

Protection and Justice: A study of the crossover of Northern Territory children between two services

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A Child Youth and Development Research Partnership Project

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In the spirit of respect, the authors acknowledge the people and elders of the Aboriginal and Torres Strait Islander nations who are the traditional owners of the land and seas of Australia.

We particularly acknowledge the NT families and children whose de-identified administrative data were combined to enable types of analysis not previously possible. We believe the study findings will benefit the NT population by providing a comprehensive evidence base to inform policy and services for the healthy development and wellbeing of NT children and young people.

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The views and findings expressed in this report are those of the authors and do not necessarily reflect those of the data custodians or organisational partners.

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Executive summary

Background

This report provides the first extended analysis of linked records for NT children who have been in contact with two substantial Northern Territory services—child protection and youth justice. The life course approach to the analysis, which is possible by linking multiple records of service for the same children, provides a more sophisticated and contextual record of the pathways of child experience than is possible by aggregating annual statistics from cross-sectional summaries of single service information. The use of linked data also provides information on the opportunities for services that may shift the predicted trajectories of development for children and can be used to evaluate the impact of current or future interventions.

This report builds on an earlier analysis which was undertaken by Menzies researchers, in 2017, for the Royal Commission into the Protection and Detention of Children in the Northern Territory. The key findings were summarised in the final report of the Royal Commission and are presented more fully, as background information, in Chapter 2 of this report. This report extends that information by exploring the characteristics of child protection reports (timing, frequency, reporter source and maltreatment type) for those children in the child protection system who were also ‘proven guilty of an offence’ in the youth justice system (hereafter referred to as the ‘crossover group’). The design of the study limits the analysis to the 903 children with a record of contact with NT child protection services among a total of 2830 children who were born in the NT in 1999 and who remain in the NT at the end of the study period. The analysis compares the records for these 903 children in subgroups separated by gender, Indigenous status and whether or not a child has a record of having been ‘proven guilty of an offence’. The small number of children in some subgroups, mean that only Aboriginal children can be reported in the ‘crossover group’.

Three limitations of this study are the small numbers available in the study cohort, the restricted age range for available data (information for those born in 1999 is only available until age 17 years) and the changed reporting patterns for child protection services through time which resulted in a ten-fold increase in the number of child protection reports between 1999 and 2016.

Results

Consistent with previous studies, there was a much greater risk of progression to youth justice for those children who had a history of higher levels of child abuse and neglect. Compared with the corresponding cohort of children who had contact with child protection services but who had not been found guilty of an offence, the ‘crossover group’ of Aboriginal children:

- had a higher number of child maltreatment reports (78.3% of males and 88.9% of females had three or more reports)
- had a higher number of substantiated reports of abuse and neglect (21.7% of males and 19.4% of females had three or more substantiated reports)
- remained in the child protection system for longer durations of time (72.5% of males and 80.6% of females had last maltreatment report at age 15–16 years)
- were more likely to experience out-of-home care placement (24.6% of males and 25.0% of females had at least one placement)
- were more likely to experience multiple types of maltreatment (79.7% of males and 80.6% of females were reported for more than one maltreatment type, and 13.0% of males and 27.8% of females were reported for all four types of maltreatment)

The NT has a different pattern of child protection reports to other states in Australia. A larger proportion of investigated reports in the NT are from police (35.4%), followed by health professionals (19.3%). In our study, we found that by age 17, compared to children with no record of offending, the ‘crossover group’ was more likely to have been:

- reported by multiple reporter categories (males: 87.0%; females: 88.9%)
- reported by six or more reporter categories (males: 18.8%; females: 30.6%)
- reported by police or health professionals for child maltreatment (males: 94.2%; females: 94.4%).

An analysis of the configuration of reporter categories, aggregated to five reporter groups – police, health professionals, school personnel, community members and other sources - revealed that among the ‘crossover group’, the top-ranked configuration for males was the combination of reports by all five reporter groups (11.6%)—followed by reports from all groups except health professionals (10.1%). The top-ranked configuration for females was reports by all reporter groups except community members (19.4%), followed by reported by all five groups (16.7%).

Other studies have reported the increased impact of a combination of multiple types of maltreatment (emotional, physical and sexual abuse and neglect) on delinquency outcomes. Consistent with this research, our study found that by age 17, compared to children without recorded offence, the ‘crossover group’ was more likely to be:

- reported for more than one primary type of maltreatment (males: 79.7%; females: 80.6%)
- reported for all four primary types of maltreatment (males: 13.0%; females: 27.8%)
- more commonly reported for each type of maltreatment – neglect (males: 85.5%; females: 91.7%), emotional abuse (males: 46.4%; females: 58.3%), physical abuse (males: 46.4%; females: 58.3%) and for sexual abuse or exploitation (males: 30.4%; females: 47.2%).

An analysis of the configuration of types of maltreatment reports revealed that among the ‘crossover group’, the top-ranked configuration for males was the combination of neglect

and physical abuse (18.8%) followed by neglect only (17.4%) and the combination of all four types of maltreatment (13.0%). Among females, the top-ranked configurations were all four maltreatment types (27.8%) followed by reports involving neglect, emotional and physical abuse (16.7%), and reports involving only neglect and emotional abuse (11.1%).

Implications for future analysis

Our study had demonstrated:

- the utility of including unsubstantiated notifications from NT child protection datasets in the assessment of the impact of abuse and neglect as they provide additional information to contextualise child maltreatment experience
- the heterogeneity of child maltreatment experienced by gender and Indigenous status
- the utility of using the 'reporter group' variable (i.e. police, health professionals, school personnel) in contextualising child maltreatment
- the value of linking child protection data to other government agencies to inform an interagency collaborative approach to child protection
- the potential use of typological approach (e.g. latent class analysis and cluster analysis) in identifying the different risk profiles of children and families to inform targeted prevention and intervention strategies in the NT.

Conclusion

This study found that the 'crossover group' had a higher number of child maltreatment reports, remained in the child protection system for longer periods of time, was more likely to experience out-of-home care placement, was more likely to experience multiple maltreatment types, and was more likely to be reported by multiple reporters than the children in the child protection system without a recorded offence. In particular, more than 90% of children in the 'crossover group' have been reported to child protection services by police or health professionals. These findings highlight the urgent need for integrated interventions and service responses that not only address the child's offending behaviour but also the child's social environment. By adopting a holistic, child-centred approach, through effective information sharing and multi-agency collaboration, different service providers could leverage the collective capabilities and resources to meet the 'multiple and complex needs' of vulnerable NT children and their families.

1. Introduction

1.1 Preamble

There is scant research on juvenile delinquency¹ in the Northern Territory (NT), despite the NT having the highest rate of youth detention^{2, 3} and the highest prisoner recidivism rate (58.3%) in Australia.⁴ On an average day, in 2015–16, there were 183 juveniles under youth justice supervision and 49 juveniles in detention in the NT.^{2, 3} During the whole year, 270 juveniles spent time in detention.³ In the NT, it costs an average of \$1540 a day to keep a juvenile in detention, with a total recurrent expenditure on detention-based supervision of \$27.56 million in 2015–16.⁵ Both the economic and social costs of juvenile crime and detention in the NT are high.⁶

NT-specific research that informs effective prevention and early intervention strategies for juvenile delinquency is urgently needed, and one area that may provide opportunity for intervention is at the time of contact of a child with child protection services. In other settings, researchers have demonstrated the link between child abuse and neglect and juvenile delinquency,^{7, 8} and data-linkage is increasingly being used to explore this link through a developmental and life-course perspective.^{9–15} This report first summarises previous analyses of linked child protection and youth justice data, which was incorporated into the NT Royal Commission report,¹⁶ and then extends this information by exploring the characteristics of child protection reports (timing, frequency, reporter source and maltreatment type) for children involved with both the NT child protection and juvenile justice services.

The preliminary analysis presented in this report provides a foundation for more complex analyses in future research. At the conclusion of this report, there is a summary of the key findings, theoretical implications and future directions for data-linkage research in the NT.

1.2 Development of a cross-agency linked data resource

Since 2009, Menzies School of Health Research (Menzies) has collaborated with the Northern Territory Government (NTG) and the SA-NT DataLink¹⁷ data integration authority to develop the infrastructure and capacity to undertake data-linkage research. The collaboration aims to make better use of existing administrative datasets to build the relevant evidence to inform social and public policy in the NT.

There have been NT data linkage projects in a range of research areas, but the area with the most sustained focus has been in the health and development of children and youth. The linkage of information on the same individuals across multiple data sources, including from health, education, child protection and justice, has allowed the Menzies data-linkage team to apply a developmental and life-course perspective in research. This approach allows individuals to be followed from birth through childhood and youth to understand the cumulative impacts of the many influences on a child's development. The research is

conducted within a framework that is ethically approved (HREC-2016-2708) and in which all information is de-identified.

A new agreement between Menzies and NT Government agencies—the Child and Youth Development Research Partnership (CYDRP)—commenced in May 2017. This research partnership supports the ongoing maintenance and development of the existing linked data repository and commissions specific studies.

1.3 Menzies' data linkage research and the NT Royal Commission report

In July 2016, in response to concerns for the treatment of children in NT youth detention facilities, the Australian Government and NT Government established the Royal Commission into the Protection and Detention of Children in the Northern Territory. Within the mandate of the Royal Commission was consideration of the pathways that lead into the child protection and youth justice systems and preventive strategies that address these pathways. Statistical information is recognised as a fundamental requirement in informing and evaluating government policy, services, prevention and intervention programs. This requirement is also acknowledged in the *Growing Them Strong, Together* report from the 2010 inquiry into child protection services, which stated that 'any investment strategy for secondary and tertiary supports for children, families and communities in the NT should be based on an analysis of existing data'.¹⁸

Aware of the existing data-linkage infrastructure, during early sittings of the Royal Commission, the Commissioners requested statistical information regarding the involvement of NT children in the child protection and youth justice services. In December 2016, Menzies submitted a statistical overview of children's contact with the NT child protection system to the Royal Commission.¹⁹ The submission included an overview of NT children in the child protection system with a description of time trends in the rates of children's contact with the NT child protection system and a description of associated risk factors.

In August 2017, Menzies provided a second submission to the Royal Commission that included information on the associations between a history of contact of children with the child protection services and subsequent contact with the juvenile justice system.¹⁶ The information provided to the Royal Commission was incorporated into the report of the Commission and is also reproduced as background information in Chapter 2 of this report.

1.4 Aim of this report

The information in this report builds on the Menzies submission to the Royal Commission and responds to the specific objectives of Project 1 of the CYDRP Agreement – *Relationship between involvement with child protection and juvenile justice systems for NT children and youth*. The description for the project proposes 'foundational work to inform design and

scoping the rationale and feasibility for future policy research relating to child protection and justice outcomes’.

Within the proposal, there are three objectives:

1. to describe the health, educational and social characteristics of children who have been in contact with the child protection system
2. to demonstrate the utility of available linked data to identify and describe the representation of children with child protection histories in the juvenile justice system
3. to scope the exploration of associations between child protection notifications and intervention outcomes and subsequent contact with the juvenile justice system in the NT.

The response to the first objective is presented in a separate report and provides information on NT children to age five years who had contact with the NT child protection services between 2009–10 and 2015²⁰. This report addresses the second and third objectives. The preparation of two reports for the single project recognises that the analysis required for the three objectives are based on the life-course experience of different cohorts of children. There has been a ten-fold increase in the number of NT children in contact with child protection services across the period of available data from 1999 to 2016.²⁰ The children who are described in this study, to age 16 years, were reported to child protection services at much lower rates in their early years than children born in more recent years, which will mean that the history of contact with child protection services for 16 year olds in 2015 will differ from subsequent birth cohorts.

2. Findings from Menzies' submission to the NT Royal Commission

Chapter overview

In this chapter, the four key findings in the Menzies submission for the NT Royal Commission are summarised:

- The majority of Aboriginal children (75.2%) in the youth justice system have had previous involvement with the NT child protection system.
- An increasing gradient of risk was identified as the level of child protection involvement increased. Those with no record of child protection involvement had a lower risk for youth offending than those with notifications and substantiations for maltreatment. Children placed in out-of-home care had the highest risk for subsequent youth offences.
- Those with substantiated episodes of both neglect and abuse had the highest risk of offences, followed by those with substantiations for neglect only, those with substantiations for abuse only and those with no record of substantiations.
- Young people with recorded offences had a history of having entered out-of-home care at an older age, experienced a greater number of placements and had stayed in care for longer durations of time.

In August 2017, Menzies provided a submission to the Royal Commission into the Protection and Detention of Children in the Northern Territory that presented statistical information on the overlap between NT children with a history of contact with child protection services and children found guilty of an offence through the juvenile justice system.¹⁶ Parts of the submission were incorporated into Chapter 35 of the final report of the Commission.

The analysis focussed on NT children born in 1999 (the first available year for child protection data) and reported their lifetime contact with services to the time of the latest available youth justice data, which was 2016, in the year that the children turned 17 years.

The submission reported on four areas: the overlap between the populations of children in contact with the child protection and youth justice; an analysis of the comparative risk for offending between levels of contact with child protection services; a comparison of risk for offending between different types of child abuse and neglect; and a specific analysis of children in out-of-home care.

A summary of the findings are presented in the following sections of this chapter.

2.1 Overlap between the child protection and youth justice populations

There was a total of 2830 children, born in 1999, who were available for analysis. There was substantial difference between Aboriginal and non-Aboriginal children, making it appropriate to present the results separately. The analysis was undertaken up to the young person's 17th birthday. The distribution of the numbers of Aboriginal and non-Aboriginal children across different combinations of possible contact with child protection and youth justice services is presented as Venn diagrams in Figure 2.1, and a further breakdown, by gender, for Aboriginal children is provided as Figure 2.2. There was 1246 young Aboriginal

people and 1584 young non-Aboriginal people in the study cohort. In summary, selected distributions in Figure 2.1 are:

- Among the 1246 Aboriginal children in the study cohort, 666 (53.5%) had a history of contact with child protection services.
- Of the 141 Aboriginal children proven guilty of an offence, a substantial majority (106 of 141, or 75.2%) had previous involvement with the child protection system.
- Of the 666 Aboriginal children with any level of child protection involvement, 15.9% (106) were subsequently found guilty of an offence to age 16 years.
- Of the 1584 non-Aboriginal children, a small number (fewer than 10)ⁱ had been proven guilty of an offence, with about half of this number having had previous contact with the child protection system.

For the Aboriginal children in the study cohort, by gender, selected distributions are:

- Among Aboriginal males, 70% (70 in 100) of those proven guilty of an offence had a history of contact with child protection services.
- 21.9% (70 in 319) of Aboriginal males with a history of contact with child protection services were subsequently involved in the youth justice system.
- Among Aboriginal females, 87.8% (36 of 41) proven guilty of an offence had a record of previous contact with child protection services.
- 10.4% (36 of 347) of Aboriginal females with a history of contact with child protection services were subsequently proven guilty of an offence in the youth justice system.

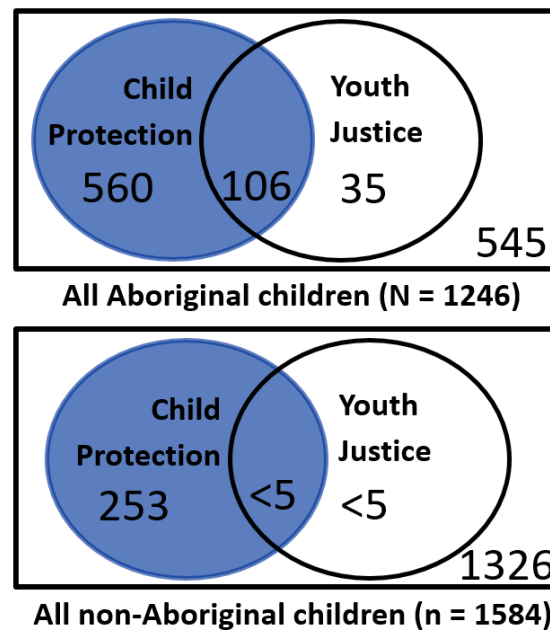
2.2 Risk for offending is associated with the level of child protection involvement

An analysis was undertaken of the cumulative riskⁱⁱ of being proven guilty of an offence for groups of children in the study cohort with varying levels of contact with child protection services (Figure 2.3). For both males and females, there was an increasing gradient of risk for a first proven-guilty offence as the level of child protection involvement increases. For all NT males to age 16 years (not yet 17 years), those with no history of contact with the child protection system had the lowest cumulative risk for a proven- guilty youth offence (**3.2%** to age 16), followed by the notification only group (**11.5%**), substantiation only group (**18.7%**) and the out-of-home care (OOHC) group (**33.7%**). A similar pattern was observed for females to age 16 years, with those with no history of contact with the child protection system having the lowest cumulative risk for a proven guilty youth offence (**0.6%** to age 16), followed by the notification only group (**5.9%**), substantiation only group (**8.9%**) and OOHC group (**13.2%**). The analysis is limited by the inclusion, in the same analysis, of both Aboriginal and non-Aboriginal children who have different population risk profiles within youth justice services.

ⁱⁱ Consistent with convention, the numbers in cell sizes of less than five are suppressed.

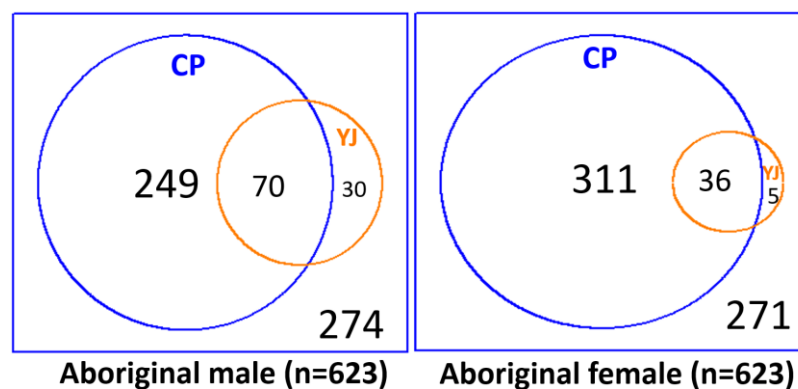
ⁱⁱ Technically, this is the cumulative 'hazard'.

Figure 2.1 Overlap of child protection and youth justice involvement for the study population in the NT Royal Commission



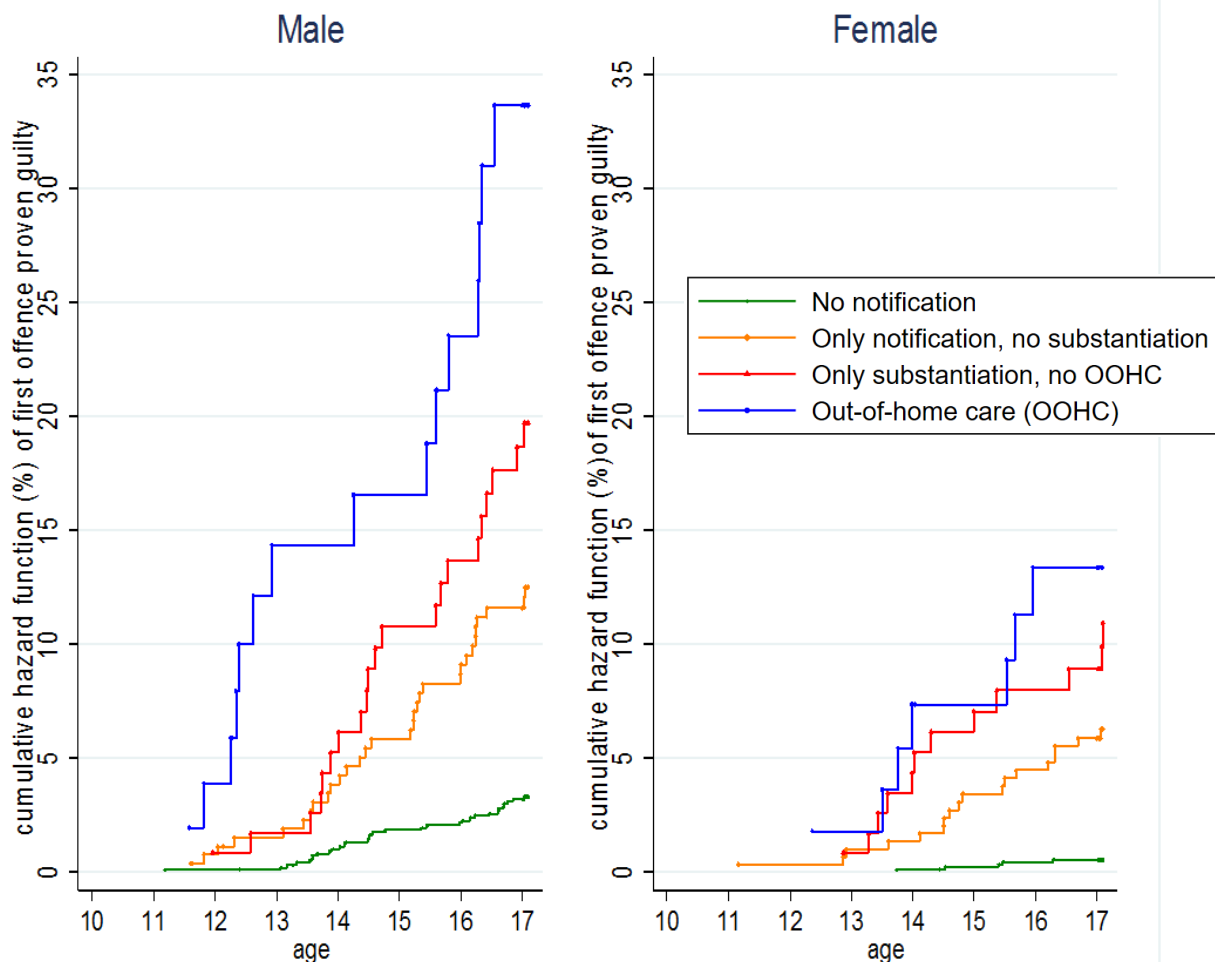
Source: Royal Commission and Board of Inquiry into the Protection and Detention of Children in the Northern Territory, 'Final Report', Volume 3B, Chapter 35, available at <https://www.royalcommission.gov.au/sites/default/files/2019-01/rcnt-royal-commission-nt-final-report-volume-3b.pdf>

Figure 2.2 Aboriginal males and females in the study population who are the subject of child protection notifications and/or with a proven-guilty offence



Source: Royal Commission and Board of Inquiry into the Protection and Detention of Children in the Northern Territory, 'Final Report', Volume 3B, Chapter 35, available at <https://www.royalcommission.gov.au/sites/default/files/2019-01/rcnt-royal-commission-nt-final-report-volume-3b.pdf>

Figure 2.3 Survival analysis depicting first proven-guilty offence at different ages, by gender and level of child protection involvement



Source: Royal Commission and Board of Inquiry into the Protection and Detention of Children in the Northern Territory, 'Final Report', Volume 3B, Chapter 35, available at <https://www.royalcommission.gov.au/sites/default/files/2019-01/rcnt-royal-commission-nt-final-report-volume-3b.pdf>

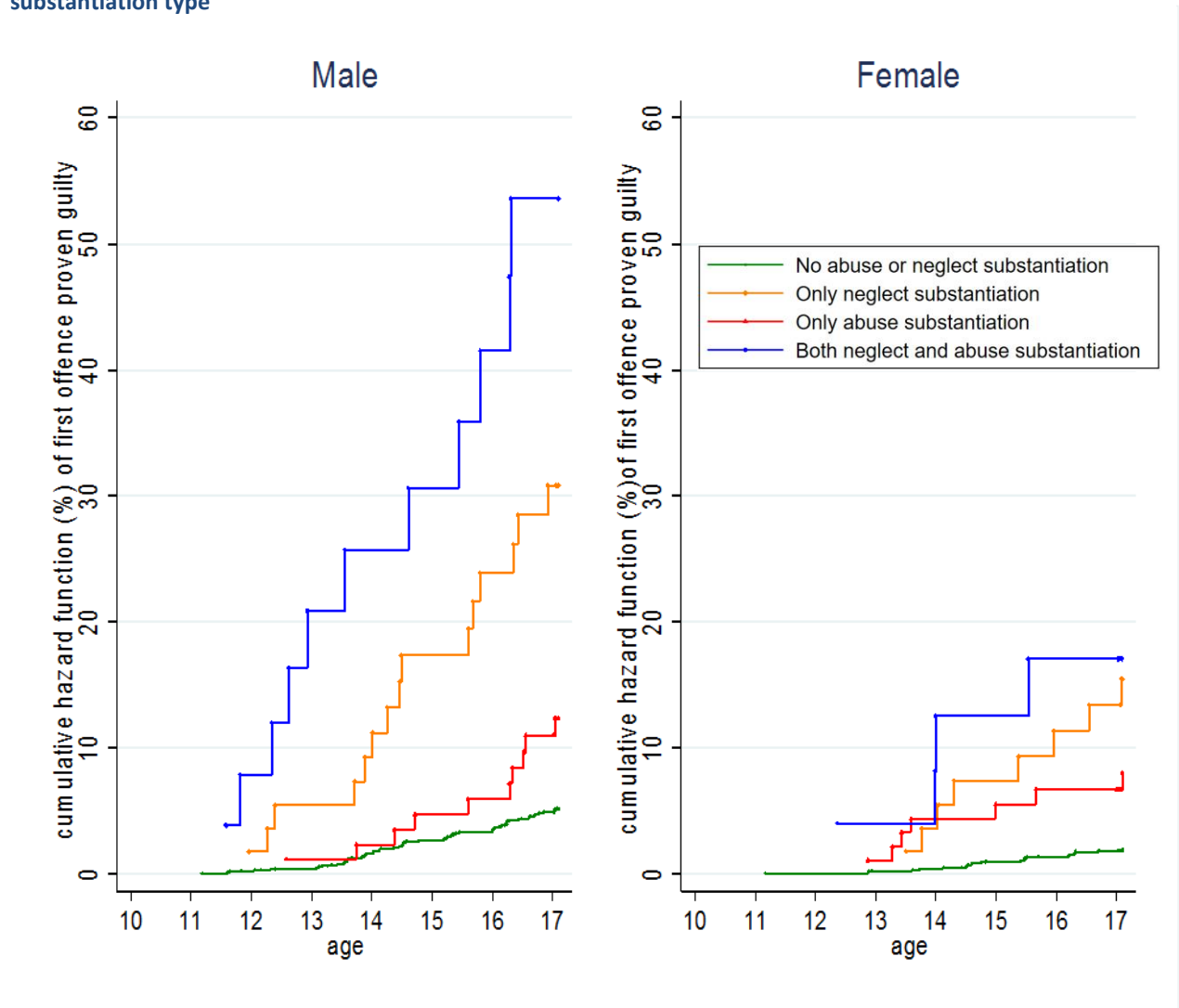
2.3 Risk for offending is associated with the type of maltreatment substantiation

A similar analysis to the previous section was undertaken for the cumulative risk of being proven guilty of an offence for groups of young men and women with substantiated episodes of different types of child abuse or neglect. In the analysis, the four types of maltreatment were grouped as neglect only, abuse only (whether emotional, physical or sexual abuse), both abuse and neglect, as well as a group with no history of a substantiated episode. Those with a history of both neglect and abuse had the highest risk of offending, followed by those with substantiations for neglect only, those with substantiations for abuse only and those with no record of substantiations (Figure 2.4).

For both males and females by age 17 years, those in the 'no abuse or neglect substantiation' group had the lowest cumulative risk for a proven-guilty offence (4.9% and

1.8%, respectively), followed by those in the 'only abuse substantiation group' (11.0% and 6.7%, respectively), the 'only neglect substantiation group' (30.9% and 13.4%, respectively) and the 'both neglect and abuse group' (53.6% and 17.1%, respectively). As noted in the previous section, this analysis is limited by the inclusion of both Aboriginal and non-Aboriginal children who have different population risk profiles within youth justice services.

Figure 2.4 Survival analysis depicting first proven-guilty offence at different ages, by gender and substantiation type



Source: Royal Commission and Board of Inquiry into the Protection and Detention of Children in the Northern Territory, 'Final Report', Volume 3B, Chapter 35, available at <https://www.royalcommission.gov.au/sites/default/files/2019-01/rcnt-royal-commission-nt-final-report-volume-3b.pdf>

2.4 Characteristics of out-of-home care placement for children found guilty of an offence

One area of specific interest for analysis was the association between out-of-home care and the juvenile justice system. There was only a relatively small number of children (a total of 127) available for the analysis; nonetheless, a general description of the results is of interest and is presented for both males and females in Table 2.1. For both males and females, those children with a proven-guilty offence had a higher median number of placements and greater duration of placements than children without a proven-guilty offence. Those with a proven-guilty offence also had an older age of first placement in out-of-home care.

Table 2.1 Placement characteristics of males and females with and without proven-guilty offences

	Male		Female	
	Proven-guilty offence		Proven-guilty offence	
Median	Yes (n = 19)	No (n = 42)	Yes (n = 9)	No (n = 57)
Number of placements	11	3	7	3
Duration of placement (years)	4.4	0.4	5.0	1.1
Age at first placement	10.2	4.8	10.9	6.1

Source: Royal Commission and Board of Inquiry into the Protection and Detention of Children in the Northern Territory, 'Final Report', Volume 3B, Chapter 35, available at <https://www.royalcommission.gov.au/sites/default/files/2019-01/rcnt-royal-commission-nt-final-report-volume-3b.pdf>

3. Overview of the study

Chapter overview

- This study utilised the datasets held in the Menzies child and youth data repository.
- The study cohort was the 903 children born in the NT in 1999 who have had contact with NT child protection services.
- In this study, four child notification dimensions (timing, frequency, source of report and type of maltreatment) were compared among subgroups of the study cohort, separated by gender, Indigenous status and presence of 'proven guilty' offence.
- The 'crossover group' was defined as the group of children who had a record in child protection data and who had also been proven guilty of an offence.
- Three limitations of the study were the small numbers in the study cohort, which restricted reporting of the 'crossover group' to Aboriginal children; the limited timeframe for available data, which restricted the analysis to children up to but not including age 17 years; and changes in child protection reporting through time.

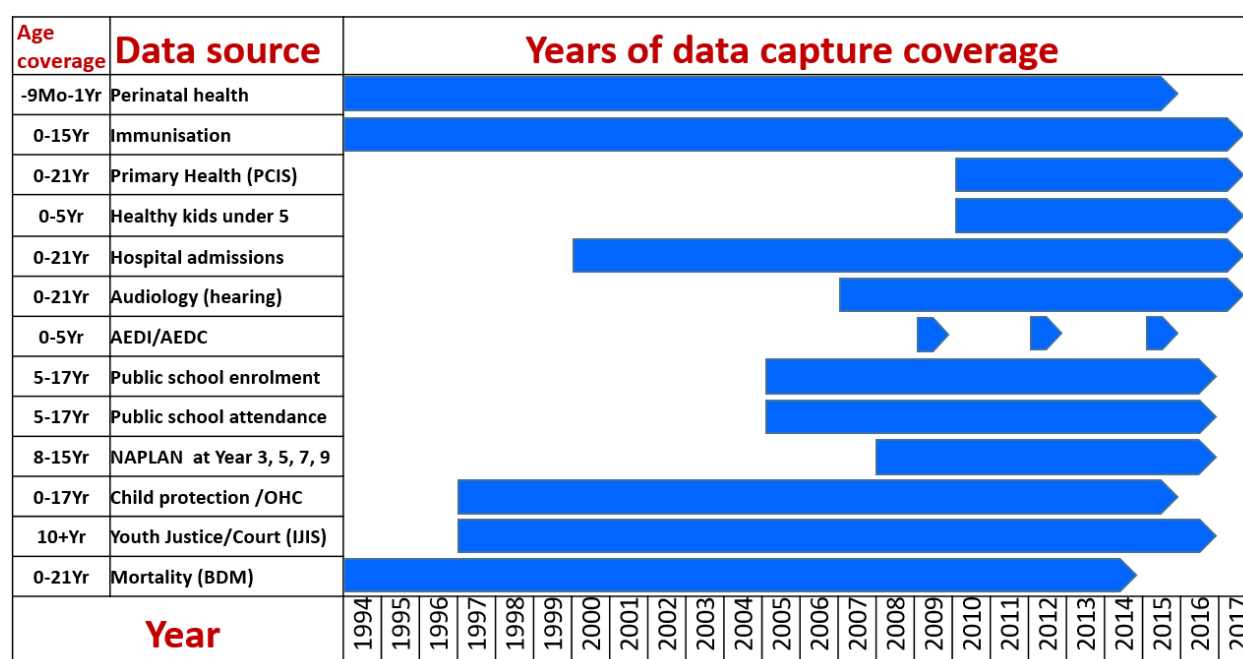
3.1 Datasets in the child and youth data repository

As described in Chapter 1, since 2009, Menzies has been collaborating with the NT Government and SA NT DataLink¹⁷ to develop a substantial repository of de-identified information on NT children and youth. Using this facility, information on individual children can be linked across multiple administrative datasets, allowing ethics-approved research that explores the multiple influences on a child's development. A summary of the current datasets within the repository is presented at Figure 3.1. The repository is based on NT-born children from 1994 to the latest linked birth data in 2015. The datasets held in the repository include children's records on their perinatal health (including maternal health), hospital admissions, primary health care contacts, public school enrolment and attendance, assessment of school readiness,ⁱⁱⁱ academic achievement,^{iv} child protection involvement, youth justice involvement and mortality. A detailed overview of the linkage process and management of these datasets is outlined elsewhere.²¹

ⁱⁱⁱ As measured by the triennial Australian Early Development Census (AEDC). See <http://www.aedc.gov.au/>.

^{iv} As measured by the standardised scores resulting from the National Assessment Program - Literacy and Numeracy (NAPLAN) exams undertaken by all Year 3, 5, 7 and 9 school students. See <https://www.nap.edu.au/>.

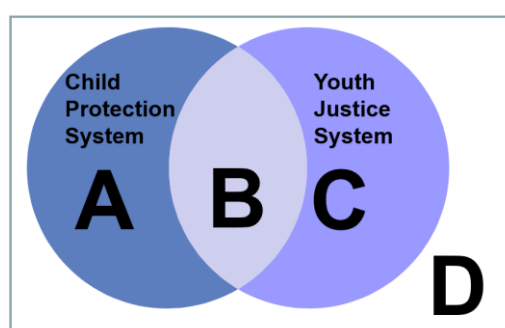
Figure 3.1 Age ranges of children and years of data collection in datasets available in the Menzies child and youth data repository



3.2 Defining the study cohort

The Menzies submission to the Royal Commission demonstrated the association between NT children's involvement with the child protection system and youth justice system. This report extends those results by further exploring the characteristics of the children who appear in both systems, the 'crossover group'. The 'crossover group' is presented in Figure 3.2 as one of four groups of children in the study cohort. The first group (Group A) are those who only appear in child protection data. A second group are found guilty of an offence but have no record in child protection data (Group C). The 'crossover group' are the children who have a record in child protection data and have also been found guilty of an offence (Group B). There is a fourth group who do not appear in either data system (Group D).

Figure 3.2 Venn diagram illustrating the overlap of child protection and youth justice involvement for the study cohort



This study used the same NT birth cohort (1999) as that used for the Royal Commission report. The birth year of 1999 was chosen to maximise the opportunity for inclusion of the study cohort in both the child protection (which commenced in 1999) and youth justice data

systems within the period of available data outlined in Figure 3.1. This includes child protection data to the end of 2015 and youth justice data to the end of 2016 (up to but not including those aged 17 years).^v The NT Perinatal Register data was used to establish the study cohort of 2830 individuals born in the Northern Territory between 1 January 1999 and 31 December 1999 for the analysis^{vi} (1246 Aboriginal and 1584 non-Aboriginal children). Inclusion of a person as having had contact with child protection services was defined as a notification of a child for possible child abuse or neglect, while inclusion of a child for youth justice involvement was defined by a record of an offence that was found to be ‘proven guilty’.

In Chapter 4 to Chapter 7 of this report, the study sub-cohort are the 903 children, born in 1999, with a history of contact with NT child protection services (Groups A and B in Figure 3.2). Four child notification dimensions (timing, frequency, reporter source and maltreatment type) were compared among different subgroups, separated by gender, Indigenous status and presence of ‘proven guilty’ offence. Figure 3.3 illustrates the subgroups and the respective number of children in each subgroup. Due to the small number of non-Aboriginal children (n = 3) found in the ‘crossover group’ (Group B), information on non-Aboriginal male and female children in these two subgroups is not presented.

Figure 3.3 All subgroups (gender, Indigenous status and presence of ‘proven guilty’ offence) in the study cohort

		Aboriginal	non-Aboriginal
Gender	Male	Aboriginal male with recorded offence (n=69)	Aboriginal male without recorded offence (n=247) non-Aboriginal male without recorded offence (n=118)
	Female	Aboriginal female with recorded offence (n=36)	Aboriginal female without recorded offence (n=302) non-Aboriginal female without recorded offence (n=131)
		With recorded offence Group B in Figure 3.2 ‘crossover group’	Without recorded offence Group A in Figure 3.2

^v A current limitation in the analysis is that while both child protection and youth justice extends to age 18, data remains incomplete for children aged 17 years.

^{vi} Individuals were excluded if perinatal records indicated stillbirths and neonatal deaths (n = 60), children who died within 90 days of birth (n = 30), children born interstate or to immigrant mothers (n = 53), and any children who do not have records available in other Northern Territory government datasets (on the assumption that they have left the Northern Territory before the events of interest occurred; n = 606).

3.3 Study limitations

There are three significant limitations in the analysis for the report; the restricted timeframe for available data; the small numbers in the study cohort; and the changed reporting patterns through time.

The first two limitations are related. While the full data repository currently includes NT children born in 1994, the electronic reporting system used for child protection services did not commence until 1999. For this study, it is necessary to gather information across a life course, and so the commencing year for the study cohort must align with availability of child protection information. At the other end of the timeframe for the study, data is available for child protection data to 2015 and for youth justice to 2016. As a result, the study cohort had not yet reached the upper age for youth justice at 18 years, and the analysis is necessarily limited to children who are 16 years old (up to their 17th birthday). While the likelihood of contact with the child protection system commencing at age 17 is very low, the contact with the youth justice system would be more common. Therefore, the contact with the youth justice system might be underestimated. New child protection and youth justice data (for 2017) will become available in an upcoming data refresh of the repository, allowing future analyses to include the full range of ages to 18 years. The restriction of the study to a single-year birth cohort (1999) also means that there are only small study cohorts for some subgroup analyses. In line with general guidance on reporting information for a small number of events (generally fewer than five), the results for some reporting cells have been suppressed in this report.

The third limitation in the analyses and in the interpretation of results is that over time there have been substantial changes in the patterns of reporting within administrative systems. Some data systems, such as perinatal data, have been very stable through time, while other data systems have had major changes. The prominent example for change is child protection reporting, with the number of children reported (notified) each year having increased ten-fold between 1999 and 2016.²⁰ As a result, information that is based on age and those characteristics associated with age may not be consistent between time periods or study cohorts. Care is required in interpretation.

3.4 Structure of the report

In Chapters 4 to 7, we compare the maltreatment experiences between the six subgroups (Figure 3.3) in our study cohort. The dimensions explored in Chapters 4 to 7 are summarised in Figure 3.4.

Figure 3.4 Four dimensions of maltreatment experiences (timing, frequency, reporter source and type of maltreatment)

Timing Age of first report Age of last report	Frequency Number of notifications Number of substantiations Out-of-home care
Source Multiple reporter Reports by police Reports by health professionals	Type Multiple type Neglect Emotional abuse Physical abuse Sexual exploitation/abuse

Chapter 4 provides detail on the age of first and last child maltreatment report and explores the relationship between the timing of child protection contacts and youth offences.

The following chapter, Chapter 5, investigates how maltreatment ‘frequency’ varies between different subgroups in the study cohort. To measure the ‘frequency’, this report used the number of maltreatment notifications or substantiations that were recorded in the NT child protection system.

Chapter 6 provides detail on the sources of notification, or ‘reporters’, and includes detailed results for the two most common sources of reports – police and health professionals.

Chapter 7 investigates how the type of abuse and neglect varies for each of the subgroups in the study cohort. Where there are multiple types of abuse and neglect recorded for a single event, a primary type of maltreatment is recorded in the child protection system. The primary type of abuse or neglect is the type that is of most immediate risk to the child.

The final chapter summarises the results of the study, discusses the theoretical implications and explores future directions in child protection data-linkage research in the NT.

4. Timing – age at first and last notification, and time between notification and offence

Chapter overview

Various studies have reported the importance of timing of maltreatment in relation to later offending. The first contact of a child with the child protection system represents an early opportunity for intervention to prevent recurrent maltreatment and future adverse outcomes. Our study found that among the ‘crossover group’:

- About one in three children had a first notification by age five years (males: 34.8%; females: 30.6%).
- About six in 10 children had a first notification by age 10 years (males: 65.2%; females: 55.6%), and all had first contact before 15 years of age.
- A majority of children had a last contact with the child protection system at age 15–16 years (males: 72.5%; females: 80.6%).
- A majority of children committed a first offence at least five years after their first child protection notification (males: 60.9%; females: 52.8%), and only a small proportion (males: 4.3%; females: 11.1%) committed a first offence less than one year after first notification.

The importance of the age of a child at the time of maltreatment in relation to later offending has been widely reported. Several studies have found a greater likelihood of youth offending among those children for whom maltreatment either started or continued into adolescence, compared with children for whom maltreatment was limited to early childhood.^{22, 23} By contrast, one study reported that childhood maltreatment was associated with subsequent offending independently of adolescent maltreatment.²⁴

Periods of school transition have also been identified as an important element in the relationship between child maltreatment and subsequent offending. Stewart et al. (2008) have observed that reporting of maltreatment commonly peaks at or around transition from preschool to primary school at age five and from primary school to secondary school at age 12.²³

In this chapter, we report the age of first and last child protection notifications. The first notification represents an opportunity for early intervention to prevent the risk of ongoing or recurrent maltreatment and future adverse outcomes. The age of last child protection notification provides insight into whether the child has been reported or is continuing to be reported for maltreatment in their adolescent years.

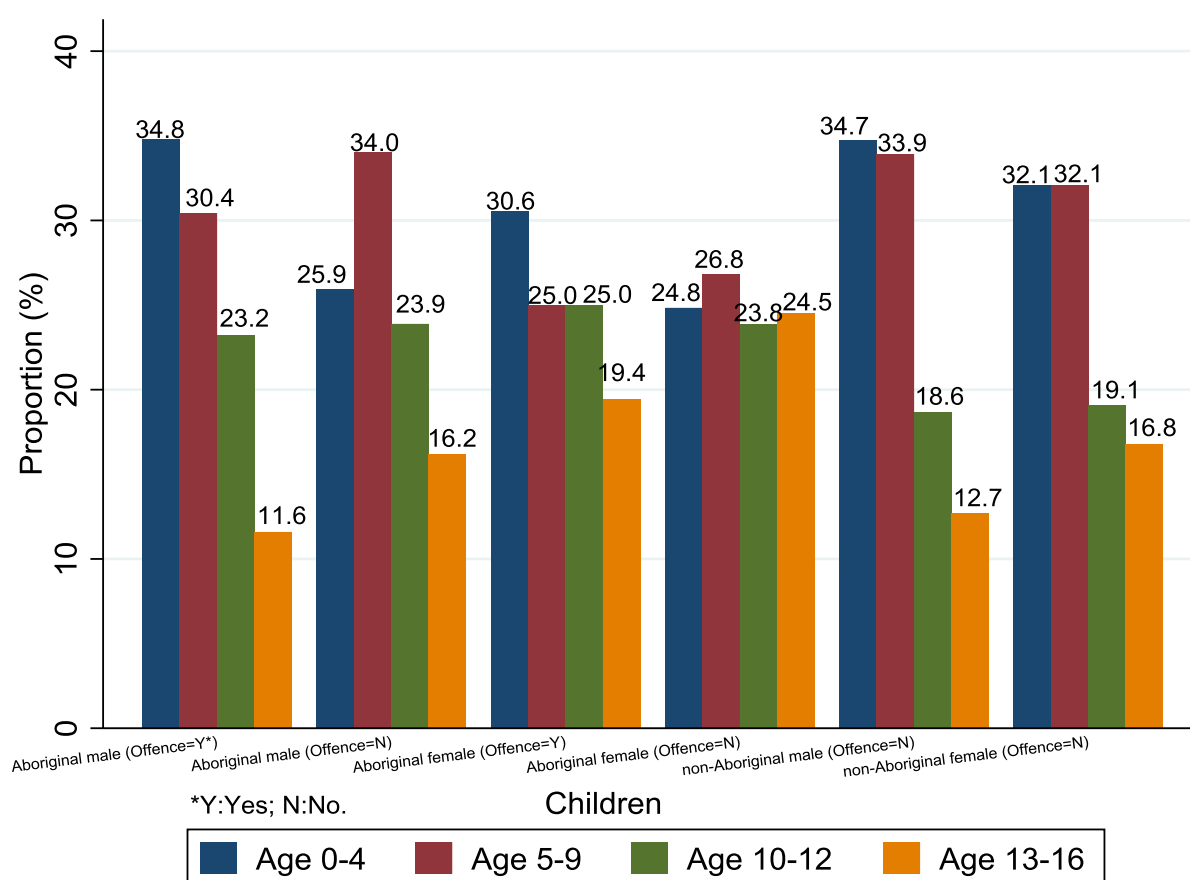
4.1 Age of first child maltreatment notification

The median age for first notification for the study cohort varied between groups and for Aboriginal males and females was 6.6 years and 7.1 years respectively and for non-Aboriginal males and females was 5.6 years and 8.4 years respectively. The distribution by age group of first notifications for the six study groups is presented in Figure 4.1. In this graph, the ages of notifications are aggregated into four age groups of 0–4 years, 5–9 years,

10–12 years and 13–16 years. As described in Chapter 3, the information is provided for the six groups separated by Indigenous status, gender and whether or not the young person has been found guilty of an offence. There are insufficient numbers to present the non-Aboriginal male and female groups who are found guilty of an offence.

For all six groups, a majority of children had first contact before age 10 years. A greater proportion of both Aboriginal males and females found guilty of an offence have first contact before age five years (males: 34.8%; females: 30.6%) than the corresponding group with no history of an offence (males: 25.9%; females: 24.8%).

Figure 4.1 Age distribution of first notification by six groups, 1999 NT birth cohort in the child protection system



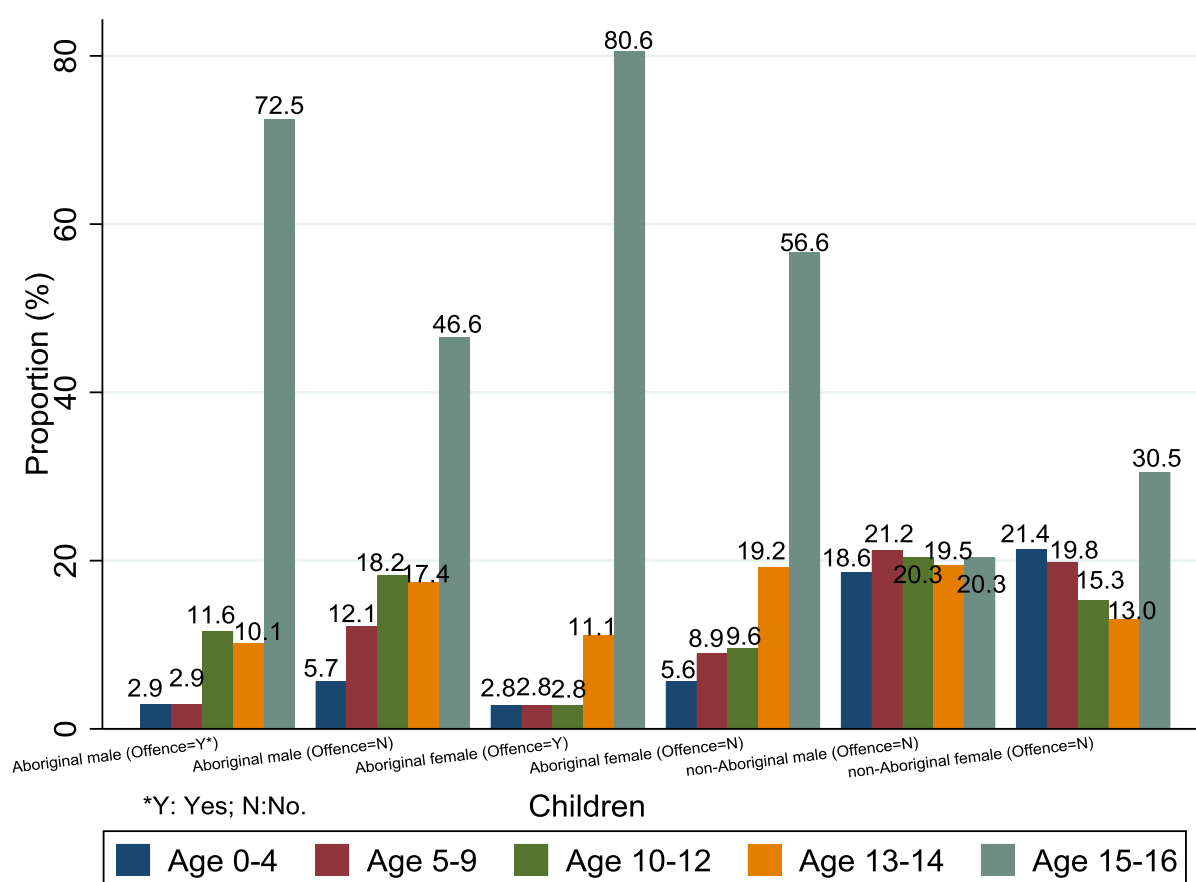
4.2 Age of last observed notification

The median age for last notification for the study groups are for Aboriginal males and females 16.6 and 16.9 years respectively, and for non-Aboriginal males and females, 14.7 years and 15.4 years. The distribution of the age groups for last notification, before age 17 years, to child protection services is presented in Figure 4.2, with children aggregated into five age groups: with the three age groups of 0–4 years, 5–9 years and 10–12 years used in Figure 4.1, while the oldest age group is split into 13–14 years and 15–16 years.

For all four groups of Aboriginal children, the majority had last contact with the child protection system at age 15–16 years. However, Aboriginal males and females found guilty of an offence were more likely to have had the last maltreatment notification at age 15–16 years (males: 72.5%; females: 80.6%) than the corresponding groups with no history of an offence (males: 46.6%; females: 56.6%).

Among non-Aboriginal children (with no history of an offence), the age distribution was less varied. For non-Aboriginal males, the distributions were similar across the five age groups, while for non-Aboriginal females, 30.5% had a last contact at age 15–16 years.

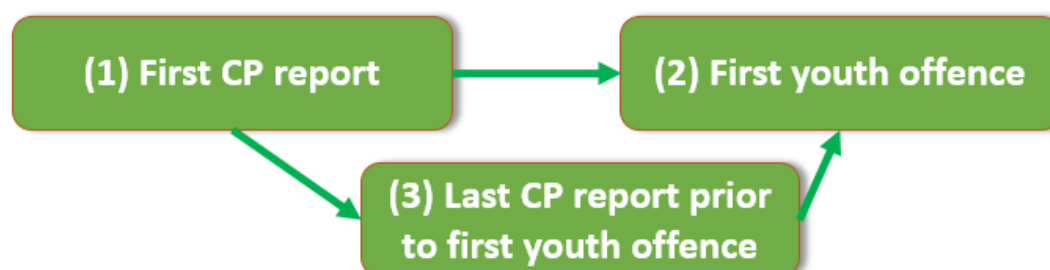
Figure 4.2 Age distribution of last notification by six groups, 1999 NT birth cohort in the child protection system



4.3 Time between child protection notifications and subsequent offence

From a prevention perspective, understanding the time between the first contact (notification) of a child with child protection services and later contact with the youth justice system is important. This period provides a window in which appropriate interventions may influence long-term outcomes for the child. In this section, we report the following: (1) age of first child protection (CP) report, (2) age of first youth offence ('proven guilty'), and (3) age of last child protection report prior to first youth offence, as presented in Figure 4.3.

Figure 4.3 The relationship between first child protection report, first youth offence and the last child protection report (prior to first offence), 1999 NT birth cohort



For both males and females in the 1999 NT birth cohort, a majority of NT Aboriginal children in the ‘crossover group’ had a first notification at an early age, and all had first contact before 15 years of age. In this group, six in 10 had a notification by age 10 years (male: 65.2%, female: 55.6%), with one in three having had a notification by age five years (male: 34.8%; female: 30.6%).

Among the ‘crossover group’, 18.6% of males and 13.9% of females had a first offence at age 10–12 years, 31.9% of males and 47.2% of females had a first offence at age 13–14 years, and 49.3% of males and 38.9% of females had a first offence at age 15–16 years.

Among the ‘crossover group’, a substantial proportion of Aboriginal children had been notified to the child protection services at age 10–12 years before they committed a first offence (males: 60.9%; females: 69.4%), while 31.9% of males and 61.1% of females had been notified to the child protection services at age 13–14 years before they committed a first offence.

Table 4.1 Median age of first notification, last notification before being found guilty an offence and being found guilty of a first offence for the ‘crossover group’.

Median age	Male	Female
First child maltreatment notification	8.2	9.6
Last notification before first offence	12.6	13.4
First offence (proven guilty)	14.7	14.6

For the ‘crossover group’, the median age of first notification, last notification before being found guilty of a first offence and being found guilty of a first offence are presented in Table 4.1. For Aboriginal males in the ‘crossover group’, the median age of first notification, last notification before being found guilty of an offence and being found guilty of a first offence were 8.2, 12.6 and 14.7 years respectively. For Aboriginal females in the ‘crossover group’, the median age of first notification, last notification before first offence, and first offence were 9.6, 13.4 and 14.6 years respectively.

The majority of Aboriginal children in the ‘crossover group’ committed a first offence at least five years after their first child protection notification (males: 60.9%; females: 52.8%).

Only 4.3% of males and 11.1% of the females in the 'crossover group' committed a first offence less than one year after first notification, while 87.0% of males and 77.8% of females in the 'crossover group' were found guilty of committing an offence more than two years after being first reported to the child protection system. These periods provide opportunity for interventions to prevent children who are known to child protection services from progressing to committing an offence.

5. Frequency – number of notifications and substantiations

Chapter overview

Studies have demonstrated the impact of chronic maltreatment on delinquency outcomes. Consistent with previous research, our study found that by age 17, compared to children without a recorded offence, the 'crossover group' was more likely to have:

- recurrent child protection notifications (males: 92.8%; females: 94.4%)
- 10 or more notifications (males: 27.5%; females: 41.7%)
- a record of substantiated reports (males: 58.0%; females: 63.9%)
- three or more substantiated reports (males: 21.7%; females: 19.4%)
- a record of out-of-home care placements (males: 24.6%; females: 25.0%).

Previous studies have reported that repeated episodes of child abuse and neglect is associated with a range of negative health and behavioural outcomes, including juvenile offences. Stewart et al. (2008) reported that children with 'chronic maltreatment' had the greatest risk of juvenile delinquency compared to children with other trajectories of maltreatment.²³ In another study, the authors reported that repeated notifications were associated with a range of negative health and behavioural outcomes in both childhood (substance abuse, mental health, brain injury, STI, suicide, violent delinquency) and adulthood (substance abuse and mental health).²⁵

In 2016–17, three quarters of all Australia's children receiving child protection services (74%) had repeated maltreatment reports,²⁶ highlighting that an understanding of the impact of 'chronic maltreatment' is critical for informing preventive and early intervention strategies.

In this chapter, we investigate how 'maltreatment chronicity' varies across different groups in our study cohort. As observed by Malvaso et al. (2016), 'the terms chronicity, frequency and recurrence appeared to be used interchangeably to measure similar constructs across different studies and usually referred to the number of maltreatment incidents, reports, substantiations accrued by individuals'.⁷ In this report, we use the term 'frequency' to refer to the number of maltreatment notifications (or substantiations) recorded for a child in the NT child protection data system.

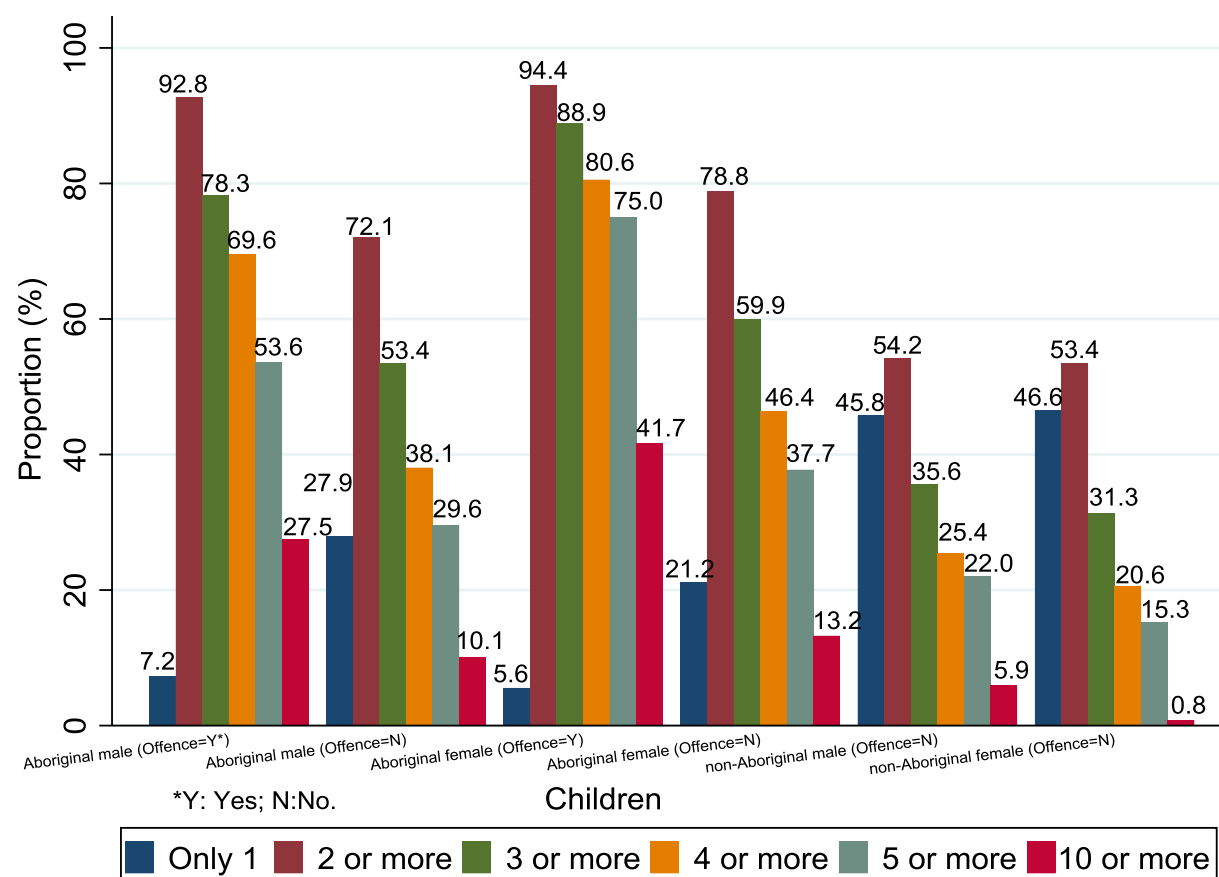
5.1 Number of notifications per child

The distribution of the number of notifications per child in the 1999 birth cohort is presented in Figure 5.1. The bars in the graph for repeated notifications are inclusive of subsequent groups, thus 'two or more' includes all categories with larger numbers of notifications ('three or more', 'four or more' etc). As described in Chapter 3, the information is provided for six groups separated by Indigenous status, gender and whether or not Aboriginal male or female children had been found guilty of an offence. There are insufficient numbers to present the non-Aboriginal male and female groups who are found guilty of an offence.

For both Aboriginal males and Aboriginal females, those children with a recorded offence had greater contact with child protection services than the corresponding groups without a recorded offence. For Aboriginal males with a recorded offence (and contact with child protection services), nine in 10 (92.8%) had two or more notifications, and almost three in 10 (27.5%) had 10 or more notifications, compared to those Aboriginal males with no record of offence, for whom the corresponding proportions were seven in 10 (72.1%) and one in 10 (10.1%). For Aboriginal females with contact with both child protection services and found guilty of an offence, there was more than nine in 10 (94.4%) with repeated notifications and four in 10 (41.7%) with 10 or more notifications, compared to those young Aboriginal females with no history of offence, for whom the corresponding rates were eight in 10 (78.8%) and one in 10 (13.2%).

Among the non-Aboriginal children, males and females with child protection contact (and no recorded offence) had similar proportions of single notification (males: 45.8%; females: 46.6%) and repeated notifications (males: 54.2%; females: 53.4%). Only one in 20 (5.9%) non-Aboriginal males and one in 100 non-Aboriginal females had 10 or more notifications.

Figure 5.1 Distribution of the number of notifications by age 17 years for six groups, 1999 NT birth cohort in the child protection system



5.2 Number of substantiations per child

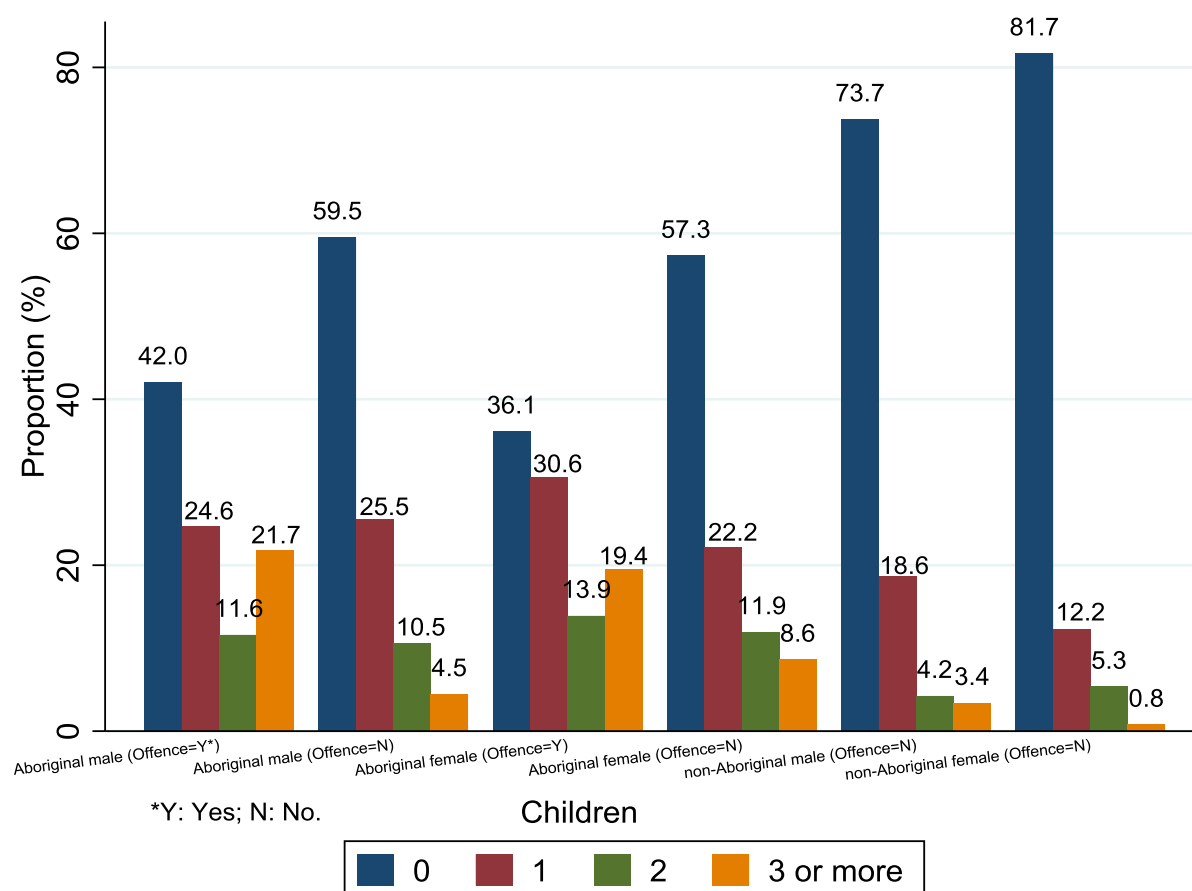
The distribution of the number of substantiations per child in the 1999 birth cohort is presented in Figure 5.2. As described in Chapter 3, the information is provided for six groups separated by Indigenous status, gender and whether or not the young Aboriginal male or female had been found guilty of an offence. There were insufficient numbers to present the non-Aboriginal male and female groups who were found guilty of an offence.

For both Aboriginal males and Aboriginal females, those children with a history of contact with child protection services and a recorded offence had a greater number of substantiated episodes of child abuse and neglect than the corresponding groups without a recorded offence. For Aboriginal males in the 'crossover group', 58.0% had a history of any substantiation, and one in five (21.7%) had three or more substantiated episodes. For those Aboriginal males without a recorded offence, the proportion with a substantiation was 40.5%, while one in 20 (4.5%) had three or more substantiations. For Aboriginal females in the 'crossover group', 63.9% had any substantiation, and one in five (19.4%) had three or more substantiated episodes. This contrasts with Aboriginal females with a history of

contact with child protection services without a recorded offence, for whom 42.7% had any substantiated episode, and one in 10 (8.6%) had three or more substantiated episodes.

For non-Aboriginal males and females in contact with child protection services, the proportion with a substantiated episode was much lower than any of the Aboriginal groups. The proportions with any substantiations were 26.3% and 18.3% for males and females respectively, while the proportions of males and females with three or more substantiated episodes were three in 100 (3.4%) and one in 100 (0.8%) respectively.

Figure 5.2 Distribution of the number of substantiations by age 16 years for different subgroups, 1999 NT birth cohort in the child protection system

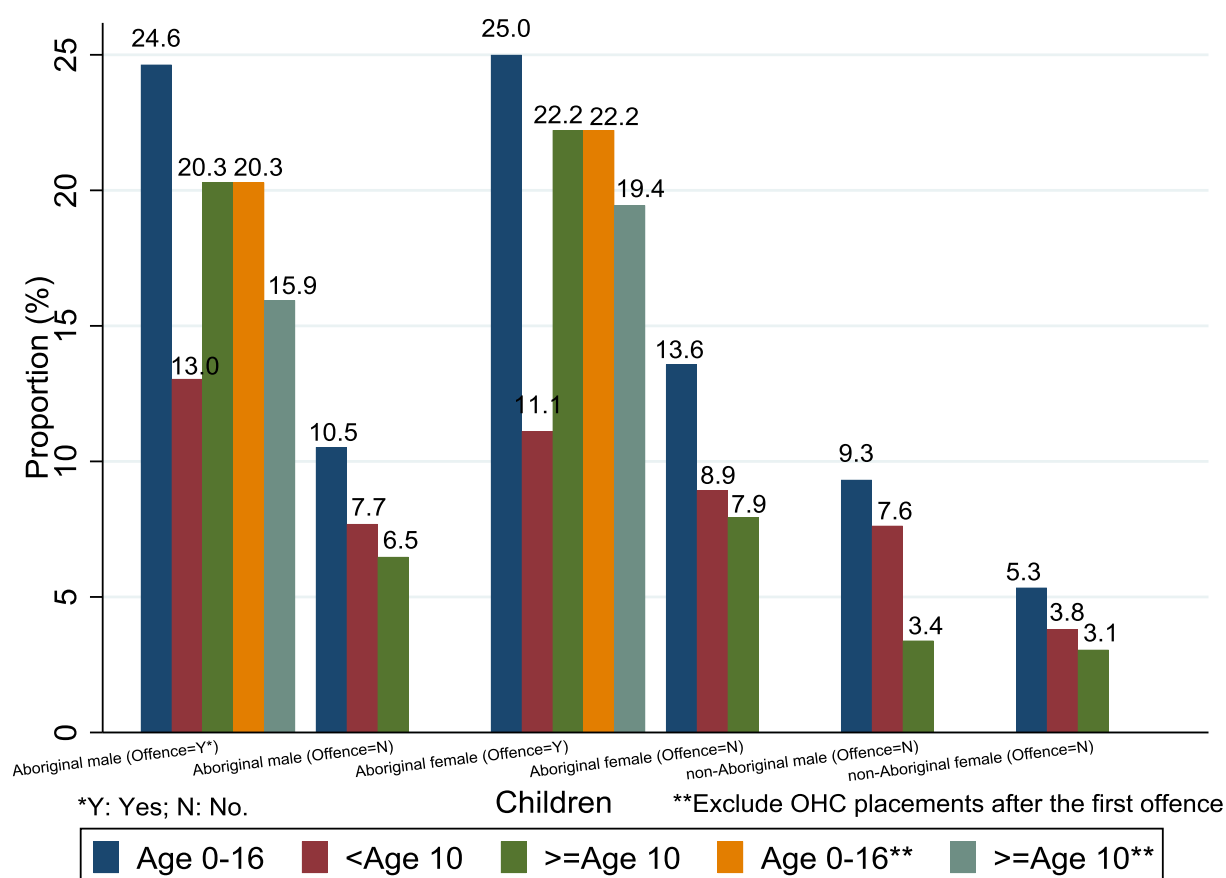


5.3 Out-of-home care

The history of out-of-home care (OOHC) placement for children with a history of contact with the child protection system is presented in Figure 5.3. The results are provided for six groups, and separated for different age groups: 0 to 16 years and before and after age 10 years. Because OOHC placement might occur after the first offence, information about OOHC placements that only occur before the first offence are also presented for the 'crossover group' by two additional age groupings.

For Aboriginal children, the male and female 'crossover groups' were more likely to have OOHC in all of the age groups presented in Figure 5.3. This includes placement from 0–16 years (males: 24.6%; females: 25.0%), before age 10 years (males: 13.0%; females: 11.1%) and after age 10 years (males: 20.3%; females: 22.2%). There are substantial proportions of both males (15.9%) and females (19.4%) in the 'crossover group' who had an OOHC placement after age 10 and before they committed a first offence.

Figure 5.3 Distribution of the proportion (%) of children with out-of-home care placement at different ages for six groups, 1999 NT birth cohort in the child protection system



6. Source of reports

Chapter overview

The NT has a different pattern of child protection reports to other states in Australia. A larger proportion of investigated reports in the NT are from police (35.4%), followed by health professionals (19.3%). In our study, we found that by age 17, compared to children with no record of offending, the 'crossover group' was more likely to be:

- reported by multiple reporter categories (males: 87.0%; females: 88.9%)
- reported by six or more reporter categories (males: 18.8%; females: 30.6%)
- reported by police or health professionals for child maltreatment (males: 94.2%; females: 94.4%).

An analysis of the configuration of reporter categories, aggregated to five reporter groups, revealed that among the 'crossover group', the top-ranked configuration for males was the combination of reports by all five reporter groups – police, health professionals, school personnel, community members and other sources (11.6%), followed by reports from all groups except health professionals (10.1%). The top-ranked configuration for females was reports by all reporter groups except community members (19.4%), followed by reports by all five groups (16.7%).

Understanding how notifications vary by the source of report provides insight into the patterns of reporting and informs a more targeted response to child maltreatment. This is particularly relevant to the NT, which has a different pattern of child protection notifications to other states in Australia. In Australia in 2016–17, the most common source of investigated reports were police (20.7%), followed by school personnel (19.3%), social workers (13.0%) and health professionals (11.7%), as presented in Table 6.1.²⁶ Compared to Australia as a whole, a larger proportion of investigated reports in the NT are from police (35.4%), while the second-largest proportion of investigated reports are from health professionals (18.5%). Of all investigated reports in the NT, the third, fourth and fifth most common sources are school personnel (15.7%), personnel in non-government agencies (8.3%) and child protection staff (7.7%).

In this chapter, we investigate how the type of notification varies by the source of report for the six groups in our study cohort (gender, Indigenous status and presence of recorded offence). Within the NT child protection dataset, there are 17 different reporter categories, which for some analyses in this report have been aggregated into the seven reporter groups presented in Table 6.2.

Table 6.1 Distribution of the number of investigations by source of notification (%) for the Northern Territory and Australia, 2016–17

Source of notification	NT (%)	Australia (%)
Police	35.4	20.7
School personnel	15.7	19.3
Medical/health personnel	18.5	11.7
Family	5.8	10.0
Friend/neighbour	2.1	3.5
Social worker	0.5	13.0
Non-government organisation	8.3	7.1
Departmental officer	7.7	4.1
Child care personnel	0.6	1.1
Other	5.1	7.2
Subject child	0.2	0.3
Not stated	0.0	2.1
Total number of reports (N)	9245	177056

Source: Adapted from Australian Institute of Health and Welfare 2018. Child protection Australia 2016–17. Child welfare series no. 68. Cat. no. CWS 63. Canberra: AIHW. Table S6. Available at <https://www.aihw.gov.au/reports/child-protection/child-protection-australia-2016-17/data>

Notes:

1. The number of notifications and the percentage of those notifications investigated are not comparable across jurisdictions, as legislation and policies that provide the framework for assessing child protection notifications vary broadly across jurisdictions.
2. 'Medical/health personnel' includes medical practitioners, hospital and other health personnel.
3. 'Family' includes parent/guardian, sibling and other relative.
4. 'Other' category includes where the source of notification was anonymous.

Table 6.2 Classification of reporter group from reporter category in NT Child Protection data

Reporter group	Reporter category
Police	Police
School personnel	School personnel
Child protection staff	Departmental officers
Non-government organisation	Non-government organisation
Health professionals	Hospital or health centre
	Medical practitioner
	Other health personnel
Community members	Subject child
	Parent/guardian
	Sibling/other relative
	Friend/neighbour
	Anonymous
	Other
Other professionals	Social worker
	Child care personnel

6.1 Multiple sources of reports

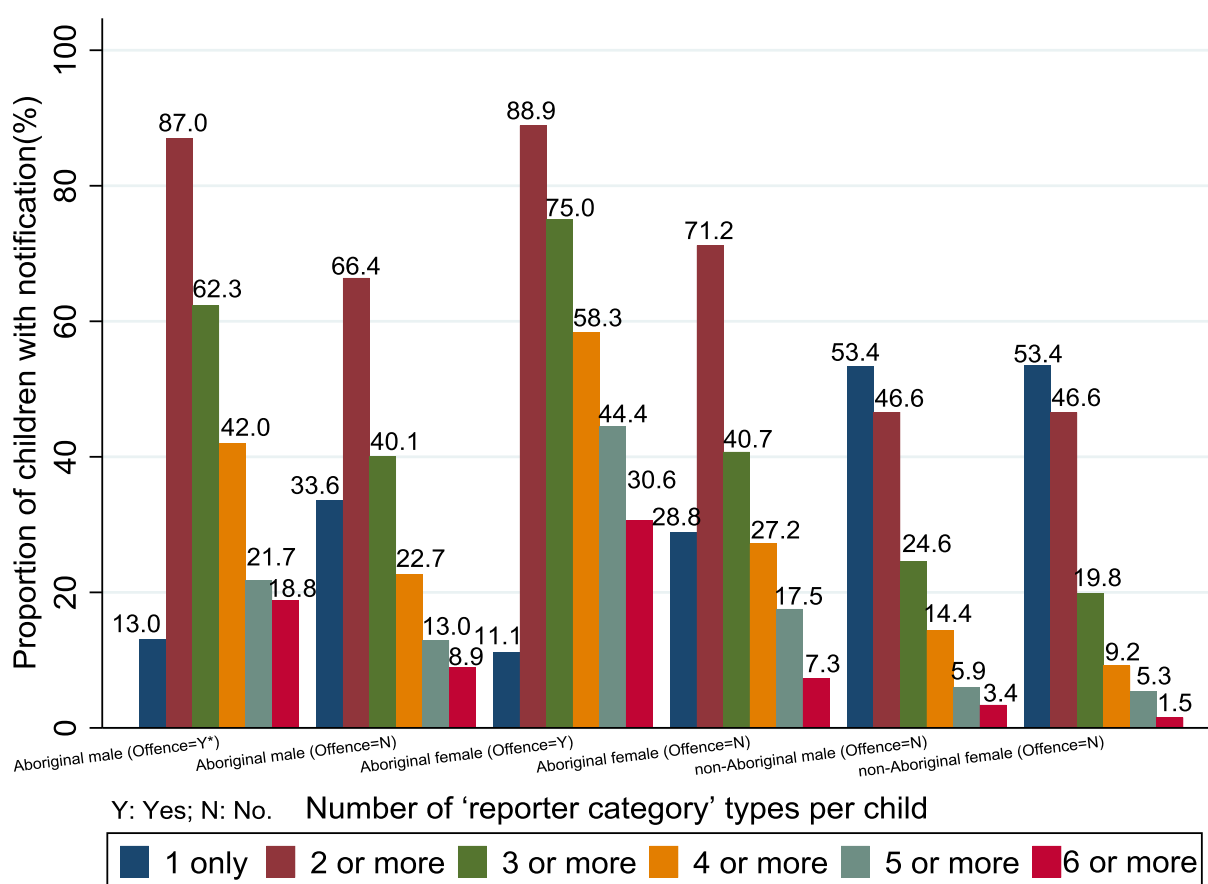
As described in the previous chapter, there are many children who are reported on multiple occasions by age 17 years. In this section, we report the distribution of the number of reporter categories for notifications (Figure 6.1). The bars in the graph for multiple sources are inclusive of subsequent groups, thus 'two or more' includes all categories with larger

numbers of notifications ('three or more', 'four or more' etc). As in the previous chapters, the information is provided for six groups in the study cohort separated by Indigenous status, gender and whether or not young Aboriginal males or females had been found guilty of an offence. There are insufficient numbers to present the non-Aboriginal male and female groups who are found guilty of an offence.

The majority of the 'crossover group' for Aboriginal males and females have been reported by more than one reporter category (males: 87.0%; females: 88.9%). A significant proportion of Aboriginal children in the study cohort without a recorded offence were also reported by multiple reporter categories (males: 66.4%; females: 71.2%). Of note is that two in 10 Aboriginal males (18.8%) and three in 10 (30.6%) Aboriginal females in the 'crossover group' were reported by six or more reporter categories. This is a greater proportion than the corresponding groups without a recorded offence (Aboriginal males: 8.9%; Aboriginal females: 7.3%).

Among the two groups of non-Aboriginal children, there was a smaller proportion reported by more than one reporter category than corresponding Aboriginal groups (non-Aboriginal males: 46.6%; non-Aboriginal females: 46.6%).

Figure 6.1 Proportion of children in notifications who have been reported by multiple 'reporter categories' types by age 17 for six study groups, 1999 NT birth cohort in the child protection system



6.2 Pattern of overlap between reporter groups in notifications

In this section, the overlap between different primary types of reporter groups are further explored using a method referred to as Conjunctive Analysis of Cases Configurations (CACC). This method was first applied by Miethe et al. (2008)²⁷ and extensively used by Hurren Paterson (2015)¹⁴ to investigate the link between child maltreatment and youth offence. In this section, CACC is used to provide a visual representation of the distributions of the varied combinations of notifications for the different types of reporter groups. For this analysis, the sources of reports are combined into five major groups, which creates a total of 31 possible configurations. The results for the top three ranked configurations are presented in Table 6.3, in which the reporter groups are police (P), health professionals (H), community members (C), school personnel (S) and all other reporter groups combined (O), along with the absence of each respective reporter group (*). For example, *H*** would indicate that reports were only made by health professionals; while P*SCO would indicate that reports were made by police (P), school personnel (S), community members (C) and other sources (O), but not by health professionals (*).

Table 6.3 Case configuration of reporter groups for notifications by age 17 years for six study groups, 1999 NT birth cohort in the child protection system

Indigenous status				Aboriginal				non-Aboriginal				
Gender	Male				Female				Male		Female	
Offence	Y		N		Y		N		N			
Ranking	type	%	type	%	type	%	type	%	type	%	type	%
1	PHSCO	11.6	*H***	10.1	PHS*O	19.4	*H***	14.6	***C*	28.0	***C*	23.7
2	P*SCO	10.1	P****	9.7	PHSCO	16.7	PH***	11.9	P****	10.2	P****	12.2
3	P****	8.7	**S**	6.5	P****	8.3	P****	7.0	**S**	7.6	****O	9.2

Both Aboriginal males and females with a recorded offence were more likely to be reported by multiple reporters, particularly by the police. The top-ranked configuration for the Aboriginal males in the 'crossover group' are notifications by police, health professionals, school personnel, community members and other sources (PHSCO: 11.6%), followed by reported by all sources except health professionals (P*SCO: 10.1%). The top-ranked configuration for Aboriginal females in the 'crossover group' is reports by all sources except community members (PHS*O: 19.4%) followed by reports from all groups (PHSCO: 16.7%).

Compared to the 'crossover group', Aboriginal children with child protection contact but with no recorded offence are most likely to be reported by a single reporter group. The top configuration for both Aboriginal males and females with no record of offence is those only reported by health professionals (*H***: males: 10.1%; females: 14.6%). The next two most common configurations for young Aboriginal males with no record of offence are by police only (P****: 9.7%) and by school personnel only (**S**: 6.5%). The second and third ranked groups for corresponding young Aboriginal females are by police and health professionals (PH***: 11.9%) and police only (P****: 7.0%)

The lower level of notification for non-Aboriginal children is reflected in the pattern of sources of notification, with the leading configuration for both non-Aboriginal males and females being by a single source of notification. For non-Aboriginal males, the three leading configurations are community members only (**C*: 28.0%) police only (P****: 10.2%) and school personnel only (**S*: 7.6%). For non-Aboriginal females, the three leading sources are community members only (**C*: 23.7%), police only (P****: 12.2%) and other sources only (****O: 9.2%).

The relationship between the groups of children in the study and the source of reports can be further examined by the proportion in each group who have ever been reported by a specific reporter group. The result of reports by police and health professionals are presented in Table 6.4. Consistent with the previous table, a majority of the 'crossover group' for both Aboriginal males and Aboriginal females have been reported by the combination of either police or health professionals (males: 94.2%; females: 94.4%). The police are dominant as a single source of reports for this group (males: 89.9%; females: 86.1%).

In our study cohort, more than half of the Aboriginal children without a recorded offence had been reported by police (males: 55.1%; females: 62.6%). Police were also a prominent source of reports for non-Aboriginal children (males: 33.1%; females: 38.9%).

Due to the high rates of reporting of child abuse and neglect by NT police and health professionals, a more detailed examination is made in the following sections of this chapter (Sections 6.3 and 6.4).

Table 6.4 Proportion of children who have been reported by police or health professionals by age 17 for six study groups, 1999 NT birth cohort in the child protection system

Gender	Aboriginal				Non-Aboriginal	
	Male		Female		Male	Female
Proven-guilty offence?	Yes	No	Yes	No	No	No
Number of children (n)	69	247	36	302	118	131
Reported by police or health professionals (%)	94.2	77.3	94.4	88.4	46.6	46.6
Reported by police (%)	89.9	55.1	86.1	62.6	33.1	38.9
Reported by health professionals (%)	47.8	41.7	66.7	65.2	19.5	13.0

6.3 Reports by police

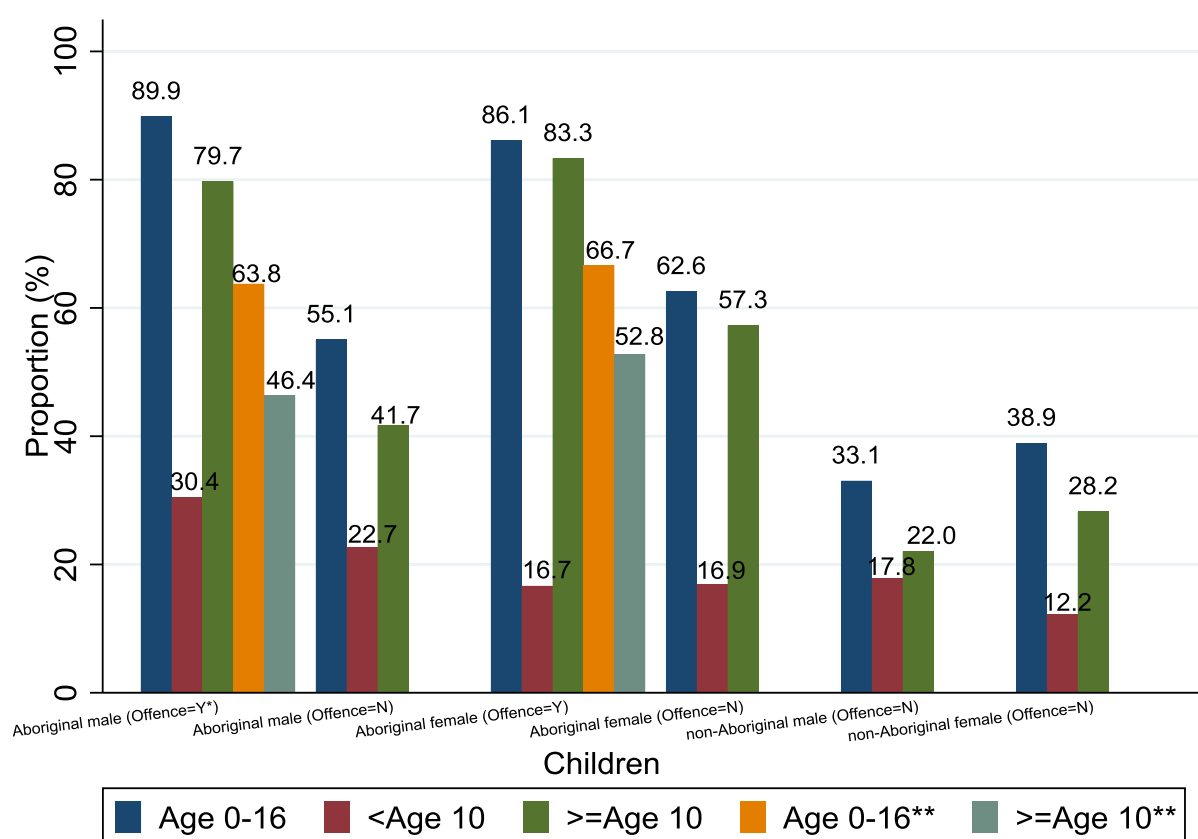
In this section, we present the pattern of police notifications of children in the six study groups for different age ranges: 0 to 16 years of age, before 10 years of age and 10 to 16 years of age. Notifications may occur after the first offence, so notifications that occur before the first offence are also presented for the 'crossover group'. The results are presented in Figure 6.2.

For Aboriginal children, the 'crossover group' was most likely to have notifications by police in all age groups – from age 0–16 (males: 89.9%; females: 86.1%), before age 10 years (males: 30.4%; females: 16.7%) and from 10 years (males: 79.7%; female: 83.3%). Almost

one in two children in the 'crossover group' had notifications by police after age 10 years and before the first offence (males: 46.4%; females: 52.8%).

There is a difference between males and females in the pattern of reporting by police. Across all six groups, males are more likely than the corresponding females to have notifications by police before age 10 (for example, in the 'crossover group': 30.4% and 16.7% respectively). By contrast, across the six groups, males are less likely than corresponding females to be notified by police after the age of 10 years (for example, in the 'crossover group': 79.7% and 83.3% respectively).

Figure 6.2 Distribution of the proportion (%) of children reported to the child protection system by police at different ages for six study groups, 1999 NT birth cohort in the child protection system



*Y=Yes,N=No; **Exclude notifications after first offence(only for individuals in youth justice system)

Among the six groups, the 'crossover group' was the group that was most likely to have substantiations that resulted from notifications reported by police from age 0–16 (males: 33.3%; females: 25.0%) and after age 10 (males: 27.5%; females: 22.2%). For the 'crossover group', almost one in five males (20.3%) and one in 10 (8.3%) females had substantiations that resulted from notifications reported by police after age 10 years and before they committed the first offence. The proportion of substantiated police notifications was much higher in the 'crossover group' than the corresponding Aboriginal children with no record of offence – for both those aged 0 to 16 years (Aboriginal males: 13.4%, and Aboriginal

females: 16.2%) and for those aged 10 to 16 years (Aboriginal males: 7.3%, and Aboriginal females: 11.6%).

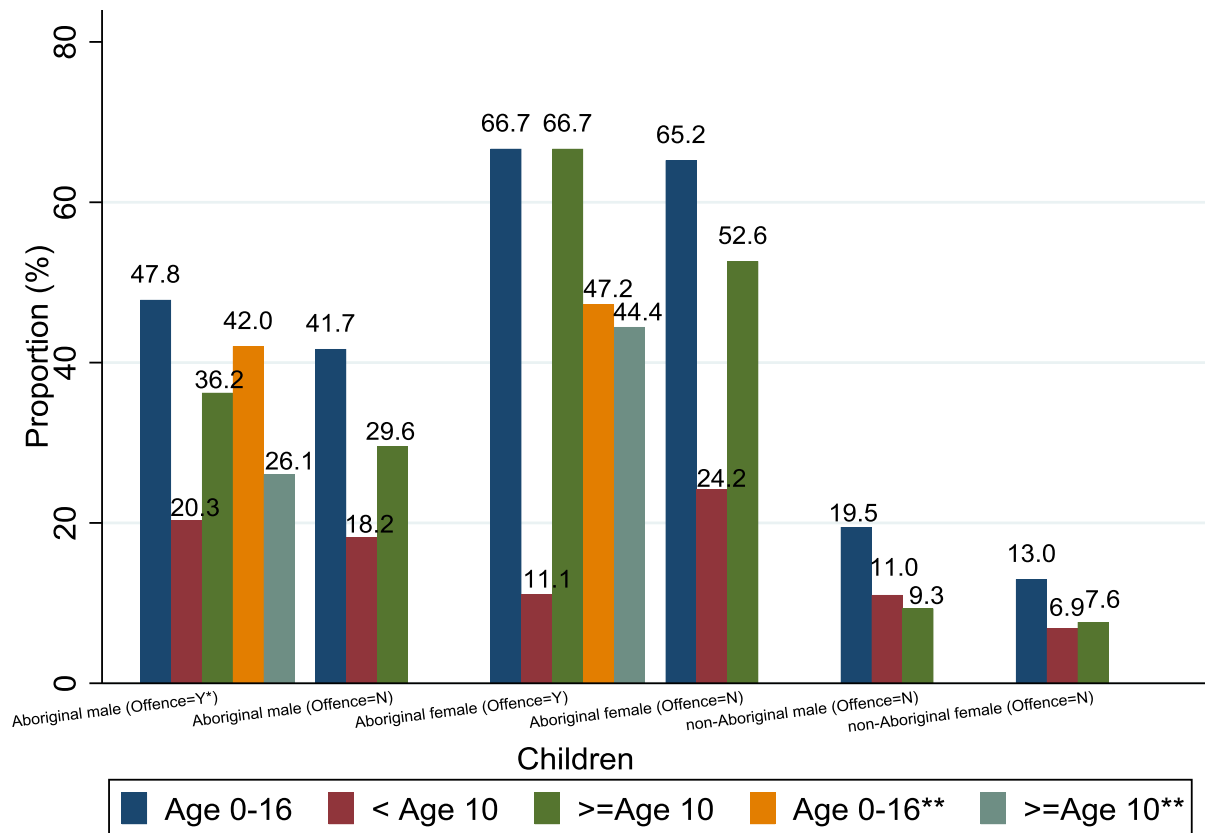
6.4 Reports by health professionals

In this section, we present the pattern of health professionals notifications of children in the six study groups for different age ranges (0–16 years, before age 10 years and from 10 years to 16 years). Notifications may occur after the first offence, so notifications that occur before the first offence are also presented for the ‘crossover group’. The results are presented in Figure 6.3.

The distinct pattern of reporting between Aboriginal groups that is evident for police notifications is not apparent for notifications by health professionals. The proportions of notifications by health professionals involving Aboriginal males and females aged 0 to 16 years in the ‘crossover groups’ (47.8% and 66.7% respectively) are consistent with the corresponding proportions of notifications for those Aboriginal males and females without a record of offence (41.7% and 65.2% respectively). There is less consistency in the pattern of reporting for those Aboriginal children with or without a history of offence for those aged less than 10 years and those aged 10 to 16 years. For Aboriginal males between the two groups, the proportions are similar for ages less than 10 years (20.3% and 18.2%) but different for Aboriginal females (11.1% and 24.2%) respectively. For those aged 10 to 16 years, the proportion of notifications is modestly higher for both males and females in the ‘crossover group’.

There are small numbers of health professional notifications for the non-Aboriginal male and female groups, making interpretation of the differing proportion of notifications by health professionals inappropriate.

Figure 6.3 Distribution of the proportion (%) of children reported to the child protection system by health professionals at different ages for six study groups, 1999 NT birth cohort in the child protection system



*Y=Yes,N=No; **Exclude notifications after first offence(only for individuals in youth justice system)

The 'crossover group' of Aboriginal children aged 0 to 16 years were more likely to have had a substantiation that resulted from notifications by health professionals (males: 18.8%; females: 27.8%) than their counterparts without a record of offence (males: 12.1%; females: 15.2%).

7. Maltreatment type and youth offending

Chapter overview

Studies have demonstrated the varying impact of different types of maltreatment and offending outcomes. Consistent with previous research, our study found that by age 17, compared to children without a recorded offence, the 'crossover group' was more likely to be:

- reported for more than one primary type of maltreatment (males: 79.7%; females: 80.6%)
- reported for all four primary types of maltreatment (males: 13.0%; females: 27.8%)
- reported for neglect (males: 85.5%; females: 91.7%) and have a substantiated report for neglect (males: 39.1%; females: 38.9%)
- reported for emotional abuse (males: 46.4%; females: 58.3%) and have a substantiated report for emotional abuse (males: 13.0%; females: 16.7%)
- reported for physical abuse (males: 46.4%; females: 58.3%) and have a substantiated report for physical abuse (males: 29.0%; females: 30.6%)
- reported for sexual exploitation/abuse (males: 30.4%; females: 47.2%) and have a substantiated report for sexual exploitation/abuse (males: 8.7%; females: 13.9%).

An analysis of the configuration of types of reports for each child revealed that among the 'crossover group':

- The top-ranked configuration for males was children reported for neglect and physical abuse (18.8%), followed by neglect only (17.4%) and all four types of maltreatment (13.0%).
- The top-ranked configuration for females was children reported for all four maltreatment types (27.8%), followed by children reported for neglect, emotional and physical abuse (16.7%), and neglect and emotional abuse (11.1%).

A recent systematic review explored the association between maltreatment types (emotional, physical and sexual abuse, and neglect) and offending.⁷ The review found that the evidence of an association varied by offence type but that neglect was found to be a strong predictor for a range of different offence types.⁷ Johnson-Reid and Barth (2000) also reported that there was a higher risk of incarceration for children initially reported for neglect than for children reported for physical or sexual abuse.²⁸

A separate review concluded that while there was a possibility of a relationship between child neglect and subsequent adult violent behaviour, there was a need for further research before making any confident assertions about the relationship.²⁹ A complexity in many of these findings is that children may experience several types of abuse and neglect, either concurrently or on different occasions, making it difficult to assess the separate influences of each type of abuse or neglect.⁷

The higher risk of offending for children with reports of neglect might also be explained by the 'chronic maltreatment' or 'multiple maltreatment types' experienced by the children. Hurren Paterson et al. (2017) found that multi-type maltreatment was common in a maltreatment trajectory group with the highest proportion of offenders.³⁰ Currie and Tekin (2012) have also reported that the probability of criminal behaviour increases with the experience of multiple forms of maltreatment, after controlling for possible confounders.³¹

The Menzies submission to the Royal Commission reported that young offenders with both neglect and abuse substantiations had the greatest risk of offending, followed by those with substantiations for neglect only, those with substantiations for abuse only and those without any substantiations.¹⁶ This finding is consistent with the research that suggests that children who experience more than one type of maltreatment had a higher risk of offending than those who only experience a single type of maltreatment.^{31, 32}

In this chapter, we first investigate the prevalence of children, in each of the six groups of the study cohort, who have had a notification of more than one maltreatment type. Then the overlap between different maltreatment types are investigated using the same method of Conjunctive Analysis of Cases Configurations (CACC) described in Section 6.2.

Finally, the prevalence of notifications of each type of abuse and neglect is reported for each of the six study groups.

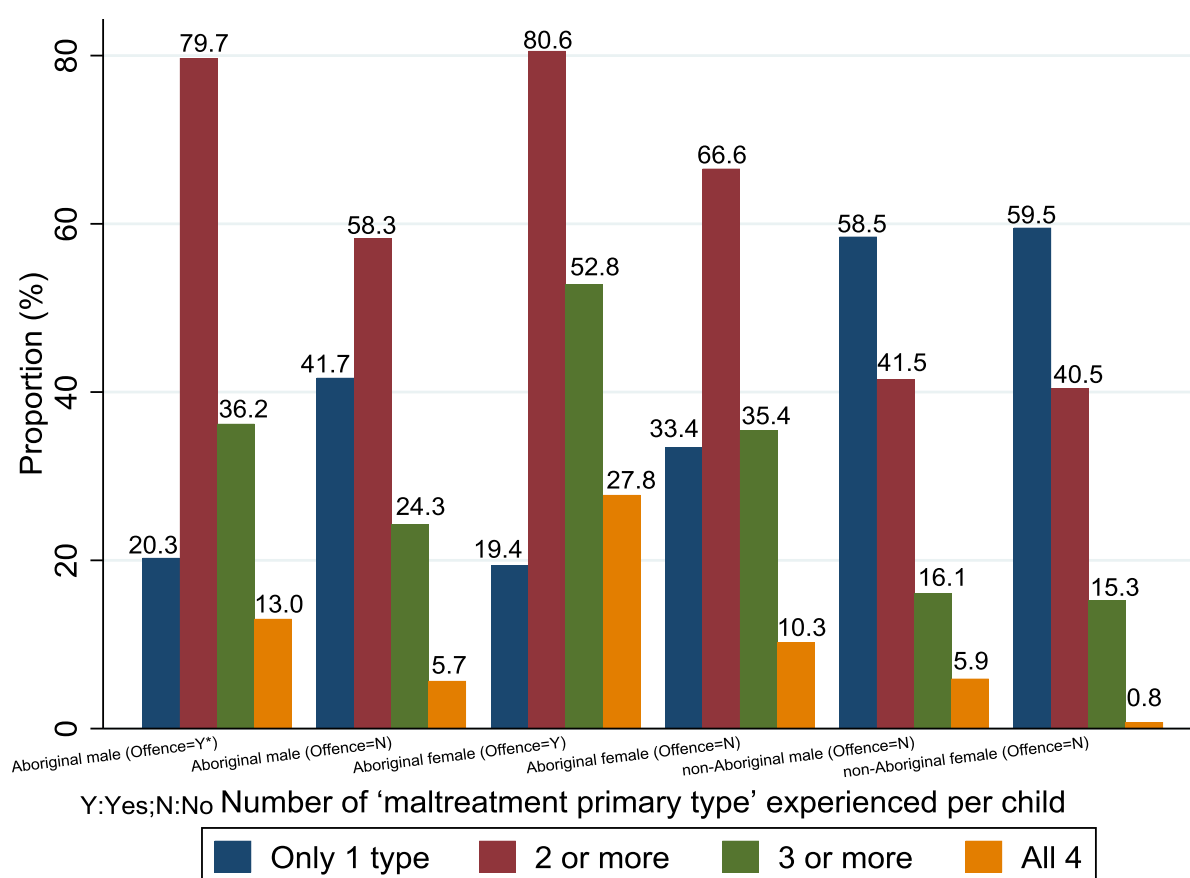
7.1 Multiple maltreatment types for children in notification

This section describes the proportion of children with notifications of multiple types of maltreatment, with results summarised in Figure 7.1. The majority of the ‘crossover group’ of Aboriginal males and females had notifications of two or more primary types of maltreatment (males: 79.7%; females: 80.6%). There was also substantial, though lower, proportions of Aboriginal males and females without a recorded offence with a history of notifications for two or more primary types of maltreatment (males: 58.3%; females: 66.6%). The majority of the non-Aboriginal groups (with no record of offence) had a single primary type of maltreatment (males: 58.5%; females: 59.5%), which is consistent with the much lower rates of reporting for NT non-Aboriginal children than NT Aboriginal children.

Of specific note is that in the ‘crossover group’ of Aboriginal children, 13.0% of the males and 27.8% of females had notifications for all four primary types of maltreatment, which is much higher than the corresponding groups of Aboriginal children with no record of offence (males: 5.7%; females: 10.3%).

The proportions of the non-Aboriginal males and females with notifications for all four types of abuse or neglect are 5.9% and 0.8% respectively.

Figure 7.1 Distribution of number of primary types of maltreatment in notifications for children by age 17 for six groups, 1999 NT birth cohort in the child protection system



7.2 Pattern of overlap for primary types of maltreatment for children in notifications

With four maltreatment types, there is a total of 15 possible configurations that can be described. The five leading configurations for each of the six study groups are presented in Table 7.1. The types of maltreatment are presented as neglect (N), emotional abuse (E), physical abuse (P) and sexual exploitation (S), along with the absence (*) of each respective type of maltreatment. For example, *E** would indicate reports involving emotional abuse, while N*PS would indicate reports involving neglect (N), physical (P) and sexual exploitation/abuse (S), but not emotional abuse (*).

There are distinct patterns evident in Table 7.1 between the four Aboriginal and two non-Aboriginal groups, with those children in the four Aboriginal groups more likely to have notifications for multiple types of maltreatment. There is also a difference between those Aboriginal children in the 'crossover groups' who have higher proportions of the group with the various combinations of multiple types than the Aboriginal male and female groups with no record of an offence.

For Aboriginal males in the ‘crossover group’, the leading configurations are neglect and physical abuse (N*P*: 18.8%), neglect only (N***: 17.4%) and the combination of all four types of abuse and neglect (NEPS: 13%). Aboriginal males without a history of offence have a similar pattern, with neglect only (N***: 19.8%) and neglect and physical abuse (N*P*: 12.6%) ranked as the first and second configuration. The third configuration is the combination of neglect, emotional abuse and physical abuse (NEP*: 10.5%).

For Aboriginal females in the ‘crossover group’, the leading configuration is the combination of all four types of abuse and neglect (NEPS: 27.8%), followed by the configuration of three types: neglect, emotional abuse and physical abuse (NEP*:16.7%). The third ranked configuration is neglect and emotional abuse (NE**: 11.1%).

For Aboriginal females with no record of offence, the patterns are different to those with a recorded offence. The leading configuration is neglect only (N***: 20.5%) followed by neglect and sexual abuse (N**S: 11.3%) and the combination of all four types of abuse and neglect (NEPS: 10.3%).

The top three configurations for the non-Aboriginal male and female groups were the same: physical abuse (**P*: males: 20.3%; females: 21.4%), neglect only (N***: males: 17.8%; females: 19.1%) and sexual abuse only (***S: males 11.0%; females: 12.2%).

Table 7.1 Case configuration of primary types of maltreatment in notifications by age 17 years for six groups, 1999 NT birth cohort in the child protection system

Indigenous status				Aboriginal				non-Aboriginal				
Gender	Male				Female				Male		Female	
Offence	Y		N		Y		N		N			
Ranking	type	%	type	%	type	%	type	%	type	%	Type	%
1	N*P*	18.8	N***	19.8	NEPS	27.8	N***	20.5	**P*	20.3	**P*	21.4
2	N***	17.4	N*P*	12.6	NEP*	16.7	N**S	11.3	N***	17.8	N***	19.1
3	NEPS	13.0	NEP*	10.5	NE**	11.1	NEPS	10.3	***S	11.0	***S	12.2
4	NEP*	13.0	**P*	10.1	N***	11.1	NEP*	9.9	NE**	10.2	NEP*	8.4
5	NE**	10.1	NE**	8.1	N**S	8.3	N*PS	8.6	*E**	9.3	*E**	6.9

7.3 Neglect

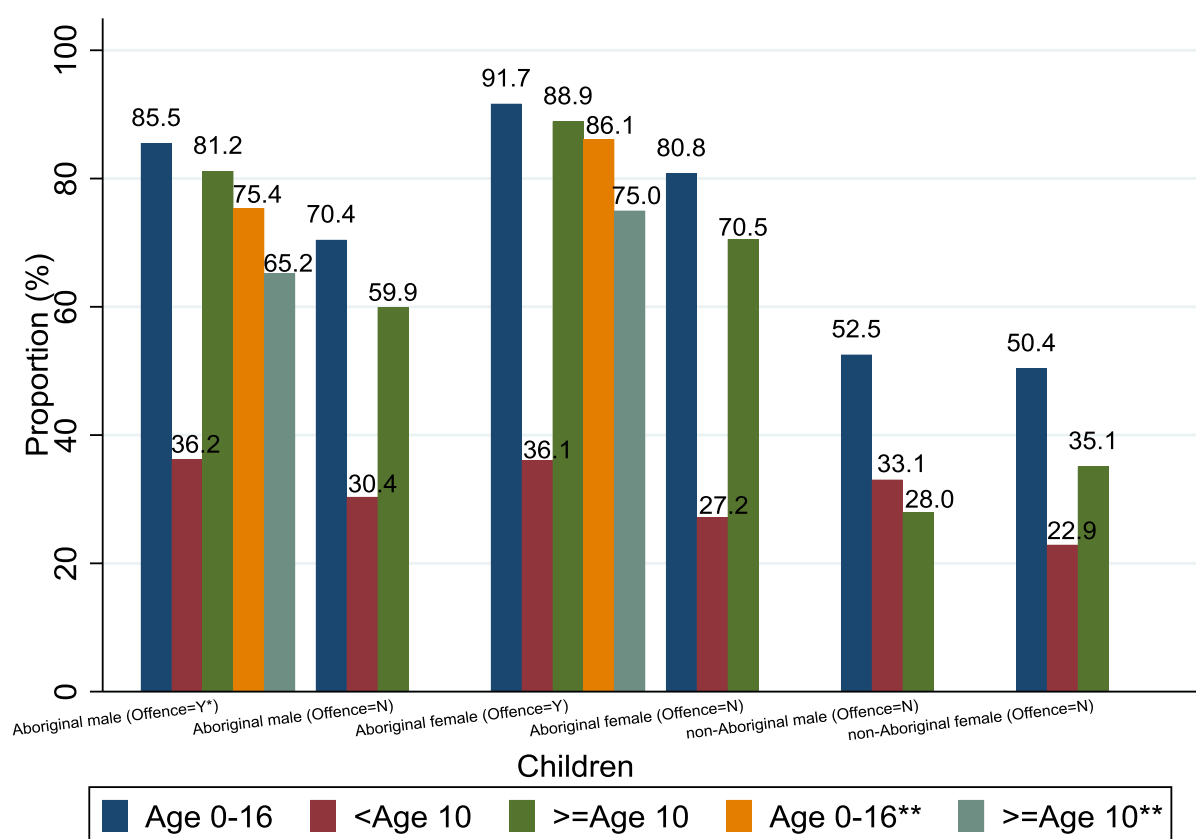
The proportions of children in the six study groups with a first notification for neglect (as primary maltreatment type) are presented in Figure 7.2. The information is provided for the age groups 0–16 years, before age 10 years and for 10 to 16 years (≥ 10 years). For the ‘crossover groups’, there are additional bars for those aged 0 to 16 years and 10 to 16 years, which exclude first notifications for neglect that occur after a first offence. Care is required in interpretation because of two factors. Firstly, there is a period effect because of the trend for increased number of notifications through the study period. Secondly, comparison between Aboriginal males and females with or without an offence may be biased because the exclusion of first notifications that occur after a first offence reduces the period of time during which notifications may be observed for the ‘crossover group’. The two factors apply

to all subsequent sections (7.4, 7.5 and 7.6) involving analyses by primary type of maltreatment reported or substantiated.

Among the groups, the 'crossover groups' had the highest proportions with first notifications for neglect from age 0–16 (males: 91.7%; females: 85.5%) and after age 10 (males: 88.9%; females: 81.2%). However, a substantial proportion of the first reports for neglect occurred after a first offence, and if these notifications are excluded, the proportions of 65.2% of Aboriginal males and 75.0% of Aboriginal females in the 'crossover group' were similar to the corresponding proportions for Aboriginal males and females with no record of offence (70.4% and 80.8% respectively). In all four groups of Aboriginal children in the study cohort, the majority of first notifications for neglect occurred after age 10 years.

Among the non-Aboriginal males and females in groups, 52.5% and 50.4% respectively had a record of notification for neglect. For males, the age of first notification for neglect was similar before age 10 (33.1%) and from age 10 to 16 years (28.0%), while for females, there was a greater proportion with first notifications after age 10 years (22.9% and 35.1% respectively).

Figure 7.2 Distribution of the proportion (%) of children with a first notification for neglect (as primary maltreatment type) at different ages for six groups, 1999 NT birth cohort in the child protection system



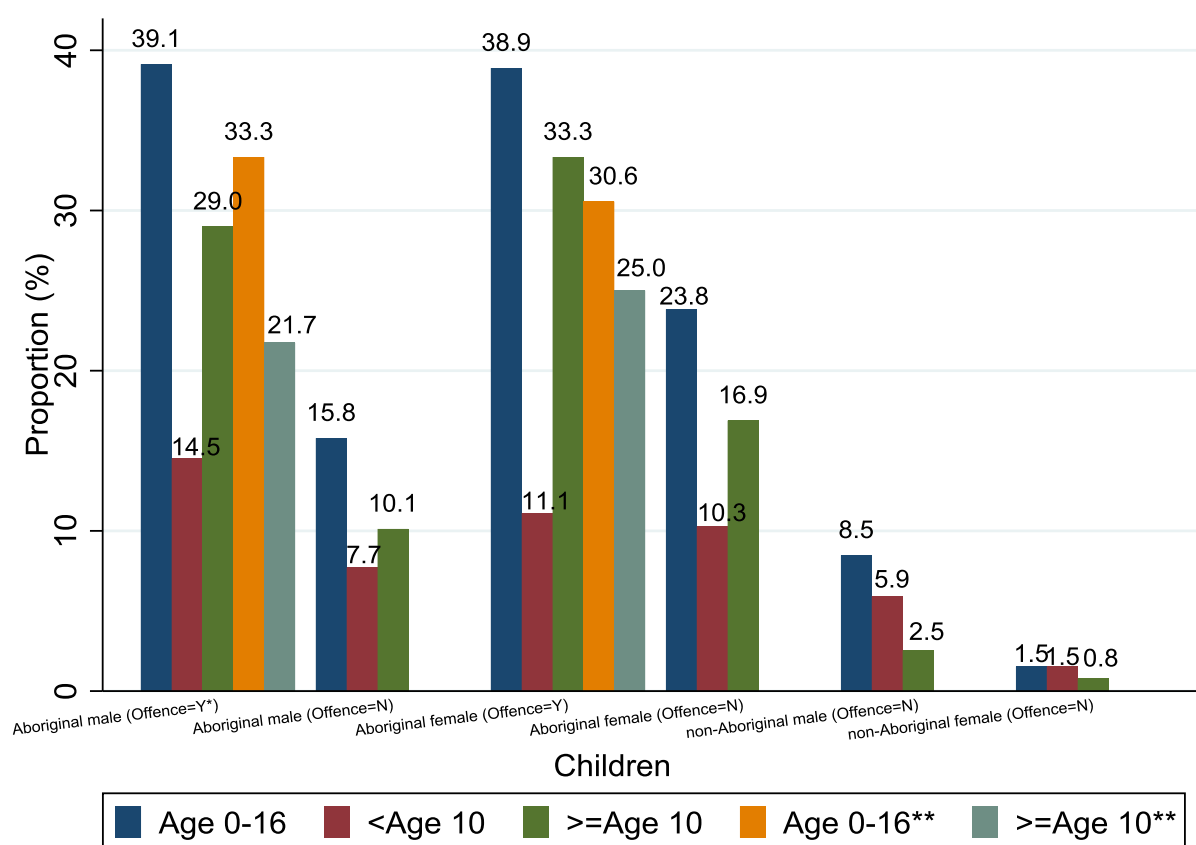
*Y=Yes,N=No; **Exclude notifications after first offence(only for individuals in youth justice system)

While there are similarities in the proportions across all groups of Aboriginal children with first notifications for neglect (after removing first notification after an offence), there is a

difference for substantiations (Figure 7.3). For Aboriginal males in the ‘crossover group’, even after removing first substantiations after an offence, the proportion with a substantiated report (33.3%) remains much higher than Aboriginal males without a history of offence (15.8%). The difference is also evident for the two Aboriginal female groups (30.6% and 23.8%). For all Aboriginal groups, there are greater proportions of first substantiated reports after age 10 years.

For the non-Aboriginal groups (without a record of an offence), the proportions with a substantiated report are much lower than the Aboriginal groups. For those aged from 0 to 16 years, the proportion of the cohort for males is 8.5% and for females is 1.5%.

Figure 7.3 Distribution of the proportion (%) of children with a substantiated report for neglect (as primary maltreatment type) at different ages for six groups, 1999 NT birth cohort in the child protection system



*Y=Yes,N=No; **Exclude substantiation after first offence(only for individuals in youth justice system)

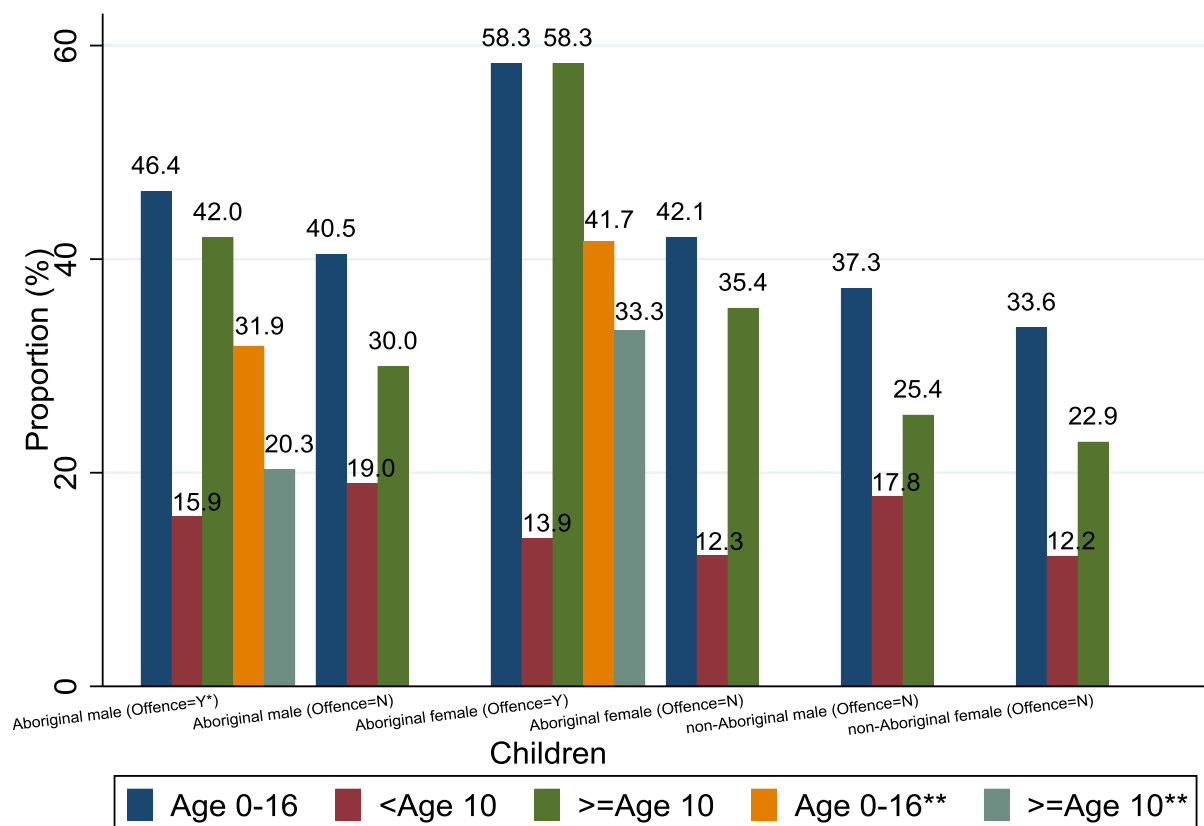
7.4 Emotional abuse

The proportions of children in the study groups with a first notification for emotional abuse (as primary maltreatment type) are presented in Figure 7.4. The information is provided for the age groups 0–16 years, before age 10 years and for 10 to 16 years (≥ 10). For the ‘crossover group’, there are two additional bars for those aged 0 to 16 years and 10 to 16 years that exclude first notifications for emotional abuse that occur after a first offence. Care is required with interpreting the results due to limitations described in Section 7.3.

A comparison of the proportions of first notifications for emotional abuse between Aboriginal males and females with or without offence provides a more mixed result than was evident for neglect notifications. The 'crossover group' of Aboriginal males had similar proportions for first notifications at ages 0 to 16 years to the Aboriginal males with no record of offence (46.4% and 40.5% respectively), but the removal of first notifications after an offence reduced the proportion for the crossover Aboriginal males to 31.9%. For the corresponding Aboriginal female groups with a first notification at ages 0 to 16 years, 58.3% of those in the 'crossover group' had ever had a first notification for emotional abuse, which dropped to 41.7% after removal of first notifications after a first offence. This proportion is similar to the corresponding group of Aboriginal females with no record of offence (42.1%). The results require closer examination, but the inconsistent results between Aboriginal males and females may relate to the combination of the period effect of increased reporting through time and the exclusion of notification after an offence in the 'crossover groups'.

For the non-Aboriginal male and female groups, 37.3% and 33.6% respectively had a record of notification for emotional abuse. For both males and females, there were greater proportions of children with notifications after age 10 years than before age 10 years.

Figure 7.4 Distribution of the proportion (%) of children with a first notification for emotional abuse (as primary maltreatment type) at different ages for six groups, 1999 NT birth cohort in the child protection system

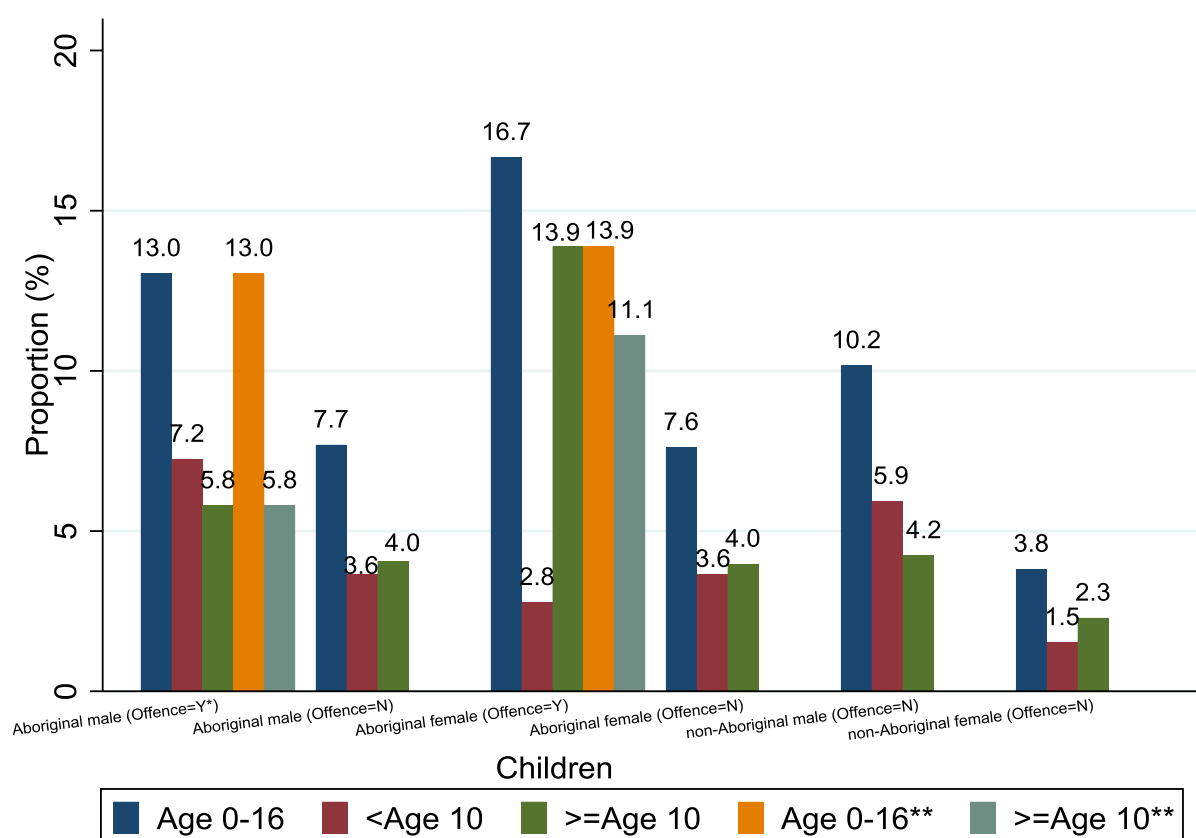


*Y=Yes,N=No; **Exclude notifications after first offence(only for individuals in youth justice system)

As illustrated in Figure 7.5, the ‘crossover group’ had consistently higher proportions of substantiated notifications than the corresponding group with no history of offence. For children of all ages from 0 to 16 years, the Aboriginal males and females in the ‘crossover groups’ had proportions with a substantiated notification of 13.0% and 16.7% respectively compared to 7.7% and 7.6% for Aboriginal males and females with no record of offence.

For non-Aboriginal males and females in the study cohort, the proportions with a substantiated notification were 10.2% and 3.8% respectively.

Figure 7.5 Distribution of the proportion (%) of children with substantiated report for emotional abuse (as primary maltreatment type) at different ages for six groups, 1999 NT birth cohort in the child protection system



*Y=Yes, N=No; **Exclude substantiation after first offence (only for individuals in youth justice system)

7.5 Physical abuse

The proportions of children in the study groups with a first notification for physical abuse (as primary maltreatment type) are presented in Figure 7.6. The information is provided for the age groups 0–16 years, before age 10 years and for 10 to 16 years (≥ 10). For the ‘crossover groups’, there are two additional bars for those aged 0 to 16 years and 10 to 16 years that exclude first notifications for physical abuse, which occur after a first offence. Care is required with interpreting results due to the limitations described in Section 7.3.

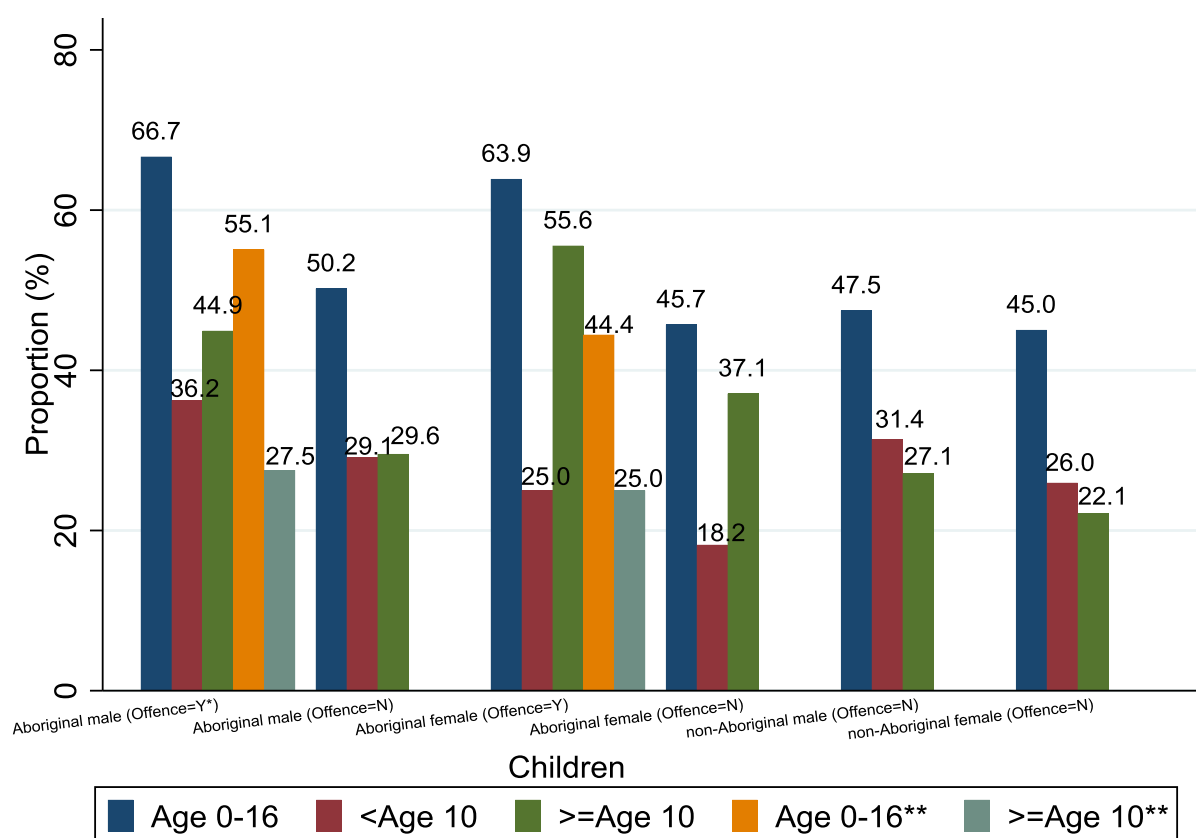
The ‘crossover groups’ had the highest proportions of first notifications for physical abuse for the 0–16 years age group; however, a substantial proportion of first reports for physical

abuse occurred after a first offence, and if these notifications are excluded, the proportions of 55.1% of Aboriginal males and 44.4% of Aboriginal females in the 'crossover group' were similar to the corresponding proportions for Aboriginal males and females with no record of offence (50.2% and 45.7% respectively). In all four groups of Aboriginal children in the study cohort, the majority of first notifications for physical abuse occurred after age 10 years.

Comparing males and females within the 'crossover group' and males to females with no offence: for ages less than 10 years, males were more likely to have had a first notification for physical abuse than females. However, after age 10 years, the proportions are greater for females.

The proportion of non-Aboriginal males and females with a notification for physical abuse are similar (47.5% and 45.0% respectively).

Figure 7.6 Distribution of the proportion (%) of children with a first notification for physical abuse (as primary maltreatment type) at different ages for six groups, 1999 NT birth cohort in the child protection system



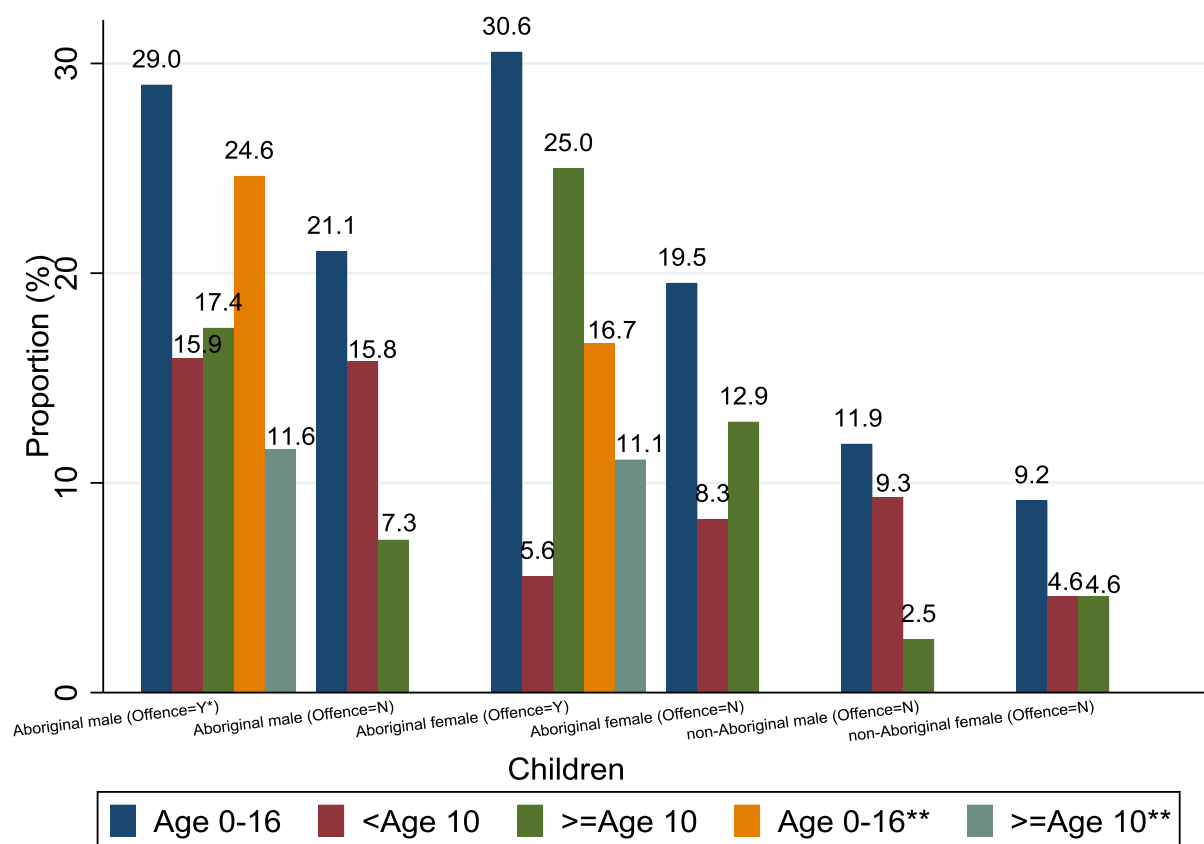
*Y=Yes,N=No; **Exclude notifications after first offence(only for individuals in youth justice system)

Similar to notifications, the 'crossover groups' were more likely to have a record of substantiated physical abuse between 0 and 16 years of age (males: 29.0%; females 30.6% respectively) compared with their counterparts with no record of offence (males: 21.1%; females: 19.5%). However, the difference is not evident after exclusion of substantiations after the first offence.

Overall from 10 years of age on, females are more likely to have a substantiation for physical abuse than males ('crossover group': 25.0% vs 17.4%; Aboriginal children without recorded offence: 12.9% vs 7.3%; non-Aboriginal children: 4.6% vs 2.5%). This contrasts to children aged younger than 10 years, in which higher proportions of males have substantiated reports than the corresponding females.

There are similar proportions of substantiations for non-Aboriginal males (11.9%) and females (9.2%).

Figure 7.7 Distribution of the proportion (%) of children with a substantiated report for physical abuse (as primary maltreatment type) at different ages for six groups, 1999 NT birth cohort in the child protection system



*Y=Yes, N=No; **Exclude substantiation after first offence(only for individuals in youth justice system)

7.6 Sexual exploitation/abuse

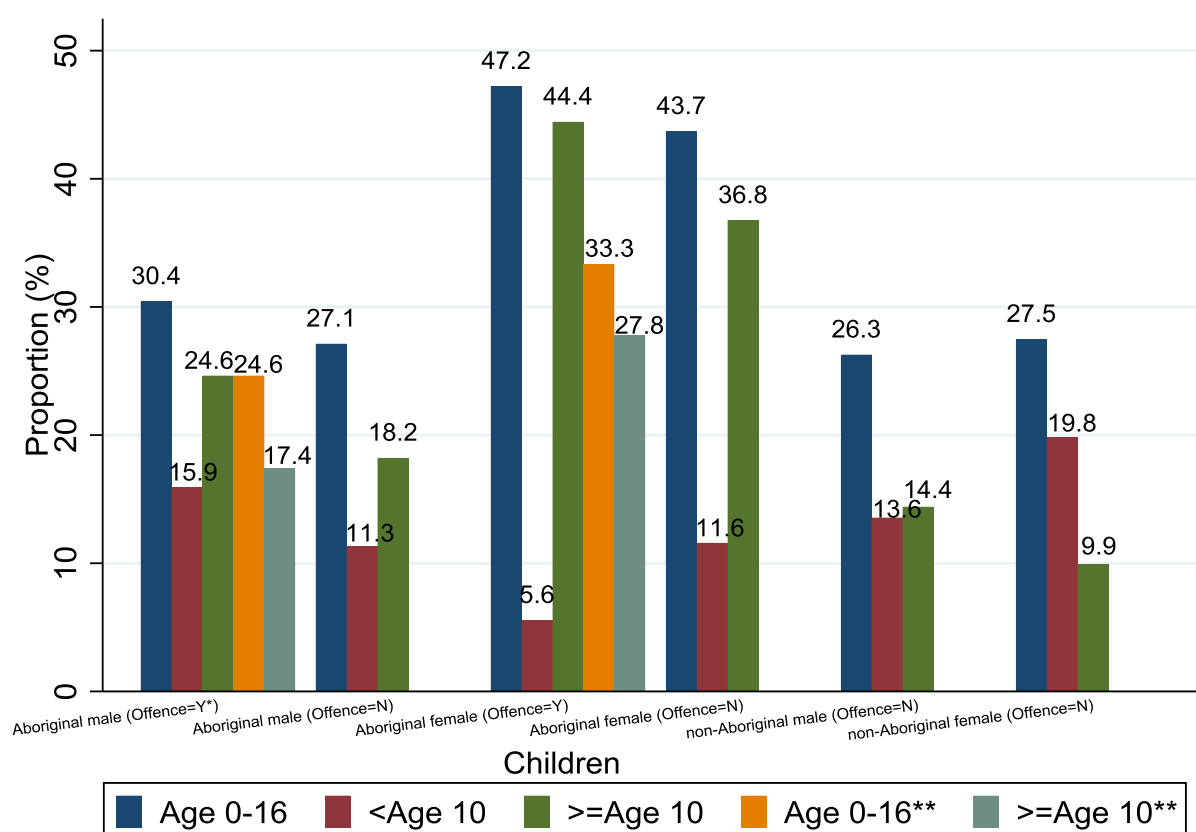
The proportions of children in the study groups with a first notification for sexual exploitation or abuse (as primary maltreatment type) are presented in Figure 7.8. The information is provided for the age groups 0–16 years, before age 10 years and for 10 to 16 years (>=10). For the 'crossover group', there are two additional bars for those aged 0 to 16 years and 10 to 16 years that exclude first notifications for sexual abuse, which occur after a

first offence. Care is required with interpreting results due to limitations described in Section 7.3.

For Aboriginal children, females in the older age groups, with and without a record of offence, had much higher proportions of notifications for sexual abuse than corresponding male groups. As an example, 36.8% of females aged 10 to 16 years in the group with no record of offence had a notification for sexual abuse or exploitation compared to 18.2% in the corresponding male group.

Among the different subgroups, the female Aboriginal study cohort was the most likely to have notifications for sexual exploitation/abuse from age 0–16 ('crossover group': 47.2% and those without a recorded offence: 43.7%) and after age 10 ('crossover group': 44.4%, and those without a recorded offence: 36.8%). 17.4% of males and 27.8% of females in the 'crossover group' had notifications for sexual exploitation/abuse before they committed a first offence. In the Aboriginal study cohort, the majority of sexual exploitation/abuse notifications occurred after age 10. In the female non-Aboriginal study cohort, the majority of sexual exploitation/abuse notifications occurred before age 10.

Figure 7.8 Distribution of the proportion (%) of children with a first notification for sexual exploitation/abuse (as primary maltreatment type) at different ages for six groups, 1999 NT birth cohort in the child protection system



*Y=Yes, N=No; **Exclude notifications after first offence (only for individuals in youth justice system)

The small number of substantiated reports in some age groups of the study groups makes comparisons unreliable, and the results are therefore not presented for all groups. Similar to the results for notifications, for all Aboriginal children, the proportions of older females with a substantiated record of sexual abuse or exploitation was greater than corresponding males. The proportion of males and females in the 'crossover group' with first notifications involving sexual abuse between 0 and 16 years of age was 8.7% and 13.9% respectively. For Aboriginal children without a record of offence, the proportion of males with first notifications involving sexual abuse between 0 and 16 years of age was noticeably lower among males (3.2%) compared to females (6.0%).

8. Discussion

8.1 Summary of findings

This report provides a first analysis of linked records for NT children who have been in contact with two substantial Northern Territory services—child protection and youth justice. The life course approach, which is possible by linking multiple records of service for the same children, provides a more sophisticated and contextual record of the pathways of child experience than is possible by aggregating annual statistics from cross-sectional summaries of single service information. The use of linked data also provides information on the opportunities for services and in particular for interventions that may shift the predicted trajectories of development for children. The information can also be used to evaluate the impact of existing or future interventions.

In this report, we have followed the records for children born in the NT in 1999 through their history of contact with child protection and youth justice services to highlight the overlap of the two services and in particular to describe the characteristics of the children who are recorded in both services. This preliminary analysis has some significant limitations, which are discussed in Chapter 3. The first is that electronic child protection records commenced in 1999, and to assess outcomes for as long as possible, it was necessary to limit the analysis to the single 1999 NT birth cohort. This limits the analysis to a total of 2830 individuals born in the NT and remaining in the NT at the end of the study period. The relatively small study cohort limits analysis for some subsets of data and means that the characteristics of the small number of non-Aboriginal children who are found guilty of an offence are unable to be presented in this report for reasons of both statistical reliability and confidentiality. The second and related limitation is that the most recent available data for youth justice data was 2016: a year when the study group were turning 17 years of age. This limitation reinforces the importance of starting the study in the earliest available year (1999), but it also means that the study was unable to report information for 17 year olds. These first two limitations will be addressed with current plans for updating the years of available data for both child protection and youth justice datasets. The third limitation is the instability of some of the underlying datasets, particularly child protection records. Over the period 1999 to 2016, there was a ten-fold increase in the number of children in notifications each year.²⁰ As a result, information that is based on child protection may not be consistent across different time periods and different study cohorts. Some caution is required in interpretation. These changes can be accommodated with advanced statistical methods, which have not been applied in the basic descriptive analysis provided in this report.

Despite these limitations, the results in this report remain clear, and in summary, we have observed that by age 17 years of age, Aboriginal children in the ‘crossover group’ compared with those with child protection contact but with no history of being found guilty of an offence:

- had a higher number of child maltreatment reports (78.3% of males and 88.9% of females had three or more reports)
- had a higher number of substantiated reports of abuse and neglect (21.7% of males and 19.4% of females had three or more substantiated reports)
- remained in the child protection system for longer durations of time (72.5% of males and 80.6% of females had last maltreatment report at age 15–16 years)
- were more likely to experience out-of-home care placement (24.6% of males and 25.0% of females had at least one placement)
- were more likely to experience multiple types of maltreatment (79.7% of males and 80.6% of females were reported for more than one maltreatment type; 13.0% of males and 27.8% of females were reported for all four types of maltreatment)
- were more likely to be reported by multiple reporters (87.0% of males and 88.9% of females were reported by more than one reporter category, with police and health professionals being the most common reporter category; 18.8% of males and 30.6% of females were reported by six or more reporter categories).

8.2 Implications of the findings

The utility of unsubstantiated child protection notifications

This report has demonstrated the utility of including unsubstantiated notifications from NT child protection datasets in the assessment of the impact of abuse and neglect, as they provide additional information to contextualise child maltreatment experience. Most studies that have reported the child maltreatment-youth offending link using administrative data have relied on substantiated reports. However, other studies³³⁻³⁵ report that the risk of antisocial behaviours do not differ between substantiated and unsubstantiated reports. The inclusion of notifications is supported by the findings from Menzies' submission to the Royal Commission, which reported children in the Northern Territory with unsubstantiated notifications are also at risk of youth offending. Although substantiated notifications 'may represent more severe, more frequent experiences of maltreatment,'⁸ whether the notification was substantiated or not is also affected by other factors such as the ability of agencies to provide adequate services to the child/family (e.g. availability of resources and investigative capacity of the child protection system) or decisions regarding court involvement (placement),³³ and developmental phase of the maltreated subject.³⁶ It has been suggested that between child and adolescent maltreatment, there might be differences in the way cases are handled following a maltreatment report³⁶ as adolescents are perceived to be 'able to care for themselves and not to have as great a need for child protection services'³⁷ compared to young children due to their '[physical] appearance of maturity.'³⁷ The inclusion of unsubstantiated notifications in a study of the association of child maltreatment and juvenile delinquency will provide more insights into the pathway of juvenile offending. All these findings suggest that investigation of medium- and long-term

outcomes^{38, 39} of maltreated children should not be limited to children with substantiation but also should include children with unsubstantiated notification.

The heterogeneity of child maltreatment experienced by gender and Indigenous status

Our study demonstrated the heterogeneous nature of the child maltreatment experienced by gender and Indigenous status. Currently, in the literature, there is no consistent way to operationalise the dimensions of child maltreatment.⁴⁰ The appropriate operationalisation of these dimensions would enable us to better account for variations in delinquency outcomes for children and youth with varying needs, demographic characteristics and maltreatment experience.

The importance of multiagency data-linkage to inform interagency collaboration

Our study demonstrated the importance of using the 'reporter group' variable (i.e. police, health professionals, school personnel) in contextualising child maltreatment, which will provide more insights into the nature of child maltreatment reports and the child protection system report process (e.g. investigation and intervention). Our study found that the majority of the children in the 'crossover group' had been reported by more than one reporter type (males: 87.0%; females 88.9%). Further research is warranted in understanding the reason for the higher likelihood of report by multiple reporters in the 'crossover group'. Linking the child protection data to different government agencies will facilitate the identification of risk profiles for child maltreatment to inform an interagency collaborative approach to child protection. Linking the child protection data to police, health and education data will shed more light on the service contact pattern with these government agencies. For example, the police data includes information of the victim, the perpetrator and the witness.⁴¹ Information such as the age of victims and offenders, victim-offender relationship, location of offences and reporting channel will be important in contextualising the maltreatment experience of the children.⁴¹⁻⁴⁶ Linking the child protection data to the police data will not only provide a greater understanding of the children's contact with the law enforcement agencies but will also provide greater understanding of children exposed to domestic violence (children exposed to domestic violence might be recorded as a victim or witness in police data) and child sexual abuse.

Typological approach to inform targeted prevention and intervention strategies

We also propose that a typological approach⁴⁷ may be more informative than a single outcome approach or a cumulative risk model approach. A single outcome approach assumes that the different child maltreatment types happen in isolation, and a cumulative risk model approach assumes each maltreatment type contributes equally to the sum of maltreatment in the child's lifetime.⁴⁸ A typological approach identifies patterns of maltreatment and considers the interaction between the maltreatment types.⁴⁷ It also considers the interactions between maltreatment type, child and family factors, child protection system factors, and youth offending. Examples of the typological approach include latent class analysis⁴⁹⁻⁵² and cluster analysis.^{48, 53-55} Over the past decade, there is a

growing use of latent class analysis in the child maltreatment research⁴⁹⁻⁵² to identify different risk profiles of children and families⁵⁶⁻⁵⁸ to inform targeted prevention and intervention strategies. Such analytic approach may be particularly relevant to the NT, which has a high proportion of children with multi-type maltreatment.

8.3 Future directions in NT child protection data-linkage research

This study found that the ‘crossover group’ had remained in the child protection system for a longer duration of time and is more likely to be reported by multiple reporters (particularly the police) than the children in the child protection system without recorded offences. This finding demonstrated the need for further research to examine their patterns of service use within the child protection system and other government agencies (e.g. Department of Health, Education, Justice and Attorney-General, and police), including the ‘type, duration and intensity of service provided’²⁸.

Informing multiagency collaboration by examining the patterns of service use

Efforts to meet the ‘multiple and complex needs’⁵⁹ of these vulnerable children and youth^{34, 60-66} have been limited by the paucity of research that ‘viewed offender typology and offense trajectory from the perspective of public service systems encountered’⁶⁷. Such research could help to ‘identify promising systems to use as platforms for purposes of prevention and early intervention... [and] inform models of collaboration to improve outcomes’ by understanding the ‘key clusters of system involvement, along with individual and community factors’.⁶⁷ Previous studies about ‘system contact and actual service use’ in four child-related government services (education, child welfare, juvenile justice, and mental health services) have been summarised in Johnson-Reid (2011).⁶⁸

Data linkage of service use episodes by vulnerable children and families offers significant potential to enhance the effectiveness of whole-of-government initiatives, which transcend the ‘siloes’ nature of government departments and of government administrative data. The importance of a ‘whole-of-government data linkage model’ and ‘data analytics expertise’ in ‘whole-of-government policy decision-making’ has been recognised in a recent commissioned review of WA data-linkage capabilities.⁶⁹

A recent WA study has presented a convincing case for the technical, methodological and ethical feasibility of data-linkage research to explore the patterns of service use of children, youth and families with multiple government agencies.⁷⁰ This WA study linked data from four government services (child protection, mental health, courts and corrections) to explore the patterns of service use of multiple agencies by WA children from birth up to 18 years of age.⁷⁰ It found that a small proportion children in the WA population had contact with multiple government agencies (1.5% had contact with three or more agencies) but accounted for a disproportionately high level of service use or contact with these agencies (31%).⁷⁰ Another key finding of the WA study was that the child protection system is the earliest government agency contacted by clients in contacts with multiple agencies (81% of

the 'shared client group' had first contact with the child protection system).⁷⁰ This 'first point of contact' offers significant opportunities for early intervention to disrupt the vulnerable children's pathway into other agencies (e.g. mental health services, courts and corrections), which might reduce the service load and costs associated with the contacts of multiple agencies in the long term.

Multi-generational data-linkage studies to inform early intervention strategies

A Menzies study has confirmed that there is a significantly elevated risk for NT children whose mothers drank alcohol during pregnancy, of whom almost half of Aboriginal and one-tenth of non-Aboriginal children had a child maltreatment report by police before age five years.²⁰ A recent WA study found the increased risk of contact with the justice system for children exposed to maternal alcohol use disorder.⁷¹ These findings highlight the clear need to link children and their parents in government agencies data in future data-linkage studies to inform early intervention prevention strategies. Other states in Australia, including WA and New South Wales, have already developed and utilised the data-linkage infrastructure to enable multi-generation data-linkage studies. For example, the established family connections in the WA Data Linkage System allow analysis not only of individual children, but also children and siblings within family units. One project has used this data-linkage infrastructure to explore the family risk factors (i.e. parents and sibling-related factors) for juvenile offending in WA.⁷² Technically, this is feasible in the NT.

The evidence of the links between maternal mental illness and child maltreatment⁷³ have implication on using data-linkage to inform the 'joining up' of child protection and adult mental health services to provide 'more supportive connections between parents, child protection workers and adult mental health services'.⁷⁴ This is particularly relevant to the NT, in which a survey conducted in 2004 revealed that 19.4% of non-Aboriginal parents had been treated for a mental health problem.⁷⁵

The link between community-level factors, child maltreatment and juvenile delinquency

Research in a Menzies study has also found the geographical variations in NT child protection reports.²⁰ This finding suggested the need to examine community characteristics on rates of child maltreatment⁷⁶ to inform service delivery and intervention strategies in the NT. To explore the relationship between the community-level factors, child maltreatment experience and juvenile delinquency, data linkage and spatial analysis methods could be used.^{77, 78}

Interstate collaboration in child protection data-linkage research

In the medium- to long-term, there is the potential for a more comprehensive child protection data-linkage study linking NT, South Australia and WA, all of which have developed data linkage systems and reliable Indigenous identifiers. Combining linked data from different states will provide greater sample size, especially for the Indigenous population, which makes up about 6% of the children and youth population under the age

of 18 in Australia, and 43% in the NT.^{79, 80} An inter-state collaboration could start with SA, which shared the same data-linkage infrastructure as the NT.¹⁷

8.4 Conclusion

This study found that the ‘crossover group’ had a higher number of child maltreatment reports, remained in the child protection system for longer durations of time, were more likely to experience out-of-home care placement, were more likely to experience multiple maltreatment type, and were more likely to be reported by multiple reporters than the children in the child protection system without recorded offences. In particular, more than 90% of children in the ‘crossover group’ have been reported by police or health professionals (males: 94.2%; females: 94.4%).

These findings highlight the urgent need for multi-agency collaboration, integrated interventions and service responses ‘that focus not only on the child’s offending behaviour but also on key aspects of a child’s social environment’.¹⁶ This preliminary study demonstrates the utility of data-linkage to provide a greater understanding of children that are in frequent contact with multiple agencies. By adopting a holistic, child-centred approach¹⁶, through effective information sharing⁸¹ and multi-agency collaboration, different service providers could leverage the collective capabilities and resources to meet the ‘multiple and complex needs’ of vulnerable children and families in the NT.

9. References

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