

FACULTY OF SCIENCE AND INFORMATION TECHNOLOGY

SCHOOL OF PSYCHOLOGY



The mental health needs of very young children in 'Out Of Home Care':

A profile from the Gumnut Clinic in Western Sydney

by

Romina Alexandra Tucker

B.A (Psych), PG Dip. Psych (Child and Adol) (Dist)

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Statement of originality

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University Digital Repository, subject to the provisions of the Copyright Act 1968.

Acknowledgement of authorship

I hereby certify that the work embodied in this thesis contains a paper of which I am a joint author. I have included below a written statement from my supervisor attesting to my contribution to the joint publication.

Romina Alexandra Tucker

Date:

Supervisor's statement

I, Assoc. Prof Michael Hunter, attest that Romina Tucker was heavily involved in all aspects of the journal article including literature review, planning, data collection, collation and analysis, as well as article writing and submission.

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Structured abstract

Scope

This research project firstly involved coordinating the establishment of The Gumnut Clinic, a specialist mental health assessment clinic for children aged 0 to 5 years living in out of home care (OOHC), as well as being part of the team undertaking the assessments over a 16-month period. To promote awareness about the social emotional needs of very young children in care a paper describing the establishment of this clinic, the approach to assessment, and the challenges the clinic encountered has been published (Tucker & Mares, 2013).

The current thesis is based on the analysis of aggregated patient data for children aged 0 to 5 years in OOHC attending the Gumnut Clinic in 2010-11.

Purpose

Children and young people in OOHC have significant mental health needs. However, most research about child mental health has neglected the needs of very young children even though they represent a vulnerable population at high risk of social, emotional and developmental problems. Hence, this research project aimed to assess the rates of mental health problems and explore the demographics of very young children in OOHC to increase awareness of their mental health needs.

Methodology

The paper included in this thesis reports the findings from the retrospective exploratory data analysis of 34 children assessed at the clinic. This analysis included clinical and demographic information elicited from referral documentation and the assessment report, as well as scores from the following measures used in the assessments: Ages and Stages Questionnaire: Social Emotional (ASQ: SE), Parent Stress Index: Short Form (PSI: SF), Child Behavior Checklist 1.5 to 5 (CBCL), Strengths and Difficulties Questionnaire (SDQ), Assessment Checklist for Children (ACC) and the Caregiver-Teacher Report Form (C-TRF).

Results

A substantial proportion of the children assessed at the clinic presented with social emotional difficulties, with 25 out of the 34 children seen receiving at least one mental health diagnosis. Furthermore, the mean score and 95% confidence intervals for each measure were compared to population norms which showed the scores obtained by the clinic sample were consistently higher than those obtained by normative samples.

General conclusion

Children aged 0 to 5 years living in OOHC have significant mental health needs. Sufficient and adequate provision of specialist mental health services for very young children, together with additional research focusing specifically on their mental health to inform assessment and treatment practices is required.

Implications

In light of the importance of intervention during early childhood, further research into the mental health of very young children in care is required. It is essential that these children not only receive early screening and assessment, but that they also have access to appropriate forms of early intervention and treatment.

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Critical literature review

Early childhood development

Early childhood is a time of rapid change and development (Center on the Developing Child at Harvard University, 2010). Those early years are a key period for the development of a range of capacities that endure throughout life and influence health and functioning in adulthood (Royal Australian and New Zealand College of Psychiatrists, 2008; Shonkoff & Garner, 2011). Early childhood is a time when children are receptive to learning but are also at risk of developmental problems if their care environment is inadequate (Newman, 2012).

This literature review will use a biopsychosocial framework to describe normative early childhood development and how adverse experiences can shift the developmental trajectory and effect health outcomes for a child. In particular, early adversities commonly experienced by maltreated children will be considered. Protective factors allowing some children to overcome life's adversities will also be discussed. It will be demonstrated that while early childhood is recognised as a critical time for the prevention and minimisation of long-term problems through early intervention, there is still great unmet need within the mental health domain, an issue that may be of particular importance for very young children living in out of home care (OOHC). Key policy reforms and research occurring over the past decade will be outlined to demonstrate the gradually increasing awareness of the mental health needs of children in care in recent times.

The biopsychosocial framework is underpinned by the theory that an individual's health and wellbeing are the consequence of biological, psychological and social factors and their interaction (Keleher & Murphy, 2004). It is a helpful approach to use when considering the complexities of what constitutes health and the need for interdisciplinary treatment of health problems (Caltabiano, Byrne, Martin & Sarafino, 2002). It also allows for the appreciation of how specific adversities can influence individuals differently (Coates, 2010).

Biological factors

The biological aspect of the biopsychosocial framework includes genetic, neurobiological and physiological components and functioning. As with the other two domains in this framework, biological factors can influence an individuals' wellbeing from the prenatal stage. Maternal lifestyle and health play a role in the wellbeing of the growing foetus (Center on the Developing Child at Harvard University, 2010). For example, taking micronutrients such as folate supplements antenally has been associated with reduced risk of neurodevelopmental disorders such as neural tube defects (World Health Organisation, 2006). Nutrition is vitally important for infant brain development, especially between 20 weeks gestation and 2 years post birth (Center on the Developing Child at Harvard University, 2010). During the first few years of life, the infant brain grows and develops at an astounding pace. At birth, a baby's brain is 25% the size of an adult's brain and it grows to 80% by 3 years and 90% by age 4 (Dekaban, 1978). In addition to adequate nutrition and a toxin-free environment, a baby's brain needs sensory stimulation to excite the neural circuits that process information. Without adequate stimulation neural connections that are not used will become redundant and atrophy, a process known as apoptosis or 'programed cell death' (Arruabarrena & de Paul, 2012). Research from animal studies suggests that there are sensitive and critical periods of development during which a lack of specific stimulation at a specific age will inhibit the development of particular functions and skills (Marco, Macri & Laviola, 2011). For example without normal visual information babies may develop permanent visual damage (Blackman, 2002).

Brain growth allows children to make improvements in many areas of development such as cognitive, speech and language, gross and fine motor, and social skills. As a child's brain develops this leads to maturation in muscle tone and strength, and improvements in balance, coordination and information processing. This in turn allows them to progress from using primitive uncoordinated reflexive movements at birth to more sophisticated movements in toddlerhood (e.g., reaching, sitting, walking), and to the advanced and coordinated movements as preschoolers (e.g., running, catching, writing, using a spoon, dressing themselves) (Sheridan, 2008).

Impact of adverse early experiences

Negative disruptions in a child's prenatal development and early years have been reported to cause biological changes. These may include structural and functional changes in the brain such as a reduction in the size of the hippocampus (associated with memory and spatial navigation), changes in the corpus callosum (which connects the left and right brain hemispheres) and in the hypothalamic-pituitary adrenocortical axis (important in regulating processes such as digestion, immune system, mood and emotions, energy and reactions to stress) (De Bellis et al., 1999; van der Vegt et al., 2009).

Children exposed antenatally to toxins such as opiates, cocaine, alcohol and nicotine have increased risk of premature birth, low birth weight and suffer severe regulation problems due to effects on the developing central nervous system (Moe, 2002; Moe & Slinning, 2002; Simmel, 2007). Antenatal exposure to substances can also interfere with brain development. In a population of traumatised children, Henry, Sloane and Black-Pond (2007) found that those with antenatal exposure to alcohol were more likely to have neurodevelopmental deficits in language, memory, visual processing, motor skills and attention than those without such exposure. In addition to the poor functional outcomes, alcohol exposure is also associated with increased child welfare intervention, medication reimbursement and early mental and behavioural problems particularly with maternal alcohol or substance abuse (Sarkola, 2011). Toddlers exposed to prenatal cigarette smoke have shown higher levels of externalising problems such as stubbornness, defiance, aggressive behaviour and lower social competence compared to nonexposed toddlers (Wakschlag, Leventhal, Pine, Pickett & Carter, 2006).

Babies born prematurely because of exposure to toxins or with a drug dependency will typically take longer to achieve their developmental milestones (Department of Human Services, 2007) as the impact on their brain can have a pervasive effect across other aspects of their physical, developmental and mental health. Baron, Erikson, Ahronovich, Baker and Litman (2011) found that children born prematurely and with extremely low birth weight performed worse on neuropsychological tests than a term-born comparison group at age 3 years prior to

age-correction. Similarly, Kilbride, Thorstad and Daily (2004) found that children born with extremely low birth weight performed less well than their full-term siblings on intelligence tests.

Furthermore, without adequate prenatal nutrition, a baby's brain will be smaller than normal (Zero to Three, 2012). Child malnutrition can lead to attention deficit disorder, reduced social skills, decreased IQ scores, delayed cognitive development, impaired intersensory integration and impaired school performance (Galler & Barrett, 2001). King and Laplante (2005) found that prenatal maternal stress can also have an effect on the child's cognitive and language development measured at age 2, depending on the trimester in which the major stressor occurred. This can also have long-lasting effects, with the child's stress response being affected later in life (Shonkoff & Garner, 2012).

Health outcomes for maltreated children

Many children living in statutory care have experienced prenatal and perinatal adversities such as poor antenatal care and nutrition (Center on the Developing Child at Harvard University, 2010), intrauterine exposure to toxins (Burd, Cohen, Shah & Norris, 2011; Henry et al., 2007; Moe, 2002; Sarkola, 2011; Simmel, 2007; Wakschlag et al., 2006) and maternal stress (Shonkoff & Garner, 2012) and obstetric risks that potentially jeopardise their health, development and wellbeing.

Given the effects of adverse early experiences on a child's neurobiology and physiology, it is not surprising that research from many countries including the United States, United Kingdom and Australia, shows that children in care have higher physical health problems than children who are not living in OOHC. These physical health problems include developmental delays, growth delays, gross motor problems, hearing and vision problem and poor immunisation rates. In the United States, Clayman, Harden and Little (2002) reported that 60-80% of young children presented with at least one medical condition when they entered foster care, and 25% had three or more conditions. From the United Kingdom, Pithouse and Lowe (2008) reported that 18% of children in care had a physical disability and 11% had a sensory disability. In Australia, Nathanson and Tzioumi (2007) found that 60% of children in care aged under 5 who

were screened with the Australian Developmental Screening test required referral for formal assessment. They also found that speech delays existed in 45% of the children who were under the age of 5 years. Chambers, Saunders, New, Williams and Stachurska (2010) found 24% of the children in care that were clinic-referred had hearing problems; 18% had vision problems; 25% had incomplete immunisation histories and 57% presented with receptive and expressive language delays. Similar rates of physical health problems were also found in Kaltner and Rissel's (2011) study of children in care.

Psychological and social factors

The relational context of development means that the division between psychological and social factors is less clear in infancy and childhood than later in life, so these two factors will be discussed together.

The psychological aspect of the biopsychosocial framework refers to cognitive, motivational, personality and emotional factors, while the social aspect of the framework relates to our interactions with others and the multidirectional influence of different layers of our social spheres (i.e., family, community and society).

Depending upon their genetic predisposition babies are born with varying temperaments (i.e., general mood, activity levels, adaptability to change) (Department of Human Services, 2007). Using data from a National Survey of Child and Adolescent Well-Being relating to mothers of children aged under two who were being investigated for child maltreatment, Casanueva, Fraser, Ringeisen, Lederman, Katz and Osofsky (2010) examined maternal perceptions of infant temperament. They found 20% of these mothers reported their child often cried, was upset and difficult to calm, and 40% reported their child was usually fussy and irritable for most of the day. However, it is unclear how these proportions compare to the maternal perceptions of non-maltreated infants. Furthermore, it's important to note that the mothers' own temperaments probably had an effect on both their tolerance of their child's emotional displays as well as their child's capacity for emotion regulation. Intrauterine environment can also have an effect on temperament with babies exposed to drugs

antenatally born with neonatal withdrawal or foetal alcohol syndromes are typically more difficult to soothe (O'Leary, 2004).

Babies are typically born with limited skills for regulating and expressing their emotions, and this capacity matures with age. Initially, babies have the ability to self soothe by thumb sucking and trying to get the attention of their carers. However, as their capacity for emotion regulation develops, children are able to moderate the levels of stress by avoiding or disengaging their attention (e.g., turning away) and even by hiding and changing their feelings and expressions to suit the social situation (Sheridan, 2008).

From the moment a baby is born, they are biologically programmed to behave in ways that will maximise their chances of survival (Bowlby, 1988). Primitive behaviours, also known as 'attachment behaviours', such as crying, cooing, tracking, smiling and imitating facial expressions are used by babies in order to maintain proximity to their caregivers (Bowlby, 1988). By maintaining proximity to their caregiver, a baby increases the likelihood that their basic needs for food, warmth, shelter, toileting, physical contact and protection will be met (Bowlby, 1988) and are therefore less likely to develop psychological problems.

Most babies form relationships with a few key people who know them well (such as their parents, siblings or extended family) and recognize these as important carers (Bowlby, 1969). Children need sensitive, responsive and predictable care with adequate stimulation to grow, reach their developmental potential and learn to participate in relationships. Originally, these take place during the daily rituals involved in the taking care of an infant such as feeding, bathing, nappy changing and play (Sheridan, 2008). However, as the child grows, ideally sensitive play and responsive caregiving is enacted by carers in other daily life activities such as managing social interactions, outings and setting limits (Sheridan, 2008). Over time and repeated experiences of their needs being met, the baby learns to regulate their sleep, hunger and emotions.

Depending on the quality of care a child receives, attachment theory posits that they will develop varying expectations and beliefs about themselves, the adults around

them and about the world (i.e., working models) (Bowlby, 1988). A child who has their needs consistently met by a predictable nurturing caregiver comes to understand that they are worthy of care, adults can be trusted and the world is generally a safe place. It is this sense of safety and security about the world and relationships that permits infants to explore their surroundings, advance their cognitive skills and develop the capacity to handle challenges in life. Forming this type of internal working model maximises the child's capacity to competently develop social skills and form socially competent relationships with others such as peers, teachers and, later in life, co-workers.

Children try a range of social behaviours to get their needs met and engage with others over time. As children get older, these behaviours become more mobile and verbal, and may include strongly protesting during times of separation, being very helpful towards their carer, asking adults for help, time or acknowledgement, testing the limits with their caregiver, requesting more information by asking 'why' questions and engaging in activities requiring joint attention. Through these repeated experiences children learn to understand the behaviour, intentions and feelings of other people and this helps them form and maintain relationships (Sheridan, 2008). They learn social rules, and come to understand the ideas of social norms, personal responsibility and how to behave in society. Children with secure attachment relationships have been shown to have a broader and more flexible range of social and interpersonal strategies and to be more popular with peers (Cassidy & Shaver, 2008).

A child's increased understanding of their social world is often reflected in their plays skills which normally progress from involuntary movements at birth to more coordinated exploration (e.g., mouthing and banging objects), to learning about cause and effect actions, to using functional play skills (e.g., donning an article of clothing) and then learning to pretend play (e.g., feeding their dolls) where they act out familiar daily activities or fantasy through play (Sheridan, 2008).

Impact of adverse early experiences

When infants are exposed to adverse experiences, their stress response (also known as the fight-flight-freeze response) is activated, causing the brains to release

atypical amounts of stress hormones (e.g., adrenalin and cortisol) which can lead to agitation, dissociation (frozen) and hyper vigilance (Department of Human Services, 2007; Dozier et al., 2006, cited in Silver & Dicker, 2007). Infants have very limited ways of responding to stressful situations. Strategies may include crying, irritability, withdrawal from activities or people, uncharacteristic neediness/clinging, dissociation, sleeplessness and changes in appetite, heightened arousal (increased startle response) and difficulty self-soothing or being soothed by others. Toddlers have a wider range of strategies to express and manage stress and may also show other problems such as aggression, defiance, impulsivity, overactivity, loss of acquired skills, regression of behaviour (to that of a younger child), sexualized behaviour, loss of energy and ability to concentrate, complaining of bodily pains with no apparent reason, enuresis, encopresis, as well as presenting with fears and anxieties associated with early adverse experiences, such as repetitive play involving trauma-related themes (Heller, Smyke, & Boris, 2002).

Chronic stress can have a negative effect on brain development, and cause a child to become hypersensitive to stressful situations. Children exposed to chronic stress may also experience difficulties in learning and concentration as well as problems with calming or regulating themselves (Department of Human Services, 2007). Brain plasticity studies suggest that early adverse experiences can leave a child vulnerable in relation to managing stressful situations (Shonkoff & Phillips, 2000 cited in Osofsky et al., 2007).

Exposure to early adverse experiences, where the child lacks the adequate support, care and protection and is unable to form an organised attachment with their caregiver can disrupt the development of the child's psychological and developmental functioning and impact on their ability to regulate their emotions and form adaptive relationships in the future (van der Vegt et al., 2009). A child who has their needs inconsistently met by an unpredictable, abusive or neglectful caregiver may come to interpret this as indicating that they are not worthy of care, adults cannot be trusted and the world is an unsafe place. Without adequate carer modeling, without an environment giving support, positive affect, discipline, control, consistency and sensitivity (Robinson, et al., 2009), a child may be left with the responsibility of

managing their own emotions and may not learn how to adequately relate to other people. For example, a child with a depressed mother may be expected to regulate their own emotions rather than have their parent's help in managing any distress or strong feelings.

In addition to these social and emotional difficulties, children raised in abusive and neglectful environments miss out on normative experiences required for normal development. Schore (2001) pointed out that trauma takes away a child's opportunities for social-emotional learning. Without adequate social stimulation children may not achieve developmental milestones. For example, children develop language, speech and a capacity for joint attention within a social context through having their caregivers interact with them. Without adequate interaction, children are at risk of developing a range of deficits. The pervasive biological and psychological impairment caused by a lack of sensory and social stimulation is shown by the Romanian orphans raised in institutional settings. Many of these children developed chewing and swallowing problems, failure to thrive as well as psychological symptoms and impairments such as executive functioning deficits, stereotypic behaviour, rocking, self-injury and unusual sensory interests (Beckett et al., 2002; Merz & McCall, 2011; Ellis, Fisher & Zaharie, 2004).

Studies also show that various social risk factors make this population more vulnerable to entering the child protection system. Using a Canadian national child welfare dataset, Fallon, Ma, Black and Wekerle (2011) examined the characteristics of 522 parents aged less than 30 years who were under investigation for child maltreatment. They found this population faced several social issues such as poverty, poor social support, unstable and unsafe housing, mental health problems, cognitive impairment, drug use, physical health problems, partner violence, intergenerational history of care and children showing functional difficulties. In Australia, there is an over representation of indigenous children in the child welfare system with these children having 8 times the likelihood of being the subject of a substantiation compared to non-indigenous children (AIHW, 2013) and this higher likelihood is associated with increased poverty, social exclusion and a lack of resources (Fernandez & Atwool,

2013). These social background factors can cause significant stress and effect an adults' ability to parent.

Health outcomes for maltreated children

Children enter OOHC for a variety of reasons such as exposure to domestic violence, abuse, neglect, abandonment, parental mental health problems and parental drug and alcohol problems (Delfabbro, Borgas, Rogers, Jeffreys, & Wilson, 2009; Stovall-McClough & Dozier, 2004). In addition to their negative pre-care experiences and removal from their birth family, children in OOHC can be exposed to potentially stressful experiences during care, such as birth family contact, separation from siblings and adjustment to new people, routines and surroundings (Glover & Glenwick, 2009; Unrau, Seita, & Putney, 2008). Many children in OOHC also experience multiple placement breakdowns adding to their experience of relationship disruption and loss (Barth et al., 2007; Nathanson & Tzioumi, 2007). In an Australian study, Delfabbro, Barber and Cooper (2000) found that approximately a fifth of youth in their study had lived in six to nine placements and a quarter had lived in ten or more.

As a group, children in OOHC are at high risk for later psychopathology compared with the general population. The negative early adversities they have commonly experienced can lead to the development of a range of clinical disorders and significant emotional cognitive and behavioral problems (Crawford, 2006; Leslie et al., 2003; Nathanson & Tzioumi, 2007; Sawyer, Carbone, Searle, & Robinson, 2007; Zlotnick, Tam, & Soman, 2012). They are an at-risk population, with rates of mental health problems observed to be much higher than those of children in normative samples (Tarren-Sweeney & Hazell, 2006). The same phenomenon has been observed across the United States, parts of Europe and Australia.

In the United States, Harman, Childs and Kelleher (2000) found that children in foster care were between 3 and 10 times more likely to receive a mental health diagnosis and were 7.5 times more likely to be hospitalised for a mental health problem. Also, youths aged 14 to 17 years old were significantly more likely to have one or more lifetime diagnoses of mental health problems when compared to the general population (Pecora, Jensen, Romanelli, Jackson & Ortiz, 2009). In Britain, Ford,

Vostanis, Meltzer and Goodman (2007) found between 45% to 49% of children aged 5 to 17 years had mental health problems, and Meltzer, Corbin, Gatward, Goodman and Ford's (2003) study (cited in Teggart & Menary, 2005) undertaken for the Office of National Statistics found in a sample of 1039 children aged 5-17 living across 134 local authorities, 45% had a mental health disorder. More recently, Ford et al. found children in care had significantly higher likelihood of having at least one psychiatric diagnosis compared with children not living in care (approximately 46% and 15% respectively). Hillen, Gafson, Drage and Conlan (2012) found that 60.5% of their preschool aged sample had at least one mental health disorder and in a Norwegian study, Kjelsberg and Nygren (2004) found 68% of children in care had pathological scores on the Child Behavior Checklist (CBCL) questionnaire.

In Australia, Nathanson and Tzioumi (2007) found that behavioural or emotional health problems were the most significant presenting concerns with 54% of their sample of children in care presenting with these difficulties. Similar rates were found in Tarren-Sweeney's (2008) study where again approximately 50% of children in care were reported as having clinically significant mental health difficulties with 25% have difficulties approaching clinical significance (cited in Tarren-Sweeney, 2010). Tarren-Sweeney (2008) also reported that up to 33% of children in care presented with problematic sexual behaviour, and a significant proportion of the children in his sample also displayed self-injury, abnormal responses to pain, and a pattern of excessive eating and food maintenance behaviour. More recently, Chambers et al. (2010) found that 40% of clinic-referred children whose carers completed a Child Behavior Checklist questionnaire had one or more subscales in the clinical range. They also found that 73% of children had significant concerns on one or more subscale of the Assessment Checklist for Children questionnaire, with attachment-related behaviour problems being the most commonly reported difficulty, followed by issues concerning self esteem.

Cognitive delays are also commonly observed in children in care with rates varying between 23 to 65 % (Silver et al., 1999 and Simms & Halfon, 1994 as cited in Wotherspoon, O'Neill-Laberge & Pirie et al., 2008; Leslie et al., 2005 and Rosenberg & Smith, 2008, as cited in Stacks & Partridge, 2011). Pears and Fisher (2005a, cited in

Stacks & Partridge, 2011) reported that preschoolers in foster care obtained lower scores on visuospatial, language and general cognitive functioning tasks than did peers without histories of maltreatment. Children in care also had poor school attendance, poor achievement, were more often in special education classes and were overrepresented in school exclusion and suspension registers (Zetlin & Weinberg, 2004 as cited in Pears, Fisher & Bronz, 2007).

Many children living in care had birth parents with significant personal difficulties (such as struggles with mental illness, drugs and alcohol) that affected their ability to parent in a sensitive, responsive and predictable way. Consequently, many of the children of such parents have been raised in chaotic, abusive and neglectful environments where their physical and psychosocial needs were either not recognised or just ignored. The limitations on the opportunity to engage in positive social interactions with their caregivers (e.g., playing, singing, talking together and receiving comfort) may impact on the development of the child's social and communication skills (e.g., turn taking, sharing, eye contact, acceptable boundaries). Delays in such social skill development have been observed in children who, reared in institutions, have not received the necessary positive social interactions from caregivers (Beckett, et al., 2002; Ellis, Fisher, & Zaharie, 2004; Judge, 2004).

The consequences of such adversities can be seen in both short and long term social difficulties. The foster child's expectation that adults are untrustworthy and potentially abusive can result in difficulties forming relationships with new people foster or kinship carers, school/day care teachers and peers. In the short term, these difficulties can lead to strain within the placement and at school, resulting in repeated placement moves, changes in schools, difficulties with peers, difficulties participating in social groups, marginalisation and isolation. In adulthood, many children who have been in care experience continued difficulties with forming and maintaining relationships and this is evident in higher rates of unemployment, teenage conception, relationship breakdown and increased likelihood of their own children also coming into care (Courtney, Piliavin, Grogan-Kaylor, & Nesmith, 2001; Knight, Chase, & Aggleton, 2006; Mendes, 2009; Pecora et al., 2005).

Protective factors

Fortunately, not every child who suffers early adverse experiences is destined for poor outcomes. Differences between individuals in health, genetics, temperament, intelligence, personality, parenting as well as access to services and resources can provide varying levels of assistance in overcoming life's difficulties (Haskett, Nears, Ward & McPherson, 2006; Lima et al., 2014). This phenomenon can be observed with children in care, in particular with regards to the effect protective factors such as accessing good quality, supportive and stable parenting at an early stage can have on mental health (Fish & Chapman, 2004). In fact, entering care at an early age is a key mental health protective factor for children in care (Tarren-Sweeney, 2010). Having good health and a good-natured or easy temperament can also help children in care better deal with life's adversities (Fish & Chapman, 2004). Ungar (2013) named 'individual temperament and psychological coping styles' as one of four important protective factors for children in care as these can influence a child's capacity to make the most of positive resources available to them such as safe care environments.

Early childhood is a critical time for early intervention

As a group, children in OOHC account for a high percentage of public mental health services, especially those with significant developmental and behavioural problems (Leslie et al., 2005) and those with placement instability (Rubin et al., 2004). Zeanah, Shaffer and Dozier (2011) reported that 15 to 20 times the amount of public funds was spent on children in foster care compared to non-maltreated children of similar socioeconomic background. Earlier Harman et al. (2000) reported that children in foster care had mental health expenditure that was 11.5 times that of children not in care, and that children in care were 6.5 times more likely to be admitted into hospital for a mental health condition. In NSW Australia, the cost per child in 'out of home care' is increasing (Special Commission of Inquiry into Child Protection Services in NSW, 2008).

Mental health care is a major reason for the high costs of care for this small percentage of this population, with 90% of mental health costs being generated by

only 10% of children (Mekonnen, Noonan & Rubin, 2009). This trend of disproportionate consumption was also apparent in earlier research where Halfon, Berkowitz and Klee (1992, cited in Minnis et al., 2006) found that 41% of public mental health claims made in California were being made by only 4% of their child enrollees. Mekonnen et al. (2009) suggested that this resource disparity might arise as a consequence of mental health service provision occurring too late in a child's development - at a time when they are already needing a high level of residential and mental health services provisions (e.g., residential care, psychiatric facilities and hospital). Untreated mental health conditions can lead to them increasing in severity and in resistance to treatment (Sherman, Barnum, Buhman, Wiggs & Nyberg, 2009). Therefore to avoid escalating economic, social and personal costs early identification and treatment is crucial. Heckman, Grunewald and Reynolds (2006) urged policy makers to reallocate funds from later years to early years with regard to education. The same advice is applicable for remediation of mental health difficulties in children where the policy of preventing or minimising longer-term mental health and social problems would seem judicious.

In Australia there is an insufficiency of mental health services (Australian Senate 2005 cited in Osborn, Delfabbro & Barber, 2008) provided specifically for children in care (Special Commission of Inquiry into Child Protection Services in NSW, 2008; Tarren-Sweeney, 2010). Other countries such as Denmark have observed similar shortages (Egeland & Lausten, 2009) and in Britain under-use of existing services has been observed with Child and Adolescent Mental Health Services being used less by children in care than would be expected given their mental health needs (Bonfield, Collins, Guishard-Pine & Langdon, 2010). In addition, the available services are accessed largely by children with severe problems rather than those children with less severe but still significant difficulties that may result in negative outcomes (Bonfield et al., 2010). Younger children are even less likely to be able to access mental health services. Leslie, Hurlburt, Landsverk, Barth and Slymen (2004) reported there was a very low level of specialty mental health service use among children aged 2 and 3 years old. Leslie et al. (2005) reported that following initial contact with child welfare only about 50% of children aged five years and under, who were at risk for developmental and behavioural problems, had been provided with an educational, mental health or

primary care service in the previous year. These reports indicate that there is an unmet need due to the lack of available mental health services; to the under-use of existing services and to those perceived as having less severe mental health problems not gaining access to resources and intervention.

Mental health service use appears to be increasing by some children in care, but continues to be a problem for others. Tarren-Sweeney (2010) found that 44% of the children in his sample had received individual therapy in the past two years and 45% of their carers had received behaviour management support. However, this study focused specifically on children in middle childhood (age: range 4-11 years, median 7.7 years) whose mental health difficulties may be easier to detect and receive more commonly available individual therapy than younger children. Nonetheless, even amongst this older group, of the children not accessing mental health services almost a quarter presented with clinically significant mental health needs, showing that a service gap continues to exist for some children in care.

Similarly, in Leslie, Hurlburt, Landsverk, Barth and Slymen's (2004) study, while over half their sample (462 children aged 2-15 years old in OOHC) was accessing mental health services, of the children who scored in the clinical range on the CBCL 25% had were not accessing mental health services. They also found mental health use was particularly low for children aged 2-3 years old, a concern given the high number of very young children entering care. Minnis, Everett, Pelosi, Dunn and Knapp (2006) also found that children with high scores for emotional and behavioural problems were no more likely to be accessing CAMHS. Their results not only again highlighted the unmet need experienced by some children in care, but also raised the question there may be other factors aside from need influencing mental health service use. Additionally, while Leslie, Landsverk, Ezzet-Loftstrom, Tschann, Slymen and Garland (2000) found that a sizable number of children with significant difficulties were receiving mental health services, the average number of visits to these services within a year was surprising small highlighting the need for in-depth analysis when evaluating mental health use.

Most recently, in Vanschoonlandt et al.'s (2013) study, they found a low proportion of foster children with problem behaviours had received professional help,

with only 14% of children and only 7% of carers receiving professional help. These results again highlighted the gap between the high prevalence of problem behavior identified in this group of 212 young foster children (39%) and low service use. However, only about a quarter of the children in this study were aged under 6 and the researchers focused exclusively on externalizing behavior problems, so generalizing such results to children aged under 6 in care is problematic.

It can be difficult to extrapolate data about mental health service use from previous studies involving children in care due to differences in study design and target samples. For example, Leslie et al. (2005) presented data on the proportion of children investigated by child welfare for alleged abuse and neglect receiving outpatient mental health services, and showed about 10% of children aged 2 to 5 years in their sample had received outpatient mental health services. However, only 8% of their total sample were living in OOHC, with the rest were receiving in-home care, again making generalization to the OOHC population problematic.

Given the rapidity of neurological, social and emotional development in early childhood, and the importance of this time for the development of primary attachment relationships, this is a key period within which to provide early intervention and therapeutic services and to target identifiable high-risk groups such as children in OOHC (Hillen et al., 2012). Unfortunately, although these children are at substantially increased risk of psychopathology, their mental health needs, particularly the needs of babies and infants, are poorly recognized and insufficiently provided for. Even though the Australian Institute for Health and Welfare Studies has shown that a significant proportion of the children entering OOHC are aged less than 5 years (i.e., 42% in 2010-2011) (Australian Institute of Health and Welfare Studies, 2012), nevertheless, there has been little consideration of the particular social and emotional needs and vulnerabilities of this population. In 1998 (latest available data) a national publication reported approximately 14% of children aged 4-14 had mental health problems, yet no data were provided for children under 3 years old (Commonwealth of Australia, 2010).

There is increasing international recognition that very young children in OOHC have significant medical, mental health and developmental issues that need to be

assessed and treated (Jee et al., 2010; Zeanah et al., 2011). This has brought to light the “historical inattention” (Squires, Brisker & Twombly, 2004) received by this group of children and underscored the requirement for further research into early identification and intervention. Delfabbro et al. (2009) report that infants were an understudied population in out-of-home care, and given the likelihood that early adverse experiences will impact on their development, research was needed into the prevalence and predictive validity of these experiences. Delfabbro et al. also report that most research studies have focused on children aged four years and above. They suggest this might be due to a greater availability of data relating to older children and that many measures are validated on results from older children. This can be seen in the study of Kjelsberg and Nygren (2004), who had to exclude 34 children under the age of 4 from the study because the measures they were using (CBCL 4-18) did not extend to the younger age group. Altshuler and Gleeson (1999) also neglected to consider the mental health needs of preschoolers and infants when making recommendations about assessments of child wellbeing. Clearly more research needs to be conducted with this population to order to inform how their mental health and developmental needs can be addressed.

There are various explanations of why children in care aged 0 to 5 do not come to the attention of psychological assessment and treatment services. Compared with older children, these young children are not generally being suspended/expelled from school and are not in contact with the juvenile justice system or causing significant physical harm to others or property, and so they are less visible and of less concern to policy makers. Also, very young children may not come to the attention or concern of community agencies such as the school system or other community networks, since they are likely to have limited engagement with or access to these services (Robertson, 2006). Young children’s behavior is often conceptualized as being part of a developmentally appropriate phase and not necessarily indicative of longer-term problems. They are also considered too young for individual assessments (Hillen et al., 2012). Stahmer et al. 2005 (cited in Robertson, 2006) suggested that children in care aged three years and under were less likely to receive mental health services than older children in care.

Furthermore, a very young child's developmental stage and their high level of dependency on their primary caregivers for their physical and emotional care (Zhou & Chilvers, 2010) makes it harder for their mental health needs to come to the attention of services because young children are dependent on the adults around them to recognise their social and emotional problems. Foster carers and caseworkers may also have some difficulty identifying mental health problems in young children (Bonfield et al., 2010; Kaltner & Rissel, 2011; Leslie et al., 2004), especially if the child has only been in the placement for a short time (Kaltner & Rissel, 2011). This is especially problematic for children who change placements regularly. Mental health systems lack providers with expertise or interventions specific to this population (Leslie et al., 2004), and behavioural indices and performance criteria for social-emotional behavior problems are more difficult to establish than guidelines for cognitive, motor, and communication disorders (Fonagy & Higgitt cited in Squires et al., 2004). Finally, systemic issues such as placement moves, regular staff and carer changes and lack of service coordination may also be contributing to the poor level of provided support. The importance of working systemically with children in OOHC is described by Sng (2009) and Hillen et al. (2012) who reported that opportunities for early intervention are often overlooked.

Very young children in out of home care in NSW, Australia

In Australia, at 30 June 2012, there were 39 621 children and young people living in care, a rate of 7.7 per 1000 (AIHW, 2013). This rate varied between states from 5.1 per 100 in Victoria to 11.2 in the Northern Territory (AIHW, 2013). Over the past decade, the recorded number of very young children entering out-of-home care (OOHC) has markedly increased across the western world (Fish & Chapman, 2004). In the United States, Robertson (2006) reported that approximately 30% of the children entering OOHC were aged less than 3 years old. Osofsky et al. (2007) reported that infants and toddlers comprised a third of all children entering OOHC with 45% of these children less than 5 years old. Most recently, it has been estimated that 37% of the children entering care in the US were aged 3 years and under (U.S Department of Health and Human Services, Administration on Children, Youth and Families, 2011).

This is commensurate with research from England that found 35% of the children entering care between 2005 and 2006 were aged 4 years and under (Hillen et al., 2012). In Australia, between 2003 and 2011 the proportion of children under 5 years of age entering care was approximately 40% (Nathanson & Tzioumi, 2007; Delfabro et al., 2009) and the proportion of children aged under one year old ranged between 13% to 20% (Delfabro et al., 2009; , Zhou & Chilvers, 2010; Department of Family and Community Services, 2012). Most recently, during 2011-2012, 43% of the children admitted into OOHC were aged less than 5 (AIHW, 2013). This indicates that very young children are over represented in child protection reports (Department of Community Services, 2007). Taken together data about the number of babies, infants and preschoolers entering care suggests that children are quite likely to come into care at a very young age, a key and opportune period for early intervention.

In NSW, the number of children and young people in OOHC has increased by 40.8% from 12,712 at 30 June 2007 to 17,896 at 30 June 2011 (i.e., 10.2 to 10.9 per 1,000 children) (Department of Family and Community Services, 2012). At 30 June 2011, most children and young people in OOHC were placed in kinship care (51.7 per cent) or in foster care (38.2 per cent) (Department of Family and Community Services, 2012). During 2010/11, departmental statistical analysis showed that almost one fifth (18.9%) of children and young people entering OOHC were aged less than 12 months, more than double the proportion of any other single age group (Department of Family and Community Services, 2012).

There are no national data available on the reasons why children come into out of home care within Australia.

Key policy reforms and research over the past 10 years

In Australia, state and territory governments are responsible for child welfare and some differences in welfare practices and legislation exist between States (Tarren-Sweeney, 2006; Zhou & Chilvers, 2010) although most provide a similar model of care. Within NSW, the Department for Family and Community Services is responsible for

child welfare. However, this department is in the process of gradually transferring case management of children living in OOHC to non-government agencies.

Over the past 10 years, there have been several 'key position papers' and guidelines produced by professional and government bodies to assist the OOHC sector in managing the health and wellbeing of children in care and to advocate for better health outcomes. Research conducted internationally and locally has contributed towards changes in the way governments manage and care for children in OOHC during this period. Table 1 provides details of key research studies carried out in Australia within the last ten years. The studies described in this table show that as a group, children in care have high rates of health, developmental and mental health problems when compared with population norms (Chambers et al., 2010; Fernandez, 2008; Kaltner & Rissel, 2011; Nathanson & Tzioumi, 2007; Osborn et al., 2008; Sawyer et al., 2007; Tarren-Sweeney & Hazell, 2006), and they have similar rates to other children in care living overseas (Nathanson & Tzioumi, 2007; Tarren-Sweeney & Hazell, 2006).

Despite the high rate of problems, only a minority of children receive clinical support (Sawyer et al., 2007). This may be partly associated with a discrepancy between carer concerns about their foster children's mental support needs compared to the level identified in screening assessments (Kaltner & Rissel, 2011). While foster carers and teachers tend to have moderate to high agreement regarding externalising and total problem behaviours they have less agreement regarding internalising behaviours (Tarren-Sweeney, Hazell & Carr, 2004). Assessment measures such as the Child Behavior Checklist, Assessment Checklist for Children and the Strengths and Difficulties Questionnaire have been used to measure psychosocial difficulties in research studies. However, Nathanson and Tzioumi (2007) reported rates of emotional behavioural problems without including a screening measure in their assessment.

Certain background characteristics have been found to be associated with a higher risk of mental health problems. Characteristics such as entering care at an older age and placement instability (Tarren-Sweeney, 2008). On the other hand, spending a longer time in placement has been associated with psychosocial gains (Fernandez,

2008). Of the 14 studies listed in Table 1, 7 included children aged 0 to 3 years old, although only 2 of these specifically focused on the needs of very young children (i.e., children aged 0 to 5 years old). These two studies showed there were high rates of entry into care for infants (Zhou & Chilvers, 2010) with a high proportion of infants being returned to live with birth parents and experiencing ongoing problems leading to official notifications (Delfabbro et al., 2009).

Below is a list of key position papers, guidelines and reforms produced in Australia since 2006:

- In 2006, the Royal Australasian College of Physicians produced a paediatric policy on the health of children in OOHC. This recommended that all children entering care receive a routine comprehensive health screening and assessment (including physical, development and mental health) within 30 days of placement. It also suggested using mental health screening tools such as the Strengths and Difficulties Questionnaire or the Child Behavior Checklist should be part of this assessment.
- In 2008, the Faculty of Child and Adolescent Psychiatry within the Royal Australian and New Zealand College of Psychiatrists produced a report about the mental health care needs of children in OOHC. A key aim was to formally acknowledge the high rates of mental health problems amongst Australian and New Zealand children in care.
- In 2008, the report of the Special Commission of Inquiry into Child Protection Services in NSW produced by the Hon James Wood AO QC was released. This document highlighted that child protection was the joint responsibility of the whole community and government. It also advocated for comprehensive assessment and intervention for children and young people early in their placements.
- In 2009, the National Framework for Protecting Australian Children (2009-2020) was produced and endorsed by the Council of Australian Governments. This document highlighted the need for the Commonwealth, State and Territory governments and non-government organisations to work together to protect Australia's children. It also set out a long-term approach to deliver a substantial

and sustained reduction in levels of child abuse and neglect over time and ensure the safety and wellbeing of children in care.

- In 2010, early mental health screening was implemented by the New South Wales (NSW) Government as part of the Keep Them Safe project. The Keep Them Safe project plans to give all children entering care for the first time a comprehensive health screen within 30 days with the aim of promoting the safety and wellbeing of the children. This is an important step towards improving the early detection of undiagnosed and untreated physical, developmental and socio-emotional/mental health problems.
- Also, in 2010 the Office of Children's Guardian produced the NSW Standards for the provision of OOHC. These set the minimum standards for organisations providing out-of-home care services in NSW.
- In 2011, a memorandum of understanding between NSW Family and Community Services and NSW Health was generated to clarify roles of each agency in arranging and delivering comprehensive health screening, assessment, intervention and reviews to children in care. They have since been jointly developing and implementing "The Health Pathway", a five step model that provides a framework for delivering timely screening, assessment, intervention and reviews to children in care in NSW.
- In 2011, the National Clinical Assessment Framework for children and young People in OOHC was released. This was developed in order to improve the responses to health needs for these children and to promote healthier outcomes. The framework aims to achieve this by improving the consistency of health assessments and services; providing advice about the role of clinicians and assessment measures; and providing support with policy development to assist in the early detection of health problems.
- In 2012, the NSW Clinical Practice Guidelines for the Health Assessment of Children and Young People in Out of Home Care was circulated to clinical staff for input and consultation. The aim of these guidelines is to provide best practice guidance for health professionals on the assessment process and appropriate assessment tools for children and young people in care. The

document guides and supported NSW in the implementation of the National Clinical Assessment Framework and reflects the implementation of “The Health Pathway”.

Similar recommendations for providing health care to children in OOHC exist within the United Kingdom, Ireland, United States, Europe and Australia (Australian Government Department of Health and Ageing, 2011).

There has been a slowly increasing focus and awareness about the mental health needs of very young children in care by researchers (e.g., Hillen et al, 2014, Williams, Park, Anaya, Perugini, Rao, Neece and Rafeedie, 2012; Vanschoonlandt, Vanderfaeillie, Van Holen, De Maeyer & Robberechts, 2013; Dozier, Zeanah & Bernard, 2013; Wakelyn, 2012) and policy makers in recent years. In particular, universal health screening for children in care that involves a mental health component is increasing. Williams et al. (2012) reported that in Los Angeles, United States, six ‘Foster Care Hub Clinics’ were established in 2006. These clinics aimed to improve the linkage between children in care and mental health services by using both paediatricians and mental health professionals to provide medical and mental health screenings for children who have recently entered care and then link them to appropriate services. In England, there are statutory health screening assessments for 4 to 16 year old children living in care (Tarren-Sweeney, 2013). These assessments performed by community physicians investigate a child’s physical, developmental and mental health and make recommendations regarding treatment or additional specialist assessment. In NSW, a similar health screening process has been established for children entering care as part of the Keep Them Safe reforms. However, research is not currently available about these assessments. The emergence of newly established mental health clinics that provide services to very young children in care is becoming evident across different parts of the western world. However, there are many differences between these clinics in terms of the settings, procedures and level of assessment and treatments offered.

Some concerning research has also recently emerged from England regarding the effectiveness of such clinics. Hardy and Murphy (2013), who screened 63 children aged 0 to 4 years entering care for socio-emotional and mental health difficulties, as

part of a pilot study connected to the existing universal health screening process, found that many children scored in the normal range of the Ages and Stages Questionnaire: Socio Emotional (ASQ:SE) but presented with problems in the assessment. This questionnaire, which in other studies has improved screening accuracy, also did not help identify children with socio-emotional difficulties in Hillen and Gafson's (2014) study. They found that while statutory health screening assessments in England were effective in detecting developmental disorders, screening assessments did not reliably identify mental health problems among their sample of 43 pre-schoolers. As proposed by The American Academy of Child and Adolescent Psychiatry and the Child Welfare League of America (Tarren-Sweeney, 2013), it may be that due to the complex needs of this population, all children and young people in care should receive a comprehensive mental health.

Conclusion

The increasing number of children coming into care at a time of foster carer shortages gives cause for great concern (Department of Family and Community Services, 2010). This situation, together with growing recognition that children in care have high rates of mental health problems (Blower, Addo, Hodgson, Lamington, & Towlson, 2004; Minnis, Everett, Pelosi, Dunn, & Knapp, 2006; Pilowsky, 1995; Tarren-Sweeney & Hazell, 2006) and the increased basic health screening taking place for all children entering care, creates an imperative that sufficient and adequate provision of specialist mental health services for this vulnerable population are developed. As the mental health needs of very young children have only recently come to the attention of policy makers and researchers, appropriate assessment models for this group of children are in their infancy within New South Wales and nationally. To assist in the widespread development of assessment models for this group of children, more research focusing specifically on the mental health of very young children is required.

Aim of the study and hypothesis

The current study aims to establish some estimates of the proportion of Australian clinic-referred children aged 0 to 5 years old in care with the mental health difficulties (i.e., having a mental health disorder diagnosis or displaying socio-emotional/behavioural problems), better understand the types of mental health difficulties observed in this group and promote awareness of their mental health needs to help inform future interventions. It is hypothesised that a high proportion of the sample will have mental health difficulties when compared to normative samples.

Table 1: Key Australian research about children in care conducted during the past 1 years

Authors (date)	Sample	Aim of study	Major findings
Tarren-Sweeney et al. (2004)	New South Wales 47 children in care Age range: 5-11	To examine one indicator of reliability for foster parents checklist reports: interrater agreement between foster parents and teachers.	For children in long term care, there was a moderate to high agreement between their foster carers and teachers in identifying the externalising problems, social-attention-thought problems and total problem behaviour. However, there was poor agreement in reporting internalising problems.
Tarren-Sweeney & Hazell (2006)	New South Wales 347 children in care Age range: 4-11	To report baseline mental health measures from the children in Care Study, a prospective epidemiological study of children in court-ordered foster and kinship care.	Exceptionally poor mental health and socialization was found in this sample compared to population norms and samples of other children in care. Boys were found to display a wider range and higher severity of mental health problems than girls on the Child Behavior Checklist, and gender-specific patterns were found the Assessment for Children in Care.
CREATE Fondation (2006)	Australia-wide 281 children in care Age range: 10-18	To explore the samples views about their health needs and experience of health care planning.	One hundred and three (36.7%) children and young people identified as having a disability or a medical condition, with 33 (11.7%) identifying they had learning problems and 9 (3.2%) identifying they had mental health problems.
Sawyer et al. (2007)	South Australia 326 children in care Age range: 6-17	To identify the prevalence of mental health problems, rates of suicidal ideation and behaviour and use of professional mental health services among children and adolescents residing in home-based foster care, and to compare these rates with those reported for children and adolescents in the general Australian Community.	High rates of mental health problems were found in this sample, with 61% of children and adolescents living in foster care scored above the recommended cut-off for behaviour problems on the Child Behavior Checklist and 35% of adolescents scored above the cut-off on the Youth Self Report. However, whilst carers reported that 53% of children required clinical help for their mental health difficulties, only 27% had received help during the previous 6 months.
Nathanson & Tzioumi (2007)	New South Wales 122 children in care Age range 0-11	To describe the experience of the health screening clinic and report the rates of health problems of children in their sample and compares these rates with the general population and children in	High rates of physical, developmental and emotional health difficulties were found in this sample. These rates were higher compared to population norms in New South Wales and similar to rates of children in care overseas. Fifty-four per cent of our sample had significant emotional and behavioural problems. However, a

		care overseas.	standardised screening measure for emotional and behavioural problems was not used.
Frederico et al. (2008)	Victoria 585 children in care Age range: 0-18	To explore the impact of child abuse and neglect on children's development and wellbeing.	The majority of this sample had experienced multiple forms of abuse and neglect, with 63% having suffered 4 or 5 types of maltreatment prior to coming into care and presented with complex presentations including emotional, behavioural and developmental concerns, with 97% having suffered emotional and psychological abuse.
Tarren-Sweeney (2008)	New South Wales 347 children in care Age range: 4-11	To provide retrospective and concurrent predictors of the mental health of the sample.	Entering care at younger ages was found to be a protective factor against developing mental health problems, whereas placement instability was associated higher risk of having mental health problems during pre-adolescence.
Osborn et al. (2008)	South Australia, Victoria, Queensland and Western Australia. 364 children in care Age range: 4-18	To profile the family and social background and psychosocial functioning.	High levels of mental health difficulties were found in this sample, with three-quarters having clinical level conduct disorder, two-thirds having peer problems and about half being clinically anxious or depressed on the Strengths and Difficulties Questionnaire. Children with the poorest overall psychosocial adjustment were most prone to placement breakdowns, however there was no clear association between total number of family background problems and placement instability.
Fernandez (2008)	New South Wales 59 children in care Age range: 4-15	To provide emotional, behavioural and educational outcomes of children in the sample using data from carers, teachers and children.	High rates of externalizing and internalizing problems were found in this sample when compared to population norms. However, as the children progressed in their placements improvements were observed in their adaptive functioning and problem behaviour in follow up assessments.
Delfabbro et al. (2009)	South Australia 498 children in care Age range: 0-2	To profile the social and familial characteristics of a cohort of infants entering care for the first time.	The majority of this sample came into care due to poverty, exposure to domestic violence, physical abuse, parental substance misuse, and neglect. Around half the infants were restored to their birth parents and continued to be subject to risk of harm notifications. Experiencing prior abuse was associated with ongoing notifications.

Nathanson et al. (2009)	New South Wales 100 children in care Age range: 0-14	To assess the impact of the health screening clinic on children's health outcomes by tracking the first 100 children screened, determining how many of the health recommendations made for each child had been implemented and if possible what the health outcome had been.	Routine comprehensive health screening improved detection of previously unmet or unrecognised health issues in this sample, and adherence to the health recommendations was high. However, the degree of health benefit to the children screened could not be quantified. A number of systemic problems may interfere with some children accessing health care.
Chambers et al. (2010)	New South Wales 52 children in care Age range: 4 months-12	To describe a joint health and welfare service designed to provide comprehensive physical, developmental and mental health assessments. To report the physical, mental health and developmental difficulties in this sample and assess the outcomes of the recommendations 6-12 months at follow up.	High levels of medical, development and mental health problems were found in this sample of children entering care, with aggressive and oppositional behaviours, sleep disturbances, emotional dysregulation and relationship difficulties, speech and language problems and developmental delay reported most often. Having problems was associated with entering care at older ages. High levels of carer stress were also found.
Zhou & Chilvers (2010)	New South Wales 5738 children in care Age range: 0-12 months	To develop a profile of infants in OOHC and to better understand why these children require OOHC services and their experiences with the child welfare system.	High rates of infant child protection reports and entry into care were found, especially with indigenous infants. Parental substance abuse was the most prevalent reason for entering care, with 40% of infants having this experience. It was also found that infants stayed longer in care than older children.
Kaltner & Rissel (2011)	Queensland 63 children in care Age range: 2 months- 16 years	To quantify health need in a sample of Queensland children in care based on multidisciplinary child health assessment, and to examine the concordance between foster carers health concerns for children for whom they are providing care and health need.	High rates of health problems were found in this sample, with 70% requiring multiple referrals to various health services such as paediatrician follow-up, counselling services, and audiology. There was a discrepancy between carers' concerns about their foster child's health problems and level of referral need found in assessment.

Journal article: Manuscript submitted for consideration

**A PROFILE OF VERY YOUNG CHILDREN IN OUT OF HOME CARE
REFERRED FOR MENTAL HEALTH ASSESSMENTS**

Romina Tucker^{§¶}, Donna Gillies[¶] & Mick Hunter[§]

School of Psychology, University of Newcastle, NSW AUSTRALIA[§] and
Western Sydney Area Health Service, NSW AUSTRALIA[¶]

Corresponding author:

Prof. Mick Hunter,

University of Newcastle,

New South Wales

AUSTRALIA.

Phone: +61 (02) 4921 5936

E-mail: Mick.Hunter@newcastle.edu.au

Abstract

Background

Children and young people in out of home care (OOHC) represent a group with significant mental health needs. The needs of the very young have been somewhat neglected. Given that early childhood is a key period for development and early intervention, it is important to consider the needs of this group. The current study analysed patient data from comprehensive mental health assessments among children aged 0 to 5 years who were in care.

Objective

To evaluate the extent and severity of behavioural problems and mental health needs of children aged 0 to 5 years living in Out of Home Care and referred to a public service agency.

Methods

Retrospective analyses of the mental health assessments of 34 children in care aged 0 to 5 years were conducted. Data collection included clinical, demographic and care-related information taken from referral forms and assessment reports, as well as assessment scores. The assessment scales included the Ages and Stages Questionnaire - Social Emotional; Parent Stress Index Short Form; Child Behavior Checklist, 1.5 to 5; Strengths and Difficulties Questionnaire; Assessment Checklist for Children and the Caregiver-Teacher Report Form. The mean and 95% confidence intervals were compared with population norms for each measure. Interactions between key variables were also explored.

Results

Assessment scores for the Out of Home Care sample consistently showed greater problems compared with scores for normative samples. Of 34 children assessed, 25 received at least one mental health diagnosis.

Conclusions

Children aged 0 to 5 years in Out of Home Care have significant mental health needs.

Keywords

Mental health, assessment, out-of-home-care, foster care, early intervention, young children.

1. Introduction

The number of children entering Out of Home Care (OOHC) in Australia increased by almost 60% between 2005 and 2011 (Australian Institute of Health and Welfare Studies, 2012). A large proportion of these children were in the 0 to 5 age group with 42% of the children and young people admitted into OOHC between 2010 and 2011 being less than 5 years (Australian Institute of Health and Welfare Studies, 2012). Although very young children comprise a substantial proportion of children in care most research studies have focused on children aged four years and above (Delfabbro, Borgas, Rogers, Jeffreys & Wilson, 2009). The current study focuses on the social and emotional needs of young children aged 0 to 5 years who are in OOHC.

Studies in several countries have reported high rates of mental health difficulties for children living in OOHC. In Britain, Ford, Vostanis, Meltzer and Goodman (2007) found that 45% to 49% of 1453 children in care aged 5 to 17 years had mental health problems compared with 15% of 10 428 children not living in care. In the United States, Harman, Childs and Kelleher (2000) found that 3696 children in foster care aged 5 to 17 years were between 3 and 10 times more likely to receive a mental health diagnosis than 35 804 children not in care. In Australia, a number of studies highlighted similar issues for children in care. For example, Nathanson and Tzioumi (2007) found that 54% aged under 12 years ($n = 122$) presented with behavioural and/or emotional health problems; Tarren-Sweeney (2008a) found between 53% of girls and 57% of boys aged 4 to 11 years ($n = 347$) had clinically significant mental health problems, and Chambers et al. (2010) found that 40% of children aged 12 years and under ($n = 52$)

had one or more subscales in the clinical range on the Child Behavior Checklist (Achenbach & Rescorla, 2000).

Given that social services have identified the need to remove these children from parental care, it is not surprising to find high rates of mental health problems in OOHC children, compared with children who are not in care (Glover & Glenwick, 2009; Greeson et al., 2011). Moreover, these stresses may arise from a variety of causes that have variable impacts on the child's health and wellbeing. Stressors may include prenatal conditions such as poor antenatal care and nutrition (Center on the Developing Child at Harvard University, 2010); intrauterine exposure to toxins (Burd, Cohen, Shah & Norris, 2011; Henry, Sloane & Black-Pond, 2007; Moe, 2002; Sarkola, 2011; Simmel, 2007; Sloane & Black-Pond, 2007; Wakschlag, Leventhal, Pine, Pickett & Carter, 2006) and maternal stress (Shonkoff & Garner, 2012), as well as postnatal stressors such as abusive and neglectful home environments where the child's physical and psychosocial needs are not recognized or ignored by birth parents. The birth parents themselves may also be suffering from mental health, drug and alcohol problems (Delfabbro, Borgas, Rogers, Jeffreys, & Wilson, 2009; Department of Family and Community Services, 2012; Stovall-McClough & Dozier, 2004). The impact of adjusting to life in OOHC may be further amplified if it includes multiple changes in residential and schooling placements, multiple sets of carers and peers, as well as the need to manage birth family contact (Glover & Glenwick, 2009; Unrau, Seita, & Putney, 2008).

While extensive research suggests older children in care experience significant mental health problems, relatively little is known about very young children in care, a group that has been understudied (Delfabbro et al., 2009). The disruption to normal

early childhood development that OOHC may represent suggests that very young children in care are likely to have significant medical, mental health and developmental issues that need to be assessed and treated (Jee et al., 2010; Zeanah, Shaffer, & Dozier, 2011). In the United States, Leslie et al. (2005) found that amongst a sample of children referred to child welfare, 641 were aged five years and under, and of this subsample 55.7% of children aged 2 and 38.5% of children aged 3 to 5 had clinically significant behaviour problems. More recently, Hillen, Gafson, Drage and Conlan (2012) found that about 60% of children in care in England aged 0 to 5 ($n = 43$) had at least one mental health disorder. However, in Australia, there are no studies specifically focusing on the mental health rates of very young children in care. This lack of attention is surprising given the now well-known rapidity of neurological, social and emotional development in early childhood, the importance of this time for the development of primary attachment relationships, and increasing recognition of early childhood as a crucial time for interventions aimed at preventing, or minimising long term problems (Blackman, 2002; Hillen et al., 2012; Zeanah, 2009).

Given these concerns for the very young in OOHC, the current study sought to investigate the clinical and psychological status of children referred to the Gumnut Clinic, a specialist clinic in Sydney, New South Wales, Australia, that has been established to provide specialist mental health assessment and treatment services for very young children in OOHC.

2. Method

This study involved the secondary analysis of aggregated client data gathered from a prospective cohort study of children aged 0 to 5 years living in OOHC referred to the Gumnut Clinic between 2011 and 2012 for an assessment due to concerns regarding their mental health (i.e., having a mental health disorder diagnosis or displaying socio-emotional/behavioural problems).

2.1 Participants

The participants in this study were a clinic-referred sample of children living in OOHC and their foster or kinship carers who were referred for a mental health assessment to the Gumnut Clinic from its inception in 2011 to 2012. This clinic is the first mental health service in the State of New South Wales specifically designed to provide specialist mental health assessments and intervention for very young children in care. The clinic provides services to a large geographic area with a population catchment estimated to be 1.2 million (Department of Health 2012a, 2012b) and is characterised by broad cultural diversity and range of socio economic milieu.

As per the inclusion criteria for referral to the clinic, the children were included in this study if they were aged five years and under, were living in the administrative area of the Local Health Districts, were having long term care orders or the expectation of such, and who had been referred because of concerns for their development and wellbeing. Those children who were likely to be restored to their birth families were excluded from the study. As part of routine clinic practice, the legal guardian and carers of each child were asked for written permission to use de-identified assessment data towards quality improvement and research.

2.2 Demographic information

Clinical and demographic information about the participant children was elicited from assessment interviews and referral documentation. This information included gender; age at referral; ethnicity; current care orders; placement type; reasons for coming into care; age at entry into care; number of previous placements; time in current placement; other children living in placement; carer's age; medication details; previous mental health diagnosis; separation from siblings; school/day care attendance; birth family contact; provisional assessment diagnosis; and any developmental problems. A records review was conducted and the reasons for referral were coded.

2.3 Instruments

The following psychometric instruments were being used as part of a routine assessment protocol. Psychometric assessments included the Ages and Stages Questionnaire (Social emotional) (Squires, Bricker & Twombly, 2002); the Child Behavior Checklist for ages 1.5 to 5 years (Achenbach & Rescorla, 2000); the Strengths and Difficulties Questionnaire (Goodman, 1999); the Assessment Checklist for Children (Tarren-Sweeney, 2007); the Parent Stress Index: Short Form (Abindin, 1995), and the Caregiver-Teacher Report Form (Achenbach, 2000). A number of different mental health assessments were used as few covered the entire 0 to 5 age span of the study target group, and as such not all children received each assessment. Significant problems were defined as having scores falling in either the clinical or borderline clinical ranges.

The Ages and Stages Questionnaire: Social Emotional (ASQ: SE) (Squires, Bricker & Twombly, 2002) is used to identify children aged 6 months to 5 years

needing further evaluation for social emotional difficulties. It has previously been used in research with children in care and young children in the general population (Jee et al., 2010; Squires, Bricker, & Twombly, 2004; Wotherspoon, O'Neill-Laberge, & Pirie, 2008). However, the accuracy in detecting mental health disorders in pre-school children in care has not been demonstrated (Hillen & Gafson, 2014). Concurrent validity ranged from 0.81 to 0.95, with overall agreement of 0.93 (Vacca, 2005). Reported internal consistency (Cronbach's α) estimates range from 0.67 to 0.91 (with overall α of 0.82 across age intervals); sensitivity estimates range from 0.71 to 0.85 and specificity from 0.90 to 0.98 (Squires, Bricker & Twombly, 2003, Vacca, 2005). Test-retest reliability of parent's classifications at 2 to 3 weeks is 0.94 (Yovanoff & Squires, 2006) with overall agreement of diagnostic classification at 93% (range 81-95%) (Jee et al., 2010). Inter-rater reliability was 0.95 (Vacca, 2005).

The Child Behavior Checklist for ages 1.5 to 5 years (CBCL) (Achenbach & Rescorla, 2000) assesses child mental health (i.e., the presence of internalizing and externalizing behaviours as well as specific problem behaviours). The recent CBCL version for 1.5 to 5 year olds has been used in research with children in care (Chambers et al., 2010; Oosterman & Schuengel, 2008; Robinson, Morris, Heller, Scheeringa, Boris & Smyke, 2009; Vanschoonlandt et al., 2013). The available reliability and validity of the CBCL aged 1.5 to 5 years appears adequate (Walrath, Ybarra, Sheehan, Holden & Burns, 2006), although additional psychometric research is needed. Item reliability ranges between 0.63 to 0.92 (Caselman & Self, 2008) and test-retest mean $r = 0.85$ (ASEBA, 2013). In terms of criterion related validity, sensitivity was 84.2% and specificity was 92.7% (ASEBA, 2013).

The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1999) is used as a screen to assess psychiatric symptoms (e.g., emotional symptoms, conduct problems, hyperactivity, peer problems and prosocial behaviour) in children aged 4 to 10. It has been used in several studies with young children and children in care (Hawes & Dadds, 2004; Ford, Vostanis, Meltzer, & Goodman, 2007; Goodman, Ford, Corbin, & Meltzer, 2004; Janssens & Deboutte, 2009; Kaltner & Rissel, 2011; Minnis et al., 2006; Osborn, Delfabbro, & Barber, 2008; Teggart & Menary, 2005; Warnick, Bracken, & Kasl, 2008; Whyte & Campbell, 2008). In their overview of the psychometric properties of the SDQ for 4 to 12 year olds, Stone et al (2010) found internal consistency (weighted means) ranged between 0.53 for Peer relations to 0.81 for Impact Scores (24 studies; n= 53, 691); test re-test correlations ranged between 0.57 for Total difficulties to 0.76 for Peer problems (6 studies; n= 2852); inter-rater agreement weighted mean correlations varied between 0.26 and 0.47 (8 studies; n= 14 811); concurrent validity (weighted SDQ and CBCL correlations) ranged from 0.76 for total difficulties and total scores to 0.46 for Impact/total scores (9 studies; n= 4590). An Australian study into the psychometric properties of this measure found test re-test ranged between $r = 0.61$ for peer problems to $r = 0.77$ for hyperactivity and total problems. (Hawes & Dadds, 2004). This study also found a moderate to strong internal reliability across the subscales, Coefficient alphas range from 0.59 (peer problems) to 0.80 (hyperactivity) across the 5 subscales, total difficulties and impact scales. Using an OOHC population, Osborn, Delfabbro and Barber (2008) found the following Cronbach α for Conduct Disorder (0.73), Hyperactivity (0.78); Emotionality (0.79) and Peer relations (0.66) showing adequate internal consistency.

Assessment Checklist for Children (ACC) (Tarren-Sweeney, 2007) measures the emotional states, traits, and social skills of children aged 4 to 10 in foster, kinship or

residential care in order to identify psychiatric impairment. It has been used with the Australian population in several studies (Chambers et al., 2010; Tarren-Sweeney, 2007; Tarren-Sweeney & Hazell, 2006) and in over 20 studies worldwide (Tarren-Sweeney, 2013). It has high internal consistency (Cronbach's α ranging from 0.70 to 0.96 for the clinical scales and total clinical score) (Tarren-Sweeney, 2007; Tarren-Sweeney & Hazell, 2006). The scale measures have a meaningfully high correlation with scores on the ACC and the CBCL total clinical scores (boys: $r = 0.89$; girls: $r = 0.90$) (Tarren-Sweeney, 2007) showing high validity. Criterion related validity is also demonstrated when predicting significant CBCL total problems scores, for CBCL scores in the clinical range the sensitivity and specificity of the ACC clinical cut-point were 83% and 91% respectively, and for CBCL scores in the borderline range the sensitivity and specificity were 91% and 79% (Tarren-Sweeney, 2013).

The Parent Stress Index: Short Form (PSI: SF) (Abidin, 1995) identifies stressful areas in parent-child relationships. It was developed for use with children aged 1 month to 12 years. It has been used in research with young children and children in care over recent years (McKelvey et al., 2009; Osofsky et al., 2007; Tallandini & Scalembra, 2006). It shows test-retest reliability for total score of 0.84 (ranges from 0.78 to 0.85 across the domains) (Abidin, 1995). The internal consistency coefficients range from 0.88 (Difficult child) to 0.95 (Total score) suggesting this is a reliable measure (Young, in press). The domains of the PSI short form correlate well with the full PSI. The parental distress scale on the short form and the Parent domain on the full PSI correlate at $r = 0.94$. The difficult child scale on the short form and the Child domain on the full PSI at $r = 0.95$. The Parent-Child Dysfunctional Interaction scale of the short form correlates at $r=0.98$ with both the Total Scale and Child Domain

on the full PSI. The total stress scales on both the short form and full version of the PSI correlate strongly at $r=0.98$ (Young, in press).

The Caregiver-Teacher Report Form (C-TRF) (Achenbach, 2000) is a measure of the child's mental health i.e. the presence of internalizing and externalizing behaviours as well as specific problem behaviours. It was developed for use with children aged 1.5 to 5 years. It has been used recently by Oosterman and Schuengel (2008) in their study of young children. This measure has acceptable psychometric properties. Item reliability ranges between 0.85 to 0.93 for Internalising and Externalising (Caselman & Self, 2008) and Test-retest mean $r = 0.81$ (ASEBA, 2013). In terms of criterion related validity, sensitivity was 74.3% and specificity was 87.1% (ASEBA, 2013).

2.4 Procedure

Research ethics approval for the study was obtained from the Sydney West Area Health Service Research Office and from the Human Research Ethics Committee of the University of Newcastle N.S.W. Australia (Approval No: H-2011-0344).

Client information from referral data, questionnaire results and assessment findings are stored on a database as per established routine clinic practices. Recruitment procedure involved accessing de-identified client assessment information from this database. Each child's legal guardian and carer is provided with a consent form to seek their permission for assessment data to be used towards quality improvement and research. Only children with this permission were included in this research.

The full clinical assessment of the children comprised three clinical sessions: a clinical management meeting; a family session and the observation of a semi-

structured parent-child play session (see Tucker & Mares (2013) for further explanation about the assessment components).

The assessment instruments were provided to carers after the first clinical session. Carers were asked to complete the questionnaires at home and return them at their next session. Questionnaires for the child's teacher/day-care worker were sent either via the carer, mailed directly to them, or provided in person at the clinical management meeting. Feedback concerning the assessment was provided to carers via a telephone call or at another meeting, depending on client needs and clinician practice.

The statistical analyses were performed using SPSS 20.0. Descriptive data were initially compiled to describe the characteristics of the sample and to check data for any violations of assumptions. The number of previous placements (continuous variable) was collapsed into 3 groups (i.e., 0-2, 3-5, 6-8).

In the analyses, a culturally and linguistically diverse (CALD) background was defined as the child having at least one birth parent from a cultural background other than the dominant Caucasian Australian culture and a child was deemed as having an Aboriginal and Torres Strait Islander (ASTI) background if this was indicated on their referral form. Long-term care orders are defined as the child being under the full or shared responsibility of the State Minister for Social Services until 18 years of age; short-term care orders are defined as any temporary order that is not a long-term order. Foster care was defined as the child living with a non-relative carer, while children living with extended family or kin were defined as being in 'kinship care'. When defining the number of previous placements the original situation of living with birth families was not considered a previous placement for the purposes of this study.

When calculating the number of other children living in the placement, 'child' was defined as any young person aged 0 to 18 years. When deciding upon whether children were separated from siblings, 'sibling' was defined as any full or half sibling below 18 years of age who was not living with the participant child.

Analyses for potential interactions between particular variables were also undertaken. These variables included age (below 2 years old versus above), nature of current care orders (short versus long term), placement type (kinship versus foster care), and gender versus key assessment scores (CBCL, C-TRF, ACC, SDQ, PSI: SF).

Means and 95% confidence intervals were used for normally distributed data. The median and range were reported for data that were not normally distributed. Correlations were considered statistically significant if P was < 0.05 . As P may be significant for moderate to low correlations, Pearson's r , which estimates the size of the correlation, was also reported.

Population and clinical norms were drawn from published data relating to each measure. While the clinical norms may not be the best demographic representation of Australian children in care, alternative norms were few and difficult to find. Significance tests were not used when comparing sample and population (i.e., clinical and normative) values; only 95% confidence intervals were reported. Where there was no overlap between sample and population confidence intervals a significant difference was assumed. To identify whether there were significant differences between the Gumnut sample and population and clinical reference standards, the 95% confidence intervals of the sample and standard were compared. If there was no overlap between confidence intervals, this was interpreted as a statistical difference

between populations. Due to the low sample numbers, statistical tests were not used to compare groups. Means and 95% confidence intervals were reported for subgroups.

3. Results

3.1 Sample characteristics

Forty seven children in the target age group, living in OOHC, were referred to the Gumnut Clinic over a 16-month period between February 2011 and July 2012 due to concerns regarding their mental health (i.e., having a mental health disorder diagnosis or displaying socio-emotional/behavioural problems). However, six children did not receive an assessment for a variety of reasons (e.g., the carer declined the assessment, the child's placement broke down before the assessment commenced, or a hospital-based service was deemed to be more appropriate). Also, at the time of data analysis, another six children had not completed their assessments and so their data were not used, and one carer did not provide consent for inclusion in the study. The current study sample included 34 children (10 female and 24 male) from 23 foster or kinship families.

3.2 Demographic

Descriptive and demographic variables concerning the study sample are shown in Table 1.

[Please insert Table 1 about here]

Of the 34 children in this sample (10 female and 24 male), only a minority of children had birth parents from culturally and linguistically diverse (CALD) (n = 3) or Aboriginal Torres Strait Islander (ATSI) backgrounds (n = 6), the remaining children had Caucasian Australian backgrounds. The mean age at the time of referral for the whole sample was 4 years 1 month (range: 4 months to 5 years 8 months). Twelve of the children were residing in short term care and 22 in long term care at the time of referral. Nine children were living in kinship care and 25 children were living in foster care, and four of these families were case managed by non-government agencies.

The children's history had exposed them to various adverse experiences. Referrers reported 24 of the 34 children had experienced neglect; 20 had been exposed to domestic violence; 20 children had parents with drug and alcohol abuse; 14 had experienced physical/verbal abuse; 14 had been exposed to parental mental health problems; 2 had experienced sexual abuse, and 1 had a parent incarcerated. Many of these children had experienced multiple adverse experiences, with 18 children experiencing 3 or more different adverse experiences.

The mean time in placement at time of referral was 1 year 7 months (range: 2 months to 5 years 3 months). On average, these children shared a placement with two other children (range: 1 to 5 children). The mean female carer (mother) age was 46 years (range: 29 to 62yrs) and the mean male carer (father) age was 49 (range: 28 to 63yrs). The majority of the children separated from at least one sibling (n = 21). Most were attending day care or preschool (n = 24) rather than attending primary school (Kindergarten or grade 1) (n = 9) because of their age. The children typically attended preschool/day care 3 days per week (range: 1 to 5 days). Four children were on medication (i.e., Catapres, Dexamphetamine and Ritalin) at the time of referral and

one child had previously been trialed on several different medications (e.g., Methylphenidate, Amitriptyline and Catapress). Most children had contact visits with their birth families (33 children with birth mother, 23 children with birth father and 21 with siblings) usually under supervision.

3.3 Clinical diagnosis

As part of the Clinic assessment, 25 children received at least one DSM-IV-TR or ICD-10 Axis I diagnosis and 9 children did not receive a diagnosis. Diagnoses included, Reactive Attachment Disorder (n = 8); Adjustment Disorder with Mixed Disturbance of Emotion and Conduct (n = 4); Attention Deficit Hyperactivity Disorder (n = 4); Post Traumatic Stress Disorder (n = 2); Oppositional Defiant Disorder (n = 2); Anxiety Disorder NOS (n = 1); Adjustment Disorder with Anxiety (n = 1); Generalised Anxiety Disorder (n = 1); Disruptive Behavior Disorder NOS (n = 1) and Parent Child Interactional Problem (n = 1). Fourteen children received a secondary Axis I diagnosis, the most frequent being Parent Child Interactional Problem (n = 4) followed by Adjustment Disorder with Mixed Disturbance of Emotion and Conduct (n = 2), Mixed Expressive and Receptive Language (n = 2). In addition, many of the children (n = 24) presented with additional developmental or physical problems (such as concerns regarding speech and language (n = 15), motor (n = 11), cognitive (n = 8), vision (n = 2) and auditory skills (n = 2).

3.3.1 Child Behavior Checklist (CBCL)

This measure was only used with the children aged 1.5 to 5 years old. Twenty-six CBCL questionnaires were completed by carers. In approximately half the cases, significant Total Problems (n = 13), Externalising Problems (n = 14) or Internalising Problems (n = 12) were found. In the Syndrome scales, there were more children in the

normal ranges than the problem ranges, with the exception of the Attention subscale which had equal numbers in the normal and problem scales. Somatic complaints (n = 3) were the least likely to be reported by carers. Similarly, on the DSM-Oriented scales, most children were estimated to be in the normal range. Significant Anxiety problems (n = 4) were the least likely to be reported by carers.

The mean raw scores and 95% confidence intervals for this measure are presented in Table 2 and compared to population norm scores. The Total scale, Internalising and Externalising mean scores for the Gumnut clinic sample were higher than the mean scores for the normative sample. Also, higher mean scores were found in the Gumnut clinic sample compared to the normative sample in the following subscales: Emotionally Reactive, Anxious/Depressed, Withdrawn, Attention and Aggressive Behavior, Affective Problems, Pervasive Developmental, ADHD and Oppositional Defiant. However, the Gumnut clinic mean scores for the Somatic Complaints and Sleep Problems Syndrome scales and the Anxiety Problems DSM-Oriented Scale were comparable to the scores obtained by the normative sample.

3.3.2 Caregiver-Teacher Report Form (C-TRF)

This measure was only used with the children aged 1.5 to 5 years old. Twenty C-TRF questionnaires were completed by the child's teacher or day care worker. In over half the cases significant Total problems (n = 12) and Externalising problems (n = 13) were found. While in a smaller proportion of cases significant Internalising problems (n = 6) were found. In the Syndrome scales, there were a higher number of children estimated to be in normal range for the Emotionally reactive, Anxious/depressed, Somatic complaints and Withdrawn scales, however roughly equal proportions between normal and the problem ranges for the Attention and Aggressive

behaviour scales. Teachers and day care workers also did not observe somatic complaints ($n = 0$). On the DSM-Oriented scales, a higher number of children's scores were in the normal range for Affective problems, Anxiety problems and Pervasive Developmental problems, however roughly equal proportion of their scores were in the normal versus the problem ranges for the ADHD and Oppositional Defiant scales.

The mean raw scores and 95% confidence intervals for this measure are also presented in Table 2 and compared to population norm scores. The Total scale and Externalising mean scores for the Gumnut clinic sample were higher than the mean scores for the normative sample for both boys and girls, however the Internalising mean score was comparable to the normative samples. Also, higher mean scores were found in the Gumnut clinic sample compared to both boy and girl normative samples in the following subscales: Attention, Aggressive Behavior, Pervasive Developmental, ADHD and Oppositional Defiant. However, the Gumnut clinic mean scores for the Anxious/Depressed, Somatic Complaints and Withdrawn Syndrome scales and the Affective Problems and Anxiety Problems DSM-Oriented Scale were comparable to the scores obtained by the normative sample. Furthermore, the mean score for the Emotional Reactive Syndrome scale was higher than the score obtained by the girls but not the boys normative sample.

[Please insert Table 2 about here]

3.4 Behaviour problems

The majority of referrals were made because of carer concerns about a child's externalising behavior, in particular aggression. Other externalising behaviours included attention seeking, defiance, swearing, temper tantrums, sexualised behaviour towards siblings and peers, smearing faeces and absconding. Internalising behaviours

were also given as reasons for referral with children presenting with selective mutism, self soothing, episodes of staring, anxiety, attachment difficulty, withdrawn, clinging and over-dependent behavior. Children were also referred due to placement problems such as placement strain, carer anxiety, stress and difficulty with behaviour management, and concerns relating to a referred sibling, as well as specific emotional and behavioural concerns including regression, parentification (ie., adopting the role of a parent), development delay, sensory issues and pica.

3.4.1 Strengths and Difficulties Questionnaire (SDQ)

This measure was only used with the children aged 4 to 5 years old. Sixteen SDQs were completed by carers. In the majority of cases significant problem scores were found in the Overall Stress (n = 11) and Behavioural Difficulty (n = 13) scales. Significant problem scores were defined as those in the Very high or High ranges. Roughly half the questionnaire results showed significant problem scores for the Hyperactivity/ attention (n = 9) and Difficulty getting along with others (n = 8) scales and a minority showed significant problem scores for the Emotional distress scale (n = 4).

The mean raw scores and 95% confidence intervals for this measure are presented in Table 3 and compared to population norm scores and clinical norms. The Gumnut clinic sample mean scores for the overall stress scale and most of the subscales were higher than the mean scores for the normative samples (boys and girls), with the exception of the Kind and Helpful behaviour subscale that was lower than the mean scores for the normative samples (boys and girls), although this still represented increased problematic behavior. In addition, the Gumnut mean scores were comparable to the mean scores of the clinical sample, except for the subscale

measuring the Impact on the child's life which was higher than the clinical sample for this subscale.

3.4.2 Ages and Stages Questionnaire: Social-Emotional (ASQ: SE)

This measure was used with all the children in the study. Twenty-four ASQ: SE measures were completed by carers. The majority (n = 17) of carers scores were above the clinical cut-off suggesting these children required comprehensive mental health assessment. Mean raw scores and 95% confidence intervals for this questionnaire are not presented due to low numbers for each age-specific version.

3.4.3 Assessment Checklist for Children (ACC)

This measure was only used with the children aged 4 to 5 years old. Nineteen ACC questionnaires were completed by carers. The majority of carers (n = 17) reported significant problem scores for the Total score. Significant problem scores were defined as scores in either the Elevated or Clinical ranges. In the sub domains, higher numbers of carers reported significant problems scores in the Indiscriminate (n = 16), Non reciprocal (n = 13) and Pseudo mature Behaviour (n = 11) scales, with fewer carers reporting significant problems scores in the Insecure (n = 9), Anxious/Distrustful (n = 6), Sexualised Behaviour (n = 6), Abnormal Pain (n = 2), and Food Maintenance (n = 3) scales.

The mean raw scores and 95% confidence intervals for this measure are presented in Table 3 and compared to clinical norms sample. Population norms were not presented as this measure was specifically designed for use with clinical samples. For most subscales the Gumnut clinic mean scores were comparable to the clinical samples (boys and girls) with the exception of the 'Indiscriminate' subscale where the

Gumnut clinic mean score was higher than the mean score for the clinical sample (both boys and girls).

[Please insert Table 3 about here]

3.5 Carer stress

3.5.1 Parent Stress Index: Short Form (PSI: SF)

This measure was used with all the children in the study. Twenty-five PSI: SF questionnaires were completed by carers. Ten carers' Total Stress scale scores and one carers' Parental Distress subscale score were in the clinical range. Approximately equal proportions of carers reported clinically significant scores in the Parent-Child Dysfunctional Interaction (n = 11) and Difficult Child (n = 13) scales. Eight carers were noted to have significant defensive responding scores.

The mean raw scores and 95% confidence intervals for this measure are presented in Table 4 and compared to clinical norms sample (normative data was unobtainable at the time of this paper). The Gumnut clinic mean scores for Parental Distress, Parent-Child Dysfunctional Interaction and Total Stress were comparable to the clinical sample mean scores, however the Gumnut Clinic mean score for Difficult Child was higher than the clinical sample mean score for this subscale.

[Please insert Table 4 about here]

3.6 Interaction of key variables

Interactions between key variables were explored. While there was a lack of significant difference, and the small numbers make any generalisation speculative, there is value, nevertheless, in drawing attention to these patterns, albeit with due circumspection. It is important to note however that there was only data available for

2 children aged less than 2 so age comparisons between the youngest and eldest in the sample were not possible.

Interactions indicated that the median CBCL total scores of children in long term care ($n=20$; $M = 52.50$; 95% CI = 39.42 to 65.38) appeared to be lower than those living in short term care ($n=6$; $M = 56.00$; 95% CI = 24.97 to 94.69). Also, the median CBCL total scores of children in foster care ($n=20$; $M = 48.00$; 95% CI = 39.02 to 67.98) appeared to be lower than those living in kinship care ($n=6$; $M = 66.00$; 95% CI = 34.24 to 78.09). Furthermore, the female median CBCL scores and subscores were consistently higher than the median scores for male children (CBCL Total female $n=9$; $M = 68.00$; 95% CI = 40.96 to 86.82 and male $n=17$; $M = 44.00$; 95% CI = 34.88 to 63.00; CBCL Internalising female $n=9$; $M = 18.00$; 95% CI = 10.88 to 26.90 and male $n=17$; $M = 8.00$; 95% CI = 6.63 to 16.31 CBCL Externalising female $n=9$; $M = 22.00$; 95% CI = 12.88 to 33.79 and male $n=17$; $M = 21.00$; 95% CI = 15.46 to 27.25).

There was a positive correlation between the CBCL and the C-TRF total scores ($r = 0.60$) at $p = 0.05$ level. There was also a positive correlation between the CBCL and ACC total scores ($r = 0.72$) and the PSI: SF total scores ($r = 0.68$) at $p = 0.01$ level. However, there was no statistically significant correlation between the CBCL total and SDQ (behavioural difficulties) score or the SDQ (Impact of any difficulties on the child's life) score.

4. Discussion

4.1 What proportion of very young children are showing real problems?

A substantial proportion of the children in care aged 0 to 5 years old that were assessed at the Gumnut Clinic presented with significant mental health difficulties. From our sample of 34 children, 25 (81%) received an Axis I diagnosis and 14 (41%) received a second one. These rates were similar to those found in previous studies using similarly aged and older children. For example, Frederico et al. (2008) found that 62% of their sample of 585 children in care aged 0 to 18 in Victoria, Australia, received one DSM-IV mental health diagnosis and 18% received two diagnoses. As with our findings, Frederico et al. reported that Reactive Attachment Disorder was the most commonly diagnosed disorder. More recently, Hillen et al. (2012) found that 60.5% of their sample of 43 preschool-aged children in care in England had at least one mental health disorder.

Our sample of very young children displayed a high rate of socio-emotional problems, with the majority (71%) having sufficient clinical symptoms to warrant a comprehensive mental health assessment according to the results of the ASQ:SE questionnaire. Although a smaller proportion (24%) of children with such problems was detected by Jee et al. (2010), the children in their sample were in care for less than three months which may have limited the number of placement moves and associated attachment disruption. The rate of behavioural problems in our sample, as indicated on the CBCL questionnaire, was also similar to those found in previous studies using this measure. Chambers et al. (2010) found 40% of children in OOHC aged 4 months to 12 years had one or more subscales in the clinical range, and Tarren-Sweeney (2008b)

found approximately 50% of children (aged 4 to 11 years) were reported as having clinically significant mental health difficulties and 25% had difficulties approaching clinical significance.

Compared to published population norms, children in the Gumnut clinic sample presented with more severe mental health symptoms. In the Child Behavior Checklist, the Total scale, Internalising and Externalising mean scores for the Gumnut clinic sample were higher than the mean scores for the normative sample (that was based on a US group of children aged 1.5-5 years). This was also the case for most of the subscales, with the exception of the Somatic Complaints and Sleep Problems Syndrome scales and the Anxiety Problems DSM-Oriented Scale that were comparable to the scores obtained by the normative sample, suggesting these symptoms are either less apparent to carers or do not occur at a problematic level. Similarly, in the Caregiver-Teacher Report Form, the Total scale and Externalising mean scores for the Gumnut clinic sample were higher than the mean scores for the normative sample for both boys and girls, however the Internalising mean score was comparable to the normative samples, suggesting either internalising difficulties may be more difficult to detect or they are not displayed in daycare/school settings. The same pattern was observed with most of the subscales, excluding the Anxious/Depressed, Somatic Complaints and Withdrawn Syndrome scales and the Affective Problems and Anxiety Problems DSM-Oriented Scale that were comparable to the scores obtained by the normative sample. In the Strengths and Difficulties Questionnaire, the Gumnut clinic sample mean scores for the Overall stress scale and most of the subscales were higher than the mean scores for the normative samples (that was based on an Australian group of children aged 4-6 years recruited from 11 primary schools in Brisbane)(boys and girls).

Where normative samples were not appropriate or available (i.e., for the Assessment Checklist for Children and the Parent Stress Index: Short Form), the Gumnut sample was compared to clinical groups and presented as symptomatic, if not more so, than the clinical groups. Regarding the Assessment Checklist for Children measure, for most subscales the Gumnut clinic mean scores were comparable to the clinical samples (boys and girls) (based on an Australian sample from New South Wales of children aged 4-11 years participating in the CICS study) and the Indiscriminate subscale mean score for the Gumnut clinic sample was higher than the mean score for the clinical sample (boys and girls). In the Parent Stress Index, the Gumnut clinic mean scores for Parental Distress, Parent-Child Dysfunctional Interaction and Total Stress were comparable to the clinical sample mean scores, and the Gumnut Clinic mean score for Difficult Child was higher than the clinical sample mean score for this subscale (that was based on a US group of children aged 3-5 years recruited from a Head Start program involving low income, predominantly minority population, from the rural Southeast region).

In the current study, 38% of children entered care during their first year of life with roughly equal proportions of the remaining children having entered by age two, three, four and five. The proportion of children aged 12 months and less entering care was higher in the current sample compared to NSW state data of 18.9% during the 2010/11 period (Department of Family and Community Services, 2012). Also, while a substantial proportion of the Gumnut clinic sample experienced multiple placement changes (i.e., about a third had 2 or 3, and a minority had either 5 or 8 previous placements), approximately half the children in the current study had minimal placement disruption (i.e., none or one previous placement). However, a short length of time in their placement may help explain the higher levels of mental health

problems in this group of very young children. Length of time in a placement has been reported to have an impact on the quality of foster parent-child relationships, with longer time in placements associated with more positive relationships (Lawler, 2008). Two-thirds of the Gumnut clinic sample ($n=23/34$) had spent between 0 and 2 years in their current placement.

4.2 Limitations

Caution is required when interpreting these results given the limitations of our study, primarily the small size and heterogeneity of the sample. These limitations reduced statistical power rendering the results difficult to generalize and made modeling of variables unreliable. Hillen et al. (2012) and Chambers et al. (2010) also derived data from comprehensive assessments of children in care and experienced similar difficulties with sample size (i.e., $n = 43$ and $n = 52$, respectively). While our sample was highly prescriptive and biased (i.e. very young children with serious behavior problems), it reflected the mixed pattern of presentation of this group, a group that is often difficult to recruit. Although a successive sample was drawn from referrals to a single service, it was the only such service available in Sydney. As with Chambers et al. and Wotherspoon et al. (2008), our research design was impacted by moral, legal and procedural constraints (e.g., established health processes and resource constraints). However, while the Gumnut Clinic's comprehensive approach may have complicated our research design, it is likely to have improved the validity, depth and breadth of each assessment. Furthermore, unlike some previous studies (Chambers et al., 2010; Janssens & Deboutte, 2009; Jee et al., 2010; Oosterman et al., 2008; Tarren-Sweeney & Hazell, 2006), this study included carers being managed by agencies and kinship carers, as well as children in short term care.

Some might suggest our battery of questionnaires could have been more comprehensive or targeted. However, there is little research about which measures are best used with children in OOHC and few validated measures for the 0 to 5 population. As Egeland and Lausten (2009) pointed out, different measures and research designs have been used in studies involving children of different ages with different mental health issues. Despite the lack of an established battery for this population, it was important to find questionnaires to use with all children in our sample, given that using a validated mental health screening measure has been shown to improve the detection of socio-emotional problems in children in care by up to six times compared to using only clinical judgment (Jee et al. 2010; Leslie et al., 2005).

There may also be concern that carers experienced a 'fatigue effect' when completing multiple questionnaires for older children or sibling groups, and that there was variation between carers in the time when questionnaires were returned. Given that carer stress and concern about the child may fluctuate as a result of the assessment process, it is possible the time of completion may have affected questionnaire responses. To minimize these issues in future studies, a more standard approach could be implemented such as mailing questionnaires and stamped envelope as part of an introduction package and requesting they be completed before the first session (Teggart & Menary, 2005), designating time during the first session to complete the questionnaires (Chambers et al., 2010), only making appointments once the questionnaires are returned (Hillen et al., 2012) and giving out one questionnaire at a time (Jee et al., 2010). Furthermore, given the positive correlations between the CBCL and the C-TRF, ACC, and PSI;SF, together with concerns regarding carer fatigue, it may be prudent to consider a reduced battery of questionnaires for carers participating in future studies.

It is important to note that our study findings could also be influenced by common method variances such as consistency and measurement context effects. Podsakoff, MacKenzie, Lee and Podsakoff (2003) stated that “method biases are likely to be particularly powerful in studies in which the data for both the predictor and criterion variable are obtained from the same person in the same measurement context using the same item context and similar item characteristics.” Our study involved a similar situation where a child’s carer completed multiple questionnaires about their perceptions of a child’s behaviour. While we attempted to avoid this type of bias by asking both the child’s carer and day care/school teacher to complete questionnaires, only the carers completed multiple similar measures. Podsakoff et al. suggested one way to remedy against such bias would be to separate in time the completion of questionnaires. However, they also warned against having excessive time lags that could also mask actual relationships and lead to respondent attrition and they cautioned that this approach may require increased time, effort and cost.

4.3 Conclusion and implications

Most research involving children in care has traditionally not taken into account the mental health needs of those aged 0 to 5. Consequently their needs have been under-recognised and many research questions remain unanswered for this specific population. For example, there is little research guiding which assessment measures and treatment interventions are most appropriate and beneficial for use with very young children in care (Jee et al., 2010). To improve mental health outcomes for very young children in care, it is vital to redress public perception of mental health as a problem predominantly affecting children and people over the age of 5. The high rate of diagnosis and large proportions of children having socio-emotional and behavioral problems in our study suggest that very young children may also have significant and

unmet mental health needs. Furthermore, our results suggest that these children primarily come to the attention of mental health services due to externalizing behavior but that upon further assessment internalizing problems may also be at the core of their difficulties. Hence, more support, education and training for people working with these at-risk children would be beneficial to better understand this complex clinical presentation and detect their early signs of mental health problems. Moreover, our results support earlier calls for mental health screening for children entering care as well as effective intervention and protective strategies which can be instituted early (Royal Australasian College of Physicians, 2006; Special Commission of Inquiry into Child Protection Services in NSW, 2008).

Given the potential negative effects of unidentified and untreated mental health problems on a young child's developmental trajectory, and for their families and society in general (Sherman et al., 2009), health services should ensure that early service provision for these children is reflected in their triage practices. Furthermore, health services may need to include relational treatment approaches as well as behavioural ones given the attachment problems experienced by these children, and work with the child's care system in order to ensure treatment for this population is developmentally appropriate.

The idea that early intervention can prevent the development of health problems in children is not new, but despite this knowledge, little attention has been given to the needs of this high-risk population, namely very young children in care. Research is required to better identify the needs of this specific and vulnerable population. Moreover, the development of services to meet the particular mental health needs of these children, as well as for the support, education and training for

carers, caseworkers and health providers, is urgently required. It is essential that very young children in care not only receive early social-emotional, health and developmental screening and assessment, but that they also have access to appropriate forms of early intervention and treatment.

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Highlights

- We offer a rationale for assessing the mental health of young children in care.
- We describe our sample using descriptive and demographic information.
- We compare our sample's questionnaire data to normative and clinical samples.
- We discuss the findings in relation to the need for early intervention.

Table 1*Descriptive Statistics of the Sample Demographics*

	Participants n= 34	Mean	(95% CI)
Gender			
Female	10		
Male	24		
Ethnicity			
CALD	3		
ASTI	6		
Age at referral		49.3 months	(43.7 – 54.9)
0-2 years	2		
2-4 years	13		
4-5 years	19		
Care orders			
Short term	12		
Long term	22		
Placement type			
Foster care	9		
Kinship care	25		
Age at entry into care		27.3 months	(19.6 – 34.9)
0-1 years	13		
1-5 years	21		
Number of previous placements		1.6	(1.0-2.2)
0-2	24		
3-5	8		
6-8	1		
Time in current placement (<i>Median, range</i>)		17.0 months	2.0-69.0
Number of other children living in placement (<i>Median, range</i>)		2	0-5
Carer age			
Female		45.6 years	(41.8 – 49.4)
Male		49.4 years	(39.1 – 59.8)
Separated from siblings	21		
Birth family contact			
Mother	33		
Frequency per year		26.9 visits	(15.4 – 38.4)
Duration		2.0 hours	(1.5 – 2.5)
Supervised	24		
Father	23		
Frequency per year		20.4 visits	(10.0 – 30.9)
Duration		1.6 hours	(1.4 – 1.9)
Supervised	20		
Siblings	21		
Frequency per year		29.2 visits	(12.9 – 45.5)
Duration		2.6 hours	(1.8- 1.3)
Supervised	12		

Table 2

Child Behavior Checklist and Caregiver-Teacher Report Form, Raw Scores

Child Behavior Checklist	Gumnut clinic sample n = 26 mean (95% CI)	Normative sample n= 700 ^a mean (95% CI)	Clinical sample ^b	Caregiver-Teacher Report Form	Gumnut clinic sample n = 20 mean (95% CI)	Normative sample Boys n= 588 ^a mean (95% CI)	Normative sample Girls n= 604 ^a mean (95% CI)	Clinical sample ^b
Syndrome scales				Syndrome scales				
Emotionally reactive	5.54** (3.72 – 7.35)	2.4 (2.24 – 2.56)	--	Emotionally reactive	3.40^^ (1.63 – 5.17)	1.5 (1.35 – 1.65)	1.3 (1.15- 1.45)	--
Anxious/Depressed	3.96** (2.54 – 5.39)	2.9 (2.73 – 3.07)		Anxious/Depressed	3.15 (1.52 – 4.78)	2.1 (1.92 – 2.28)	2.2 (2.01- 2.39)	
Somatic complaints	1.69 (0.70 – 2.68)	1.8 (1.66 – 1.94)		Somatic complaints	0.35 (0.04 -0.66)	0.5 (0.42 – 0.58)	0.7 (0.62 – 0.78)	
Withdrawn	2.85** (1.95 – 3.74)	1.5 (1.37 – 1.63)		Withdrawn	3.9 (2.29 – 5.51)	2.8 (2.54 – 3.06)	2.3 (2.07 – 2.53)	
Sleep problems	4.00 (2.72 – 5.28)	2.8 (2.62 – 2.98)						
Attention	4.69** (3.57 – 5.81)	2.5 (2.36 – 2.64)		Attention	7.65## (5.21 – 10.09)	3.6 (3.30- 3.90)	2.6 (2.33 – 2.87)	
Aggressive behavior	17.35** (13.29 – 21.40)	10.4 (9.93 – 10.87)		Aggressive behavior	20.40## (13.58 – 27.22)	6.9 (6.21 – 7.59)	5.3 (4.69 – 5.91)	
DSM-Oriented scales				DSM-Oriented scales				
Affective problems	3.81** (2.48 – 5.14)	2.1 (1.95 – 2.25)		Affective problems	1.90 (0.53 – 3.27)	1.2 (1.04 – 1.36)	1.2 (1.05 – 1.35)	
Anxiety problems	4.85 (3.25 – 6.44)	3.4 (3.21 – 3.59)		Anxiety problems	1.85 (0.73 – 2.97)	1.1 (0.97 – 1.23)	1.3 (1.15 – 1.45)	
Pervasive developmental ADHD	6.08** (4.41 – 7.74)	2.8 (2.62 – 2.98)		Pervasive developmental ADHD	5.10## (3.00- 7.20)	3.2 (2.94 – 3.46)	2.6 (2.36 – 2.84)	
	6.73** (5.32 – 8.14)	5.0 (4.79 – 5.21)			12.00## (8.26 – 15.74)	5.5 (5.06 – 5.94)	4.1 (3.71 – 4.49)	
Oppositional defiant	5.85** (4.35 – 7.34)	3.6 (3.41 – 3.79)		Oppositional defiant	6.95## (4.78 – 9.12)	2.1 (1.86 – 2.34)	1.7 (1.48 – 1.92)	

Sub domains			Sub domains		
Internalising	14.04** (9.91 – 18.16)	8.6 (8.14 – 9.06)	Internalising	10.80 (6.23 – 15.37)	6.8 (6.27 – 7.33)
Externalising	22.04** (17.19 – 26.89)	12.9 (12.33 – 13.47)	Externalising	28.05## (19.20 – 36.90)	10.5 (9.59 -11.41)
Total scale	54.12** (42.58 – 65.65)	33.3 (31.91 – 34.69)	Total scale	49.90## (32.94 – 66.86)	23.1 (21.41 – 24.79)
				19.6 (17.93 – 21.27)	

^a Normative sample based on a US group of children aged 1.5-5 years (Manual for the ASEBA preschool forms & profiles).

^b Clinical norms were not available.

** indicates mean score for the Gumnut clinic sample was higher than the mean score for the normative sample in the Child Behavior Checklist.

indicates mean score for the Gumnut clinic sample was higher than the mean score for the normative sample in the Caregiver-Teacher Report Form.

^^ indicates the mean score was higher than the score obtained by the girls normative sample but comparable to the boys normative sample in the Caregiver-Teacher Report Form. .

Table 3*Strengths and Difficulties Questionnaire and Assessment Checklist for Children, Raw Scores*

Strengths and Difficulties Questionnaire	Gumnut clinic sample n = 14 mean (95% CI)	Normative sample Boys n= 404 ^a mean (95% CI)	Normative sample Girls n=398 ^a mean (95% CI)	Clinical sample n=223 ^b mean (95% CI)	Assessment Checklist for Children	Gumnut clinic sample n = 19 mean (95% CI)	Sample Boys n= 176 ^c mean (95% CI)	Sample Girls n= 171 ^c mean (95% CI)
Emotional distress	4.00** (2.58 – 5.42)	1.85 (1.67 – 2.03)	1.90 (1.73 – 2.07)	4.14 (3.80 – 4.48)	Sexualised behaviour	1.37 (0.24 – 2.50)	0.9 (0.59 – 1.12)	1.6 (1.12 – 2.08)
Behavioural difficulty	4.94** (3.73 – 6.13)	1.83 (1.66 – 2.00)	1.45 (1.31 – 1.59)	3.74 (3.39 – 4.09)	Pseudomature behaviour	4.47 (2.50 – 6.44)	2.8 (2.37 – 3.23)	3.8 (3.19 – 4.41)
Hyperactivity/Attention	7.06** (5.54 – 8.59)	3.84 (3.58 – 4.10)	2.91 (2.70 – 3.12)	5.54 (5.17 – 5.91)	Non-reciprocal	5.37 (3.78 – 6.96)	5.2 (4.46 – 5.94)	3.8 (3.17 – 4.43)
Difficulty getting along	3.69** (2.59 – 4.78)	1.52 (1.36 – 1.68)	1.27 (1.13 – 1.41)	2.97 (2.68 – 3.26)	Indiscriminate	9.00^^ (7.30 – 10.70)	6.4 (5.84 – 6.96)	6.4 (5.73 – 7.07)
Kind and helpful behaviour	5.88** (4.96 – 6.79)	7.53 (7.35 – 7.71)	8.22 (8.06 – 8.38)	7.06 (6.74 – 7.38)	Insecure	5.32 (3.06 – 7.57)	4.9 (4.18 – 5.62)	5.4 (4.59 – 6.21)
Impacts child's life	4.36** (2.40 – 6.31)	2.09 (1.81 – 2.37)	1.31 (1.09 – 1.53)	2.16## (1.83 – 2.49)	Anxious/Distrustful	3.63 (1.80 – 5.46)	2.1 (1.69 – 2.51)	2.6 (2.11 – 3.09)
Overall stress	18.50** (14.11 – 22.89)	9.04 (8.50 – 9.58)	7.53 (7.07 – 7.99)	16.39 (15.39 – 17.39)	Abnormal pain	0.84 (0.07 – 1.62)	1.4 (1.10 – 1.70)	0.9 (0.65 – 1.15)
					Food maintenance	1.11 (0.51 – 1.70)	1.2 (0.92 – 1.48)	1.1 (0.80 – 1.40)
					Self-injury	0.69 (0.18 – 1.19)	1.4 (1.02 – 1.78)	1.2 (0.75 – 1.65)
					Suicidal disclosure	0 -	0.3 (0.14 – 0.46)	0.2 (0.04 – 0.36)
					Total Score	36.21 (27.71 – 44.72)	29.8 (26.49 – 33.11)	29.9 (25.96 – 33.84)

^a Normative sample based on an Australian group of children aged 4-6 years recruited from 11 primary schools in Brisbane (Hawes & Dadds, 2004).^b Clinical sample based on Belgium sample of children aged 3-18 years recruited from 16 child welfare institutions in Antwerp (Janssens & Deboutte, 2009).

^c Sample was based on an Australian group of children aged 4-11 years living in foster or kinship statutory care in New South Wales that were participating in the Children in Care Study, an epidemiological study of the mental health of children in OOHC in New South Wales (Tarren-Sweeney & Hazell, 2006). This sample was not clinic-referred. However, a normative sample for this questionnaire is neither appropriate nor available because it was only designed for use with children in care.

****** indicates mean score for the Gumnut clinic sample was higher than the mean score for the normative sample in the Strengths and Difficulties Questionnaire (except for the Kind and Helpful behaviour subscale that was lower, however this also represented increased problematic behavior).

indicates mean score for the Gumnut clinic sample was comparable to the mean scores of the clinical sample in the Assessment Checklist for Children (except for the Impact on the child's life subscale that was higher than the clinical sample).

^^ indicates the Gumnut clinic mean score was higher than the mean score for the clinical sample (boys and girls).

Table 4*Parental Stress Index: Short Form, Raw Scores*

Parental Stress Index: Short Form	Gumnut clinic sample n = 23 mean (95% CI)	Normative sample ^a	Clinical sample n= 192 ^b mean (95% CI)
Parental distress	23.66 (20.59 – 26.73)	--	24.67 (23.38 – 25.96)
Parent-child dysfunctional interaction	24.30 (20.47 – 28.13)		22.22 (20.96 – 23.48)
Difficult child	33.84 (29.22 – 38.46)		26.61## (25.24 – 27.98)
Total stress score	81.56 (70.83 – 92.29)		73.44 (69.82 – 77.06)

^a Normative sample was not available.

^b Clinical sample based on a US group of children aged 3-5 years recruited from a Head Start program (low income, predominantly minority population) in the rural Southeast region (Reitman, Currier & Stickle, 2002).

indicates the Gumnut Clinic mean score was higher than the clinical sample mean score.

Extended discussion

Caution is required when interpreting these results given the limitations of our study, primarily the small size and heterogeneity of the sample. These limitations reduced statistical power rendering the results difficult to generalize and made modeling of variables unreliable. Hillen et al. (2012) and Chambers et al. (2010) also derived data from comprehensive assessments of children in care and experienced similar difficulties with low sample size (i.e., $n=43$ and $n=52$, respectively). Unfortunately, having a small and heterogeneous sample makes it difficult to establish reliable data. Without solid and reliable data the clinical flags for mental health difficulties in very young children in care or the best form of intervention for this at risk population are unknown, and hence the problems of lack of detection and under reporting continue. The other danger of having no reliable data available is that unreliable information can then unduly influence policy makers and administrators who are not trained to evaluate scientific research.

There were several possible reasons why the current study had a low sample size. Firstly, the low number of referrals received by the clinic may be associated with a lack of awareness by carers and professionals that very young children can experience mental health problems, coupled with deficits in their knowledge of and ability to identify the symptoms in this population. While the current study target age group spanned the first five years, the mean age at referral was approximately four years old (i.e., at the older end of the spectrum). Wotherspoon et al. (2008) reported that it wasn't until a child turned five that people had clear expectations of their general capabilities. This may help explain why problems are more readily identified and referred around this age. Similarly, Pithouse and Lowe (2008) reported that behavioural difficulties were usually first recognised once a child started primary school where developmental differences between same aged children can be more easily identified. It's also possible that very young children with internalising difficulties were under-referred. Almost two thirds of the children referred to the clinic were male and the majority of referrals were made due to concerns regarding externalising

behaviours. This increased referral rate of male children with externalising problems is similar to rates observed in studies with older children in care referred to mental health services (Egeland & Lausten, 2009; Kjelsberg & Nygren, 2004; Pithouse & Lowe, 2008). Not knowing what clinical flags or signs might indicate mental health problems in very young children, especially those with internalising difficulties, presumably leads to general under reporting of such problems in this population.

Another contributing factor to low referral rate might have been the geographic location from which the study sample was drawn. Although the Gumnut Clinic covers a large geographic area, covering 9953 square kilometres across metropolitan suburbs and rural areas, the majority of children assessed lived in a fairly centralised location and close to the clinic. In light of literature citing travel and childcare costs as barriers to accessing services (Chambers et al., 2010; Fulton & Cassidy, 2007), it's possible that families with very young children living further away from the clinic were not being referred due to the greater distance and inconvenience of accessing the service, especially if ongoing intervention was likely to be required. Additionally, the Gumnut Clinic is the only service specialising in assessing the mental health of children in care aged 0 to 5; there is no equivalent service in Sydney. As it is a new clinic, possible lack of public awareness about the service might have also affected rate of referral. Furthermore, as the clinic was established from existing resources, the limited staff and resource capacity to undertake comprehensive assessments reduced the rate at which assessments could be undertaken. However, while the Gumnut Clinic's comprehensive approach may have complicated our research design, it is likely to have improved the validity, depth and breadth of each assessment.

The limitations of the small sample size were further compounded by the lack of appropriate and usable instruments that span the length of the age range of the sample population. This resulted in even smaller numbers per questionnaire in the data analysis and restricted the type of data analyses possible. Chambers et al. (2010) despite having a slightly larger sample size of under 12 year olds (n=52), also experienced this same issue, having only 14 Child Behaviour Checklist questionnaires and only 11 Assessment Checklist for Children questionnaires. However, there's a big difference developmentally between children in the 0 to 5 age range and this had to be

taken into account when choosing questionnaires. In addition, as both the current study and the one by Chambers and colleagues were set within the context of a service systems, the questionnaires used also had to coincide with clinic needs, established health processes and time available for test administration and scoring. Some might suggest our battery of questionnaires could have been more comprehensive or targeted. However, there is little research about which measures are best used with children in OOHC and few validated measures for the 0 to 5 population. As Egeland and Lausten (2009) pointed out, different measures and research designs have been used in studies involving children of different ages with different mental health issues. Despite the lack of an established battery for this population, it was important to find questionnaires to use with all children in our sample, given that using a validated mental health screening measure has been shown to improve the detection of socio-emotional problems in children in care by up to six times compared to using only clinical judgment (Jee et al 2010; Leslie et al., 2005).

The legal and legislative processes involved in conducting research with children in out of home care also had some impact on the sample size. Unlike some previous studies (Chambers et al., 2010; Janssens & Deboutte, 2009; Jee et al., 2010; Oosterman et al., 2008; Tarren-Sweeney & Hazell, 2006), this study included carers being managed by agencies and kinship carers, as well as children in short term care to improve generalisability of results and widen the sample pool of a difficult to recruit population. However, as consent was sought from both the legal guardian and the carer in this study, there was more opportunity for consent to be refused. One carer did not provide consent for assessment data to be used in the research study. Despite the assured anonymity it is likely this carer was still concerned about possible judgement and ramifications to her status as a carer (Blythe, Halcomb, Wilkes & Jackson, 2013). While only one carer did not provide consent, it is possible that other carers shared this concern and moderated their responses on the Parent Stress Index: Short Form questionnaire that relates to carer stress (Chambers et al., 2010).

Finally, another limitation in the study was the possibility that some carers may have experienced a 'fatigue effect' when completing multiple questionnaires for older children or sibling groups, and that there was variation between carers in the time

when questionnaires were returned. Given that carer stress and concern about the child may fluctuate as a result of the assessment process, it is possible the time of questionnaire completion may have affected responses. However, this work is important in that it could identify from a battery of tests which may be more useful in future assessments and hence limit the amount of time expected by carers to complete questionnaires.

Despite these limitations, the results suggest these clinic-referred very young children in care are showing real problems. A substantial proportion of the children in care aged 0 to 5 years old that were assessed at the Gumnut Clinic presented with significant mental health difficulties. From our sample of 34 children, 25 (81%) received an Axis I diagnosis and 14 (41%) received a second one. These rates were similar to those found in previous studies using similarly aged and older children. For example, Frederico et al. (2008) found that 62% of their sample of 585 children in care aged 0 to 18 in Victoria, Australia, received one DSM-IV mental health diagnosis and 18% received two diagnoses. As with our findings, Frederico et al. reported that Reactive Attachment Disorder was the most commonly diagnosed disorder. More recently, Hillen et al. (2012) found that 60.5% of their sample of 43 preschool-aged children in care in England had at least one mental health disorder.

Our sample of very young children displayed a high rate of socio-emotional problems, with the majority (71%) having sufficient clinical symptoms to warrant a comprehensive mental health assessment according to the results of the ASQ:SE questionnaire. Although a smaller 24% of children with such problems was detected by Jee et al. (2010), the children in their sample were in care for less than 3 months which may have limited the number of placement moves and associated attachment disruption. The rate of behavioural problems in our sample, as indicated on the CBCL questionnaire, was also similar to those found in previous studies using this measure. Chambers et al. (2010) found 40% of children aged 4 months to 12 years had one or more subscales in the clinical range, and Tarren-Sweeney (2008) found approximately 50% of children aged 4 to 11 years were reported as having clinically significant mental health difficulties and 25% had difficulties approaching clinical significance.

Most research involving children in care has traditionally not taken into account the mental health needs of those aged 0 to 5, and consequently their needs have been under-recognised and many research questions remain unanswered for this specific population. For example, there is little research guiding which assessment measures and treatment interventions are most appropriate and beneficial for use with very young children in care (Jee et al., 2010). However, clearly, there is a need for this population to access mental health services and received therapeutic intervention at an early age.

Bellamy, Gopalan and Traube (2010) found that children in care do not benefit from the usual outpatient mental health services. These children need specialised treatment services targeted at their complex needs. As a result of developmental considerations as well as very young childrens' key need to form strong positive attachment relationships with their primary caregivers, foster or kinship parents are usually heavily involved in therapeutic programs for these children. A couple of intervention programs that can be used with very young children at high-risk are the Attachment and Biobehavioural Catch-up (ABC) program and the Multidimensional Treatment Foster Care for Preschoolers (MTFC-P). The ABC is a 10 session manualised attachment-based program carried out in the family's home with the aim of changing carer behavior by increasing their nurturance and synchrony while reducing their frightening, intrusive or threatening behavior (Dozier, Zeanah & Bernard, 2013). The MTFC-P is an intensive behavior-focused program for foster children in long term care aged 3 to 7 years that is aimed at reducing child behavior problems and increasing social behaviours (through individual training and weekly therapeutic playgroup) to promote placement stability (Jonkman, Schuengel, Lindeboom, Oosterman, Boer, & Lindauer, 2013). In this program children are placed with 'therapeutic foster carers' who receive intensive support (weekly meetings, home visits, ongoing support) and are highly trained. The child's biological family also receive support from a family therapist. An evaluation of this program for young foster children with severe behavioral problems is underway (Jonkman, Schuengel, Lindeboom, Oosterman, Boer, & Lindauer, 2013). Although there is increasing volume of research on such specialised treatments, Bellamy et al reported these treatments were often not used in practice. Another issue with this area of research is that there is often a lack of long term follow

up studies making it unclear whether positive changes are sustainable (Leve, Harold, Chamberlain, Landsverk, Fisher & Vostanis, 2012).

In NSW, the Reparative Parenting Program was recently developed as an attachment-based manualised group intervention specifically designed for carers of children and young people in care (Chambers, 2014). Over nine fortnightly sessions, it aims to increase understanding of the impact of trauma and attachment difficulties and provide skills in building a firm child-carer relationship whilst managing difficult behavior in order to promote placement stability. An evaluation of this program is currently underway, however it is likely this initial research will not specifically focus on the effectiveness of this intervention with very young children.

It is also difficult to extrapolate findings from research with older children in care and apply it to very young children in care because these two groups are thought to have entered care for different reasons, were at considerably different developmental levels, and had experienced different levels of placement disruption during their time in care. For example, Frederico et al. (2008) reported that children aged 5 and under were more likely to have been exposed to domestic violence and parental mental health problems than older children, and Stovall McClough and Dozier (2004) found that younger infants were less likely to have sustained physical abuse. The literature also suggests that children placed in care at early ages are less likely to develop attachment and socio emotional difficulties (Stovall-McClough & Dozier, 2004; Wotherspoon et al., 2008) than older children who may have more entrenched and damaged relational expectations and elicit less nurturing from their carers. Stovall-McClough and Dozier suggested that the number of placement disruptions experienced by infants may help explain differences in socio-emotional difficulties seen between younger and older infants, with older infants expected to have experienced more placement changes.

In the current study, most children entered care during their first year of life with roughly equal proportions of the remaining children having entered by age two, three, four and five. Graph 1 (see Appendix D) shows the ages at entry into OOHC for the current sample. The proportion of children aged 12 months and less entering care was higher in the current sample compared to NSW state data of 18.9% during the 2010/11 period (Department of Family and Community Services, 2012). In light of the

high proportion of clinic-referred children in the current sample presenting with mental health difficulties, it is interesting that most of the children in this study came into care at early ages. About half the children in the current study had experienced none or one previous placement, about a third had 2 or 3, and a minority had either 5 or 8 previous placements. Graph 2 (see Appendix D) shows the number of previous placements experienced by our sample. Whilst it is positive that many children in the sample had minimal placement disruption, a substantial proportion of these very young children experienced multiple placement changes during a key developmental period during which attachment security is formed and this may have contributed to the level of mental health difficulties found in the current sample.

Placement characteristics may also help explain the high proportion of mental health difficulties found in the current sample. About two-thirds of children ($n=23/34$) had spent between 0 and 2 years in their current placement. Graph 3 (see Appendix D) shows the time spent in their current placement. Length of time in a placement has been reported to have an impact on the quality of foster parent-child relationships, with longer time in placements associated with more positive relationships (Lawler, 2008). The short period of time spent living in their current placements might also reflect the number of children with short term care orders, a time when children tend to have higher levels of birth family contact while long term decisions are made regarding their care which can result in placement instability (Humphreys & Kiraly, 2011). Although some might say that it was positive to see the current sample receive a mental health assessment within the first two years of their placement, given the rapid development that occurs in early childhood, it may be necessary for assessments to occur more rapidly upon entering new placements. While in some studies mental health service use has not been predicted by the number of placements a child in care has resided in (i.e., placement stability) or the length of time spent in their current placement (Tarren-Sweeney, 2010), it is important to note that mental health service use may not be an accurate reflection of mental health need.

To improve mental health outcomes for very young children in care, it is vital to redress public perception of mental health as a problem predominantly affecting people over the age of 5. The high rate of diagnosis and large proportions of children

having socio-emotional and behavioural problems in our study suggest that very young children may also have significant and unmet mental health needs. Furthermore, our results suggest that these children primarily come to the attention of mental health services due to externalizing behaviour but that upon further assessment internalizing problems may also be at the core of their difficulties. Hence, more support, education and training for people working with these at-risk children would be beneficial to better understand this complex clinical presentation and detect their early signs of mental health problems. Moreover, our results support earlier ideas that mental health screening should take place for children entering care (Kaltner & Rissel, 2011).

Given the potential negative effects of unidentified and untreated mental health problems on a young child's developmental trajectory and for their families and society in general (Sherman et al., 2009), health services should ensure that early service provision for these children is reflected in their triage practices. Furthermore, health services may need to include relational treatment approaches as well as behavioural ones given the attachment problems experienced by these children.

Whilst the Gumnut Clinic is expected to offer assessment services to a broad geographic area, our data showed that referrals came mainly from suburbs in close proximity to the clinic. This is consistent with literature that suggests residential distance from a service might affect equity. Williams et al (2012) posited that transportation issues for some families who lived far away from the clinic may have contributed to children not accessing the service. In light of this issue the Gumnut Clinic could consider capacity building initiatives such as outreach programs run in conjunction with community partners in more remote areas to remedy this service gap. Alternatively, established mental health agencies in those outer areas of Sydney could extend their services to this population in consultation with the Gumnut Clinic. Similar issues were discussed by Reid and Brown (2008) that suggested improving access and coordination of services as well as promoting better cooperation across sectors. Clayman et al. (2002) also suggested that interventions could be provided across sectors in order to avoid duplication, cut costs and improve program acceptability.

In future studies, more standardised approach to assessment should be implemented to minimize fatigue effect for carers completing questionnaires. Some examples might include mailing questionnaires and stamped envelope as part of an introduction package and requesting they be completed before the first session (Teggart & Menary, 2005), designating time during the first session to complete the questionnaires (Chambers et al., 2010), only making appointments once the questionnaires are returned (Hillen et al., 2012) and giving out one questionnaire at a time (Jee et al., 2010).

The idea that early intervention can prevent the development of health problems in children is not new, but despite this knowledge little attention has been given to the needs of this high risk population, very young children in care, in terms of research, the development of specific services to meet their particular mental health needs as well as support, education and training for carers, caseworkers and health providers working with this group. This is concerning given our preliminary findings that very young children in care have significant social-emotional difficulties and that many of these are unmet. As this was a pilot study with a small heterogeneous sample of clinic-referred children and was conducted within a limited geographic area, further research is required to better identify the needs of this specific and vulnerable population. It is essential that very young children in care not only receive early social-emotional, health and developmental screening and assessment, but that they also have access to appropriate forms of early intervention and treatment.

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Appendix A

Evidence of publication status for journal article

On 22/10/13 8:24 PM, "Children and Youth Services Review"

<dlindsey@ucla.edu> wrote:

Dear Mick,

We have received your article "A profile of very young children in Out of Home Care referred for mental health assessments." for consideration for publication in Children and Youth Services Review. Our goal is to complete our review of your article within 2 months. However, if the original reviewers are unable to review, an additional 8 to 12 weeks may be required. If you have not done so already, we encourage you to provide

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Professor and Editor-in-Chief
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Appendix B

Children and Youth Services Review guide for authors



CHILDREN AND YOUTH SERVICES REVIEW

An International Multidisciplinary Review of the Welfare of Young People

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CHILDREN
and
YOUTH
SERVICES
REVIEW

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DESCRIPTION

Children and Youth Services Review is an interdisciplinary forum for critical scholarship regarding service programs for **children** and **youth**. The journal will publish full-length articles, current research and policy notes, and book reviews.

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The journal publishes full-length articles, current research and policy notes, and book reviews. There are no submission fees or page charges. Submissions will be reviewed by the editor, Duncan Lindsey.

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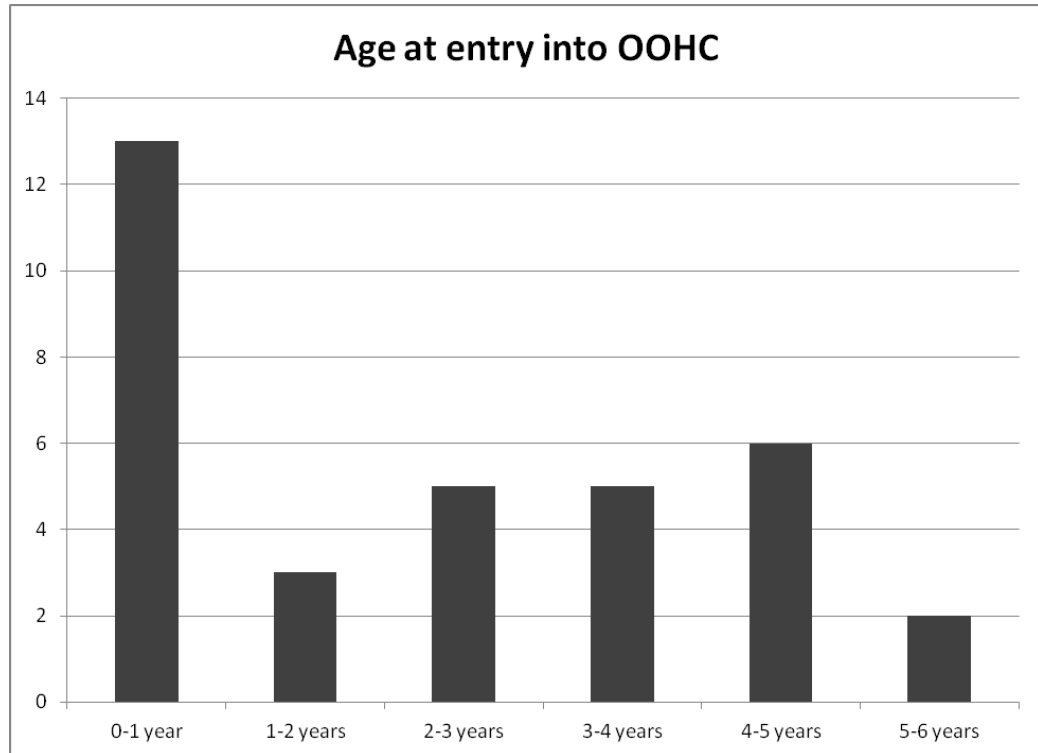
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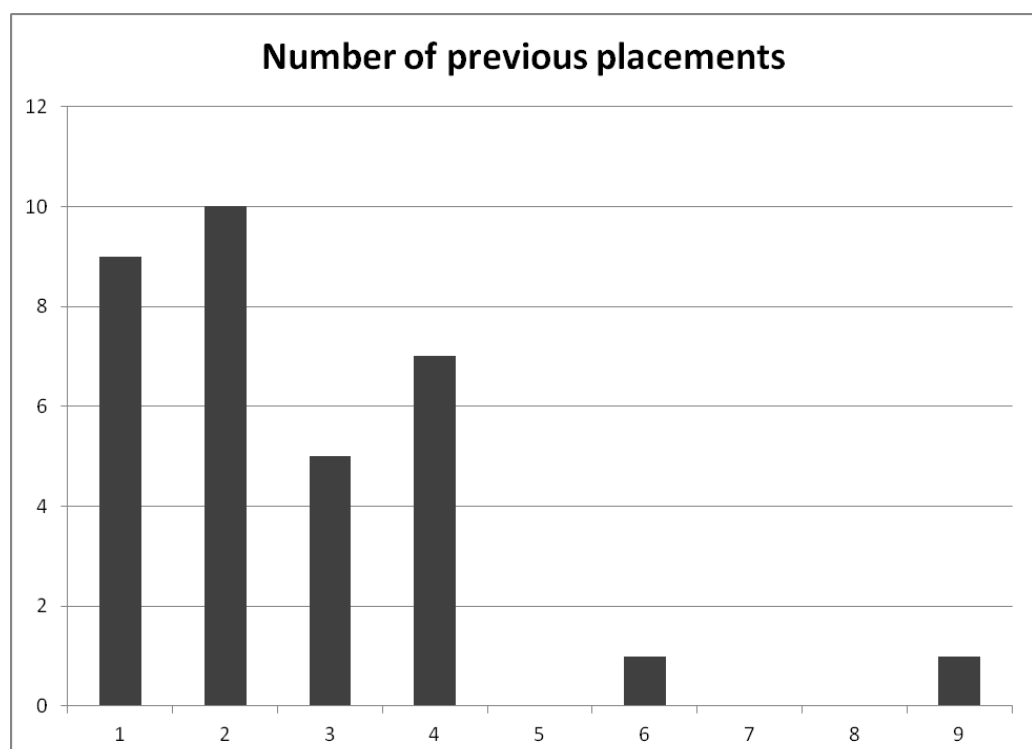
Appendix C

Figures referred to in the extended discussion

Graph 1. Bar chart showing the age at entry into OOHC



Graph 2. Bar chart showing the number of previous placements



Graph 3. Bar chart showing the time spent in their current placements

