

# Methodological design issues in longitudinal studies of children and young people in out-of-home care

## Literature review



NSW Department of  
Community Services



## Literature review

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# **Methodological design issues in longitudinal studies of children and young people in out-of-home care**

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## Contents

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|  |           |
|--|-----------|
| <b>Executive summary</b>   | <b>1</b>  |
| <b>1. Introduction</b>   | <b>3</b>  |
| 1.1 Methodology used for this review                                     | 3         |
| 1.2 Structure of the review  | 3         |
| <b>2. Rationale for a study of out-of-home care in NSW</b>               | <b>4</b>  |
| 2.1 Improving outcomes for children and young people                     | 4         |
| 2.2 A stronger evidence base for policy and practice                     | 4         |
| 2.3 Why a longitudinal study?  | 5         |
| 2.4 Why use a prospective longitudinal study design?                     | 5         |
| <b>3. Major recent longitudinal studies</b>                              | <b>7</b>  |
| 3.1 Large-scale prospective studies in the US                            | 7         |
| 3.2 Major national studies in Australia                                  | 7         |
| 3.2 Smaller-scale prospective studies                                    | 8         |
| 3.3 Retrospective and case file review studies                           | 8         |
| <b>4. The major design issues</b>  | <b>9</b>  |
| 4.1 Sampling design  | 9         |
| 4.2 Response rates   | 9         |
| 4.3 Sources of response bias   | 10        |
| 4.4 Involving children and young people in care as research participants | 10        |
| 4.5 Increasing recruitment rates   | 10        |
| 4.6 Retention of participants  | 11        |
| 4.7 Using comparison groups  | 12        |
| 4.8 Timing of data collection  | 12        |
| 4.9 Data collection methods  | 14        |
| 4.10 Analysis of the data  | 17        |
| 4.11 Ethical issues  | 18        |
| <b>5. Recommendations from the literature about study design</b>         | <b>19</b> |
| <b>References</b>  | <b>20</b> |

## Executive summary

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Practitioners, researchers and the New South Wales Department of Community Services (DoCS) have all identified the need for New South Wales to undertake a longitudinal study of children and young people in out-of-home care (OOHC). This literature review is intended to discuss some of the methodological issues involved in undertaking such a study and how they have been resolved in similar studies.

### The literature

This review takes a look at the literature on major longitudinal studies related to out-of-home care in Australia and overseas. Some are prospective studies (generating interview data as they proceed), while others are retrospective. Only a few are large-scale studies of children and young people in out-of-home care, but all are directly or indirectly relevant and hence can shed light on the best way to design and conduct a longitudinal study in New South Wales.

Particular attention is paid to two major prospective studies from the United States: the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN), a multi-partner study assessing the effectiveness of service delivery in five locations, and the National Survey of Child and Adolescent Wellbeing (NSCAW), a study of children who are at risk of abuse or neglect or are in the child welfare system. The major studies examined in Australia are the Longitudinal Study of Australian Children (LSAC), a large national survey of children and their families, begun in 2004, and the Longitudinal Study of Indigenous Children (LSIC), a study that will examine Indigenous children and their families. Several other smaller studies, from Australia and overseas and using various methodologies, have also been examined. In conducting the review, the focus has been on methodological issues in the surveys, rather than on their results.

### The issues

In reviewing the literature, a number of major design issues have been highlighted. How these issues have been addressed in other relevant studies, and might be addressed in the proposed longitudinal study of children and young people in out-of-home care in New South Wales, are discussed. The major issues include:

1. *Sampling design.* Deciding on issues such as the method of selecting the sample, timing of recruitment, the sample size and target groups.
2. *Recruitment and retention rates.* Deciding on the sample size that will need to be recruited given expected recruitment and retention rates; and minimising bias in response rates.
3. *Involvement of children and young people.* Addressing the particular issues in gaining access to children and young people in care, especially obtaining permission from those having authority over them.
4. *Methods to increase recruitment and retention.* Incorporating strategies to maximise recruitment and retention of participants.
5. *Major questions and data collection tools.* Deciding the major questions to be asked in the study will assist in planning the data collection methods; these may include a combination of questionnaires and scales used in previous studies, the design of additional questions specifically for this study and the use of data from administrative records.
6. *Interviewees.* Deciding on which groups to interview: interviewees may include children and young people in care, birth parents, foster carers, caseworkers and school teachers.
7. *Timing of data collection.* Deciding on the optimal timing of data collection which does not impose too great a burden on the participants while obtaining data at intervals that are logistically possible and not so far apart that problems with recall arise.

8. *Ethical issues.* Ethical issues are particularly important in conducting research with such a vulnerable group of children and young people. Issues related to consent, confidentiality and mandatory reporting requirements need to be carefully addressed.

### **Recommendations from the literature about study design**

Bringing together all the elements of the literature review, some suggestions can be made about the best study design. An accelerated prospective longitudinal study that incorporates cross-sectional methods, is recommended in the literature as the best method of obtaining prospective data in a shorter timeframe. This is similar to the model used for the LSAC study. Collaboration with other studies, such as LSAC and LSIC, is also desirable.

## 1. Introduction

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The need for New South Wales to undertake a longitudinal study of children and young people in out-of-home care (OOHC) has been identified by practitioners, researchers and the New South Wales Department of Community Services (DoCS). This literature review outlines the major methodological issues raised in the literature on longitudinal studies in OOHC published in Australia and overseas, and serves as a discussion paper on the major issues to be addressed in the design of such a study in New South Wales.

### 1.1 Methodology used for this literature review

In undertaking this review, the published literature on longitudinal studies in OOHC was searched between July and September 2004 using a range of sources, including databases such as Ingenta, CINAHL, Medline and PsychINFO, as well as major journal websites, recent review papers, and websites belonging to the major studies and organisations engaged in OOHC research.

The review focused on the methodological issues involved in designing and conducting longitudinal studies with an OOHC population, rather than their findings. Recent larger-scale prospective studies in the area were relied upon as greater sources of methodological guidance, but, as few examples of these were found, some broadening of the literature was required. For example, some of the literature on studies in OOHC which included discussions of methodological issues, such as recruitment methods and interviewing techniques, has also been included. There is also a body of literature on large longitudinal studies of children and young people which has not been covered in this review but from which we can learn a great deal about methodological issues. An exception to this exclusion is the Longitudinal Study of Australian Children (LSAC), currently underway, which has been discussed briefly because of its significant contribution to the methodological issues related to longitudinal studies of children and young people in Australia. Studies were generally not included if they were small-scale qualitative studies or were studies in which participants were surveyed at two points in time but were not designed as longitudinal studies.

### 1.2 Structure of the review

This literature review highlights the major methodological issues to be addressed in designing a longitudinal study of children and young people in OOHC, and gives examples from some of the major recent studies in the area. The review is divided into five parts:

- **Introduction** – The basis and structure of the review
- **Rationale** – The rationale for a longitudinal study into OOHC in New South Wales
- **The major recent longitudinal studies** – An outline of the methodology of the major recent or current longitudinal studies in OOHC undertaken in Australia and overseas
- **The major design issues** – An outline of the major issues, including sampling design, problems of recruitment and retention, and ethical issues
- **Recommendations** – Some recommendations for the New South Wales study, based on the literature surveyed.



## 2. Rationale for a study of out-of-home care in NSW

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A longitudinal study of children and young people in OOHC in New South Wales would provide a range of benefits, particularly by increasing our ability to improve outcomes for the children and young people, and by providing a stronger basis on which to develop policy and practice in this field. In order to maximise these benefits, it is important to carefully consider the nature and methodology of such a study.

### 2.1 Improving outcomes for children and young people

*'In Australia and other Westernised countries, there is a considerable amount of concern that foster care services are failing to meet the needs of many young people placed into care'* (Bath, 1998, cited in Delfabbro & Barber, 2003).

*'Society has to recognise that many of its remedies (in the form of alternate care) fail to provide what is needed and may actually make things worse'* (Rutter, 2000: 692).

There is consistent evidence that the rate of emotional, social, behavioural and educational problems found in children in substitute care or OOHC is substantially higher than in the general population (Rutter, 2000; Taussig, 2001; Kerman et al., 2002; NSCAW, 2003). Children admitted into OOHC settings usually come from families with parents showing diverse psychopathology and multiple problems in parenting (Quinton & Rutter, 1988; Roy, Rutter & Pickles, 2000 cited in Rutter, 2000). It is quite likely that, for both genetic and environmental reasons, the children are likely to have come into care with an increased vulnerability to risk experiences (Rutter, 2000). Negative experiences while in care including placement breakdowns, caregiver turnover and abuse are also likely to affect their later wellbeing in life (Rutter, 2000).

Only by gaining a thorough understanding of the children and young people's lives over time can we move to improve their situation. An understanding that is directly relevant to the children and young people of New South Wales is particularly valuable.

### 2.2 A stronger evidence base for policy and practice

Studies into child welfare services have often been characterised by poor sample construction and low response rates, leaving them open to the criticism that they capture a biased view of the population of concern (NSCAW, 2003). Most studies examining the impact of family foster care on later wellbeing have been specific program evaluations and cannot be generalised to people receiving services from other agencies. Few use standardised measures to assess the long-term impacts of foster care (Cook-Fong, 2000).

Rutter calls for studies that move beyond mere description to tackle questions of causal mechanisms. It is not sufficient, as it were, to ask 'Did this intervention have benefits?'; the more important question is 'What was it about those interventions that was crucial in bringing about the desired objectives?' (Rutter, 2000: 698).

Taussig similarly argues that we must have 'a solid understanding of the life-course trajectories of maltreated youth in foster care in order to understand better those factors that increase the likelihood of risky and destructive behaviours and those that protect children from the development of these behavioural patterns' (Taussig, 2002: 181-2).

One of the reasons for the paucity of rigorous research is the difficulty in conducting research in the child welfare area, described as 'possibly being one of the most difficult tasks in social science research' (Knight et al., 2000). Berrick et al., (2000: 126) state that 'the challenges of conducting research in foster care are formidable. Barriers to identifying a sample, gaining consent, developing population-specific research questions, managing highly emotional topics, and preparing staff for the work can hijack the research enterprise at every turn.' They assert, however, that these obstructions can be overcome with thoughtful planning, though the process may be time-consuming and arduous (Berrick et al., 2000). Some of these methodological difficulties will be discussed in greater detail in the following sections.

In addition, there is a lack of research relevant to the Australian population: findings from overseas studies cannot always be applied to the Australian context because of differences in both populations and systems. 'Our environment is unique in terms of ethnic diversity, social structures, some aspects of family structures, policies and service provision, and the geographic distribution of the population' (Sanson et al., 2002: 2). A recent audit of Australian OOHC research (Cashmore & Ainsworth, 2004) reported on the resources provided for child welfare research in Australia, compared with overseas, and presented recommendations for the development of a national research agenda in this area, including a far greater investment in and a more systematic approach to OOHC research. A national longitudinal study of children and young people in child protection and care systems in parallel with the LSAC is strongly recommended.

### 2.3 Why a longitudinal study?

The advantages of longitudinal studies over other study designs, such as cross-sectional studies, are well documented. Longitudinal data involve repeated measures of the same people over time, while cross-sectional data involve measures at one time only. Thus, cross-sectional research can only measure the *prevalence* of a factor of interest at a certain point in time, while longitudinal research measures prevalence at several points in time, and can provide information on *causation, prognosis, stability, and change* (Rutter, 1988, cited in Sanson et al., 2002). Longitudinal studies enable factors of interest to be examined for stability and continuity, and can identify developments over time (Sanson et al., 2002).

Longitudinal studies also allow researchers to differentiate between change over time in aggregate (group) data and changes in individuals or populations at risk. While cross-sectional data only allow investigation of differences *between* individuals, a longitudinal study can examine change *within* individuals as well as variation between them (Farrington, 1991 cited in Sanson et al., 2002). Repeated measures allow for the detection of change in individuals or their environments from one data point to the next (Hunter et al., 2002).

### 2.4 Why use a prospective longitudinal study design?

A longitudinal study can be either prospective or retrospective. If a longitudinal study is to be conducted on children and young people in OOHC in New South Wales, a prospective study is preferable for a number of reasons.

A prospective longitudinal study follows samples into the future, allowing researchers to track events before and as they occur, whereas a retrospective longitudinal study covers only the past (Loeber & Farrington, 1994). By collecting prospectively, the problems of recall bias that occur in retrospective studies are avoided, and there is less need to rely on administrative records, which have recording problems and will not always contain all the information required.

As well as exploring the developmental sequences that place children at risk, a prospective study can illuminate the factors that protect children from risk and create resilience. It can help answer such questions as 'Why do some children who are exposed to adverse conditions still do well?' Valuable insights can also be gleaned from observing the developmental sequences of these children (Farrington, 1991, cited in Sanson et al., 2002). Prospective studies such as LONGSCAN (described briefly in section 3) document the developmental changes that occur as children grow and change from early childhood through young adult years, as well as possible risk and protective factors. The investigation of outcomes suggesting resilience as well as poorer outcomes can be undertaken in greater detail via a prospective study (Hunter et al., 2002).



A prospective study can potentially provide data to test hypotheses about the effects of a wide range of family, school, community and individual variables on children's development, early learning and early performance in school and care. It also allows researchers to gather better information on a variety of factors that may be interconnected, and collect a large amount of qualitative data via interviews from a number of perspectives concurrently and as they happen. Furthermore, it allows the researchers to measure a large number of child characteristics extensively as they enter care, then control for them via statistical analyses. This may allow them to demonstrate, for example, that, even when a number of specified child characteristics are taken into account, foster care characteristics may influence outcomes.

In short, a prospective longitudinal study will greatly improve our ability to identify the strengths and weaknesses of the various approaches to foster care and to determine critical periods for providing services and support. Understanding children's developmental sequences also sheds light on when interventions would be most effective (Farrington, 1991, cited in Sanson et al., 2002).

It should be noted, however, that prospective longitudinal studies are very expensive studies to undertake, particularly in terms of personnel. In designing these studies, furthermore, researchers must contend with a multitude of issues, many of which are described in section 4.

### 3. Major recent longitudinal studies

This section outlines some of the longitudinal studies that have been recently completed or are currently underway. Important among these are two large-scale prospective studies in the US, which include large samples of children in out-of-home care, and two national studies currently underway or in the planning stage in Australia which do not specifically target those in out-of-home care. A number of smaller-scale prospective studies and various retrospective studies of children and young people in out-of-home care are also taken into consideration.

#### 3.1 Large-scale prospective studies with OOHC populations in the US

Recently in the United States (US) it has been recognised that large-scale studies are needed to shed light on why children's experiences in OOHC vary and what service provision factors influence outcomes. Two recent prospective longitudinal studies have been established in the US to examine these questions:

- *Longitudinal Studies of Child Abuse and Neglect (LONGSCAN)* is a multi-site collaborative study which commenced in the US in 1991. LONGSCAN is designed to evaluate the effectiveness of differing service delivery characteristics across five localities and across time as programs and policies change. In one of the five study sites, the Southwest, for example, the sample consists of 327 maltreated children who have entered OOHC.<sup>1</sup> A large number of publications have already been produced from this study. The findings are being used to provide a scientific basis for policy-making, program planning and targeting service delivery by increasing our understanding of the child, family and community factors relating to child maltreatment, and the strengths and weaknesses of the societal interventions such as child welfare programs and foster care (see <http://www.iprc.unc.edu/longscan/>).
- *The National Survey of Child and Adolescent Wellbeing (NSCAW)* is designed to address crucial program, policy and practice issues of concern to the federal, state and local governments, and child welfare agencies. It is the first national study of child welfare from the US to collect data from children and families. It is also the first to relate child and family wellbeing to such factors as family characteristics, experience with the child welfare system, and the community environment. Interviews started with 727 children aged 0-14 years in OOHC in 2001,<sup>2</sup> twelve months after entering care, with the first wave of data collection reported in November 2003 (see NSCAW, 2003; NSCAW Research Group, 2002).

#### 3.2 Major national studies in Australia (not OOHC)

Two major longitudinal studies are currently underway in Australia.

- *Longitudinal Study of Australian Children (LSAC)* aims to examine the family and social issues relevant to children's development, and to address a range of research questions about family functioning, health, non-parental child-care and education. During 2004, cohorts of approximately 5,000 infants and 5,000 four-to-five-year-old children and their families were recruited to the study. It is intended that these children and their families will be followed at two-yearly intervals for a period of seven years (see Soloff et al., 2003; <http://www.aifs.gov.au/growingup/home.html>).
- *Longitudinal Study of Indigenous Children (LSIC)* was announced in the 2003/04 federal budget. The study aims to improve the understanding of, and policy response to, the diverse circumstances faced by Aboriginal and Torres Strait Islander children and their

<sup>1</sup> 1,370 children were included in the first round of assessments, between 221 and 327 from each site. The sample was recruited at around four years of age.

<sup>2</sup> A total of 5,404 children aged 0-14 years who had a child welfare investigation closed between 1 October 1999 and 31 December 2000 were included in the study, plus a further sample of 727 children in out-of-home care.

families and communities. Planning and consultations regarding the study design are currently underway (see [http://www.facs.gov.au/internet/facsinternet.nsf/research/ldisic\\_nav.htm](http://www.facs.gov.au/internet/facsinternet.nsf/research/ldisic_nav.htm)).

### 3.3 Smaller-scale prospective studies with OOHC populations

A number of prospective longitudinal studies have been reported which, although they add valuable qualitative information, have smaller sample sizes, making it more difficult to generalise to the wider population. Examples of these are:

- *Growing Up in Foster Care* (UK), a longitudinal study of 58 children placed in foster care under the age of 12 years. They have been followed up to see how they fared in their long-term foster homes, and to consider the factors that had promoted or impeded their progress (see Schofield et al., 2000).
- *Growing Up in Care* (Australia), a longitudinal study of 59 children and young people aged eight-to-16 years in foster care. They were interviewed four months after entry to care, and 18 to 24 months after that (see Fernandez, 2004).
- *Wards Leaving Care* (Australia), a follow-up of young people leaving OOHC in NSW, with a sample size of 47 (see Cashmore & Paxman, 1996).

### 3.4 Retrospective and case file review studies in OOHC

Several retrospective longitudinal studies and studies based on reviewing case files are interesting from a methodological viewpoint.

#### Retrospective studies

- *Midwest Evaluation of the Adult Functioning of Former Foster Youth* (US) is a study in which a sample of 732 foster youth were interviewed as they left care, with the aim of gathering information about services provided to them and report on their self-sufficiency outcomes as adults (see Courtney et al., 2004).
- the chief purpose of the *Casey National Alumni Study* (US) was to determine whether certain service delivery factors are associated with long-term outcomes for youth. The data were collected through case record reviews and interviews with people who had been in Casey foster care for 12 months or more between 1966 and 1998. A total of 1,087 people were interviewed (see Pecora et al., 2003).

#### Case file review studies

- a Swedish study, by Sallnäs and colleagues, examined premature termination of placements and breakdown in care for a Swedish national cohort of young people entering care between the ages of 13 and 16 years. The cohort numbered 776 youths who started 922 placements during 1991. Every placement was followed via case files for a maximum period of five years (see Sallnäs et al., 2004).
- a South Australian study, by Barber and Delfabbro, aimed to obtain detailed information about the placement movements and psychosocial outcomes of children in foster care. This was mainly done via a tracking study of 235 children aged four-to-17 years placed in OOHC in South Australia between May 1998 and April 1999. The sample included 129 children who were new to care and 105 who were referred for a change of placement. Baseline measures were obtained from case files and the children's social workers. Follow-up interviews were conducted with the social workers when the children were aged four, eight and 12, and thereafter every six months for two to three years, depending on when the children were recruited into the study; most analyses used a two-year cut-off. Children and young people in foster care were not interviewed as part of this study (see Barber & Delfabbro, 2004).

## 4. The major design issues

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The review of literature has identified 11 major issues that are worth taking into consideration in designing a longitudinal study of children and young people in OOHC in New South Wales. These range from sampling design and retention rates to data collection and ethical issues.

### 4.1 Sampling design

The sample size in any study depends on factors such as the number and types of research questions to be explored, the recruitment rate, the study period, funding and resources.

Most of the major longitudinal studies of children in OOHC have recruited their samples from children entering care within a specified timeframe. Including every child entering care within that timeframe avoids some of the sampling errors related to other sampling methods. However, inadequate record-keeping by an agency can make it difficult to identify exactly who is eligible to participate.

NSCAW used a more sophisticated sampling method than most studies: a stratified cluster sample. The eight US states with the highest number of child protection cases formed a stratum each. Within each stratum, sampling units were formed, defined as a geographic area encompassing the population served by a child protection agency, predominantly a county. These sampling units were then restricted to counties that were large enough to support at least one interviewer's workload, or about 60 cases or more per year. From these, a random sample of 100 sampling units was selected. Systematic random sampling was then used to select eligible children from the sampling frame, with approximately equal numbers per unit. After the sampling units were selected, some had to be excluded due to agencies' unwillingness to participate or to unworkable state laws regarding consent, and replaced with sampling units with similar populations (NSCAW, 2003: 26-27).

Although the sample was designed to be self-weighting, departures from probability sampling occurred due to the problems of conducting this type of research. Sample weights were therefore applied to the observations in order to obtain unbiased estimates of the population parameters (NSCAW, 2003: 30-31).

The NSCAW researchers referred to problems with agencies not being able to identify the target populations from their administrative datasets, such as whether children had been in OOHC continuously for a 12-month period (NSCAW, 2003). An additional challenge was finding sufficient numbers of children who satisfied their selection criteria, particularly in rural areas where the number of foster children was quite small. Both of these difficulties necessitated some relaxing of their selection criteria. For example, the planned timeframe for recruitment to the study had to be extended, as the numbers eligible in some sampling units were too small (NSCAW, 2003: 26-27), and the sample was not restricted to those who were new to OOHC.

### 4.2 Response rates

Either a low or biased pattern of recruitment into a study can affect the generalisability of the responses obtained. Two recent large prospective studies have, for example, reported response rates of around 60%. The NSCAW study built into their study design that, from a sample size of 9,400 children aged 0-14 years recruited from the child protection services (plus an additional 1,100 children in long-term foster care), their targeted number of interviews would be 5,400 and 700 respectively, yielding response rates of 57% and 64%. In practice, a total of 1,291 children were selected for the foster care sample, 727 of whom completed interviews, resulting in a slightly lower than planned response rate of 56%. Of the 1,291 selected, 23% were deemed ineligible, 14% were unavailable after repeated attempts, 9% refused to participate, and 3% were unavailable or uncontactable for other reasons. Similarly, the LSAC researchers calculated that they would need an initial sample of 8,500 children to obtain a study sample of 5,000 after estimating the size of the loss at various stages throughout the recruitment. They estimated that the final sample would be about 60% of the initial sample (Soloff et al., 2003).



By collecting and analysing demographic data on those who are eligible to participate in a study but do not do so, response rates can be calculated and the representativeness of the sample recruited can be assessed. This method was used in the Casey National Alumni Study (Kerman et al., 2002). Similarly, to determine the potential for non-response to bias the results, the NSCAW researchers conducted an analysis of the non-responders using data from child welfare worker and agency files. They found no evidence of non-response bias in their study, but found that response rates tended to be slightly lower for children aged 11-14 years than for children aged ten or younger (NSCAW Research Group, 2002).

### 4.3 Sources of response bias

Although every child may have an equal chance of being selected to participate in a study, a sampling bias may occur as a result of the methods used to recruit the sample. 'It is possible that the characteristics of children "lost" from the sample will be different from those of children included in the final sample and this could lead to biased estimates of population parameters' (Soloff et al., 2003: 23). For example, the LSAC researchers recognised that sources of sample bias may result from being unable to contact the more mobile populations selected: 'Low response rates (and high attrition rates) can also increase the variance of the study estimates, as well as causing the study results to have limited generalisability' (Soloff et al., 2003: 23).

### 4.4 Involving children and young people in care as research participants

One of the major difficulties in conducting research with children and young people in care is actually involving them as research participants. A number of authors have described the problems they encountered in obtaining permission to interview children (Berrick et al., 2000; Heptinstall, 2000; Community Services Commission, 2000; Gilbertson & Barber, 2002). Most were required to obtain permission from various individuals and agencies, but some also had to acknowledge a power of veto by the child or young person's social worker if they considered the interview would be detrimental to their placement.

Berrick et al., (2000) noted that although parents normally have authority over their children's participation in research, the legal status of children changes when they are in OOHC: birth parents, foster parents, social workers, social services, lawyers and judges may all exert influence on the children's activities. Access to children may be tightly controlled, foster parents may be suspicious of a researcher's motives, and incentives may be required for caregivers as well as for the children in their care (Berrick et al., 2000: 120).

Heptinstall (2000) describes the processes required to gain access to looked-after children: many of the potential participants were excluded by social workers and other 'gatekeepers' before it was possible to approach the children themselves, resulting in a response rate of 41%. The ability of these gatekeepers to 'block children's participation in research frequently constrains children and young people from deciding for themselves whether or not to cooperate and prevents their voices from being heard', creating 'a potential conflict between children's rights to be heard and adults' duty to promote the children's best interests' (Heptinstall, 2000: 872). Similarly, Gilbertson and Barber (2002) reported a response rate of 28%, with 41% of their loss to participation being due to denial of access at the agency level.

### 4.5 Increasing recruitment rates

A number of methods have been suggested both in the literature on longitudinal studies in OOHC and in the more general longitudinal study literature to maximise recruitment rates.

In the OOHC literature, Berrick et al., (2000) advise that as foster carers assume the role of protecting vulnerable children they may be suspicious of strangers (researchers) wanting to question children about foster care. Researchers must expect this and respond appropriately in order to gain the caregivers' support. Berrick and colleagues cite a method they followed, of offering children gift vouchers to a toyshop and a certificate, and caregivers a cash payment for arranging the interviews.



The North Carolina LONGSCAN study used nurses and social workers to identify and recruit eligible people into their study. The nurses and social workers obtained a signed informed consent form and sent names and addresses of potential participants to the project officer for follow-up. Agencies received a monetary incentive for each participant they recruited. However, the researchers commented that they lost prospective participants by not having supervisory authority over the recruiters and thereby being less able to control the recruitment efforts (Kotch, 2000).

## 4.6 Retention of participants

### 4.6.1 Problems of retention

In order to be able to draw valid conclusions from data collected it is essential to minimise attrition (Loeber & Farrington, 1994). The participants lost from a study are likely to be different from those who are retained. For example, more mobile subjects are often more difficult to locate for follow-up interviews. Furthermore, high rates of attrition have obvious detrimental effects on the sample size available for longitudinal analyses (Soloff et al., 2003). There are also strong reasons to be concerned about the adverse effects of high attrition on the perceived legitimacy of continuing a study (Soloff et al., 2003).

Loeber and Farrington, (1994) suggest that the longer the duration of a longitudinal study, the more likely selective attrition (the loss of subjects for a variety of reasons, principally refusal and difficulties in being located) will occur. Farrington et al., (1990) showed that the more elusive and uncooperative subjects tended to be more 'delinquent'. LSAC researchers also recognised that the more mobile subjects would be more difficult to locate and follow up (Soloff et al., 2003).

Several overseas longitudinal studies of children and young people not in OOHC indicate that attrition is likely to be highest in the early years of a study. In the *Canadian National Longitudinal Study of Children and Youth*, for example, attrition between the first and second wave was approximately 11%, but retention was maintained at 85-90% over the later years (NLSCY, 1999 cited in Soloff et al., 2003). In the *Christchurch Health and Development Study*, a longitudinal study of a birth cohort of 1,265 children born in Christchurch in mid-1977, the attrition rate was almost 9% between birth and age two years, but dropped to less than 1% per year subsequently, with a total attrition of 19% by age 18 (Fergusson et al., 1989; Horwood & Fergusson, 1999 cited in Soloff et al., 2003). A minimum level of 85% retention from wave to wave is expected across the entire life of the LSAC project (Soloff et al., 2003).

Guterman (2004) raises the point that: 'Participant dropout from longitudinal population-based studies becomes especially problematic when the base rates of the problem under study are relatively low'. This could lead to substantial sample bias and loss of the statistical power necessary to find study effects; however, advances in knowledge mean that we are now better able to deal with these problems both in the study design and in the statistical analyses (Guterman, 2004: 309).

### 4.6.2 Improving retention

Loeber and Farrington, (1994) suggest that many of the problems of sample attrition can be overcome by careful planning. They suggest planning for continuing contact by collecting a great deal of identifying information about the subjects and relatives at first contact, and requesting permission to search records that will help in locating subjects later. An advantage of longitudinal studies is that characteristics of missing subjects are usually known from earlier contacts, so it is possible to estimate the amount of error introduced by attrition. LONGSCAN undertook yearly telephone interviews to track families and assess yearly service use and important life events. State administrative records were also used to monitor movements through the system (Hunter et al., 2001).

Loeber and Farrington, (1994) describe some of the options for the frequency of follow-ups but caution that participants' responses to repeated follow-ups (and staff exhaustion) are important factors that may influence the frequency. It is important not to make the assessments so frequent that participants become resistant and drop out. The benefits of staying in the study must outweigh the perceived costs of participation.

The provision of financial or material 'incentives' is an important strategy used to increase retention in studies with vulnerable populations. Kotch states that research participation 'is partially motivated by altruism' but it is assisted by the provision of 'a modest financial compensation' and the promise of confidentiality (Kotch, 2000: 703). As an incentive, the LONGSCAN researchers provided \$30 for the parents and a token gift (for example, a pen, pencil or eraser) for the eight-year-old interviewees (Kotch, 2000).

The LSAC researchers have used various strategies to minimise the number of non-contacts and maximise retention within each cohort over the entire life of the project. They decided that using financial incentives would not be feasible for the small increases that would be gained in response rates among their population of children, but they were not specifically targeting those in OOHC. The researchers described the most successful retention strategies as follows:

- include tracking questions in study instruments, and obtain contact details from parents, relatives and friends
- maintain and frequently update a database of participants' contact details
- communicate regularly with participants by sending 'season's greetings' cards to all families, and birthday cards to all children annually, together with change-of-address cards for notification of any intended moves. Contact can also be maintained between study waves through regular newsletters and mail-back surveys
- encourage participants to identify with the study in various ways: marketing of the logo and tagline; media exposure to the study; a '1800' telephone number and website so that participants can contact the data collection agency; giving participating children a study logo; and leaving merchandise with parents, such as fridge magnets listing the study's contact details
- train interviewers in interviewee-friendly techniques (Soloff et al., 2003: 35).

## 4.7 Using comparison groups

A number of studies have used control or comparison groups in their longitudinal studies. For example, Roy et al., (2000) and Bohman and Sigvardsson, (1980) both used classroom controls to compare with the educational and behavioural characteristics of their samples of foster children. Bohman and Sigvardsson also used a different sample as a control group at a subsequent data collection point, a sample of people born in the same town on the same day. Both LONGSCAN and NSCAW are components of larger collaborative studies using common design and instruments, allowing for comparisons to be made between the OOHC samples and the non-OOHC samples.

In Australia the two national longitudinal studies, LSAC and LSIC, could provide useful comparison groups for a longitudinal study of children and young people in OOHC in New South Wales.

## 4.8 Timing of data collection

The timing of a study is important, as it affects the types of issues that can be explored with a participant, and the effectiveness of data-gathering. Timing needs to be considered at all stages of a study at recruitment, during follow-up interviews and possibly after a participant has exited care.

### 4.8.1 Recruitment

Timing of recruitment affects what researchers may examine. Recruiting a participant soon after they enter care, for example, allows an examination of the factors that affect outcomes early in their placement and their possible return home, whereas if a participant is recruited later the focus may instead be on factors related to their remaining in OOHC.

The larger studies have varied in the timing of their study recruitment. LONGSCAN recruited children five months after they entered care, while the South Australian foster care study recruited children after they had been in care for only two weeks (Litrownik et al., 2003; Delfabbro et al., 2002).

NSCAW chose to interview children who were in OOHC for approximately 12 months, based on analyses of foster care data from other studies showing that the vast majority of children who have been in OOHC for 12 months remain in placement for periods of three years or more (for example, Wulczyn et al., 1997). The likelihood of reunification to the home of the parent after 12 months in care is only one-third the rate for children who have just entered care (Wulczyn et al., 1999). By focusing on a 12 month period, NSCAW enrolled children in their sample who were likely to continue in OOHC for a longer period and began studying them early in their placement history, providing a valuable baseline for understanding future observations as they aged over the course of the study (NSCAW, 2003).

#### 4.8.2 Follow-up interviews

Repeated measures can highlight changes in participants or their environments from one data point to the next (Hunter et al., 2002). Fixed-interval follow-ups allow researchers to express rates of change over equivalent periods of time and study the onset of new problem behaviours. However this works best when the interval is not too long, because of the problem of inaccurate recall of events. Ideally, causal factors should be measured at the time they exert their causal influence. One rationale for determining the frequency of assessments is the speed at which the developmental changes are expected to occur. When the speed of changes is expected to be fast, more frequent measures may be needed to ascertain the process of change (Loeber & Farrington, 1994).

In LONGSCAN, age-specific data collection points were selected to correspond to critical periods in children's development. The LONGSCAN study conducted comprehensive assessments of the children, their caregivers and teachers at recruitment (between infancy and age five), and then at ages four, six, eight, 12, 14, 16 and in young adulthood. Annual contact interviews were conducted by telephone in the intervening years. Teachers also completed self-administered questionnaires distributed and returned by mail (Hunter et al., 2002).

In the original design of the NSCAW, follow-up interviews were planned for every six months. However the researchers' early experience in the field suggested that this schedule was too ambitious and required substantial modification to provide a less burdensome workload to agency and research staff. Although only between seven and 14 children were sampled from each sampling unit in a given month, the time required (for acquiring family contact information, scheduling interviews, travelling, tracing respondents, and completing interviews with up to five possible interviewees for each child) was running as much as four times greater than their original estimates, which had been based on experiences from similar studies. Under the revised schedule, follow-up interviews are being undertaken at 18 months and 36 months only (NSCAW Research Group, 2002).

#### 4.8.3 Follow-ups after exiting care

Decisions about following up children and young people beyond their stay in OOHC affect whether the research will be able to report on long-term outcomes. Children may be more difficult to locate once they have left the OOHC system, but, once located, can provide valuable insights into their reasons for leaving and any subsequent returns, along with information about what happens to them and where they go after leaving care.

Children enrolled in LONGSCAN were followed regardless of whether they returned to their family of origin or remained in the foster care system (Hunter et al., 2002). Conversely, children in the South Australian study were tracked only while their case remained open: those who returned home or were discharged from care were no longer followed up (Barber & Delfabbro, 2004).

#### 4.8.4 Overall timeframe for the study

The number of follow-ups, and intervals between them, will be affected by the overall timeframe for the study. A longer timeframe provides a better mechanism to accumulate data on the stability and continuity of the factors of interest over time, and allows developmental sequences and causation to be better identified. Farrington (1991) recommends a follow-up period of about seven to eight years to maximise advantages and minimise disadvantages of longitudinal studies.

The Commonwealth Department of Family and Community Services (FaCS) has, at this stage, committed nine years' funding to both LSAC and LSIC. Longer term studies, such as the Dunedin Multidisciplinary Health and Development Study conducted in New Zealand and the Millenium Cohort studies in the United Kingdom have provided invaluable long term follow-up data.

### 4.9 Data collection methods

All the major prospective studies have collected data using a combination of methods. The most common is face-to-face interviews with respondents, but this is most often supplemented by data obtained from administrative records, self-completion questionnaires and assessment tools.

#### 4.9.1 Interviewees

One of the advantages of a prospective study is that it allows researchers to collect a large amount of qualitative data via interview from a number of perspectives concurrently and as they happen (Farrington, 1991, cited in Sanson et al., 2002). Ecological validity, or the extent to which findings can be generalised to the 'real world', and cultural sensitivity are enhanced by gathering information in a child's typical settings and from multiple respondents. These respondents can, for example, indicate whether a child's behaviour is due to being in a specific situation, and how it may change in different settings (Hunter et al., 2002). Many of the prospective studies reviewed took advantage of this approach to interview and collect information from a number of sources. However, the age of the child also affects whether they can be interviewed and the questions they can be asked. As children grow older, increasing amounts of information can be collected from them directly.

*Growing Up in Foster Care*, a qualitative study of foster children aged between four and 12 years, included interviews with a number of groups: social workers, foster carers, birth parents/relatives and children. The researchers found that some of the birth parents were either uncontactable or unsuitable for interview because of illness, fragile placements, violence or other factors. Some social workers were found to be new to the cases and as a result had insufficient background knowledge, thereby affecting the accuracy of their reports (Schofield et al., 2000).

In order to gain additional perspectives of the children's behaviour, a number of studies have asked school teachers to complete questionnaires and assessment tools for their samples of foster children (Bohman & Sigvardsson, 1980; Roy et al., 2000). Teachers are well placed to be able to compare a child's behaviour to those of their peers.

The NSCAW researchers interviewed the current caregiver, the former caregiver (if different, though these interviews were later discontinued due to insufficient response), the child, the child welfare worker and the child's teacher (for school-aged children). However, as any one or all of these interviews may have been missing for a sample child, the definition of what constituted a response sometimes became more difficult. The researchers had to decide whether a response from all four or five respondents was necessary or too restrictive. They decided to define a response as a completed interview for the key respondent, namely the current caregiver (if the child was younger than 11 years) or the child (if 11 years or older) (NSCAW, 2003).

The LONGSCAN ecological-developmental model suggested placing increasing emphasis on self-reporting by the child or young person as they grew older. In addition, the researchers suggested placing increasing emphasis on cultural, community and peer risk and protective factors relative to family or primary caregiver factors. Primary caregivers were considered the principal respondents



when the children were under the age of four. At age six, primary caregivers continued to provide information on parent and household variables, teachers completed forms and the children were also interviewed (Hunter et al., 2002).

## 4.9.2 Types of information collected

The questions asked and the ways in which they are asked depend on the age of children in a study. Measures must be developmentally appropriate for children, must engage them and be sensitive to their lives in OOHC (Berrick et al., 2000). This means that different interview schedules and data collection instruments must be used for each age group, a process which is effectively demonstrated in the LONGSCAN and NSCAW studies.

Berrick et al., (2000: 122) report that few researchers in this field have used standardised measures: 'Using a measure with a population for which it is not intended undermines the measure's validity. And changing the wording of a measure may mean a loss of psychometric rigor, as well as the ability to compare results found in other studies. Inclusion of largely untested scales and items is sometimes necessary, but not always meaningful in the long run.' LONGSCAN authors have also noted that inadequate measures have led to meaningless or misleading results in child maltreatment research (Hunter et al., 2002). Using standardised instruments widely used in research and screening or diagnosis reduces the risk of harm or emotional distress, although any risk of harm from non-therapeutic research is considered to be minimal (Kotch, 2000).

In designing LONGSCAN, the cultural and developmental appropriateness of the questions was determined by conducting pre-tests and qualitative interviews which assessed the acceptability, sensitivity, comprehensibility and comprehensiveness of the measures. The goal was to develop interview protocols that were culturally and developmentally appropriate, but not so specific that they would be unique to only one community (Hunter et al., 2002).

Berrick et al., (2000) assembled an advisory committee consisting of former foster youths, current and former foster parents, social workers, social work administrators, and researchers not working directly on the project to offer critical information on neglected areas of research, sensitive ordering of questions, and instrument language. Their feedback was then weighed up against methodological considerations. Pilot testing of the instruments with foster children, although difficult, further refined the measures. Berrick et al., (2000) recommended including open-ended questions so as to allow children to express their experiences and thoughts in their own words.

LONGSCAN as a whole consists of five longitudinal studies, but all five have used common procedures and instrumentation. Several pre-existing instruments were modified, expanded or otherwise adapted. LONGSCAN uses a large number of measures to assess functioning and outcomes: 30 measures for the under-four age group and 46 for the five-to-11-year age group. All are described in Hunter et al., (2002), including the development of each scale, their prior use in empirical studies, evidence of reliability and validity, and the rationale for selecting each measure. In summary:

- for the under-four and age-four years groups, the primary caregivers are considered to be the principal respondents, and so complete interviews on behalf of the children
- at age six years, primary caregivers continue to provide information on parent and household variables, teachers complete forms on the children's academic performance and social adjustment, and the children provide information on their developmental status, mental health, self-perceptions, exposure to violence and perceptions of support
- at age eight years, the tasks of middle childhood are incorporated, including relationships with family and peers, academic achievement and adaptive behaviour
- at age 12 years, during the transition to adolescence, young people are asked about personal experiences with maltreatment. A major reason this age level was chosen was because 12-year-old children have the cognitive and emotional skills to provide informed responses to health care issues and should be able to answer sensitive questions about maltreatment



- the age 14 years interview focuses on lifetime experiences of parental neglect and delinquent and other problem behaviours.
- at age 16 years, the focus is on educational achievement, occupational plans and relationships with peers.
- the final interview, in young adulthood, focuses on transition to adult roles, including family, financial and community responsibility (Hunter et al., 2002).

Similarly, the areas covered in the NSCAW interviews were very broad, many of which were based on the LONGSCAN measures. The NSCAW areas are as follows:

*Child areas*

1. social competence and relationships
2. health and cognitive status
3. adaptive behaviour and functional status
4. behaviour regulation, emotional and mental health
5. life experiences
6. service experiences.

Within each of these areas are further constructs; these are measured by a variety of means, including observation, interviews with the child, teacher, caseworker and/or caregiver, and the use of standardised assessment tools. The methods of data collection and the measures used differ according to the age of the child. The information collected also differs to some extent across the data collection waves. Lists of the 28 measures used and the type of information each gathers, plus the modules designed specifically for the NSCAW study, are provided in the report (NSCAW, 2002).

*Parent/caregivers areas*

1. health status
2. caregiver attributes and behaviours
3. contextual factors.

*Caseworker areas*

1. job role
2. caseload
3. work environment and job satisfaction
4. demographics.

In the *Midwest Evaluation of the Adult Functioning of Former Foster Youth* (Courtney et al., 2004) interviews were conducted at age 17 years covering:

- (i) the demographic attributes of sample members before they entered OOHC, including why they were placed in care, and the characteristics of former primary caregivers
- (ii) their experiences while in care, including the number and type of foster care placements, services they received (social, health and mental health), education history, employment history, and recent delinquent behaviour
- (iii) their status at the time of the interview, including employment, financial status, health and mental health status, educational attainment, expectations for the future and availability of social support.

The measures used and the rationale for including them are listed in the report. Note however, that a number of the questions used in this study were asking for retrospective information (Courtney et al., 2004).

Flynn et al., (2004) used *Looking After Children (LAC)*, an assessment, case-planning and review system designed to promote positive development outcomes among children and young people in OOHC, to measure outcomes in their recent report of a three-year study of young people living in OOHC in Canada. The LAC system is being used by a number of OOHC service providers to directly inform their practice.

A number of recent and current Australian studies have measured some of the characteristics of children and young people that may be relevant to a study of children and young people in OOHC. These include the *Young People in Custody Health Survey* and the *Young People on Community Order Health Survey* (both being undertaken by Justice Health, the NSW Department of Corrective Services and the University of Sydney) and the four-to-five-year follow-up of *Wards Leaving Care* being completed by Judy Cashmore at the University of NSW. LSAC and LSIC and a number of other recent Australian surveys will also be valuable sources of questionnaire components.

### 4.9.3 Issues in data collection

Most prospective studies use face-to-face interviews to collect data. However, interview settings and the methods used to increase responses to sensitive questions differ in some studies. Comments have been made that children are difficult to interview in a way that yields reliable data across respondents (Berrick et al., 2000).

In the LONGSCAN study, trained interviewers conducted face-to-face interviews with mothers in their homes. Interviews with 12-year-old participants used an audio-assisted computer-administered interviewing technique which meant that an interviewer need not hear any of a participant's responses; this was particularly important for sensitive questions. Researchers at one LONGSCAN site interviewed child participants at public schools during the school day, which meant that the researchers were required to develop protocols for children who might become distressed (Knight et al., 2000; Hunter et al., 2002). They stated that, wherever possible, interviews with children and their caregivers should take place in familiar environments, such as home or school (Hunter et al., 2002).

To minimise interviewer bias and build interviewers' skills in conducting semi-structured interviews with these participants, Berrick et al., (2000) implemented a rigorous application process, required interviewers to participate in two weeks of training, and provided ongoing supervision throughout the data-collection process. Interviewers were trained in how to create rapport with a diverse group of caregivers, ensure privacy when interviewing children in their homes, anticipate and manage children's disclosures about unsafe situations, and maintain confidentiality. Close supervision of interviewers was also seen as essential. In order to ensure the safety of interviewers, interviews were scheduled in daylight hours, and interviews in high crime neighbourhoods were conducted in pairs (Berrick et al., 2000: 124).

### 4.10 Analysis of the data

Prospective studies generate a large amount of data collected at different points in time and from multiple respondents. This poses a number of challenges at the data analysis stage. The NSCAW Research Group (2002) advises these challenges be identified as much as possible in the project plan, by identifying the major research questions that will be addressed in the study, the data elements that will be used to answer the questions, and the types of analyses to be employed in addressing the questions.

The types of research questions affect the type of analyses undertaken. For example, survival analysis is a useful method for examining the factors affecting the stability of placements in OOHC, but it is less useful for analysing the factors affecting wellbeing.<sup>3</sup> Qualitative data (gathered in some cases from

<sup>3</sup> Survival analysis is concerned with studying the time between entry to a study and a subsequent event. It was originally used in the medical field to study the time from treatment until death, but has more recently expanded into other fields. It is useful when the researchers cannot afford to wait until events have happened to all subjects, for example, when subjects are 'lost to follow-up' or still in the same OOHC placement.

multiple respondents) exploring why a particular placement broke down or why a young person ran away from a foster home, for example, is best analysed using qualitative data analysis techniques.

After each wave of data collection, data from surveys and other sources must be stripped of identifying information, collated, entered, edited, checked, then analysed by the survey team, all of which can take a substantial amount of time. Complex longitudinal studies pose major problems of data reduction (Loeber & Farrington, 1994).

The NSCAW Research Group (2002) suggests making deidentified data, collected via large longitudinal studies, available to the wider research and policy community; major overseas studies, such as NSCAW and LONGSCAN, support this suggestion.

## 4.11 Ethical issues

Conducting research with children and young people in OOHC is recognised as one of the most difficult areas of social research. A number of ethical issues must be addressed before embarking on research in this area.

In 1994, before LONGSCAN commenced, a national conference was convened in Chapel Hill, North Carolina, to consider the ethical, legal and methodological issues related to directly asking children about their maltreatment histories (Runyan, 2000). A number of papers have been produced by researchers involved in the LONGSCAN studies regarding issues surrounding confidentiality, informed consent, and the reporting of harm that is suspected or reported during interview (Runyan, 2000; Kotch, 2000; King & Churchill, 2000; Knight et al., 2000). Detailed protocols have been developed at each of the five study sites to deal with these issues.

Kotch (2000) posed the dilemma of whether confidential child maltreatment research, which has the potential to elicit new knowledge of maltreatment, can be conducted ethically. In North Carolina, it is mandatory for any person with cause to suspect abuse or neglect to report it, but the informed consents used in the LONGSCAN study promised confidentiality. It was likewise considered that a balance must be made between the promise to the parent and the interests of the child. If research participants cannot be assured that the information they disclose will be treated confidentially, they will be less likely to participate and the sample will become less representative. Deciding in favour of the confidentiality of the data in this case, the researchers blinded the interviewers to participants' responses to questions on abuse and neglect: respondents were given a booklet in which to record their responses to questions related to abuse, which was then sealed and coded separately by another staff member. Researchers also decided that fully disclosing the purpose of their study (examining the nature and extent of abuse and neglect) would reduce the number of likely participants (Kotch, 2000).

Informed consent is obtained from either the parents or the child or young person, depending on their age. Consent was obtained from the parents initially, but by the time the children were eight years of age it was considered by the LONGSCAN researchers that the children had the ability and right to assent to being involved in non-therapeutic research. The assent they were given at eight years and 12 years promised confidentiality 'except under circumstances in which the child is in danger of serious harm or when the law requires otherwise' (Kotch, 2000: 703). Parents and children were warned that any disclosures may be reported, and to consider that before disclosing. To justify a breach of confidentiality, the benefits must outweigh the risks, the researchers decided. 'Both reporting and failing to report abuse uncovered during research may also risk repeating at least some of these harms' (King & Churchill, 2000: 715).

LONGSCAN researchers had decided that the age of 12 years was the most appropriate time at which to start asking children about any experiences of abuse or neglect (Knight et al., 2000). Kotch, (2000) reported that they had a child psychologist on hand in case there were concerns about the child at the conclusion of an interview and they would refer appropriately. Project staff members at one LONGSCAN site telephoned each child and caregiver two weeks after the interview to monitor any reaction or unresolved or delayed distress resulting from the interview (Knight et al., 2000).

## 5 Recommendations from the literature about study design

Having reviewed the available literature from Australia and overseas, the following conclusions can be drawn regarding the proposed study of children and young people in OOHC in New South Wales.

Prospective longitudinal studies provide the richest sources of information and have many advantages over cross-sectional research, though they still pose several challenges.

The most highly recommended model is an accelerated prospective longitudinal study that incorporates cross-sectional methods. This is similar to the model used for the LSAC study. Loeber and Farrington (1994) discuss the advantages of these studies in overcoming some of the problems associated with the length of time it takes to follow a single cohort from early childhood to early adulthood. Multiple-cohort studies consist of several age-cohorts of participants, who are each followed up for the same number of years so that the age of one cohort at the end of the assessments coincides with the age of the next cohort at the beginning. In this design a risk period of, for example, nine years can be split into three segments of say three years each, thereby considerably reducing the duration of the study.

In the case of LSAC, after considering all the design issues and the allocated budget, the Department of Family and Community Services and the LSAC consortium decided to use a type of accelerated longitudinal design, namely a multiple cohort cross-sequential design, as described by Farrington (1991) and, Loeber and Farrington (1994). In LSAC there are two cohorts: one of children under the age of 12 months at the commencement of the study, and another of four-year-olds. Using more than one cohort of children allows greater confidence that the results obtained are not specific to one cohort but can be generalised to other groups of children. LSAC is an accelerated longitudinal study in that, over the currently projected data collection period (2003-2009), it will be possible to examine children's development from birth to the age of about 11 years. It is *cross-sequential* in that there will be data on children of the same age from the two cohorts at different points in time (for example, on four-to-five-year-olds from cohort two in 2003 and cohort one in 2007).

An advantage of such a cross-sequential design, in comparison to a single-cohort study, is that results are available earlier, and there is less concern that theories, instruments and policy issues will be out of date by this time. A cross-sequential design also reduces difficulties in sample retention over time, since the total follow-up time is shorter. Further, in single-cohort studies it can be difficult to know whether developmental, cohort or period effects are responsible for observed changes over time.

Ensuring some comparability and collaboration with other longitudinal studies would lead to a more robust study design and more meaningful results.

Collaboration with similar research being undertaken in other locations adds to individual projects. In LONGSCAN, 'the use of common assessment measures, similar data collection methods and schedules, and pooled analyses make LONGSCAN a collaborative effort that is greater than the sum of its parts' (Hunter et al., 2002: 3). It permits a comprehensive exploration of issues and a combined sample of sufficient size for unprecedented statistical power and sensitivity (Hunter et al., 2002).

In Australia a number of studies are being undertaken with which a NSW study could collaborate and benefit, such as LSAC and LSIC. The inclusion of shared topics and data would allow New South Wales to combine with and compare data from other sources, such as comparing the characteristics of children and young people in OOHC to the general population. Further, comparing with similar groups provides a type of control, making it easier to isolate policies and procedures that may be affecting the outcomes of children and young people in care. Cooperation and collaboration will lead to savings in time and money in developing data collection instruments, data processing and analysing, and will facilitate an exchange of ideas on the most difficult issues, such as the recruitment and retention of the study sample. Improved study quality may also result.



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