</table>
Table 4 presents information on the incidence rates of hospital referrals based on child age and maltreatment type. Infants have the highest incidence rate of referral consistently across each of the five cycles. In 1993, children were more likely to be referred from a hospital for a concern of physical abuse. Between 1998 and 2003, the incidence of neglect more than doubled (from 0.38 per 1,000 children in 1998 to 0.82 per 1,000 children in 2003) and has subsequently dropped with the introduction of the classification "risk only investigations" in 2008 (to 0.50 and 0.44 per 1,000 children in 2008 and 2013, respectively). A large proportion of hospital referrals to child welfare in 2008 and 2013 involved an allegation of suspected risk of future maltreatment. The incidence of exposure to IPV significantly increased between 2003 and 2008 (from 0.13 per 1,000 children to 0.15 per 1,000 children) and between 2008 and 2013 (from 0.15 per 1,000 children to 0.4 per 1,000 children).
### Table 4
Child age and maltreatment type in investigations referred from hospitals for maltreatment-related concerns in Ontario (1993-2013)

<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Rate per 1,000</td>
<td>Estimate</td>
<td>%</td>
<td>Rate per 1,000</td>
</tr>
<tr>
<td>&lt;1 Year</td>
<td>478</td>
<td>3.23</td>
<td>20%</td>
<td>537</td>
</tr>
<tr>
<td>1-3 years</td>
<td>712</td>
<td>1.65</td>
<td>29%</td>
<td>463</td>
</tr>
<tr>
<td>4-7 years</td>
<td>495</td>
<td>0.81</td>
<td>20%</td>
<td>267</td>
</tr>
<tr>
<td>8-11 years</td>
<td>189</td>
<td>0.32</td>
<td>8%</td>
<td>153</td>
</tr>
<tr>
<td>12-15 years</td>
<td>569</td>
<td>0.99</td>
<td>23%</td>
<td>402</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>971</td>
<td>0.44</td>
<td>40%</td>
<td>648</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>524</td>
<td>0.24</td>
<td>21%</td>
<td>ǂ</td>
</tr>
<tr>
<td>Neglect</td>
<td>664</td>
<td>0.30</td>
<td>27%</td>
<td>885</td>
</tr>
<tr>
<td>Emotional maltreatment</td>
<td>100</td>
<td>0.05</td>
<td>4%</td>
<td>239</td>
</tr>
<tr>
<td>Exposure to intimate partner violence</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Risk</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total investigations</td>
<td>2,443</td>
<td>100%</td>
<td></td>
<td>1,822</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.01, ***p<0.001, ǂEstimate is too small to report
Table 5 describes the service dispositions made at the conclusion of hospital-reported investigations. Substantiated investigations (investigations in which the evidence suggests abuse or neglect occurred) resulting from hospital referrals nearly tripled between 1998 and 2003 (from 0.22 per 1,000 children in 1998 to 0.64 per 1,000 children in 2003). The substantiation rate significantly decreased from 2003 to 2008 and then significantly increased again in 2013 (from 0.13 per 1,000 children to 0.82 per 1,000 children). Incidence rates for cases transferred to ongoing services tripled between 1998 and 2003 (from 0.21 per 1,000 children in 1998 to 0.63 per 1,000 children in 2003). Incidence rates of formal placements have increased over time, but remain relatively low, with the highest rate in 2008 (0.25 per 1,000 children).

Table 5
Service dispositions for child maltreatment-related investigations from hospital referrals in Ontario (1993-2013)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate</td>
<td>Rate per 1,000</td>
<td>%</td>
<td>Estimate</td>
<td>Rate per 1,000</td>
</tr>
<tr>
<td>Substantiation</td>
<td>852</td>
<td>0.39</td>
<td>35%</td>
<td>523</td>
</tr>
<tr>
<td>Transfer to ongoing services</td>
<td>604</td>
<td>0.28</td>
<td>25%</td>
<td>497</td>
</tr>
<tr>
<td>Placement (formal)</td>
<td>193</td>
<td>0.09</td>
<td>8%</td>
<td>ǂ</td>
</tr>
<tr>
<td>Total investigations</td>
<td>2,443</td>
<td>1,822</td>
<td>4,159</td>
<td>6,506</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.01, ***p<0.001, ǂ Estimate is too small to report
Discussion
most commonly identified maltreatment-related concern for the two subsequent cycles for hospital-referral investigations, paralleling the larger provincial trend for all investigations during that same period. Almost 6 of every 10 hospital-referred investigations conducted in 2008 and 2013 involved the assessment of future risk of maltreatment or exposure to IPV. Investigations have shifted from assessing a specific incident of maltreatment towards assessing factors that increase concern of the likelihood of future maltreatment (e.g., caregiver mental health). Broader provincial and Canadian investigative trends show that there is an increasing focus on the long-term impact of family challenges on child well-being rather than on immediate child safety [29,30].

The finding that infants are the most commonly referred group of children from hospitals is consistent with other studies that suggest that younger children are more likely to be identified as at-risk in health care settings [6,15,31]. Infants are particularly vulnerable to the deleterious impact of maltreatment on their physical safety and well-being and are more likely to be admitted to hospital for child maltreatment's most dire consequences, injury and death [13].

Maltreatment in the early years has been linked to adverse physical, developmental and mental health outcomes that can reach beyond childhood given the rapidity of brain development [32]. The findings of this paper further underscore the important role that hospital personnel can play with regard to recognizing and responding to maltreatment in the early years, particularly in the absence of school and other early education programs [13].

Since 1998, there have been increases in the incidence rates and proportions of hospital-referred investigations transferred to ongoing child welfare services. In 2013, child welfare workers deemed that ongoing support from the child welfare system was needed in 4 of every 10 hospital-referred investigations. One quarter of all investigations in 2013 were transferred to
ongoing services [14]. Studies have suggested that child welfare systems may respond
differentially to allegations of suspected maltreatment based on reporting source (e.g., [33–35]).

An exploration of the child welfare system’s responses to allegations from various referral
sources is an important avenue for future research in a Canadian context.

Limitations

The OIS is cross-sectional and so does not track longer-term case outcomes. Further,
there is no consideration of broader worker, organizational, or environmental factors. The data
captured in this study only include cases that are reported to and investigated by child welfare
agencies. Therefore, cases that are unreported, screened out, or only reported to police are not
included. Lastly, for investigations of children under one year of age, these data cannot
distinguish whether the referral made was for a prenatal or perinatal concern.

Conclusion

Ontario legislation outlines that all people are legally obligated to report suspected child
maltreatment [11]. Ensuring that professionals working with children, including hospital
personnel, understand and are adequately trained on their responsibilities to report is pertinent for
the protection of vulnerable children in this province. Understanding the signs of, not only
physical or sexual abuse, but of other forms of maltreatment including exposure to IPV and risk
of future maltreatment, is of the utmost importance for these professionals to be able to protect
children. The ability to refer families to further supports and services within the community will
help professionals address problems related to these specific families. Overall, an understanding
of the profile of children typically referred to child welfare services by hospitals and the general
provincial trends as well as a knowledge of professionals’ duty to report will better enable
hospital personnel to identify and report children at risk of maltreatment. As the first study to
What is already known on this topic:

- Mandatory reporters report perceived barriers to the reporting of suspected child maltreatment.
- The child welfare sector's response to reported child maltreatment differs based on referral source.

What this study adds:

- Contrary to public perception, neglect and risk are the primary reasons children are referred to child welfare agencies from hospitals in Ontario.
- Young children (under 3 years old) are more likely to be referred to child welfare by hospital personnel in Ontario than older children.
- One third of hospital-referred investigations to child welfare are substantiated, 42% receive ongoing services, and 9% of children are placed during their initial investigations.
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