

# What can the Longitudinal Study of Australian Children tell us about infants' and 4 to 5 year olds' experiences of early childhood education and care?



LINDA HARRISON AND JUDY UNGERER

**T**he *Longitudinal Study of Australian Children* (LSAC) is concerned with documenting the breadth of children's early experiences both inside and outside the family in order to understand the factors that provide the foundation for children's development across the childhood years. A common extra familial experience shared by many Australian children is participation in early childhood education and care programs. In the infancy and toddler years, these range from formal, government-regulated centre- and home-based child care settings to various informal, unregulated arrangements that include, for example, care by grandparents, friends, or nannies. During the preschool years, child care settings are augmented by prior-to-school programs that can have a strong focus on early education.

While Australian government policy and financial support for out-of-home child care has typically been regarded as a means of enabling parents to participate in the paid workforce or to support families at risk, there is also evidence to suggest that these services may impact on the development of children in different ways. Research studies indicate that good quality child care can provide support for children's learning, socialisation, and development, particularly in the transition to school years (Press and Hayes 2000), and can be an effective intervention for disadvantaged children or for children with special educational needs (NSW Department of Community Services 2005; Sylva et al. 2003). In contrast, research also suggests that children in poor quality care may be exposed to some level of developmental risk (Love et al. 2003; NICHD ECCRN 2005; Sims et



al. 2005). However, the vast majority of child care research studies have been done overseas, where the context of care and its regulation and monitoring are very different to Australia. Hence, the generalisability of these findings to the Australian context must be questioned. Therefore, to understand the role of child care in the lives of Australian children, LSAC seeks to document the range of children's early education and care experiences with the aim of determining their contribution to children's developmental outcomes.

In this paper we provide an overview of the participation of LSAC infants and 4-5 year old children in early childhood education and care settings based on data from the first wave of the study, completed in 2004. We examine similarities and differences between the

states and territories and between metropolitan and non-metropolitan areas. We comment on aspects of the cost of these services to families, parent satisfaction with the services their infants and children receive, and also on family demographic factors associated with the use of child care. This initial survey of the data will provide a framework for understanding family and policy related factors that influence Australian children's participation in early education and care services. We then discuss these findings within the broad structure and aims of the LSAC study. We begin with data from the infant cohort and then discuss the findings for 4-5 year old children, most of whom have not yet entered formal schooling. We then compare the results from both cohorts and discuss possible implications of the findings.

### **The infant cohort**

#### ***What child care settings are the LSAC infants attending and why?***

Of the 5107 infants in the LSAC sample, 36 per cent were being cared for regularly by someone other than the parents with whom they lived. This proportion is comparable to the figure reported in the 2002 Census: 34 per cent for children below one year (ABS 2003). The mean age of the LSAC infants who were in care at the time of interview was 9.4 months, which was slightly older than that of the infants not in care (8.4 months), although the age range of infants in both groups was very similar (3 months to 18-19 months). Boys and girls were equally likely to be in care. The main reason that parents reported using care was for work or study commitments (72 per cent of parents), while a further 18 per cent reported using care mainly to allow them to participate in sport, shopping, social or community activities, or to give them a break or time alone. For parents who were not using care for their infants, 87 per cent indicated that they had no need for such care.

The proportion of infants in care was largely similar across the states and territories, although some differences were noted. South Australia (SA) and the Australian Capital Territory (ACT) had the highest percentages of infants in care (41 per cent and 39 per cent, respectively), while the states with the lowest percentages were Western Australia (WA) and New South Wales (NSW) (31 per cent and 34 per cent, respectively). The percentages of children in care could not be explained simply by infants being older in the states or territories with higher care participation rates (for example, NSW had the second highest mean age for infants in the sample (9.8 months) but was among the states with the lowest participation rates).

Most of the LSAC infants who were in regular child care (75 per cent) received only a single type of care; however, 22 per cent of infants experienced two types of care arrangements and 3 per cent experienced three or more arrangements on a regular basis each week.

*Use of formal and informal child care.*

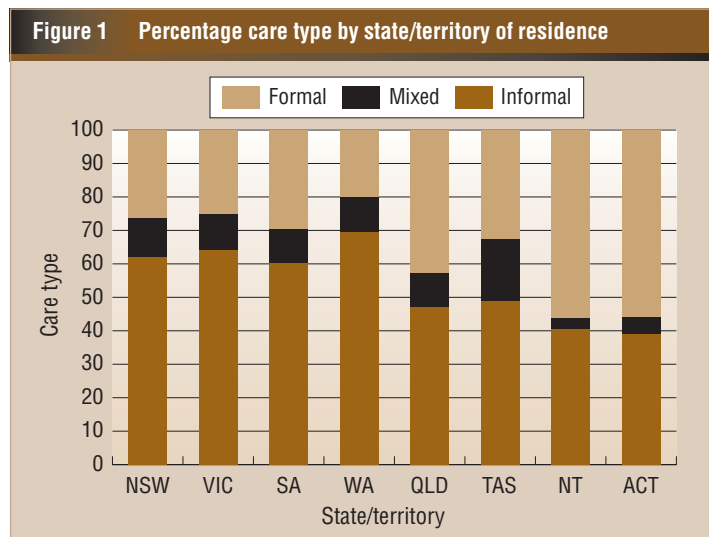
Infants participated in a wide range of different formal and informal care arrangements. The majority of infants in care (59 per cent) were in informal care settings, while 30 per cent were in formal care arrangements and 11 per cent experienced a mix of both formal and informal care (see Figure 1). Formal care arrangements are subject to state regulations specifying quality-related aspects of care, including staff-to-child ratios, staff training requirements, group size, health and safety standards, among others. Long day care (LDC) and Family Day Care (FDC) services offering child care subsidies are also required to meet Commonwealth accreditation standards. Of the LSAC infants in formal care, 22 per cent attended long day care centres, 8 per cent were receiving family day care, and less than 1 per cent attended both LDC and FDC.

Informal care arrangements were more varied than formal care. In most states, informal home-based care arrangements with four or fewer children are

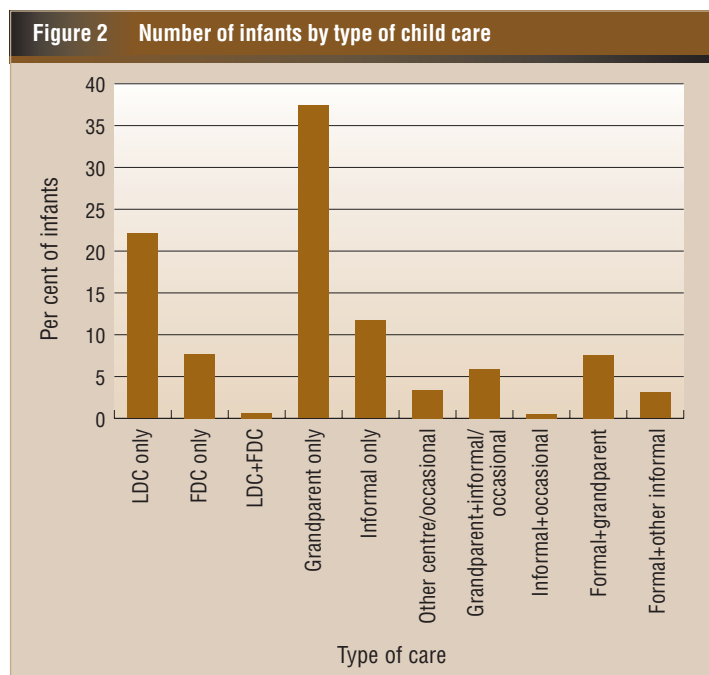
not subject to state government regulatory requirements specifying minimum standards of care quality (Press and Hayes 2000), and it is likely that the quality of care in these settings may be more variable than in formal care. For infants in informal care, the majority were cared for by close relatives. Grandparents were the sole providers of care for 37 per cent of the infants, and they contributed to the care of a further 13 per cent. While informal care providers were more likely to care for the child in a location other than the child's own home, the difference between the incidence of in-home and out-of-home care was not large (46 per cent versus 54 per cent, respectively).

*Do care arrangements vary by state/territory?*

The states and territories are responsible for the regulation and some funding of child care (Press and Hayes 2000), so it might be expected that the use of formal versus informal care arrangements would vary by state/territory in accord with the type of regulations and the availability of services for infant care.



Overall, 59 per cent of the LSAC infants in child care attended only informal care arrangements. The remainder (41 per cent) had some involvement in formal care, either as the sole arrangement or in combination with informal care. The rates of attendance at informal versus formal care were similar to the national average for the most populous states of NSW, Victoria (VIC), SA, and WA. However, for Queensland (QLD) and the states and territories with the lowest populations (Tasmania (TAS), Northern Territory (NT), ACT), attendance at formal care was more common. For example, in QLD, 53 per cent of infants in care were in a formal care arrangement, while 47 per cent were in informal care only. While similar trends were observed for TAS, NT, and ACT, the small numbers of children in the LSAC sample in those locations suggests that the data should be interpreted with caution.



*Do care arrangements vary in metropolitan and non-metropolitan areas?*

The LSAC sample is representative of children across all geographical locations in Australia, so it is possible to determine whether the provision and use of care is comparable across locations. Infants were classified as living in either a metropolitan or non-metropolitan area. The percentage of infants in care at the time of interview was similar across metropolitan (37 per cent) and non-metropolitan (34 per cent) locations.

Also similar was the type of care used by infants. In metropolitan areas, 30 per cent of infants in care were in formal care settings, 60 per cent were in informal care settings, and 10 per cent were in a combination of formal and informal care. The comparable percentages for infants in non-metropolitan areas were 32 per cent, 57 per cent, and 11 per cent, respectively. Further, the distribution of infants across the different types of informal care was similar in metropolitan and non-metropolitan areas. However, some differences in the use of formal long day care and family day care

were noted. Infants in metropolitan areas were more likely than infants in non-metropolitan areas to be in long day care placements (24 per cent versus 19 per cent, respectively), while the reverse was true for family day care (5 per cent versus 13 per cent, respectively). These figures may reflect the different types of formal care services available in metropolitan and non-metropolitan areas.

#### **Amount of weekly care**

Infants in informal care settings spent on average 14 hours per week in care, while those in formal care or in a combination of formal and informal care spent considerably more time in care (mean number of hours per week = 20.8 hrs and 24.6 hrs, respectively).

When they first started child care, infants spent on average 14.9 hours per week in care. Infants entering informal care arrangements spent less time in care than infants beginning care in formal care settings (informal: mean hrs/wk range = 3.8 to 15.3; formal: mean hrs/wk range = 19.7 to 20.3).

#### **Age of infants in child care**

Infants in informal care were younger on average (mean age = 9.2 months) than infants who spent some time in formal care (mean age = 9.9 months).

The mean age at which infants first started care was 5.2 months, but infants whose first care placement was in an informal care setting were likely to have started care at an earlier age than infants whose first care placement was in a formal care setting (informal: mean age by setting range = 4.5 to 5.2 months; formal: mean age by setting range = 6.4 to 6.5 months).

#### **Parent satisfaction with infant child care**

Parents of infants were asked to rate their overall satisfaction with child care on a 5-point scale, ranging from 1 “very satisfied” to 5 “very dissatisfied”. Mean satisfaction ratings for all types of care were high, with all means falling in the “satisfied” to “very satisfied” range. The highest satisfaction rating was given to grandparent care (mean = 1.1), while the lowest satisfaction rating was given to long day care centre care (mean = 1.4); however, the difference between the two was minimal.

#### **The cost of infant child care**

One determinant of the types of care that parents use for their infants is the cost of care. Parents are much more likely to be charged for formal versus informal care arrangements, and this may be one reason why informal care was the most common form of care for the LSAC infants. With regard to formal care, parents paid for 98 per cent of long day care placements. For 87 per cent of those placements, some of the cost of care was subsidised through the Child Care Benefit scheme. Comparable figures were noted for children attending family day care; parents paid for 95 per cent of

placements, with 90 per cent being subsidised through the Child Care Benefit scheme.

In contrast, the number of parents paying for informal care arrangements for their infants was much lower. Only 4 per cent of the 982 grandparents who provided care were paid by the parents of the infants for that care (see “Young children and their grandparents” on pp. 10-17). Furthermore, only 1 per cent of grandparent care placements was subsidised through the Child Care Benefit scheme. Parents paid for 53 per cent of other informal placements (with other relatives, friends, or nannies), but only 4 per cent of these placements were subsidised through the Child Care Benefit scheme. Parents using occasional or leisure care settings for their infants did pay for the large majority of these placements (82 per cent of 106 placements), but only 11 per cent of placements received the Child Care Benefit subsidy.



**The type of care used by parents was related to overall family income, with families using only formal care arrangements having higher yearly incomes, and those using only informal arrangements having lower yearly incomes.**

LSAC collected cost data on up to three child care placements per child. When asked whether they paid for the cost of their infant’s care placement or not, parents indicated that they were most likely to pay for their main care placement (52 per cent paid care), and less likely to pay for their second or third care placements (32 per cent and 31 per cent, respectively).

The type of care used by parents was related to overall family income, with families using only formal care arrangements having higher yearly incomes, and those using only informal arrangements having lower yearly incomes. These findings suggest that mothers with less earning potential may be less able to utilize child care provisions in the formal sector when infant child care is needed. Similar concerns have been raised in Doiron and Kalb’s (2005) recent review and analysis of child care demands and household labour supply. Subsequent analysis of the LSAC dataset will require further attention to the link between child care type and cost and mothers’ labour market participation, in order to inform effective child care policy decisions.

#### **Summary of infant findings**

The results from the first wave of data collection indicate that regular non-parental child care is experienced by 36 per cent of Australian infants in



the first year of life. Due primarily to work or educational commitments, a considerable number of Australian parents are accessing a range of formal and informal care arrangements for their children, and their overall level of satisfaction with these arrangements is high. In contrast, about two-thirds of LSAC infants (64 per cent) were not participating in regular non-parental care arrangements, indicating that exclusive regular care by parents is still the norm for most young Australian infants.

The number of grandparents providing care for young infants was noteworthy. While this may be a normal part of the family life cycle and enhance the well-being of both grandparents and children, it is also known that some grandparents find the responsibility of providing care to be a burden (Goodfellow and Laverty 2003). The significant contribution of grandparents also puts in stark contrast the lack of support likely to be experienced by families without easy access to the practical resources provided by such extended family members. From a policy perspective, these more isolated families are likely to have the greatest need for government supported child care services.

For the most part, patterns of child care use were similar across the states and territories, despite

long day care facilities in these different areas, which may be restricting the choices available to parents? Of note in this context is that parents with higher incomes were more likely to be the users of formal child care, which suggests that cost factors may be important in determining parents' choice of care when alternative arrangements are available to them.

The availability or restriction of choice in care may have significant consequences for children. Formal care programs provide care that must meet regulatory and accreditation requirements to enhance children's learning and development. The opportunities for children who are excluded from these care settings may be compromised, and any inequalities resulting from economic disadvantage strengthened and perpetuated.

### **The 4 to 5 year old child cohort**

#### **Early childhood education and care settings in Australia**

As children move into the preschool years, Australian families are offered a diverse range of options for education and child care. Within the two groupings of non-profit and for-profit services, early childhood education and care (ECEC) for 4-5

year old children can be accessed through schools, local government, charities, employers, community-based organisations, private owners, and corporate providers. Services include preschool, long day care, family day care, mobile children's services, outside school hours care, and home-based care (Press and Hayes 2000).

Non-school-based provisions are relatively similar across the nation. Broadly,

these are community-based or privately owned preschools, kindergartens, nurseries and long day care centres, which typically provide an educational program under the direction of qualified early childhood staff. School-based programs, on the other hand, differ across the nation, particularly in the provision of preschool programs for children-under-5. In some states and territories, it is common for government schools to include preschool classrooms, whereas in others it is rare. When offered, these programs, named kindergarten (WA, QLD, SA, TAS) or preschool (NSW, VIC, ACT, NT), are non-compulsory and part-time. Non-government schools, that is, catholic and independent schools, may also provide preschool programs. States/territories also differ in the provision of pre-Year 1 programs. For most states, non-compulsory full-time classes, named pre-primary (WA), reception (SA), preparatory (VIC, TAS, QLD), kindergarten (NSW, ACT), or transition (NT), are available for children who are 5 years old, or who will be 5 by mid-year.

**The significant contribution of grandparents also puts in stark contrast the lack of support likely to be experienced by families without easy access to the practical resources provided by such extended family members.**



differences in child care service regulations. The most notable exception was the relatively high use of formal care arrangements in Queensland in comparison to the other populous states – a difference that could not be explained by any obvious difference in the regulatory provisions in that state. Hence, further research in this area is warranted.

Differences in the use of formal and informal care did appear to be related to factors that are of interest from a policy perspective. In terms of formal care use, families in non-metropolitan regions used relatively more family day care and less long day care than families in metropolitan areas. While satisfaction with care arrangements did not appear to vary much by type of care, it would be of interest to know what factors determine the type of formal care services provided in metropolitan versus non-metropolitan areas. In particular, are there economic factors that are driving the provision of

These state and territory distinctions are important contextual factors to consider when examining the LSAC sample. They affect availability and cost, which are likely to impact on families' decisions about their use of prior-to-school early childhood education and care programs for their children.

**What early childhood settings are the LSAC children attending?**

Parents were asked about the main educational or care setting their child attended each week.<sup>1</sup> Of the 4983 LSAC children, 13.5 per cent (*n* = 671) were enrolled in pre-Year 1 at school. The majority, 82.2 per cent (*n* = 4096), were attending preschool or a long day care centre. The remaining 4.3 per cent (*n* = 216) were at home, either in exclusive parental care or in informal child care. This distribution differed by metropolitan versus non-metropolitan location, and across the states and territories. A higher proportion of children were attending pre-Year 1 at school in metropolitan (15 per cent) than non-metropolitan (11 per cent) areas, and conversely, a slightly lower proportion of children were in preschool or day care programs in metropolitan (81 per cent) than in non-metropolitan (84 per cent) areas.

**Pre-Year 1 at school (13.5 per cent)**

State and territory differences were apparent in the proportions of LSAC children attending pre-Year 1 at school, being highest in WA (26 per cent), NT (24.4 per cent), and NSW (17.7 per cent), and lowest in TAS (0 per cent), VIC (8 per cent) and QLD (8.9 per cent). School entry may be explained to some extent by the different educational provisions in the states and territories, but characteristics of the LSAC child also affected attendance patterns. Children who had started school were older (mean age of 5 years 0 months) than children who attended early childhood programs (mean of 4 years 9 months) or children in home or informal care (mean of 4 years 8 months). Also, girls were more likely to be in school than boys: 15.3 per cent of girls were in a pre-Year 1 class at school compared to 11.7 per cent of boys. This may reflect the general impression on the part of parents and teachers that girls are "ready" for school earlier than boys (Dockett and Perry 2002).

**Home-based parent or informal care only (4.3 per cent)**

Families who did not use school or any formal early childhood program for their child also differed by state and territory. The overall proportion in exclusive parental care or informal home-based care only was 4.3 per cent, but this ranged from a high of 7.6 per cent in NSW to a low of 1 per cent in SA and WA. Boys and girls were equally likely to be in the group of children in home/informal care.

Parents were asked to give the main reason their child did not attend school, preschool or day care. Just under half of parents (46.6 per cent) identified difficulties with access or availability, or problems with program quality. The other half indicated they

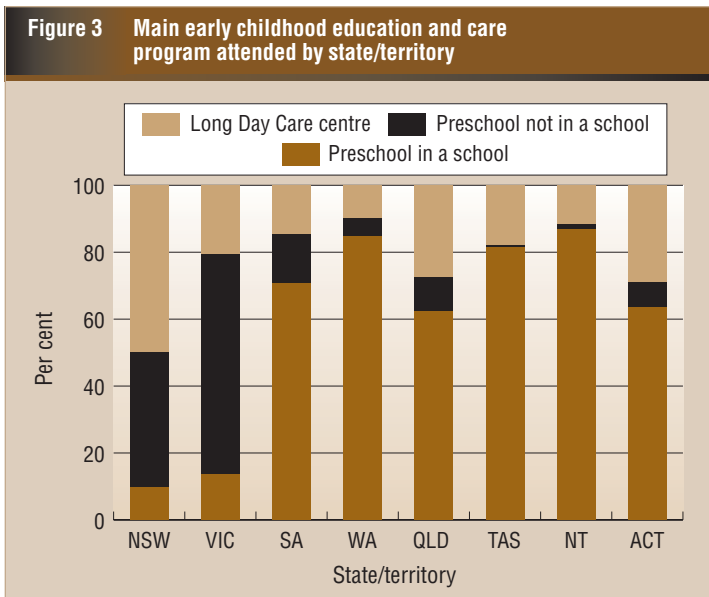
did not need these programs or that they were not suitable for their child. The younger age of children in this group (mean of 55.6 months) may account for the latter explanation. Families' nomination of external factors versus personal choice as reasons for not sending their child to school/preschool/day care was reasonably similar across the states/territories and also by metropolitan/non-metropolitan location.

**Centre- or school-based preschool or long day care (82.2 per cent)**

As with the previous two groups, the type of preschool or day care program LSAC children attended varied by where the child lived (shown in Figure 3). School-based preschool was the most common arrangement for children in six of the states/territories, QLD (62.2 per cent), SA (70.7 per cent), WA (84.6 per cent), TAS (81.5 per cent), NT (86.7 per cent) and the ACT (63.4 per cent), but was the least common arrangement for children in NSW (9.7 per cent) and VIC (13.6 per cent). Preschool in a non-school setting was most common in VIC (65.9 per cent), followed by NSW (40.4 per cent), but used to a lesser degree in all the other states/territories (14.7 per cent to 0.8 per cent). Long day care centres were the most common type of program for children in NSW (49.9 per cent), and were used by a sizeable proportion of families across all the other states and territories (10 per cent to 29 per cent).

**Table 1 4-year-old attendance patterns (weekly hours; months attended) in main ECEC program**

Type of main EC program	Mean hours/week	Range of hours/week across states/territories	Months in ECEC program
Preschool in a school	13.8	10.6 to 15.8	6.6
Preschool not in a school	12.2	9.6 to 13.9	11.3
Long day care	21.6	17.7 to 33.1	23.8



### What amount of early childhood education and care are the LSAC children receiving?

The type of educational setting attended was closely aligned with key aspects of the experience for the child, including hours per week and length of time attended, and for parents, the cost. For school-based preschool in government schools, weekly hours are set by the relevant state or territory educational authority – typically, 10 to 12.5 hours per week (Press and Hayes 2000; WA Dept of Education and Training), but preschool hours in catholic or independent schools are more variable. Hours in non-school-based preschool are similarly influenced by state/territory funding arrangements, but these vary significantly across the states. For example, VIC provides a subsidy for 10 hours/week for 4-year-olds in all approved non-school early childhood programs, whereas NSW subsidises preschool programs according to the number and needs of the children attending. In contrast, long day care is less affected by state/territory differences. Funding is primarily via the Commonwealth Child Care Benefit scheme, which is tied to parents' income and work or other work/study needs.

#### Weekly hours

Weekly hours of attendance were similar for the school-based and non-school-based preschool groups (means of 13.8 and 12.2 hours per week), and showed little difference when examined by state. Attendance patterns for children in long day care showed greater variation in mean hours of care across the states/territories. On average, 21.6 hours per week were used, but this ranged from 17.7 (TAS) to 33.1 (NT) hours, as shown in Table 1. For all three types of programs, weekly hours were typically spread over two to three days per week.

#### Length of time attended

Access to school-based preschool, and to a lesser extent non-school-based preschool, is also influenced by state/territory requirements for child entry age. In many cases, children are only eligible to

attend these programs from age 4 years. This affects the overall amount of time that each child spends in this program. Table 1 shows that LSAC children attending school-based preschools had started to attend in the current year (average of 6.6 months attendance), whereas those in non-school settings had a longer period of attendance: average of 11.3 months for preschool; 23.8 months for day care.

### Costs associated with the LSAC child's main education and care program

The cost of early childhood education is another important factor affecting access to early childhood education and care. Almost all families using non-school preschool (98 per cent) or long day care (99 per cent) paid fees. As for infants in care, some of these costs were subsidised through the Child Care Benefit scheme: 35 per cent of families using preschool and 89 per cent using day care received CCB subsidies.

As noted for the infant cohort, family income was associated with the type of ECEC setting. Families using non-school preschool or long day care for their child were in a higher income bracket than families using school-based preschool.

### Parental satisfaction with the LSAC child's main education and care program

On the whole, parents were very happy with the educational program their child attended. Satisfaction was rated on the same 1 to 5 scale as for infants (1 = very satisfied). Mean ratings of 1.43 were reported overall and varied little for school and non-school settings.

### What additional child care are the LSAC children receiving?

#### Children in pre-Year 1 at school

One-third of families whose children had started school reported that they were using regular child care. On average, child care was for an additional 10 hours per week, over and above the average of 30 hours children spent at school. Most families used one weekly child care arrangement (82 per cent), but some used two (14 per cent), and a small number used three (3 per cent). Half of this care was in formal outside school hours care programs and half was in informal care arrangements, such as grandparents, other relatives, friends, and nannies. Fees were paid for formal services, with 68 per cent receiving child care subsidies towards these costs, but informal care was less likely to be paid for (24 per cent). No families reported receiving subsidies through the Child Care Benefit scheme for their informal outside-school-hours care. Informal care arrangements were equally likely to be provided in the child's own home or away from home.

The main reason families gave for using additional child care was work (91 per cent using formal care; 71 per cent using informal care). Informal care was also used to give parents time for their own sport or social activities, and to benefit children's relationships with their grandparents. For the two-thirds of

**Table 2** Attendance patterns (weekly hours) for single and multiple use of early childhood education and care (ECEC) programs

ECEC arrangements	n	Mean total hours/week	Mean range across states/territories
<b>Single setting</b>			
Preschool in a school	881	14.2	10.6 to 16.1
Preschool not in a school	816	12.9	12.0 to 16.4
Day care	725	23.4	17.8 to 34.0
Total 59.1 per cent	2422		
<b>Multiple settings</b>			
Preschool plus other formal	563	26.6	24.0 to 32.9
Preschool plus grandparent/informal	650	24.9	21.6 to 30.0
Day care plus other formal	224	35.9	31.6 to 50.0
Day care plus grandparent/informal	237	32.6	26.1 to 40.0
Total (40.9 per cent)	1674		

families who were not using child care outside of school hours, the vast majority (96 per cent) indicated they had no need for such care.

#### *Children in preschool or long day care*

About 40 per cent of families with a child in preschool or long day care used additional child care arrangements each week, over and above their main educational and care program. Most of these families used one additional arrangement per week (78 per cent), some used two per week (19 per cent), and a small number used three or more (3 per cent) per week. Both formal and informal types of care were used: formal care settings included other long day care centres, preschool, or family day care; informal care included grandparents, other relatives, friends, nannies, and occasional/leisure care facilities. Overwhelmingly, additional child care was used in order to meet parents' needs for work/study (68 per cent) or other activities (12 per cent). Child-related reasons were for social or intellectual benefit (11 per cent) and to benefit relationships with other family members (5 per cent).

These additional care arrangements meant that children were spending considerably more time in ECEC settings each week than children attending one arrangement (see Table 2).

For the children in multiple care settings, formal care added an average of 9.4 hours per week for the preschool groups and 12.6 hours per week for the day care group. Informal care added a similar number of hours per week for preschool and day care groups, averaging 10.3 hours/week for grandparent care and 7.8 hours/week for other types of informal care.

About one-third of informal care arrangements took place in the child's own home: 30 per cent for grandparent care; 35 per cent for other informal care. Children who were looked after by grandparents had been in that care arrangement for an average of 26 months. The figure for other informal care was significantly less (19.2 months) and was similar to the length of time children had spent in their additional formal care settings (18.4 months).

#### **Costs associated with additional care**

Most parents paid for their additional formal care (94 per cent), with 76 per cent receiving a subsidy for this through the Child Care Benefit scheme. Care provided by grandparents was usually unpaid; only 8 per cent of families paid for grandparent care, with one-quarter receiving subsidies for this cost. Other types of informal care were paid for by 57 per cent of families, with 12 per cent of these receiving subsidies through Child Care Benefits.

#### **Summary of 4 to 5 year old findings**

The large majority of 4-5 year old LSAC children (95.7 per cent) were participating in early childhood education and care programs, either in

schools or prior-to-school settings. Although this participation rate is commendable, there is cause for concern about the remaining 4.3 per cent, given considerable evidence that preschool enhances child development and that children who do not attend early childhood education before entering school may be at risk (Sylva et al. 2003). Findings from the LSAC cohort presented elsewhere (Australian Institute of Family Studies 2005; Harrison in press) have shown that the group of children not attending an educational program were performing less well on measures of early literacy and numeracy.

Three policy-related issues are relevant to children not attending ECEC in the year before school. First are state differences in the provision of preschool classes in government schools. The state (NSW) with the lowest incidence of school-based preschool had the highest proportion of LSAC families not



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accessing preschool education. Second is cost, which is related to the type of preschool provision families have access to. Where state-funded school-based preschool is available, it is typically offered to families free of charge. In contrast, families using non-school-based preschool or long day care pay for these programs. Third are the longer term implications of children entering school without the benefits of attending an early childhood education and care program. Schools, children and their families are likely to need additional support to facilitate the child's transition to school.

States and territories differ widely in their educational provisions for 4-5 year old children, and this was reflected in the distribution of LSAC children across school-based preschool, non-school-based preschool and long day care. These diverse arrangements have been well documented (Press and Hayes, 2000), but little is known about the ways that different education settings impact on children's early childhood experience and subsequent outcomes for learning. The LSAC dataset is the first to identify nationwide patterns of early childhood education and care in the year prior-to-school. We noted that whilst weekly hours of preschool attendance were relatively uniform across the states and

territories, the overall amount of time that the child had attended was markedly different. On average, children in school-based preschool had been in that setting for six months, whereas children in non-school-based preschool had attended for one year, and children in day care for two years. The implication we draw from these figures is that state/territory provisions may influence the degree of continuity and stability experienced by children in their early educational settings.

Stability of care, or its counterpart – changeability, is also affected by families' use of multiple weekly arrangements. Many of the LSAC 4-5 year olds (41 per cent) attended two or more education and care settings each week. Combinations included preschool plus day care, and preschool or day care plus informal home-based care. Informal care arrangements are often chosen because of the stability they provide for the child in terms of the environment (being cared for in the family home) and relationships (familiar adult carers) (Goodfellow and Laverty 2003). Of relevance to the LSAC study are

**The role of early childhood education and care services in supporting families and children's development is a critical aspect of family life that LSAC will investigate over the course of the current and future waves of the study.**



indications from a New South Wales study showing benefits for children of regular informal care in combination with preschool or day care (Bowes et al. 2004).

A corollary of multiple arrangements in the LSAC study was children's spending more hours in child care each week. Parents reported needing longer hours of care than provided through their primary preschool or day care arrangement in order to meet their work or study commitments.

LSAC has underlined the variety of ways that families access care and education for their 4-5 year old children. A critical distinction was noted in the cost of preschool, which is considerably reduced for parents in the states/territories that provide school-based preschool programs. However, preschool programs set a limit on the weekly hours of attendance, which affects parents' use of additional care arrangements. Cost is also a factor when choosing additional care. Access to grandparent care gives a considerable cost saving for families needing more hours of care than available through preschool. However, as noted in the previous section, families who

do not have easy access to the practical resources provided by such extended family members are in greater need of government supported child care services.

### **Implications for policy and future research directions for LSAC**

LSAC was designed to examine key factors influencing child outcomes over the early years. Non-parental education and child care is a feature of the wider environment that will affect all the LSAC children over the course of the study. Wave 1 data has shown that for some, this begins in the first months of life, whereas for others, it begins at pre-school-age or school entry. Over the next waves, LSAC will continue to record the diversity of children's experiences of ECEC in detail. Longitudinal LSAC data will allow close examination of quantity, continuity and change in children's experience of child care (initially) and then preschool and early school education settings. For the infant cohort, it will be possible to address key questions about

early and extensive exposure to non-parental child care, in relation to the type of care received, on developmental outcomes. For the 4-5 year old cohort, the critical questions to be addressed relate to the links between school performance and ECEC experiences in the year immediately prior to school entry. LSAC has highlighted the enormous variation in ECEC that is experienced by 4 year olds across the nation. To some extent, this variety is due to distinct state and territory provisions, but much is also due to parental participation in the labour force and the need to make manageable and affordable arrangements for

work-related child care.

For parents of both infants and 4 year olds, cost appears to be an important, although somewhat hidden, determinant of their children's ECEC experience. Cost is closely interlinked with care type and setting. Many LSAC parents are using care settings that fall outside the government-regulated sector. Informal, unregulated care is most common for infant care, especially care that begins very early in life. Much of this care is unpaid or, where it is paid, is not subsidised through the Child Care Benefit scheme. The use of formal, regulated child care services, on the other hand, is almost always associated with payment and the receipt of subsidies. Of further note is the finding that families using formal care for their infants tend to be in a higher income bracket than families using informal care.

The issues raised by these results are complex. While there is evidence in Australia that families often prefer the familiarity of informal, home-based care providers to care from "strangers" in formal programs (Harrison and Ungerer 1997), or choose informal care to supplement the hours provided

through center care for work-related needs (Edwards et al. 2004), less is known about the possible implications for children's developmental outcomes of different ECEC experiences. Results from overseas have shown that there are advantages for children attending centre-based care over home-based care (NICHD ECCRN 2005). Australian research has also shown that children receiving only informal care in the infant-toddler years did less well at school (Love et al. 2003), but that a combination of informal and formal care was beneficial for children's language development (Bowes et al. 2004). The question that is raised by these studies centres on the quality of home and centre care; in particular, on the nature of educational provisions and support for children's development as competent learners. Formal care providers have access to early childhood specialist teachers and resources, whereas informal carers are not similarly supported. Given the contribution of the informal sector to meeting families' child care needs throughout the early childhood years, LSAC will provide an important opportunity to assess how these differences in care quality may impact outcomes for children.

LSAC has highlighted the role of grandparents as providers of child care for both the infant and 4-5 year old cohorts. However, Goodfellow and Laverty's (2003) work reminds us that grandparents are not a homogeneous group and that caring for their children's children involves challenges of balancing work and family responsibilities, and personal and intergenerational obligations. Grandparents need to be supported and recognised for the emotional and economic contribution they are making. At the same time, it is equally important to recognise that many families do not have the support of grandparent care, but have similar needs. (see "Young children and their grandparents" on pp. 10-17).

The role of early childhood education and care services in supporting families and children's development is a critical aspect of family life that LSAC will investigate over the course of the current and future waves of the study. Access to and use of ECEC by families with additional needs, such as children with health problems or a developmental impairment, will be of particular relevance to service providers and government policymakers. This will include the possible implications of differential access to services, across states or by metropolitan and non-metropolitan locations. Previous research indicates that outcomes for 4-5 year old children as they progress into school are likely to be related to both the quality and quantity of their ECEC experience (Harrison and Ungerer 2000; NICHD ECCRN 2005; Sylva et al. 2003). LSAC will enable researchers to examine questions about the relationships among overall time in non-parental care arrangements before entering school, the quality, and the consistency or changeability of these arrangements, and their associations with children's early school achievement and social and emotional well-being.

## Endnote

- 1 For children attending more than one early childhood education and care program each week, the main arrangement was the one attended for the most hours.

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**Dr Linda Harrison** is Senior Lecturer in early childhood education at Charles Sturt University, Bathurst and **Associate Professor Judy Ungerer** is Associate Professor, Department of Psychology, Macquarie University, Sydney.