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# Child care for infants: trends in usage and costs, 1999 to 2002

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# Abstract

Despite widespread concerns about the availability and affordability of child care for infants under two years of age , there is little Australian research which focuses specifically on child care usage and costs for this group of children. This study seeks to fill this gap by analysing unit record data from the 1999 and 2002 Child Care Surveys conducted by the Australian Bureau of Statistics to examine trends in the use and costs of child care for children under two years of age. We focus on this time period because it allows us to assess the possible impact of the introduction of the Child Care Benefit in July 2000. Using descriptive and multivariate analyses, we found that a significantly greater percentage of those very young children using any child care were in formal care in 2002 than in 1999. We also found that costs of formal care to parents fell very slightly in real terms over the period, while demand for additional formal care rose slightly, mostly due to reported difficulties with availability of care. We found a number of differences in usage and cost trends for different family types, with low income and single parent families increasing their use of formal child care services more than the average, and experiencing a fall in real costs of care.

# Author note

Justine McNamara is a Senior Research Fellow and Rebecca Cassells is a Senior Research Officer at the National Centre for Social and Economic Modelling (NATSEM).

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# General caveat

NATSEM research findings are generally based on estimated characteristics of the population. Such estimates are usually derived from the application of microsimulation modelling techniques to microdata based on sample surveys.

These estimates may be different from the actual characteristics of the population because of sampling and nonsampling errors in the microdata and because of the assumptions underlying the modelling techniques.

The microdata do not contain any information that enables identification of the individuals or families to which they refer.

# 1 Background

Concerns about the availability and affordability of formal child care for very young children in Australia have been frequently voiced in the media and elsewhere in recent years (see, for example, Burke 2004; Childcare Associations Australia 2005; Horin 2005; Farouque 2005; Marriner 2004; The Benevolent Society 2005). Care for children under two years of age tends to be particularly difficult to find as staff ratios for infants and toddlers are higher than those for older children, thus affecting the profitability (or even viability) of providing care for children in this age group. [1] While such staff ratios are important for providing high quality care to infants and toddlers, and reducing staff turnover, and may be offset by lower costs for older age groups (Fisher & Patulny 2004), the fact that the major Australian government subsidy for child care – the Child Care Benefit – does not take into account the higher costs of care for very young children has sometimes been pointed to as a factor in the difficulty parents have in obtaining and paying for care for children in this age group (see , for example, Childcare Associations 2005).

Debates about the difficulty of finding and paying for child care for children aged under two take place within the context of more complex and emotive arguments about parental views about the suitability of formal care for very young children. Evans and Kelley (2002) found widespread negative beliefs in Australia about both full-time formal child care for very young children, and about mothers of pre-school age children working outside the home. Hand (2005) presents results from qualitative interviews with a small number (n=61) of mothers, which does not focus specifically on the use of care for very young children, but does note some negative views of child care (for example, concerns about the effects of care on children, and the quality of care) by mothers not using any formal care. Hand found, however, that mothers in the study who were using some formal child care had much more positive views of such care than those mothers who were not using care.

Previous research on trends in child care use and costs in Australia (for example, AIHW 2003; Doiron & Kalb 2005; Lee et al 2001) has not focused specifically on child

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[1] The Commonwealth standard for staff to child ratios for children under 3 years is one staff member to every five children, (FaCS 1993), but regulations for staff ratios differ from state to state, with Victoria, for example, requiring a staff to child ratio of one staff member for every five children under 2 years of age (Victoria Child Services Regulation 2004), and Queensland requiring a staff ratio of 1 to 4 for children under 2, with some flexibility for slightly higher ratios if children under 2 are in a mixed group with slightly older children (Queensland Child Care Regulation 2003).

care for children under two years of age, so it is difficult to assess trends for this age group, although care patterns for this group differ from those of older children in a number of ways. Parents are much less likely to use care of any sort, but particularly formal care for very young children. For example, initial findings from the Longitudinal Study of Australian Children show that, in 2004, 36 per cent of infants (aged 3 to 19 months at the time of surveying) were in some type of regular child care, with around 41 per cent of these infants using some type of formal care (Harrison & Ungerer 2005). This contrasts with care arrangements for 4 to 5 year olds in the same survey, 95.7 per cent of whom were participating in some type of formal education or care program (including school, pre-school and long day care). These findings are in line with figures published by the Australian Bureau of Statistics, which reports that in 2002, one year olds were the most likely of all age groups to use some informal care (just over 40 per cent), although use of both formal and informal care for children the age of one was relatively low (7 per cent using formal care, 30 per cent using informal care) (ABS 2003). Just over two-thirds of infants under age one, and 43 per cent of children aged under two used no formal or informal care, compared with 35 per cent of two year olds and only 24 per cent of three year olds (ABS 2003). Types of care used by parents of very young children also differ from those used for even slightly older children, with 27 per cent of those one year olds using any formal care being family day care users, with rates of family day care use of 20 per cent for two year olds and only 11 per cent for three year olds (ABS 2003). Despite these differences, however, most published material on child care use and costs aggregate children into broader age groups (for example, 0 - 4 years).

There is no consensus about whether formal or informal child care arrangements are more likely to provide high quality care, nor whether or not the use of a mixture of care types is desirable (see, for example, Bowes et al, 2004; Millward, 1998). However, access to informal care is often dependent on the strength of parents' family and social networks, and may not be available for the length of time needed to allow parents to work substantial hours. Formal care also has the advantage of substantial checks on quality of care, while the quality of care available informally may be more variable.

There has been relatively little research conducted into child care affordability in Australia, with a lack of work that focuses specifically on the impact of the introduction of the Child Care Benefit and its effects on the costs and patterns of usage in Australian families. Research from the Australian Institute of Health and Welfare (AIHW) using data from the Australian Government Census of Child Care Services found that the introduction of the Child Care Benefit had improved the affordability of child care for families using long day care (Moyle et al 2001), and FaCS (2003) also reported improvements in affordability. However, in subsequent work, the AIHW found that affordability for these services declined again between 2000 and 2002, due to fees for child care rising at a more rapid rate than the Child

Care Benefit (AIHW 2003). The Department of Family and Community Services also notes on its website that the number of children attending long day care, family day care and outside school care increased from May 1999 to October 2000, although increased hours of usage were stronger in long day care than in the other two settings (FaCS, 2005).

In this study, we use unit record data from the 1999 and 2002 Child Care Surveys conducted by the Australian Bureau of Statistics to examine trends in the use and costs of child care for children under two years of age. We focus on this time period because it allows us to assess the possible impact of the introduction of the Child Care Benefit (CCB) in July 2000. This payment was introduced to replace the two existing forms of child care subsidy (Child Care Assistance and Child Care Cash Rebate). Child Care Benefit is a means tested payment available to families that have children in approved or registered care. The amount of Child Care Benefit available to families is dependent on a number of variables, including type of care, number of children in care and family income. The extent to which the Child Care Benefit has lowered costs of child care for parents in comparison to the old system is not clear, although, as noted above, some research indicated improved affordability after its introduction (AIHW 2003; FaCS 2003; Moyle et al 2001).

In addition to changes in subsidy arrangements, other changes took place between 1999 and 2002 (the period this study focuses on) which may have also influenced any changes in access to or costs of care, and which cannot be controlled for in this analysis. Other initiatives put in place since 1999 include funding for additional child care places, provisions for privately-operated family day care, and incentives for the establishment of child care services in rural and regional areas (FaCS 2003).

While it is not possible to directly test the effects of the introduction of the Child Care Benefit using the data available from the Child Care Surveys, examination of the nature of changes in use and costs between 1999 and 2002 is possible, and the use of multivariate statistical analysis allows us to draw some preliminary conclusions about the possible impact of the change.

If Child Care Benefit improved affordability over the 1999 to 2002 period, we would expect out-of-pocket costs to parents to fall, or to rise less than average fee increases over the period. It is difficult to assess average fees for parents of children under two years of age, as figures on fees reported in the censuses of child care services produced by FaCS (FaCS 2000; 2003) are based on an assumption of children using 50 hours per week of care, which is relatively uncommon for very young children, as noted in our results below. However, analysis of the censuses suggest that fees in real dollars for full-time private long day care and family day care rose modestly between 1999 and 2002 (2.2 per cent and 5.2 per cent respectively) while fees in

community long day care centres fell slightly in real terms (1.6 per cent) across the same period [2](FaCS 2002; 2003; authors' calculations).

We would also expect that improved assistance with child care costs would increase parents' ability to access care, particularly formal care, and reduce the amount of unmet demand for child care, although clearly this also depends on the availability of sufficient places. Finally, it might also be expected that any effects on child care use and costs would be likely to be stronger for children living in lower income families, as greater amounts of benefit are payable to the families of these children.

Because Child Care Benefit is only paid for registered and approved care[3], we would expect to see the possible impact of the benefit most clearly in the types of care most likely to be eligible for Child Care Benefit: for this age group, long day care and family day care. While parents can receive Child Care Benefit for other informal care where the care provider has been registered, in reality most Child Care Benefit is paid in relation to formal care services.

# 2 Data Source

As noted above, data used in this study comes from the Expanded Confidentialised Unit Record File (CURF) of the ABS Child Care Survey 1999 and the ABS Child Care Survey 2002, available through the ABS Remote Access Data Laboratory (RADL).

Child Care Surveys have been conducted by the ABS every three to four years since 1969, and collect data about child care needs and usage for children aged less than 12 years (ABS 1999; ABS 2002). The surveys are conducted as supplements to the Labour Force Survey, and information is collected from those dwellings with children aged under 12 resident. Samples exclude people living in non-private dwellings and people living in very remote areas. Further information about the data collection process is available in the CURF Technical Papers (ABS 1999; ABS 2002).

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[2] 1999 fees were converted into 2002 dollars using changes in the headline CPI across the period.

[3] Approved child care is care provided by a service provider that has been approved to receive Child Care Benefit payments on behalf of eligible families. Most long day care, family day care, some occasional care and some in-home care are approved child care providers. Registered care is care for work related purposes that is provided by grandparents, relatives, friends or nannies who are registered with the Family Assistance Office.

The 1999 CURF contains 9,381 records, and the 2002 CURF contains 10,159 records. Each record represents one child aged under 12, and no more than two children in each family are included in the CURFs. The absence of data about additional children in the family does limit our analysis, as the presence of other children is likely to affect care usage patterns and costs of care. All the information presented in this paper is reported at a child level, and use of the child weights provided in the CURFs means that our results reflect child care usage among all Australian children under two years of age. Child care arrangements covered by the survey include both work-related and non-work related child care, and all information about child care use relates to the arrangements in the week prior to the survey interview. In the CURFs, dollar amounts (for costs and incomes) are in 1999 dollars for the 1999 CURF and 2002 dollars in the 2002 CURF. We have adjusted all costs and income values to 2002 dollars, so that meaningful comparisons can be made across the two periods.

The majority of our analysis relates to a sample of children under two years of age who used some type of child care (formal or informal). In 1999, 813 children in the survey aged under two years used some type of care, and 769 children in this age group used some type of care in 2002.

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# 3 Methodology

## 3.1 Variable Descriptions

Most of the variables in the 1999 CURF were also available in the 2002 CURF (exceptions noted below), so variable descriptions apply to both survey years.

### *Child care use variables*

In this study "type of child care used" is broadly divided into formal and informal care. Formal care is defined in the survey as regulated care away from the child's home, but for the purposes of this study we have divided formal care into two groups. The first category of formal care incorporates those types of formal care that are most likely to attract the Child Care Benefit: long day care and family day care. We refer to this variable as CCB formal care. Two remaining types of formal care which are recorded in the ABS surveys are occasional care and "other formal care". These types of formal care have much lower reported use than any of the CCB formal care types and have different usage patterns from CCB formal care. Many of

the care providers for occasional care and other formal care are not registered as approved child care services (and thus are not eligible to administer Child Care Benefit). While children using these care types are included in our sample, we do not report on usage patterns of these types of care, mainly due to extremely small sample sizes.

Informal care is paid or unpaid non-regulated care either in or away from the child's home, and includes care from friends and relatives (including a parent living elsewhere), and paid sitters or nannies. For the purpose of this study, in most of our analyses, all types of informal care are grouped together, although we provide some descriptive statistics with informal care broken down by care provider type (for example, grandparent, sibling). Many families use a combination of formal and informal care, and this is reflected in some of our analyses.

We measure care usage in two ways. First, we examine the number and percentage of children using particular types of care. Secondly, we measure the average hours of care used by children in various settings.

We present some results about the main reasons parents used child care, and to do so we created a dichotomous variable, with parents who reported their main reason for using formal care was work, looking for work, or work-related study/training receiving a value of 1 for this variable, and all other reasons receiving a value of zero. We created the variable in this way partly to overcome small cell sizes for many of the other main reason categories provided in the CURFs. Other reasons for using formal care (given a value of 0) included non-work related study, a break for the parent(s) and benefits to the child.[4] It should also be noted that while parents may report a reason other than work as their main reason for using child care, they may nevertheless be working while their child is in care. Previous qualitative research

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[4] It should be noted that our definition of "work/study related care" differs from other definitions of this concept. Our definition does not match exactly the criteria used by the Family Assistance Office in establishing eligibility for Child Care Benefit over 20 hours per week. For example, activities which would qualify parents for receiving CCB for more than 20 hours per week include setting up a business or providing constant care for a disabled person. These are not activities which can be isolated from the responses in the ABS Child Care Survey. In addition, the characteristics of families who receive a value of 1 for our reasons for using care variable may differ in some respects to characteristics of families using "work-related care" as defined by the Australian Government Census of Child Care Services (see, for example, FaCS 2000, 2003). While the definitions used are similar, the Census categorises care as work-related based on the reported employment and/or study status of parents, while the ABS surveys rely on parents self-report of their main reason for using care.

suggests a reluctance on the part of mothers to explicitly state that their own work commitments are the primary reason for their children being in care (Hand 2005).

### *Child care demand variables*

Demand for child care is measured in the surveys by asking parents a series of questions about their requirements (if any) for additional formal care. For the purposes of this study, we have used this data to create two variables designed to capture unmet demand for child care. First, we include a variable that measures whether or not there was any requirement for additional formal care. Second, we determine whether the main reason additional formal care was not used (despite a requirement for it) was based on either cost, availability or some other factor. We coded responses such as "transport/distance", and "booked out/no places" as "availability" reasons.

### *Child care cost variables*

The main set of variables that differ between 1999 and 2002 are those that relate to government cash assistance for child care costs. In the 1999 survey, which preceded the introduction of the Child Care Benefit in July 2000, questions relate to whether parents received assistance from the Child Care Assistance Scheme, and if they claimed or intended to claim the Child Care Cash Rebate for child care costs. In 2002, questions relate to the Child Care Benefit, and ask whether the providers of care receive the Child Care Benefit, and also whether parents claimed or intend to claim the Child Care Benefit (a question aimed at parents who might claim the benefit as a lump sum through the Family Assistance Office, rather than have it paid to the provider). The costs of child care reported by parents in 1999 are costs net of Child Care Assistance but not net of the Child Care Cash Rebate (ABS, personal communication). In 2002, on the other hand, costs provided in the CURFs are net of all Child Care Benefit. In order to be able to compare costs across the two periods, we decided to impute the amount of Child Care Cash Rebate that families received in 1999, and used this imputed value to calculate the costs of child care net of all government child care subsidy, including the cash rebate. Families have had the child care rebate deducted from their net costs (net of any child care assistance) in 1999 if they claimed or intended to claim the child care rebate and met other eligibility criteria including paying the minimum amount of child care fees per week.

By imputing the amount of child care cash rebate in 1999, and deducting this amount from parents' stated costs of care, as well as adjusting all cost amounts to 2002 dollars, we are able to compare 1999 and 2002 total costs of care with relative confidence. However, there is insufficient information in the available 1999 unit record data to establish which type of care the Child Care Cash Rebate was received

for. While the majority of parents claim the rebate for formal care only, this is not always the case and, within broad "formal" and "informal" care categories, it is impossible to accurately allocate the rebate to particular types of care. Thus we present results for total costs of care and costs of care for those families that used only one broad care type, which are comparable across both years.

We present our analysis of child care use, cost and demand in the context of demographic characteristics that might be expected to interact with these outcomes. These characteristics include family type (single parent vs couple families), family income (available only as gross income, which we then divided into categories), labour force status of the parents, hours of work of the parents, main language spoken at home (English vs other language) and area of residence (capital city vs balance of state). Other variables incorporated into our analyses include the main reason parents report that care was used ( work related or other), and the age of the child.

It should be noted that in the CURF around 12 per cent of responses to the survey question about mother's income, and around 10-11 per cent of responses to the father's income question were "don't know/not stated" in both survey years. Where either the mother or father's income was recorded in this way, we have excluded that child and family record from any family income based analysis, and also from costs-based analysis, as full data on family income was needed to impute net costs of child care for 1999.

## 3.2 Statistical Analysis

As well as presenting descriptive charts and tables profiling child care use and costs in 1999 and 2002, we also determine the statistical significance of changes between the two periods. We do this by using multivariate statistical techniques to examine the effects of factors (particularly the effect of survey year – 1999 or 2002) on the likelihood of using care and the costs of care. Additional covariates in these multivariate models are based on the variables used in our descriptive tables, and include the amount and source of parental income, parental work hours, age of children and reason for using care. In multivariate models where the outcome variable is continuous (for example, costs of care), we use ordinary least squares regression, while for dichotomous outcome variable models (such as the likelihood of children using formal care) we use logistic regression techniques. All our analyses are weighted using the child weight variable from the relevant survey year. These weights indicate how many children in the population are represented by children in the survey, and take into account the child's probability of being selected into the sample (ABS 1999; 2002).

# 4 Results

## 4.1 What proportion of all children aged under two years are using child care?

When we examined the numbers of children using child care as a proportion of the total population of children aged less than two years, we found that in the three years between the two Child Care Surveys, the percentage of very young children using any formal care rose from 13.1 per cent of all children in this age group in 1999 to 15.3 per cent in 2002. However, this increase was somewhat smaller than the fall in the number of children of this age using any informal care, ,which fell from 41.4 per cent to 35.5 per cent over the period (see Table 1).

Table 1 **Proportion of all children under age two using any CCB formal care and any informal care, 1999 and 2002**

| | 1999 | | 2002 | |
|---|---|---|---|---|
| | N | % | N | % |
| | ('000) | | ('000) | |
| CCB formal care | 65.6 | 13.1 | 74.9 | 15.3 |
| Informal care | 207.2 | 41.4 | 173.9 | 35.5 |

*Note:* Population analysed is all children aged less than two years.
*Data source:* ABS Child Care Survey, 1999 and 2002

Thus, increases in CCB formal care use do not offset corresponding decreases in informal care use, with 33,000 fewer children using informal care in 2002, compared with only 9,300 additional children using formal care. This finding suggests that, in 2002, more parents were caring for very young children without any type of formal or informal child care arrangements. We examined the labour force status of the parents of these children across the three years, expecting that there might have been a move towards fewer two-income couples among families in the survey, but found no movement in this direction. Single parents, also, were more likely to be employed in 2002 than they had been in 1999. It may be that the fall in informal care use among children under two years of age reflects possibly increasingly flexible working arrangements of parents, allowing families to share child care between parents, and reducing the need for additional arrangements. Alternatively, it could reflect a decreasing availability of informal carers, perhaps due the changing nature of support networks. For example, more families with very young children may be

living at a distance from grandparents and other family helpers, or grandparents may not be available to help with child care due to work commitments of their own.

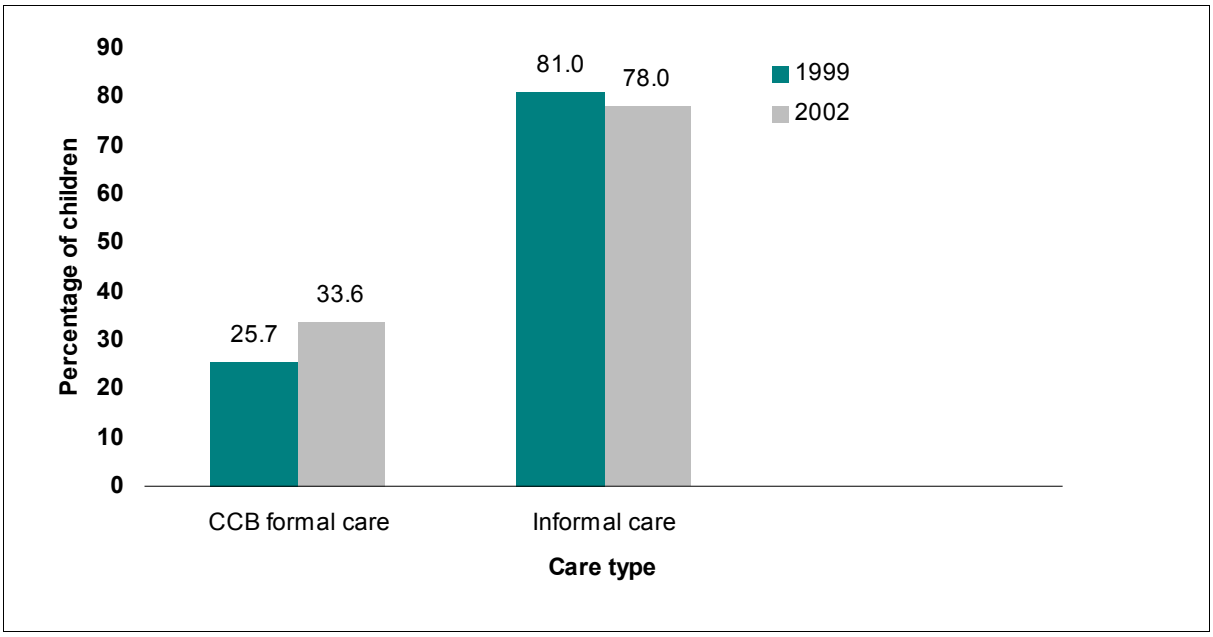
## 4.2 Children aged under two years using child care: usage patterns and trends

In contrast to our description of overall patterns of child care use among very young children provided in the previous section, the remainder of this paper describes the use and costs of care among those children aged under two using any type of formal or informal child care. Thus the percentage of children using formal care, for example, is the number of children using formal care expressed as proportion of all those children using either formal or informal care.

For those children aged under two years using any type of child care, the percentage of children using CCB formal care rose between 1999 and 2002. This is demonstrated in Figure 1, while Figure 2 breaks this increase down by care type, and shows that both the number and percentage of children using long day care and family day care increased over the period for children aged under two years.

Along with this increase in CCB formal care, informal care use among very young children declined somewhat, from 81 per cent in 1999 to 78 per cent in 2002, possibly reflecting the substitution effect of more CCB formal care for informal care. This drop in the use of informal care for this age group is shared among grandparent carers, siblings and non-resident parents (see Figure 3), but all movements are quite small. Given the substantial drop in the use of any informal care for very young children over the period (as a proportion of all children aged under two years), these very small changes in informal care use for those children using some type of care suggest that, while some parents are using no care at all, others are using combinations of formal and informal care for their infants and toddlers.

Figure 1 **Children aged under two years using some care, percentage using CCB formal and informal care, 1999 and 2002[a]**

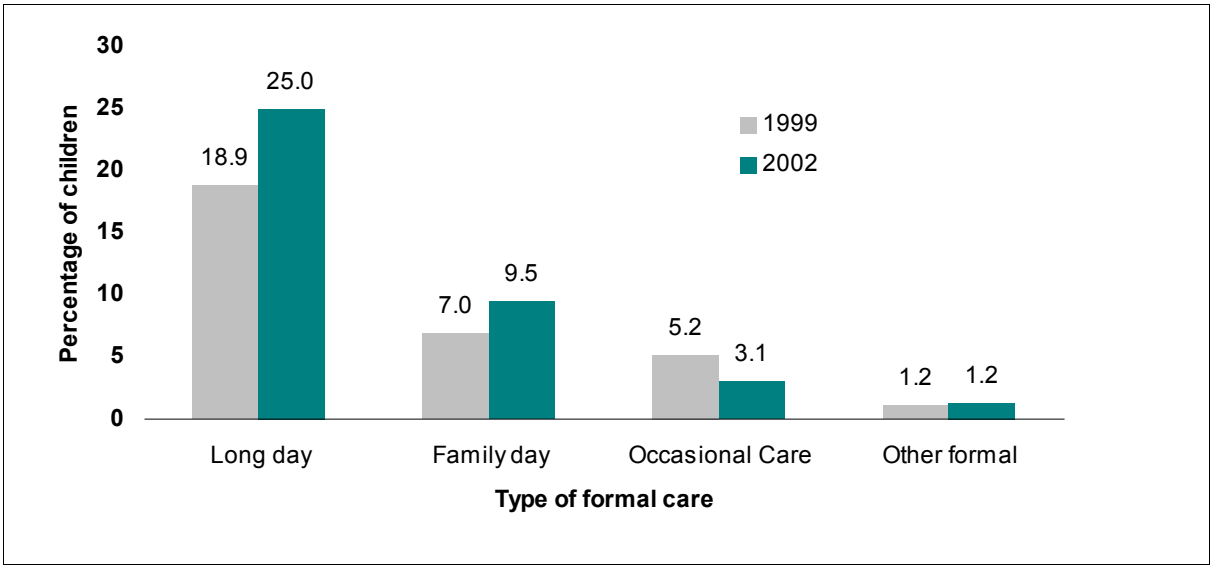



[a] Children using any of these types of care

*Note:* Population analysed is where total hours of care is greater than zero.

*Data source:* ABS Child Care Survey, 1999 and 2002

Figure 2 **Children aged under two years using CCB formal care by care type, 1999 and 2002[a]**

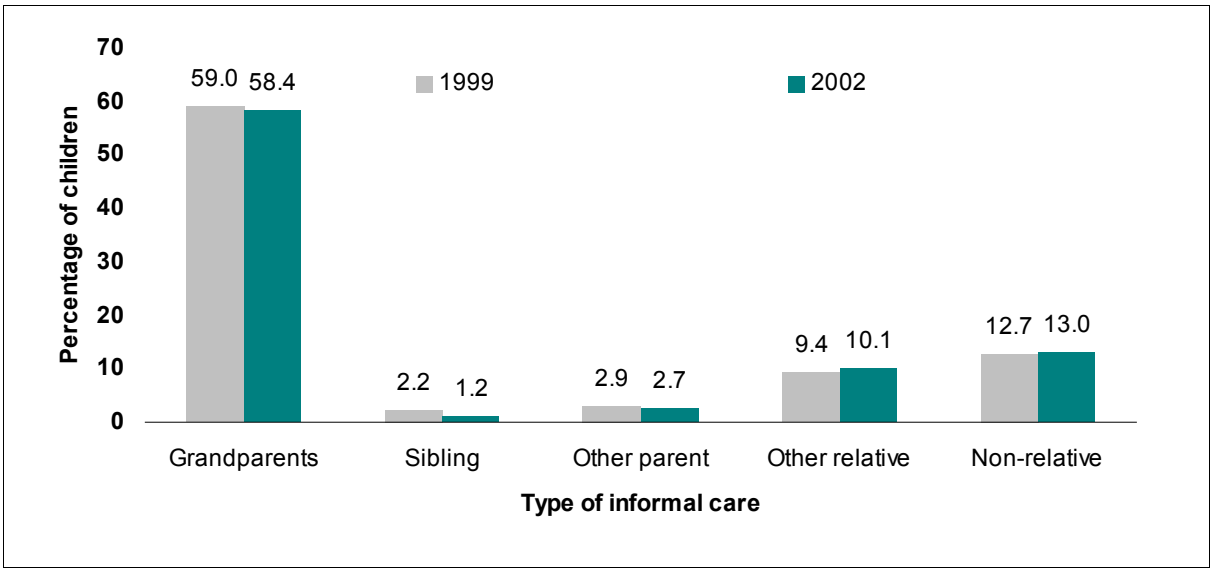



[a] Children using any of these types of care

*Note:* Population analysed is where total hours of care is greater than zero.

*Data source:* ABS Child Care Survey, 1999 and 2002

Figure 3 **Children aged under two years using informal care by care type, 1999 and 2002[a]**



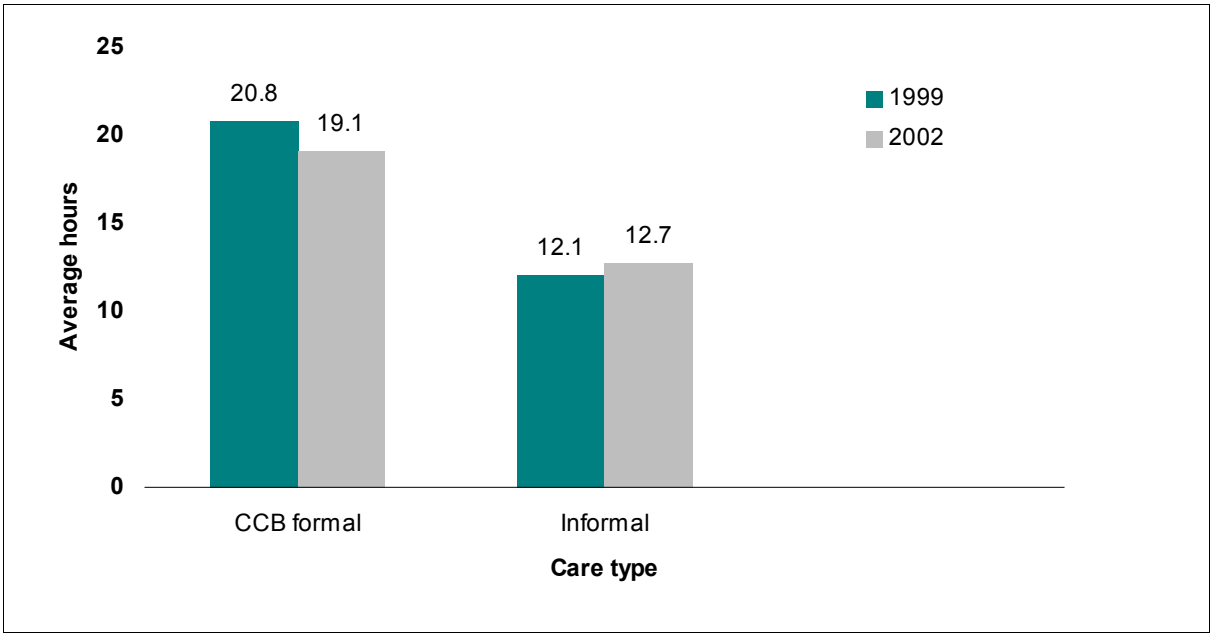

[a] Children using any of these types of care

*Note:* Population analysed is where total hours of care is greater than zero.

*Data source:* ABS Child Care Survey, 1999 and 2002

The average weekly hours of formal care used for children under two years of age fell slightly across the three year period (see Figure 4), while informal care hours remained fairly stable. Average hours of care in both years are relatively low for this age group, and the percentage of children in formal care for very few hours per week (shown in Table 2) is high in both years, but particularly in 2002. Results presented in Table 2 show that, of all children under two years of age using formal care, 27.2 per cent used less than 10 hours per week in 1999, growing by almost 5 percentage points to 32 per cent by 2002. A similar pattern is evident at the top end of the distribution, with 27.4 per cent of children under two years of age using 30 or more hours of formal care per week, falling to 20.4 per cent in 2002. In regard to informal care, in both years the majority of children who used any informal care were in this type of care for less than 10 hours per week, although this percentage fell from 64.2 per cent in 1999 to 58.7 per cent in 2002, with children using between 10 and 19 hours of informal care growing by almost 4 percentage points over the period. A very small percentage in both years spent 30 or more hours in informal care.

Figure 4 **Average weekly hours of care by care type – children aged under two years, 1999 and 2002[a]**




[a] Children using any of the specific types of care

*Note:* Population analysed is where total hours of specific care type is greater than zero.

*Data source:* ABS Child Care Survey, 1999 and 2002

Table 2 **Distribution of hours of formal and informal care, children aged under two years, 1999 and 2002**

| | Percent of all children using formal care | | Percent of children using informal care | |
|---|---|---|---|---|
| | 1999 | 2002 | 1999 | 2002 |
| **<10 hours** | 27.2 | 32.0 | 64.2 | 58.7 |
| **10-19 hours** | 27.6 | 28.3 | 16.7 | 20.6 |
| **20-29 hours** | 17.8 | 19.4 | 8.3 | 10.5 |
| **30-39 hours** | 11.5 | 9.8 | 3.4 | 4.0 |
| **40 or more hours** | 15.9 | 10.6 | 7.4 | 6.2 |
| **Total** | 100.0 | 100.1 | 100.0 | 100.0 |

[a] Children using any of the specific types of care

*Note:* Population analysed is where total hours of specific care type is greater than zero.

*Data source:* ABS Child Care Survey, 1999 and 2002

Tables 3 and 4 show trends in the proportion of children using formal and informal care and hours of care for children less than two years of age broken down by demographic characteristics. The results show that some types of families with very young children experienced very strong growth in the use of care between 1999 and 2002. Families where the mother was not working, for example, saw the percentage of children aged under two years using CCB formal care rise by 11 percentage points across the period, while the use of formal care actually fell for families where the

mother worked more than 35 hours per week. Trends in CCB formal care for children aged under two years also differed sharply by family income, with the most affluent families experiencing falls in average hours of use, and only a very small rise in the percentage of children using care, while families with lower incomes showed a strong increase in use both in terms of percentage of children using care and hours of usage.

Trends in the types of families with very young children using formal care should be interpreted in the context of information about hours of care used. Average hours of care grew only modestly for children whose mothers were not working, or working relatively little. Indeed, in both years, the majority of children whose mothers were not in the labour force used less than 10 hours of formal care per week - 59.3 per cent in 1999 and 63.3 per cent in 2002 (results not shown). These figures can be compared with the overall percentage of children using very few hours of care (shown in Table 2), which was less than one-third in both years. Percentages of children whose mothers were not in the labour force using 30 or more hours care are too small to be reliable estimates, but it would certainly appear that children under two years of age whose mothers are not in the labour force are very seldom using long hours of formal child care.

There was, however, growth in both child care use and hours of use for children in low income families and in single parent families. For example, children in single parent families saw average weekly hours of CCB formal care rise from almost 17 hours on average in 1999 to over 19 hours in 2002, while couple families show a fall in hours used over the same period.

Informal care trends were more evenly distributed among different types of families, although informal care use did increase among higher income families, and families in which the mother worked more than 35 hours per week. This, combined with a fall in formal care use for this group, may reflect a trend for higher-earning mothers of very young children to use informal rather than formal care. Children in single parent families showed the strongest increase in informal care hours, thus experiencing an increase in hours for both formal and informal care.

## Table 3 Percentage of children aged under two years using care by care type and demographic characteristics, 1999 and 2002[a] [b]

| | *Percentage of children using CCB formal care* | 1999 | 2002 | % point change |
|---|---|---|---|---|
| ***Family type*** | Couple family | 25.9 | 33.3 | 7.4 |
| | One parent family | 24.4 | 35.2 | 10.8 |
| ***Labour force status of mother*** | Mother employed | 39.2 | 40.9 | 1.7 |
| | Mother unemployed | ** | ** | ** |
| | Mother not in labour force | 10.8 | 21.0 | 10.1 |
| ***Hours of work of mother*** | Mother not working | 12.1 | 23.1 | 11.0 |
| | Mother worked less than 16 hours | 25.4 | 32.1 | 6.7 |
| | Mother worked16 - 34 hours | 38.1 | 46.9 | 8.8 |
| | Mother worked 35+ hours | 59.8 | 49.3 | -10.5 |
| ***Family income*** | $1 - <400 | 22.8 | 29.9 | 7.1 |
| | $400-<$800 | 17.9 | 25.6 | 7.7 |
| | $800-<$1200 | 23.7 | 33.6 | 9.9 |
| | $1200+ | 42.1 | 45.1 | 2.9 |
| | Total | 25.7 | 33.6 | 7.9 |
| | ***Percentage of children using informal care*** | | | |
| ***Family type*** | Couple family | 81.0 | 77.5 | -3.5 |
| | One parent family | 81.2 | 80.6 | -0.6 |
| ***Labour force status of mother*** | Mother employed | 75.3 | 76.7 | 1.4 |
| | Mother unemployed | ** | ** | ** |
| | Mother not in labour force | 85.7 | 81.2 | -4.5 |
| ***Hours of work of mother*** | Mother not working | 86.3 | 80.2 | -6.1 |
| | Mother worked less than 16 hours | 82.4 | 81.8 | -0.6 |
| | Mother worked16 - 34 hours | 79.1 | 73.5 | -5.6 |
| | Mother worked 35+ hours | 62.5 | 72.0 | 9.6 |
| ***Family income*** | $1 - <400 | 80.8 | 84.5 | 3.7 |
| | $400-<$800 | 87.5 | 80.5 | -7.1 |
| | $800-<$1200 | 81.2 | 74.8 | -6.4 |
| | $1200+ | 71.8 | 74.6 | 2.8 |
| | Total | 81.0 | 78.0 | -3.0 |

[a] Children using any of these types of care [b]Family income data based on smaller sample due to missing values for income variables **Results not reported due to low sample sizes

*Note:* Population analysed is where total hours of care is greater than zero.

*Data source:* ABS Child Care Survey, 1999 and 2002

Table 4 **Average hours of care by care type and demographic characteristics, children aged under two years, 1999 and 2002[a] [b]**

| | | Mean hours 1999 | Mean hours 2002 | % point change |
|---|---|---|---|---|
| ***Family type*** | Couple family | 21.4 | 19.0 | -2.4 |
| | One parent family | 16.8 | 19.3 | 2.5 |
| ***Labour force status of mother*** | Mother employed | 23.5 | 21.6 | -1.9 |
| | Mother unemployed | ** | ** | ** |
| | Mother not in labour force | 10.3 | 12.1 | 1.7 |
| ***Hours of work of mother*** | Mother not working | 11.8 | 12.7 | 0.9 |
| | Mother worked less than 16 hours | 10.6 | 14.2 | 3.6 |
| | Mother worked16 - 34 hours | 19.4 | 22.0 | 2.6 |
| | Mother worked 35+ hours | 33.9 | 31.0 | -3.0 |
| ***Family income*** | $1 - <400 | 11.9 | 15.7 | 3.9 |
| | $400-<$800 | 15.2 | 13.4 | -1.8 |
| | $800-<$1200 | 18.1 | 18.0 | -0.1 |
| | $1200+ | 27.4 | 22.2 | -5.2 |
| ***Total*** | Total | 20.8 | 19.1 | -1.7 |
| | ***Average hours informal care*** | | | |
| ***Family type*** | Couple family | 12.2 | 12.4 | 1.5 |
| | One parent family | 11.2 | 14.5 | 29.0 |
| ***Labour force status of mother*** | Mother employed | 16.4 | 15.5 | -5.4 |
| | Mother unemployed | ** | ** | ** |
| | Mother not in labour force | 7.9 | 8.1 | 2.4 |
| ***Hours of work of mother*** | Mother not working | 8.4 | 9.1 | 8.1 |
| | Mother worked less than 16 hours | 10.1 | 9.0 | -11.3 |
| | Mother worked16 - 34 hours | 16.4 | 16.2 | -1.6 |
| | Mother worked 35+ hours | 26.4 | 29.3 | 11.1 |
| ***Family income*** | $1 - <400 | 11.5 | 9.5 | -17.0 |
| | $400-<$800 | 8.6 | 12.7 | 47.3 |
| | $800-<$1200 | 11.5 | 12.3 | 6.8 |
| | $1200+ | 16.6 | 15.1 | -9.0 |
| ***Total*** | Total | 12.1 | 12.7 | 5.6 |

**a** Children using any of the specific type of care **b**Family income data based on smaller sample due to missing values for income variables. ** Results not reported due to low sample sizes.

*Note:* Population analysed is where total hours of care is greater than zero.

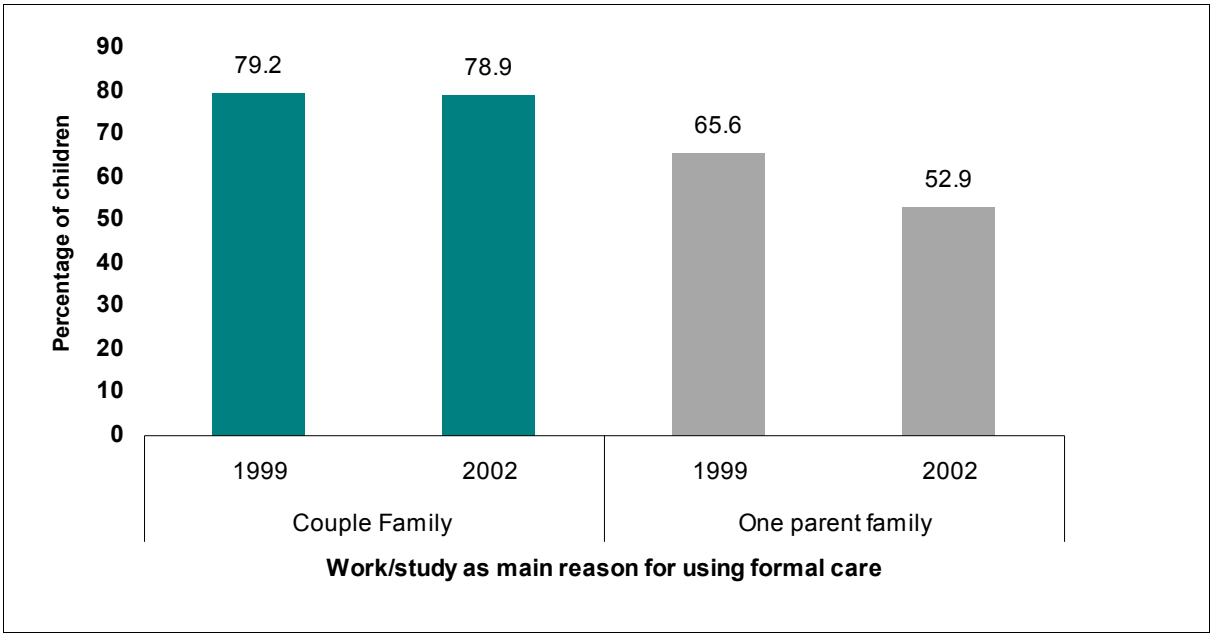
*Data source:* ABS Child Care Survey, 1999 and 2002

## *Reasons for using child care*

Figure 5 presents data about the main reason for using formal care by family type for children aged under two years. These findings show that work or work-related study as the main reason for using formal care remained fairly stable for couple families with children aged under two years across the period, but dropped sharply between 1999 and 2002 for single parent families. Due to this somewhat substantial difference, we examined the results for single parents further. Small sample sizes for many of

the reasons other than work hampered our analysis, but we did find that much of the growth in non-work related reasons for using care among single parents across the period was due to growth in the categories of non-work related study or training, and giving parents a break or time alone (results not shown). In couple families of children under two years of age, "giving parents a break/time alone" also became a more common main reason for using care in 2002 compared with 1999, although for couples non-work related study became a less common main reason for using care across the period.

Figure 5 **Work/study as main reason for using formal care by family type – children aged under two years using some CCB formal care, 1999 and 2002**



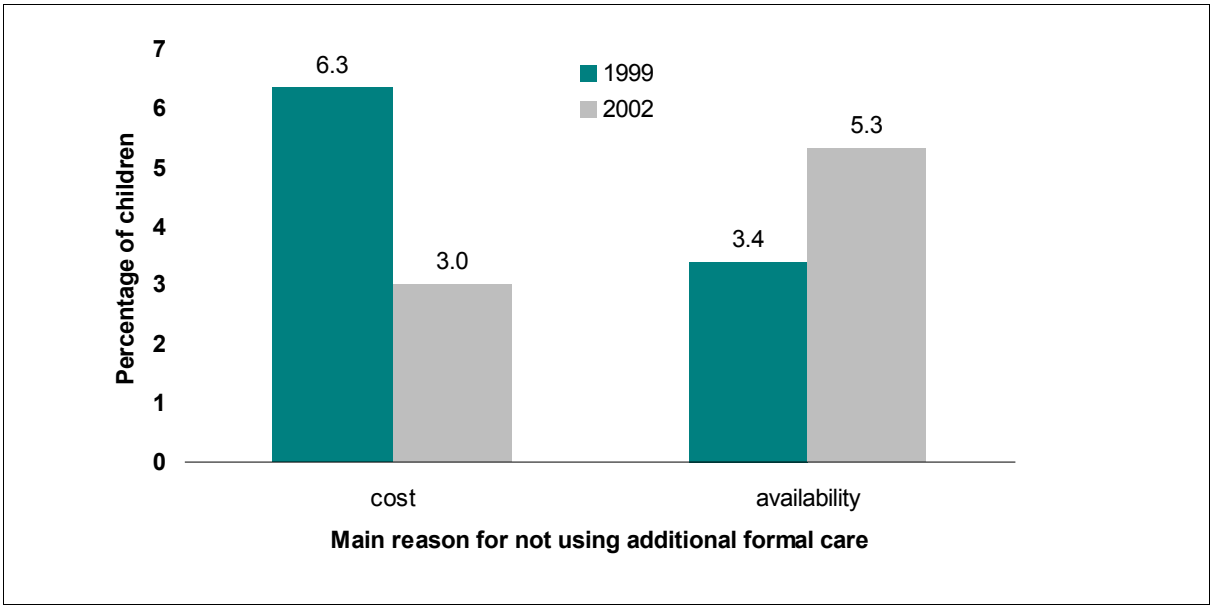

*Note:* Population analysed is where total hours of CCB formal care is greater than zero.
*Data source:* ABS Child Care Survey, 1999 and 2002

## *Demand for additional formal care*

Demand for additional care for children aged under two years (measured by parents stating whether or not they needed additional formal care in the past four weeks) rose slightly between 1999 and 2002, from 6.6 per cent in 1999 to 7.8 per cent in 2002 (results not shown). Reasons for not using additional formal care for this age group are presented in Figure 6. Cost as the main reason that additional formal care was not used in the last four weeks went down from 6.3 per cent in 1999 to 3.0 per cent in 2002. Concern about availability, however, increased over the period, from 3.4 per cent in 1999 to 5.3 per cent in 2002. This suggests that, at least for very young children, while it is possible that the Child Care Benefit may have contributed to

reduced costs of care and a higher percentage of children using such care, other issues remain that limit parents' access to care. These might include concerns such as locality, lack of places, and hours unsuitable for the parents' needs (all included in our definition of availability-related reasons for not using additional care).

Figure 6 **Main reason additional formal care not used in last four weeks by year, children under two years of age, 1999 and 2002[a]**




[a] Population = total population of children aged under two years

*Note:* The category 'other' has not been included in the figure above. In 1999 89.2% of children were not using additional formal care for "other" reasons. In 2002, this figure was 90.6% of children. Most of these were children whose parents did not want to use formal care.

*Data source:* ABS Child Care Survey, 1999 and 2002

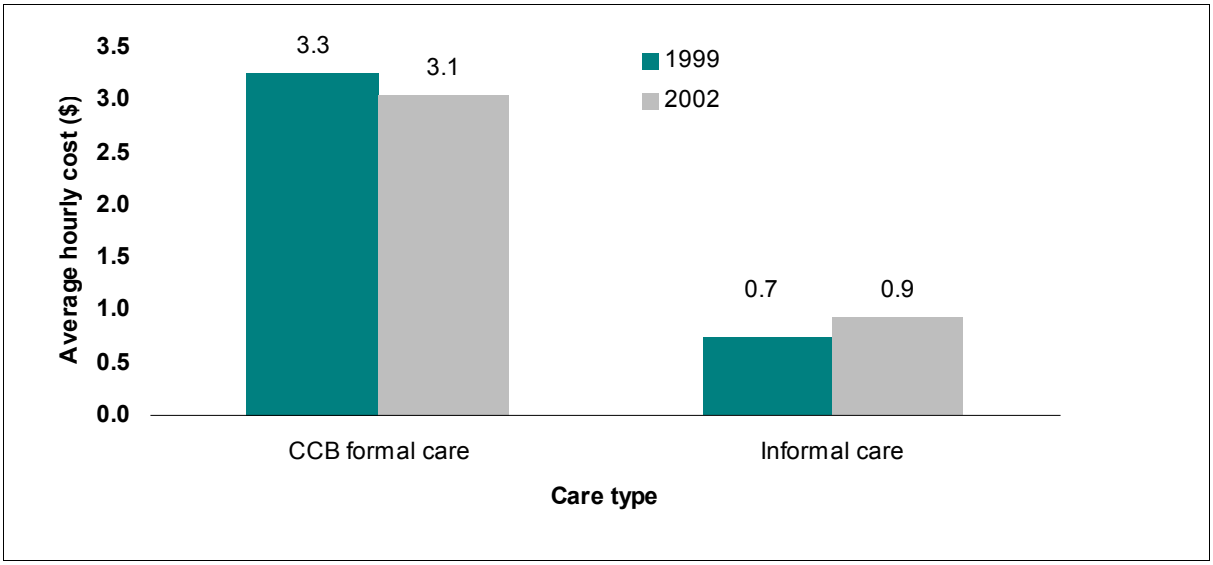
## *Child Care Costs*

Recalling again the limitations we faced in comparing costs across 1999 and 2002 (see methodology section), we present data about total hourly costs of all care data for children who used any of a particular care type (Figure 7), as well as the costs of particular care for children who used only that care type (Table 5). The average total hourly costs for care for parents using **any** CCB formal care for children aged less than two years fell only very slightly between 1999 and 2002 (see Figure 7). Average hourly costs for children using **any** informal care increased marginally across the period.

Average hourly cost data for children who used only CCB formal care, or who used a mix of formal and informal care, is presented in Table 5 broken down by family demographic characteristics. For children aged less than two years using CCB formal

care **only** and those using a mixture of care we found that families with lower incomes and single parent families experienced decreases in hourly costs. Families whose main source of income was government transfers, and who used CCB formal care only, also saw expenses decrease over the period. Families in capital cities saw a very slight fall in costs of CCB formal care, while regional families experienced a cost increase, although this trend was reversed for families using a mixture of care.

Figure 7 **Average total hourly costs of care for children aged under two years by any care type used, 1999 and 2002**




*Note:* Population analysed is where total hours of care is greater than zero. Sample size for cost analysis smaller than for other data due to effects of missing income data (see methodology section). All cost values in 2002 dollars.

*Data source:* ABS Child Care Survey, 1999 and 2002

## Table 5 Average hourly costs of care by care type and demographic characteristics, children aged under two years, 1999 and 2002[a]

| | | 1999 | 2002 | % change |
|---|---|---|---|---|
| | ***Average hourly cost CCB formal care only*** | **Mean hourly cost** | **Mean hourly cost** | **%** |
| ***Family type*** | Couple family | 3.9 | 4.0 | 3.4 |
| | One parent family | 1.7 | 1.2 | -33.3 |
| ***Area of residence*** | Capital city | 4.2 | 3.8 | -10.0 |
| | Balance of state | 2.7 | 3.0 | 10.6 |
| ***Family income*** | $1 - <400 | 2.5 | 1.2 | -53.2 |
| | $400-<$800 | 1.8 | 2.0 | 10.7 |
| | $800-<$1200 | 2.7 | 2.7 | 0.0 |
| | $1200+ | 4.9 | 5.6 | 15.0 |
| ***Main source of income*** | Wages and salary | 4.0 | 4.0 | 0.8 |
| | Government transfers | 1.9 | 0.9 | -51.8 |
| ***Main language spoken at home*** | English | 3.6 | 3.5 | -3.1 |
| | Other than English | ** | ** | ** |
| ***Total*** | *Total CCB only* | 3.6 | 3.5 | -1.7 |
| | ***Average hourly cost mixture of care*** | | | |
| ***Family type*** | Couple family | 2.5 | 2.8 | 13.1 |
| | One parent family | 1.9 | 0.8 | -57.7 |
| ***Area of residence*** | Capital city | 2.6 | 2.9 | 11.8 |
| | Balance of state | 2.0 | 1.7 | -14.4 |
| ***Family income*** | $1 - <400 | 1.3 | 1.1 | -18.6 |
| | $400-<$800 | 1.6 | 1.3 | -21.1 |
| | $800-<$1200 | 1.6 | 1.7 | 3.7 |
| | $1200+ | 3.1 | 3.5 | 13.8 |
| ***Main source of income*** | Wages and salary | 2.6 | 2.7 | 4.2 |
| | Government transfers | 0.9 | 1.1 | 19.1 |
| ***Main language spoken at home*** | English | 2.4 | 2.4 | 1.3 |
| | Other than English | ** | ** | ** |
| ***Total*** | *Total mixture of care* | 2.4 | 2.4 | 0.4 |

**a** Children using only CCB formal care, or a mix of care. Sample size for cost analysis smaller than for other data due to effects of missing income data (see methodology section). All cost values in 2002 dollars. **results not reported due to low sample size.

*Note:* Population analysed is where total hours of specific care type is greater than zero. Average hourly costs of families using informal care only have not been included due to extremely low values.

*Data source:* ABS Child Care Survey, 1999 and 2002

# 5 Multivariate Analysis

The purpose of our multivariate analysis is to examine whether there is a difference in child care usage and costs for children aged under two years between 1999 and 2002 when other factors affecting these outcomes are controlled for, in order to be able to draw some tentative conclusions about the possible impact of the Child Care Benefit. It should be noted that there are a range of factors not controlled for in the models we present here (because they are not available in the data) which are also likely to influence care usage, cost and demand. The presence of additional children in the family, the availability of alternative caregivers, personal preferences about care arrangements, and the availability of additional child care places, for example, are not included in our models. Also, any conclusions we draw about the effects of the Child Care Benefit are preliminary only, as, from the data we have available, we cannot make firm conclusions about whether the patterns evident in the data are due to the impact of the Child Care Benefit, or to other factors beyond the scope of the models.

From the descriptive statistics presented above, it is clear that there was some movement into formal care for children under two years of age between 1999 and 2002. Average weekly hours of care in CCB formal care, however, did not increase over the period. At the same time, costs of CCB formal care fell very slightly. Increases in the use of care were stronger for children from low income and single parent families, and these families also experienced some rise in the average weekly hours of care used, and falls in average costs of care. This final section of the paper examines these trends further, in order to see if the apparent effects of time revealed in the descriptive data persist once a range of other factors are controlled for, and whether these effects are statistically significant. We also ran models examining demand for care, to see if changes in demand for care were statistically significant, but low sample sizes in this model resulted in high standard errors, and the results are not reported here.

As shown in Table 6, once other factors are controlled for, year of the survey continued to have a positive, significant effect on the likelihood of using CCB formal care for children under two years of age. That is, in 2002, these children were more likely to use some CCB formal care than in 1999, even when other factors likely to affect the use of formal care were controlled for. There was, however, no significant change in the hours of CCB formal care for children aged under two years over the same period (which matches with our descriptive findings).

Other significant influences on the likelihood of being in formal care were the increasing age of the child, speaking English at home, and having a non-working father (although this result should be interpreted cautiously due to small numbers of

non-working fathers). Children aged under two years were likely to use significantly more hours of CCB formal care if their mother worked 35 or more hours a week (compared with all other hour categories), and if they lived in a single parent family. Work-related reasons for using care were strong predictors of both the likelihood of using care and hours of care for this age group, which once again supports our earlier findings about generally low hours of use among children whose mothers were not working.

In results not shown, we also ran models using variables which interacted year with income, family type and mothers' work hours. The only significant relationships between these interaction variables and the likelihood of children under two years of age using any CCB formal care were for children whose mothers did not work, or worked between 16 and 34 hours per week. Children in both these groups were more likely than children in the reference group (whose mothers worked 35 or more hours per week) to have used any CCB formal care in 2002 than in 1999. This reflects results presented in Table 3, which showed actual falls in the use of CCB formal care for children under two years of age whose mothers worked 35 or more hours per week.

We found no significant differences between 1999 and 2002 in costs of care for children aged under two years, which was unsurprising given the very modest falls in costs shown in our descriptive statistics. Factors in the costs model that were positively and significantly related to costs for this age group were higher income, higher hours of CCB formal care (which is associated with higher overall costs), and mothers working between 1 and 15 hours per week.[5] We also found that more hours of informal care used for children of this age were associated with significantly lower hourly costs overall, perhaps due to parents substituting unpaid family caregivers for formal care for this age group. Interaction models similar to those described above for the use of care model found no significant relationships between the interaction variables and costs of care.

[5] We also ran a model examining the costs of CCB formal care for children under 2 years of age who used only CCB formal care, but found this produced very similar results to the total hourly costs of care model.

Table 6 **Factors influencing usage of care – children aged under two years: logistic regression and OLS regression results**

| | Likelihood of using CCB formal care | | Hours of CCB formal care | |
|---|---|---|---|---|
| | B-coefficient (SE) | Significance level | B-coefficient (SE) | Significance level |
| **Year=2002** (reference: year=1999) | .29 (.13 ) | 0.029 | .72 (.98 ) | 0.463 |
| **Couple family** (reference: single parent) | .07 (.30 ) | 0.810 | -8.46 (2.11 ) | <.0001 |
| **Age of the child** (in years) | .92 (.14 ) | <.0001 | .56 (1.13 ) | 0.621 |
| **Area of residence capital city** (Reference: balance) | -.06 (.14 ) | 0.641 | -.42 (.98 ) | 0.670 |
| **Main language spoken at home English** (Reference: other language) | 1.16 (.33 ) | 0.000 | -2.97 (2.50 ) | 0.236 |
| **Main reason for using care work related** (Reference: non-work related) | 1.20 (.21 ) | <.0001 | 4.74 (1.46 ) | 0.001 |
| **Mother works zero hours** | -.68 (.27 ) | 0.011 | -18.62 (1.79 ) | <.0001 |
| **Mother works between 1 and 15 hours** | -1.04 (.23 ) | <.0001 | -19.93 (1.56 ) | <.0001 |
| **Mother works between 16 and 34 hours** (reference: 35+ hours per week) | -.60 (.21 ) | 0.004 | -12.96 (1.29 ) | <.0001 |
| **Father works zero hours** | .80 (.26 ) | 0.002 | -2.70 (1.90 ) | 0.156 |
| **Father works between 1 and 15 hours** | .81 (.48 ) | 0.094 | 4.66 (3.49 ) | 0.184 |
| **Father works between 16 and 34 hours** (reference: 35+ hours per week) | -.08 (.21 ) | 0.693 | -.70 (1.56 ) | 0.651 |
| **Family income between $400 and $800** | -.21 (.28 ) | 0.452 | .26 (2.06 ) | 0.899 |
| **Family income between $800 and $1200** | .11 (.34 ) | 0.753 | 2.83 (2.48 ) | 0.255 |
| **Family income greater than $1200 income** (Reference: $1 to $400) | .43 (.34 ) | 0.204 | 4.29 (2.52 ) | 0.090 |

Note: Families with income less than or equal to zero were included in the model, but results are not reported here. Main source of income were also included in the model, but were not significantly related to the dependent variable once other factors were controlled for.

*Data source:* ABS Child Care Survey, 1999 and 2002.

Table 7 **Factors influencing average hourly costs of all care, children aged under two years**

| | Hourly costs of all care | |
|---|---|---|
| | B-coefficient (SE) | Significance level |
| **Year=2002** (reference: year=1999) | .04 (.15 ) | 0.776 |
| **Couple family** (reference: single parent) | .38 (.34 ) | 0.271 |
| **Age of the child** (in years) | .19 (.15 ) | 0.219 |
| **Area of residence capital city** (Reference: balance) | .05 (.15 ) | 0.722 |
| **Main language spoken at home English** (Reference: other language) | .18 (.32 ) | 0.572 |
| **Main reason for using care work related** (Reference: non-work related) | .38 (.24 ) | 0.103 |
| **Mother works zero hours** | .43 (.34 ) | 0.213 |
| **Mother works between 1 and 15 hours** | .67 (.31 ) | 0.031 |
| **Mother works between 16 and 34 hours** (reference: 35+ hours per week) | .48 (.27 ) | 0.077 |
| **Family income between $400 and $800** | -.36 (.32 ) | 0.253 |
| **Family income between $800 and $1200** | -.26 (.37 ) | 0.483 |
| **Family income greater than $1200 income** (Reference: $1 to $400) | 1.15 (.37 ) | 0.002 |
| **Hours of CCB formal care used** | .05 (.01 ) | <.0001 |
| **Hours of informal care used** | -.02 (.01 ) | 0.001 |

Note: Families with income less than or equal to zero were included in the model, but results are not reported here. Main source of income variables and father's hours of work were also included in the model, but were not significantly related to the dependent variable once other factors were controlled for.

*Data source:* ABS Child Care Survey, 1999 and 2002.

# 6 Conclusion

Our findings show that the percentage of very young children using CCB formal care rose between 1999 and 2002, from 13.1 per cent of all children aged under two years in 1999 to 15.3 per cent in 2002. This rise in the use of formal care was accompanied by a fall in the use of informal care, with 41.4 per cent of children aged under two using informal care in 1999, compared with 35.5 per cent in 2002. When we examined patterns of use among children who used some type of care (formal or informal), we found that the rise in formal care use was statistically significant, but that informal care use had fallen only very slightly among children using some care, suggesting that many of the parents moving towards formal care over the period were combining this care with some amount of informal care. Average hours spent in formal care were slightly lower in 2002 than in 1999, while average hours of informal care were very slightly higher in 2002 than in 1999, although neither of the movements in average hours were statistically significant once other factors were controlled for.

When we analysed these overall trends more closely, we found that children from families with particular characteristics experienced varying degrees and types of changes over the period. Growth in care use was stronger among low income and single parent families, and in families where the mother was not working, or working relatively few hours. On average, hours of CCB formal care used for children aged under two fell over the period, but, as was the case for the number of children using care, some substantial increases in hours of care occurred in low income and single parent families, and in families where mothers worked part-time.

We examined the situation of those children whose mothers were not in the labour force further, and found that the overwhelming majority of these children were using very few hours of formal care per week. We also found that the percentage of single parent families (although not couple families) reporting work or work-related study as the main reason for using care fell over the period. While, as we have noted, a non-work related main reason for using care does not necessarily mean that parents were not working, it may be that some mothers are using short periods of CCB formal care to accomplish tasks difficult to manage with a baby or toddler, such as medical appointments, non-work related study, or involvement in an older child's education, or simply having a brief break from caring responsibilities, which may be particularly difficult for single parents to achieve without the availability of formal child care services.

While the use of formal care rose, hourly costs of care in real dollars remained fairly flat over the period, dropping only very slightly between 1999 and 2002. It is difficult to make direct comparisons between our findings from the surveys about parents' out of pocket costs, and fees actually charged by centres, but it does appear as

though the Child Care Benefit may have helped to offset the effects of fee increases. Our finding of slight falls in costs for children using only CCB formal care between 1999 and 2002 contrasts with increases in fees for private (although not community) long day care and family day care over the period.

The small decreases in costs that we found were not evenly spread across demographic groups. When we examined our costs data by demographic characteristics, we found that costs of CCB formal care had fallen in real terms much more than the average for families on low incomes. Single parent families also experienced real falls in costs of care (although multivariate analysis found that these were not statistically significant), while couple families actually experienced slight average cost increases. Findings about regional differences in movements in costs over the period were mixed.

In considering the implications of these differences between parents out-of-pocket expenses and actual fee increases between 1999 and 2002, it is noteworthy that the Child Care CPI (which reflects actual costs to parents of child care) did fall in the period following the introduction of the Child Care Benefit, but began to rise again by the end of 2001, and has continued since then to rise steeply (Cassells et al, 2005). So it may be that the apparent effects of the Child Care Benefit on costs to parents in the period first following its introduction (the 2002 survey was conducted in June, two years after the introduction of the Child Care Benefit) may not be as strong in subsequent years.

However, these findings overall provide tentative support for the impact of the Child Care Benefit on both costs of care and the number of children using care, and for its redistributive effects, especially in relation to costs for very young children.

Our findings about the increase in the use of formal child care by children aged under two years with non-working mothers raise some interesting questions. First, these mothers are overwhelmingly using care for relatively short periods of time, and it would be interesting to know more about the ways in which this care is being used, and the extent to which it might be providing important support and respite for mothers caring full-time for very young children, and thus contributing to the overall well-being of mothers, children and families.

In addition, our finding that formal care use by mothers of children under two years of age working full-time or close to full-time fell over the period raises questions about possible changes in decision-making about child care, and possibly about arrangements within families about caring for infants and toddlers. The slight increase in demand for additional formal care for very young children which we found, linked with problems with availability rather than cost, supports anecdotal evidence about shortages of care for children of this age group. Finally, it should be noted that our findings about demand for care relate only to those children who are

currently using some type of care, and that it could be that awareness of shortages, or concerns about quality of care, could have contributed to the very large and growing number of parents of very young children who use no formal or informal care arrangements.

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