

1 Introduction

Background

Although informal carers have traditionally provided the bulk of care and assistance for people who cannot fully care for themselves, the past two decades have seen a growing awareness of both the importance of and the challenges faced by these carers. The shift in the provision of health and community services away from institutional settings towards care in the home and community has been associated with increased reliance on informal carers and recognition of their role and its demands. Between 1981 and 1998 the proportion of people with a severe or profound core activity restriction who were living in cared accommodation ¹ decreased from 20% to 15% (AIHW analysis of Australian Bureau of Statistics Survey of Disability, Ageing and Carers). As the use of institutional care declined, the size and range of community care programs grew exponentially. So too did the availability of programs specifically aimed at supporting carers, including respite services and income support through the Carer Payment and Carer Allowance (AIHW 2001).

At the same time a growing body of research identified the characteristics of carers and the extent of the impact of the caring role. Surveys of carers (for example, Braithwaite 1990; Schofield et al. 1997) have consistently identified informal carers as most likely to be a spouse (mostly wives), adult offspring (mainly daughters) or parents (mostly mothers). Carers most often live with the person for whom they care and are predominantly among the middle to older age groups. Indeed, carers of older people are predominantly older people themselves. The results of the 1998 Survey of Disability, Ageing and Carers (ABS 1999a) support these findings. The survey found that 70% of primary carers were women. Detailed data collected on primary carers aged 15 years or over revealed the following:

- 43% were the spouse or partner of their main care recipient;
- 44% of spouse or partner carers were male;
- 85% of primary carers aged 60 or more years were caring for a spouse or partner;
- 97% were relatives;
- 79% lived with the care recipient; and
- 67% were aged between 25 and 59 years and 29% were aged 60 or more years.

The 1999 National Survey of Carer Health and Wellbeing provided insight into the demands and pressures experienced by carers. Results revealed that many carers reported declines in their physical, mental or emotional health as a result of their caring responsibilities (CAA 2000). In addition, nearly 60% reported major effects on their life choices, including restrictions on their ability to take part in paid work, education or other career opportunities. The Young Carers Research Project (CA 2001) revealed that young carers experience similar effects which are compounded by a systemic lack of recognition of their existence and circumstances.

¹ Including general and psychiatric hospitals, aged care homes, retirement villages and other non-private 'homes'.

Government programs continue to explore ways of addressing the needs and problems faced by carers. For example, more recent initiatives have seen the development of programs such as Commonwealth Carelink Centres and Carer Resource Centres, which aim to improve the support, education and information available to carers.

Factors affecting the future of informal care

Considerable uncertainty remains about the future of informal care. Some observers of change in the United States have proposed that the ageing of the population brings with it a larger proportion of the population with health and personal care needs and that this occurs at the same time as the traditional supply of paid and unpaid caregivers shrinks (NHPPF 2002). A review of United Kingdom literature by Pickard et al. (2000) identified a number of reasons for anticipating a potential decline in the availability of informal care, among them the changing structure of the population, rising childlessness, decline in family size, changing living arrangements, shifts in the nature of family obligations and commitment, higher divorce rates, and rises in employment rates among married women.

Many of these trends are evident in the Australian context but researchers have pointed to characteristics of the Australian situation that may support the continuing availability of carers. Although fertility rates are declining, the decline in the number of children per family will not occur until the 'baby boomers' replace their parents at the top of the population pyramid. In Australia, the post World War 2 'baby boom' was later and longer than in many other countries, thus delaying this decline in family size. The 1990-91 Mid-Term Review of the Aged Care Reform Strategy concluded that this factor and sustained immigration would contribute to continued growth in the availability of potential carers for some three decades (DHHCS 1991:13).

Since the time of this observation, however, some qualified evidence has emerged to suggest that the number of informal carers may have decreased. Population estimates for the number of informal carers in Australia were obtained from national surveys conducted in 1993 and 1998 by the Australian Bureau of Statistics. Changes in the methodology used to identify carers who lived with their care recipients cast some doubt on the validity of comparing the results for these two surveys, particularly with respect to this group. However, the methodology used to identify non-co-resident carers did not change between the two surveys and comparison of the two surveys shows a decrease over time in the number of these carers.

A more recent examination of population trends by the Australian Institute of Health and Welfare found that there could be an increase in the number of potential carers for older people in the next decade since the number of people aged 45-64 years is projected to be substantially higher than that of those aged 65 years and over during the period (AIHW 2000:25). However, the growth of the 45-64 years age group is also likely to bring with it an increase in the number of people with a disability. Another countervailing trend is the continued ageing of carers. Madden et al. (AIHW: Madden et al. 1996) note that 65% of parents aged 65 years and over who have been caring for their children with disabilities have been doing so for 25 or more years and 45% have been providing care for 30 or more years. As these long-term carers age they are increasingly likely to seek alternative long-term care arrangements for their children.

Rowland (1991) suggested that the post-war marriage boom resulted in an increase in potential family support. Over time, however marriage rates have declined while divorce rates have increased (ABS 1999b) – factors that may limit this additional family support.

Although the number of people remaining single is increasing, Howe and Schofield (1996) argue that this is mainly in the generation who are the children of the baby boomers. Among the oldest generation, improving life expectancy for men reduces the proportion of people at these ages who are widowed. Indeed, Rowland proposes that carer outcomes as affected by marriage should be examined using cohort analyses. Research of this nature by Shaw and Haskey (1999) and Shaw (2000) led to the proposition that a rise in the proportion of older women with partners will occur in the United Kingdom in the future because the proportions of women ever marrying are higher for cohorts currently aged between 40 and 65 years than for older cohorts and because improved male life expectancies will result in fewer widows. Australian projections to 2006 produced for the Institute (AIHW 1997) indicate an increase in the number of older people living as couples in households. McDonald (1997) points out, however, that, while married couples may be surviving longer together, it is possible that both will require care at the same time.

Concerns have been expressed about the impact of increased participation in the labour force by women on carer availability (for example Schofield & Bloch 1998). Chappell (1990) argued, however, that there is little evidence that this increased workforce participation has resulted in reduced care for older people in the United States – an argument supported by the research of Aytac and Waite (1995). Howe and Schofield (1996) maintain that changes in patterns of labour force participation will not be so large as to threaten the availability of carers in the future and that increased flexibility of work arrangements will allow carers to work and continue their caring role. Since the time of Howe and Schofield's paper older women's labour force participation has risen beyond projected participation rates: between 1988 and 2001 Australian female labour force participation rates rose from 33% to 49% for women aged 55–59 years, while that for women aged 60–64 years increased from 16% to 25% (AIHW 2002:14). Howe and Schofield further argue that family changes will not negatively affect the supply of carers since future cohorts of women will, on the whole, have finished with their child-rearing responsibilities before they may need to care for their ageing parents. In contrast, Millward (1999) claims that there is evidence of many carers having dual caring responsibilities or other responsibilities in addition to caring.

This report does not aim to forecast the supply of informal care based on the likely effects of a complex mix of relevant variables. Nor does it aim to resolve the debate about the influence of the range of social changes on the future availability of carers. The purpose of this investigation is to project the likely impact of particular social changes should they occur in the context of current demographic and social trends. In particular, the study explores, in the context of projected demographic changes, the consequences of:

- an overall decline over time in the willingness of people to care;
- a decrease in the supply of carers that could result from reduced willingness on the part of women to leave the paid workforce to care; and
- an increase in the supply of carers that might result from greater numbers of older co-resident spouses and partners.

The projections serve to illustrate the situation that would arise if the specified assumptions were to apply over the projection period – from the observed situation in 1998 to 2003, 2008 and 2013. The scenarios are compared with a baseline calculated as the projected number of carers that would be available, given population growth, should the number of carers available per head of population remain the same over time in each projection category. The baseline assumes that the proportion of younger carers in each age, sex and labour force participation category will remain the same over time and that the proportion of older carers in the relevant age, sex and living arrangement categories will remain the same. It also

incorporates projected changes in part-time and full-time labour force participation, including increases in female labour force participation, projected changes in living arrangements for older age groups, projected changes in the age and sex structure of the population and, of course, projected increases in the size of the population. This scenario thus provides a picture of the future availability of carers based on previously experienced caring patterns and expected changes in key variables. The authors are not suggesting that the number of carers per head of population in each projection category will necessarily remain the same over time. Rather, the baseline scenario provides a point of reference for understanding the possible effects of projected changes in relation to age, sex, labour force participation, living arrangement and associated carer availability. It also provides a point of reference against which to gauge the effects of other potential scenarios.

2 The methodology

Supply- and demand-based projections

Although the literature dealing with projections of informal care is limited, Pickard et al (2000) note that two approaches have dominated, both having their origins in economic models. In one approach, projections of informal care are demand-led, insofar as the need for care determines the projections of the informal care that is required. In the other approach, projections of informal care are supply-led, in that provision of informal care is determined by how many people will be able to provide care. It is the supply side issues – the likely availability of informal carers into the future – that is of most concern for long-term care planning.

It would be an extreme theoretical position to propose that the supply of informal care has little relation to the demand for care; that is, that the determinants of social change will act to reduce the number of carers regardless of the growing needs of those affected by disability or illness. Nevertheless it has been observed that many people with considerable care needs do not have a carer: in 1998 there were 1,039,100 people aged 10 years or more with a severe or profound core activity restriction and, of these, just two in five received assistance from a primary carer (AIHW analysis of ABS Survey of Disability, Ageing and Carers). Clearly, the relationship between demand and supply is complex and multi-faceted. The literature is replete with cases in which the demand for care falls unevenly and sometimes unreasonably on carer (for example Braithwaite 1990; CAA 2000; DFACS 2002). In 1998, for instance, 9% of primary carers experienced a severe or profound core activity restriction themselves (AIHW 2002:43). Informal care can also be provided at differing levels depending on the type of help required. For example, Parker and Lawton (1994) observed that help with personal or physical tasks is more likely to come from within the household. Further complicating the picture is the observation that an individual's demand for care can sometimes be at odds with what might be considered to be needed by a more objective observer. Gibson et al. (1996) found that around half of carers with a highly intensive caring role – providing assistance with five or more activities of daily living – and having high vulnerability (measured by the availability of support and an indicator of psychological burden) had never made use of formal respite care.

It is beyond the scope of this report to resolve the debate surrounding the nature of the relationship between the demand for and the supply of informal care. It is, however, necessary to make some observations about how demand might change during the projection period and the assumptions about how this might affect supply.

The demand for informal care

As Howe and Schofield (1996: 5) note, 'the underlying determinant of the need for care is the level of disability in the community'. Rates of disability increase with age, as does the likelihood that an individual will need assistance in at least some area of daily living. Among older people, the rates of severe or profound core activity restriction are quite low until age 75 years. For people aged 65–69 years in 1998, for example, only 8% of men and 9% of women were so affected. By age 75–79 years however, 19% of men and 25% of women reported this level of restriction, while at ages 80–84 years the rates were 24% and 36%

respectively (AIHW 2001). Considerations of the need for care and the likely future need for care must therefore take account of these factors – the changing age structure of the population and the level of disability in the population.

The Australian population will continue to age – the inevitable result of declining mortality rates and low levels of fertility over a long period. Table 1 shows the projected population of Australia as prepared by the Department of the Treasury and reported in the Intergenerational Report (Costello 2002).² According to these projections, the expected growth in the population aged 85 or more years is from 300,000 in 2002 to 1.1 million in 2042, or from 1.5% of the population to over 4% of the population.

Table 1: Australian population projections for selected age ranges (millions of people)

Age range (years)	2002	2012	2022	2032	2042
0–14	3.9	3.8	3.8	3.8	3.7
15–64	13.2	14.6	15.1	15.3	15.4
65–84	2.2	2.7	3.8	4.7	5.1
85+	0.3	0.4	0.5	0.8	1.1
Total	19.6	21.5	23.2	24.5	25.3

Source: Costello 2002:22.

A preliminary comparison of the four disability surveys carried out by the Australian Bureau of Statistics (1981, 1988, 1993 and 1998) showed that, while the rate was relatively stable between 1981 and 1993, the overall age-standardised rate of severe or profound core activity restriction increased from 4.0% in 1993 to 5.5% in 1998 (ABS 1999a). The increase may, however, be attributed to a greater willingness of people to recognise and describe their disabilities and changes in survey methods and design (Widdowson 1996; AIHW 2001:267). A comprehensive review of international literature on disability trends in 1998 showed evidence that disability rates among older people are declining in most industrialised countries, although much of the decline appears to be concentrated at lower levels of disability. It also showed that in Australia, in contrast, there has been no consistent trend for either declining or increasing disability rates (Waidmann & Manton 1998). The Institute’s analyses of the ABS surveys support this view, with a general conclusion of overall stability combined with modest increases in a subset of age and sex categories, predominantly younger males (AIHW 2000:67–82)

On the basis of this review of the evidence, it might reasonably be assumed that the age- and sex-specific rates of disability in the population will remain constant over time. Thus, if the 1998 disability rates continue – that is, if the number of people with a severe or profound core activity restriction per 1,000 people in each age and sex group in the population stays the same – it is estimated that by 2013 population growth will result in 1,426,100 people aged 10 years or more with a severe or profound core activity restriction, 57% of whom will be female. As with any projected figures, though, calculations are based on an underlying assumption that current conditions will continue. Events such as major medical

² Department of the Treasury projections are presented here for consistency with the source of part-time and full-time labour force projections used in this report (the ABS was unable to supply labour force projections at the required level of detail). The total population projections in Table 1 differ from corresponding ABS projections by 0.8% at most.

breakthroughs or the emergence of new disabling conditions could alter these future population disability rates in unforeseen ways.

The projections of the future supply of informal care that are presented in this report are based on the numbers of people responding to the care needs of others by acting in a primary care role in 1998 with future projections based on specified changes in behaviour that affects the likelihood of people being primary carers. Thus the projections are based on social conditions and characteristics that have resulted in the population of carers evident in 1998, including the prevalence of disability. By assuming that disability prevalence will remain constant over the next decade, a key factor that could in reality influence future supply is held constant in this set of future scenarios.

The projection method

It would be optimal to base projections of the future availability of informal carers on the findings of a time series analysis. Using time series data, the trend observed over a previous period is extrapolated over a future period, taking into account other factors that influence change. Three techniques based on this methodology were considered: macrosimulation, dynamic microsimulation and the propensity method.³ In each case, however, the data available to support use of the technique were insufficient or inadequate.

While carers in the 1993 and 1998 ABS surveys are conceptually the same, the methodology for collecting the data changed. The method was the same for carers who cared for someone outside the household but different for carers who cared for someone within the household. In 1998, any responsible adult in the household was asked if there was a carer living in the household. If a carer was identified, the carer was asked a series of questions to confirm whether he or she was a carer for someone inside or outside the household. This method was used in 1993 to identify carers in the household who were caring for someone outside the household. To identify co-resident carers, however, any responsible adult was asked if there was someone with a disability in the household and if so the person with the disability was asked a series of questions to determine who their carer was. If the person identified was another member of the household, that person was interviewed to determine whether he or she was a carer.

This difference in the methodology makes the carer populations as measured in 1993 and 1998 non-comparable. Further, the 1993 ABS Disability, Ageing and Carers Survey data resulted in a very small number of carers aged 70 years or more and a high number of employed male carers, both of which groups were considered unrepresentative of the carer population. Of the two surveys, the 1998 data are therefore considered more reliable since they result in a more likely age structure for carers and give, as expected, a smaller estimate for the proportion of employed males who are carers.

The significantly different carer distributions in 1993 and 1998 and the unreliable components of the data in 1993 meant that projection methods that require a time series could not be used. A scenarios approach was adopted instead, because it overcomes data limitations and allows a number of projections using different assumptions.

³ See the glossary for brief descriptions of these projection techniques.

The scenarios approach

This report looks at alternative scenarios for the future supply of informal carers in 2003, 2008 and 2013. The basis for the calculation of projections in these scenarios is the findings of the 1998 ABS Disability, Ageing and Carers Survey and, in particular, the estimated carer rates it produced. 'Carer rates' refers to the number of carers per 1,000 population in a specific category such as the number of male carers per 1,000 males aged 60–64 years who are living with a spouse or partner. When using the scenarios approach, carer rates are applied to projected population numbers for the three future years (2003, 2008 and 2013). Projected population numbers take into account the changing age and sex distribution of the population and incorporate projected changes in labour force status and living arrangements. Carer rates and population projections must be available for the same population subgroups because the projections are calculated by multiplying together the matrix of population projections with carer rates. The level of detail available for projections thus depends on the availability of population projections at that level, which allows the derivation of the carer rates corresponding to each population group in the projection design.

It is not difficult to obtain carer rates and population projections for the same groupings of age and sex, but for other variables of interest the methodology is more complex. In particular, comparable categories must be obtained for labour force status and for the category of co-resident spouse or partner. A further limitation is that small estimates from the Survey of Disability, Ageing and Carers are unreliable. To overcome this, carer rates for some groups (particularly in relation to male carers) were combined to improve reliability.

Measures and data sources

Informal carers

The 1998 Survey of Disability, Ageing and Carers collected information about informal assistance provided by carers. A 'carer' was defined as a person of any age who provides any informal assistance, in terms of help or supervision, to people with disabilities or long-term conditions or to people aged 60 years or over. The assistance must be ongoing, or be likely to be ongoing, for at least six months. Where the assistance is provided to a person in a different household, the assistance must relate to 'everyday types of activities'. Where the carer and the recipient live in the same household, the assistance must be for one or more activities related to self-care, mobility, communication, health care, housework, meal preparation, paperwork, property maintenance or transport (ABS 1999a).

A 'primary carer' was defined as a person of any age who provides the most informal assistance to a person with one or more disabilities. The assistance must be ongoing, or be likely to be ongoing, for at least six months and must be provided for one or more of the three core daily activities – self-care, mobility and communication (ABS 1999a:71).

The main differences between a carer and a primary carer:

- A primary carer must provide 'the most' informal assistance.
- The care recipient of a primary carer must be a person with a disability (as opposed to a person aged 60 or more years without a disability, as defined in the survey).
- To be primary carer, the assistance provided must relate to one or more core activities.

The projections calculated in this report relate only to primary carers, since they constitute the group that provides most assistance to people with core activity restrictions and because information about carers' demographic and labour force characteristics, the care they give, the support they receive, their relationship with the care recipient and the impact of the caring role on their lives is gathered comprehensively for this group and less so or not at all for non-primary carers. Thus, for the purposes of this report the terms 'carer' and 'informal carer' are used to refer only to primary carers.

Primary carers were identified by the following method: a responsible adult from the sampled household was asked to identify whether a member or members of their household provided care (as defined by the broader definition just given) to someone in the same household or in another household. The household member identified as a carer was then interviewed, and further information was collected to confirm and clarify their carer status and to collect other relevant details.⁴

Carers examined in this report are defined as those people aged 10 years or more. Methodological constraints precluded the examination of carers aged less than 10 years. However, as the report of the Young Carers Research Project notes, 'In Australia, young carers have been identified by services as being as young as 6 years of age, and just under half of young carers are below 18 years of age' (DFaCS 2002:10). While it was not possible to calculate projections for this group, it is acknowledged that these carers face particular challenges. In some cases it could be argued that the existence of very young carers is symptomatic of the decline in the availability of carers of more appropriate ages and of the need for stronger formal supports.

Age, sex and labour force participation

Labour force projections provided by the Department of the Treasury and consistent with those used in the Intergenerational Report are used in the scenarios that take this variable into account. The projections assume a constant rate of future unemployment (5%) and that past trends of increasing female labour force participation and decreasing male labour force participation will continue but taper off as they approach each other (Costello 2002). The Department of the Treasury was able to provide projected rates of full-time and part-time labour force participation and rates for people projected to be unemployed or not in the labour force.⁵

These projections take into consideration both demographic (age and sex) and labour force changes over time. Standard ABS projections of labour force participation do not include the full-time/part-time split for labour force participation for females, which was considered to be an essential element in developing the carer scenarios. The age and sex population projections provided by the Department of the Treasury are used in this report for population projections for carers of all age groups.

The 1998 Survey of Disability, Ageing and Carers (ABS 1999a) identifies the labour force status of carers. Through a series of questions, carers are identified as being in the labour force or not in the labour force. Those who are in the labour force are identified as either

⁴ Further information about the methodology used in the Survey of Disability, Ageing and Carers can be obtained from the Australian Bureau of Statistics (ABS 1999a).

⁵ ABS projections of labour force participation broken down by full-time and part-time employment were not available. It was necessary to distinguish between full-time and part-time employment because of the predominance of women among working-age primary carers.

working or looking for work. Those working are identified as full-time or part-time, with the number of hours worked recorded. Full-time workers are people who usually work 35 or more hours each week in all jobs. Part-time workers are those who usually work less than 35 hours a week. In addition, the survey collects data on the impact of the caring role on labour force participation. The number of hours of work while providing care and the number of hours worked prior to providing care are recorded along with the reason these hours changed.

Living arrangement: co-resident spouse or partner

The projections for living arrangement were taken from the ABS household and family projections report, in which the projections were based on the three previous censuses of population and housing (ABS 1999b). The ABS household and family projections were calculated using the propensity method, where an assumed proportional distribution of characteristics is applied to population projections by age and sex. This method assumes the trends over the past three censuses accurately reflect underlying changes in living arrangement characteristics and that this trend will continue to 2013.

In the ABS household and family projections report, 'living arrangement' is defined as combining the concepts of 'relationship in the household', 'family type', and 'household type'. Household types are 'family households', 'group households' and 'lone person households'. Family types are 'couple family with children', 'couple family without children', 'one-parent family' and 'other families'. For couple families without children, two relationships are defined – 'husband, wife or partner' and 'other related individual'. For the purpose of the projections in this current report, the family types 'couple family with children' and 'couple family without children' with the relationship 'husband, wife or partner' were the categories of interest. ABS projections for all other living arrangement categories were collapsed into one category, identified as 'Other living arrangement'.

The 1998 Survey of Disability, Ageing and Carers (ABS 1999a) identifies the relationship of the carer to the care recipient and whether carers are usually living with the care recipients. The relationship category of 'spouse/partner' was the relationship category of interest in conjunction with the co-resident status. For compatibility with the ABS living arrangement projection categories, other relationships and living arrangement categories were collapsed into one.

The Treasury population projections do not contain data on living arrangement. For each age and sex category of the Treasury population projections, the portions in each living arrangement were calculated using the ABS projections.

An additional assumption was made that there were an equal number of males and females with a spouse or partner. This was necessary because the projected ABS living arrangement categories do not provide these data by sex and, while the number of same-sex partners is considered to be small, accurate estimates are not available for the period of interest. In addition, same-sex partners are not clearly included as a spouse or partner in the Survey of Disability, Ageing and Carers.

Constructing the scenarios

A 'baseline propensity to care scenario' was constructed for each of the age groups 10–24 years, 25–59 years, and 60 or more years. This scenario applies 1998 carer rates, by projection category, to the corresponding projected population in that category for each of

the projection years to 2013. For the 10–24 years age group, the sole projection axis is sex: high relative standard errors of population estimates stratified by both sex and labour force status ruled out finer granularity in the projections for this age group. For the 25–59 years age group, projection categories were formed from a stratification of age, sex and labour force status: for males, the labour force categories ‘employed’ and ‘unemployed or not in the labour force’ were used; for females, ‘employed’ was further divided into full-time and part-time employed; carer numbers in 2003, 2008 and 2013 were derived by applying the 1998 proportion of carers by age group (25–34, 35–44, 45–54 and 55–59 years), sex, and labour force category to the corresponding projected population. The same method was used to construct a ‘baseline propensity to care scenario’ for the population aged 60 or more years, except that in this case living arrangement replaced labour force status as the third axis. Normally, workforce participation is calculated for ages 15–64 years. For the sample of carers collected in the 1998 Survey of Disability, Ageing and Carers, however, the number of people aged 60–64 years in the labour force was extremely small and the resulting population estimates have very high associated relative standard errors. It was also thought that the availability of a co-resident spouse or partner would explain more of the change in the availability of carers than labour force participation in this age group. As noted, the living arrangement projection categories were ‘co-resident spouse or partner’ and ‘other living arrangement’. Five-year age groups from 60–64 to 80 or more years were employed for the 60 or more years projection scenarios.

In this way, the changing age and sex structure of the population is incorporated in the baseline and other scenarios because it is implicit in the population projections. Similarly, projected population changes in labour force participation at ages 25–59 years and in living arrangement at ages 60 or more years are incorporated in each scenario projection by virtue of the stratification of population figures. The baseline propensity to care scenario assumes that the ratio of carers to non-carers in each of the projection categories defined by sex, age-group, labour force status or living arrangement, estimated from results of the 1998 ABS Survey of Disability, Ageing and Carers, holds throughout the projection period.

Other scenarios manipulate the ratio of carers to non-carers, in appropriate projection categories, each according to a set of assumptions corresponding to the key question of interest. For example, what might be the impact of a reduced willingness on the part of women to reduce their paid employment in order to care and how would a proportionate increase in older spouse and partner carers affect the primary carer pool? Or what will happen to carer numbers if there is an overall decline in the willingness or capacity to care, allowing for projected population changes? Scenarios were constructed separately for carers in two age groups – a younger group, for whom labour force participation issues are relevant and an older group, for whom the availability of a co-resident spouse or partner is the more salient factor in determining primary carer availability. The younger group comprises carers aged 25–59 years and the older group comprises carers aged 60 or more years, as is the case in the baseline propensity to care scenario.

The following projection scenarios present a range of plausible future patterns concerning the availability of carers in each broad age group.

Scenarios for carers aged 10–24 years

Two scenarios for the 10–24 year age group are common to the other two age groups – the baseline propensity to care scenario and the decreasing propensity to care scenario. The results of these two scenarios are combined, as appropriate, with the scenario projections for the 25–59 years and 60 or more years age groups.

The baseline propensity to care scenario

In the baseline propensity to care scenario 1998 rates of male and female carers aged 10–24 years were applied to projected populations for this age group. Because of the data limitations (as discussed), no further breakdown by labour force status or living arrangement was done. Using male and female baseline propensities, projections for carers aged 10–24 years are compatible with scenarios for the other age groups that assume baseline propensity to care in this younger age group.

The decreasing propensity to care scenario

For the decreasing propensity to care scenario the rates of carers among males and females in the 10–24 years age group were discounted to achieve a 20% decrease by 2013. This assumption is compatible with the decreasing propensity to care scenario for the 25–59 years and 60 or more years age groups.

Scenarios for carers aged 25–59 years

Scenarios for carers aged 25–59 years involve projections based on a stratification of population figures by age group, sex and labour force participation category.

The baseline propensity to care scenario

The baseline propensity to care scenario for the 25–59 years age group assumes that 1998 patterns of care continue, in relation to each age, sex and labour force participation category in the model. In this scenario the driving forces in the projection model are assumed to be the changing age and sex structure of the population and changing patterns of labour force participation. This includes the increasing participation of women in the labour force, which is reflected in the projected population of women in full-time and part-time employment in 2003, 2008 and 2013. Under this scenario it is assumed that successive cohorts of people aged 25–59 years will respond to the care needs of others by becoming primary carers with the same propensity to care (taking into account age, sex and labour force status) in the future as they did in 1998. This scenario is used as a baseline against which other scenarios will be compared for the 25–59 years age group.

The women's career preference scenario

The second scenario assumes that during the projection period (1998 to 2013) 20% fewer women in the 25–59 years age group (in relative terms) will be prepared to leave work or reduce the number of hours of employment in order to assume primary carer responsibilities. In 1998 an estimated 22,800 female primary carers (7% of all female primary carers) had reduced the number of hours of paid employment in order to provide care. According to this scenario, this proportion will reduce linearly over the 15-year projection period by a factor of 20%. The 1998 patterns of care (baseline propensity scenarios) are assumed to continue in relation to each age, sex and labour force participation category for all other groups, including the 10–24 years age group, men aged 25–59 years, and the 60 or more years age group. While the proportion of 20% was chosen arbitrarily, it nevertheless demonstrates the impact on the supply of carers if there is a significant decrease in women's willingness to leave work or decrease their work hours to take on a caring role.

The decreased propensity to care scenario

The third scenario for the 15-year projection assumes a linear decrease up to 20% in the proportion of people aged 25–59 years who are carers in each age group within this range, and across sex and labour force participation categories. Although it is not possible at present to quantify the change in the availability of carers over time, there is some indication

that the direction of the trend may be towards a decline, at least among carers who are not co-residents. This scenario projects the number of carers in future years given what might be considered a pessimistic outlook in which there is an overall decline in willingness or ability to care. The proportion of 20% was selected to reflect this outlook while remaining within the bounds of what might reasonably be expected given current knowledge.

Scenarios for carers aged 60 or more years

In the scenarios for carers aged 60 or more years, age, sex and the availability of a co-resident spouse or partner are used as the basis for the projections.

The baseline propensity to care scenario

The baseline propensity to care scenario assumes that the 1998 patterns of care continue in relation to each age, sex and living arrangement category in the model. The driving forces in the projection model are the changing age and sex structure of the population in this age group and changing patterns of living arrangement in terms of a co-resident spouse or partner.

It is assumed that successive cohorts of people aged 60 or more years will respond to the care needs of others by becoming primary carers in the same proportions (according to age, sex and living arrangement) in the future as they did in 1998.

Converging life expectancies scenario

The second scenario for the older population assumes a 20% linear increase in the proportion of spouse or partner carers over the 15-year projection period as a result of improving male longevity. Although 20% was chosen arbitrarily, it demonstrates the impact on the supply of carers if there is a significant increase in the proportion of co-resident spouse or partner carers. This increase is a plausible scenario for the future given increases in healthy life expectancy and the consequent probability that more spouses or partners will be available to care for people with a severe or profound core activity restriction. This scenario assumes that 1998 patterns of care continue in relation to age and sex for older people who are not living with a spouse or partner. It takes into account the projected demographic changes in age, sex and living arrangement that are incorporated in the underlying population projections.

The decreasing propensity to care scenario

The final scenario for the future of caring in the older population assumes a linear decrease of 20% over the projection period in the proportion of older carers across all age, sex and living arrangement categories, taking into account projected demographic changes in these categories. As noted in relation to the decreased propensity to care scenario for the 25–59 years age group, it is not currently possible to quantify the trend over time in relation to carer availability but there is some indication of a decline, at least among non-co-resident carers. This scenario mirrors the decreasing propensity to care scenarios for the 10–24 and 25–59 years age groups, examining carer availability under the assumption that the proportion of older informal carers decreases to a notable degree over time.

Outline of the report

The projections presented in this report are calculated using the results of the 1998 Survey of Disability, Ageing and Carers (ABS 1999a) as a basis for analysis. The relevant results of this survey are reported first, including the population estimates for the variables of age, sex, living arrangement (co-resident spouse or partner) and labour force status. This is followed

by the presentation and discussion of scenarios for informal care in 2003, 2008 and 2013. That chapter is divided into three parts relating to the following age groups:

- carers aged 10–24 years;
- carers aged 25–59 years, where changing patterns of labour force participation are used, in conjunction with age and sex, as the basis of the projection; and
- carers aged 60 or more years, where changing patterns of living arrangement, again in conjunction with projected demographic changes in relation to age and sex, are used as the basis of the projection.

Appendix A provides the full set of tables for the scenarios, by age and sex.

3 Informal care in 1998

Profile of carers

The results of the Survey of Disability, Ageing and Carers (ABS 1999a) reveal that in 1998 there were an estimated 450,900 primary carers, 70% of whom were women (Figure 1). An estimated 301,700 of these carers were aged between 25 and 59 years, accounting for approximately two-thirds of all carers. Another 132,800 were aged 60 years or more, accounting for 29% of all carers. Male carers had an older age structure than female carers with 59% of male carers aged 25–59 years and 36% aged 60 or more, compared with 70% and 27% respectively for female carers.

According to the definition applied in the Survey of Disability, Ageing and Carers, primary carers care for people with a severe or profound core activity restriction – that is, people who require assistance with self-care, mobility or communication. The survey found that there were over 1 million Australians (1,039,100) with a severe or profound core activity restriction (Table A1). It is important to note, however, that 20% of primary carers in 1998 provided ongoing assistance to more than one person and many care recipients received more casual assistance from a wider carer network and did not identify a primary carer. Further, 50% of people with a severe or profound restriction who had an informal carer also received some assistance from formal services.

It would be desirable to project carer availability by the carer's relationship to the recipient and whether the recipient lives with the carer, but this is not possible because of the small sample estimates for carers not living with the recipient and the problem of finding an appropriate projection base for a carer rate when the caring population is split by a characteristic of the person for whom they care. It is, however, possible to look at this breakdown for 1998 (see Table A3).

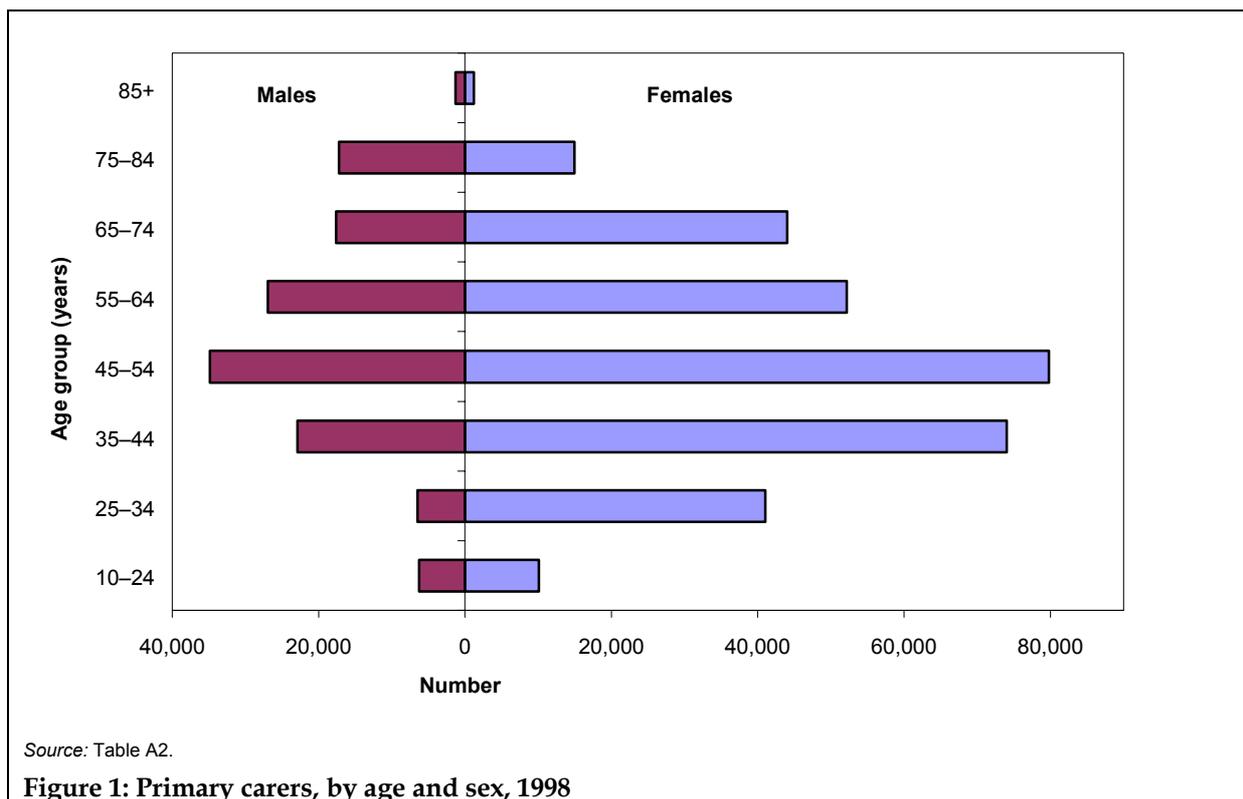
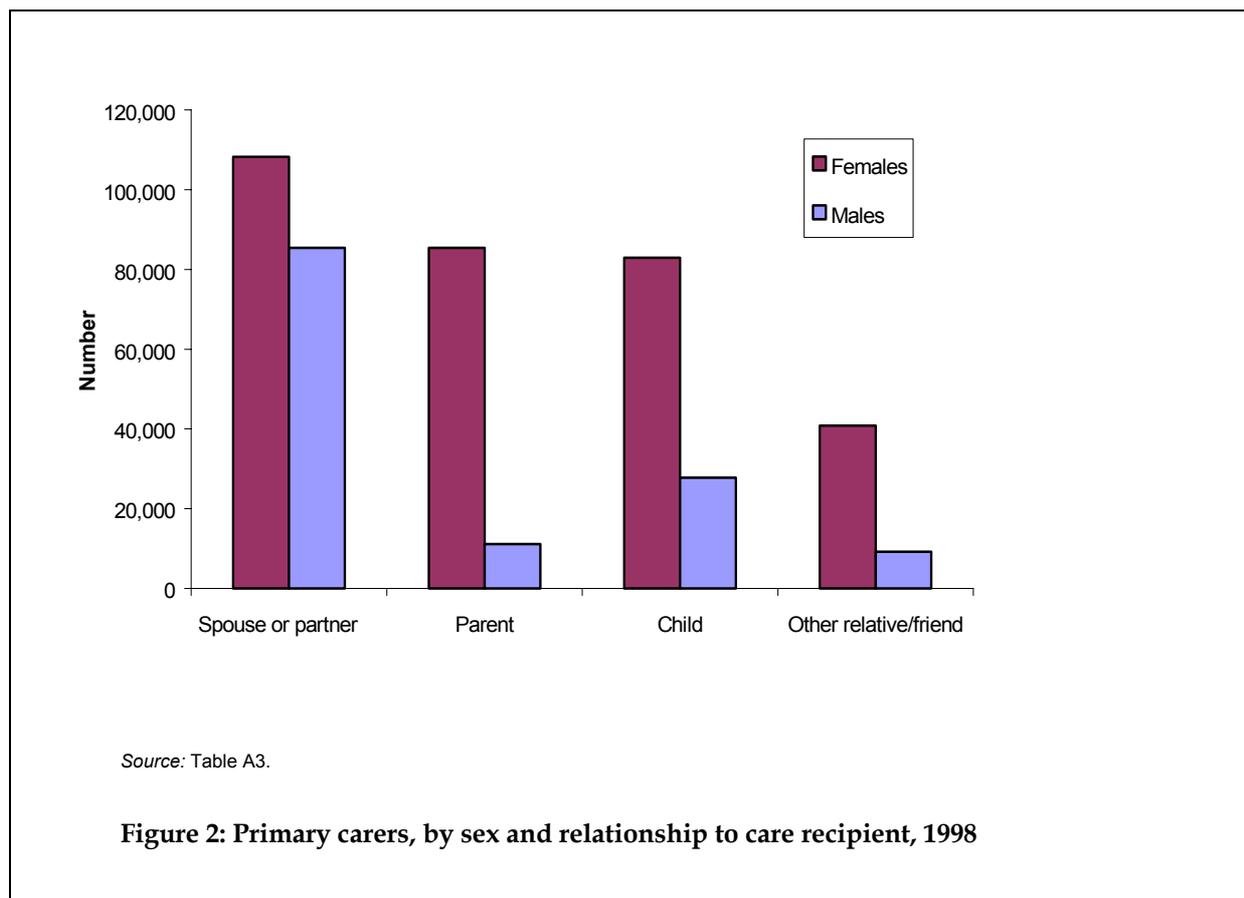


Figure 2 shows the relationship of the carer to the care recipient in 1998. Approximately 43% of carers were spouses or partners (34% of female carers and 64% of male carers). Female carers were more likely to be the parent of the care recipient (27%) or to be another relative or friend (13%), compared with males (8% and 7% respectively).

Seventy-nine per cent of carers were living with the recipient of their care in 1998. Ninety-five per cent of parents who were caring for a juvenile or adult child with a severe disability, were living with that child. Carers who were children, students or siblings all lived with the recipient of their care. These trends were similar for both sexes. Among carers who were caring for a relative other than immediate family or who were caring for a friend, only 40% were living with that person. Male carers caring for a person other than an immediate family member were more likely to live with that person (57%) than female carers caring for someone outside of the immediate family (36%) (Table A3).

While, overall, women accounted for 70% of primary carers, the sex distribution of carers varied depending on the relationship of the carer to the person being cared for. Women accounted for 88% of parents caring for their child (of any age) with a disability and 82% of people caring for a relative outside the immediate family or for a friend (Table A3).



Carers aged 10–24 years

In 1998, 62% of the estimated 16,300 primary carers aged 10–24 years were female (Table A2). Approximately 70% of primary carers in this age group were caring for a parent (AIHW analysis of 1998 ABS Survey of Disability, Ageing and Carers confidentialised unit record file).

Carers aged 25–59 years

A much lower proportion of carers (48%) aged 25–59 years were employed compared with the same age group in the total population, at 78% (ABS 1999c), reflecting both the demanding nature of the caring role and a predominantly female carer population. Of male carers aged 25–59 years, 55% were employed, compared with 46% of female carers in this age group (Table 2). The majority (79%) of employed male carers aged 25–59 were in full-time employment, while for female carers the reverse was true, with 35% of employed female carers being employed full-time.

Table 2: Primary carers aged 25–59 years, by age, sex and labour force status, 1998

Age (years)/sex of carer	Full-time	Part-time	U & NILF ^(a)	Total carers
Females				
25–34	*5,400	12,100	23,500	41,000
35–44	10,900	29,400	33,700	74,000
45–54	17,500	19,700	42,500	79,800
55–59	**1,900	*5,300	21,000	28,200
<i>Total 25–59</i>	<i>35,700</i>	<i>66,600</i>	<i>120,700</i>	<i>223,100</i>
Males				
		Employed^(b)	U & NILF^(a)	Total carers
25–34		*3,900	*2,600	*6,500
35–44		12,600	10,300	22,900
45–54		20,200	14,600	34,900
55–59		*6,700	*7,800	14,500
<i>Total 25–59</i>		<i>43,300</i>	<i>35,300</i>	<i>78,700</i>
Persons				
		Employed	U & NILF^(a)	Total carers
25–34		21,400	26,100	47,500
35–44		52,900	44,000	96,900
45–54		57,500	57,200	114,600
55–59		13,900	28,800	42,700
Total 25–59		145,700	156,000	301,700

(a) U & NILF is the sum of the categories Unemployed and Not in the labour force.

(b) Male labour force participation is not split into full- and part-time participation because of high relative standard errors in the part-time category.

* Subject to a relative standard error between 25% and 50%. These estimates should be interpreted accordingly.

** Subject to a relative standard error greater than 50%. These estimates should be interpreted accordingly.

Source: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers.

Carers aged 60 or more years

Sixty-eight per cent of carers aged 60 or more years lived with and cared for a spouse or partner. Male carers in this age group were mostly caring for a spouse or partner with whom they lived (88%). Females were both more likely to be the carer and to take on a wider range of caring roles. Fifty-seven per cent of female carers aged 60 or more were caring for a spouse or partner who lived with them. Only 11% of older carers who lived with a spouse or partner were aged 80 or more (Table 3). This is not surprising since carers aged 80 or more can relinquish the caring role for various reasons; for example, they might become incapable of caring, they or the care recipient might die or the care recipient might move into residential aged care.

Table 3: Primary carers aged 60 or more years, by age, sex and relationship to care recipient, 1998

Age/sex of carer	Relationship to care recipient		Total
	Spouse or partner in same household	Other ^(a)	
Females			
60–79	44,700	34,900	79,600
80+	*3,300	**1,300	*4,600
<i>Total 60+</i>	<i>48,100</i>	<i>36,100</i>	<i>84,200</i>
Males			
60–79	36,400	*5,700	42,200
80+	*6,400	—	*6,400
<i>Total 60+</i>	<i>42,900</i>	<i>*5,700</i>	<i>48,600</i>
Persons			
60–79	81,200	40,600	121,800
80+	9,800	**1,300	11,000
Total 60+	90,900	41,800	132,800

(a) Includes parent, child, other relative or friend, in the same or different household, and spouse/partner in a different household.

— There were no carers in the survey sample in this category.

* Subject to a relative standard error between 25% and 50%. These estimates should be interpreted accordingly.

** Subject to a relative standard error greater than 50%. These estimates should be interpreted accordingly.

Source: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers.

4 Informal care in the future

Projected carers aged 10–24 years

The baseline propensity to care scenario

If 1998 male and female carer rates in the age group 10–24 years are sustained throughout the 15-year projection period, there will be 16,900 carers aged 10–24 years in 2003 and 17,300 in 2013.⁶ This represents a 6% increase on the 16,300 carers in this age group in 1998. By 2013 a projected 10,600 of the 17,300 carers aged 10–24 years will be females (Table 4).

Table 4: Estimated and projected primary carers aged 10–24 years using 1998 carer rates, by sex, 1998, 2003, 2008 and 2013

Sex	1998	2003	2008	2013
Females	10,100	10,400	10,600	10,600
Males	*6,200	6,500	6,600	6,700
Total	16,300	16,900	17,300	17,300

* Subject to a relative standard error between 25% and 50%. These estimates should be interpreted accordingly.

Sources: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers and Treasury population projections.

The decreasing propensity to care scenario

The changing age and sex structure of the population aged 10–24 years is implicit in the population projections. Beyond these projected changes, if carer rates among 10–24 year olds decrease linearly by 20% over the 15-year period, it is projected that there will be 15,800 carers in this age group in 2003, 15,000 in 2008 and 13,800 in 2013. By 2013 a projected 8,500 (62%) of the 13,800 carers aged 10–24 years will be females (Table 5).

Table 5: Estimated and projected primary carers aged 10–24 years given a linear decrease in carer rates reaching 20% by 2013, by sex, 1998, 2003, 2008 and 2013

Sex	1998	2003	2008	2013
Females	10,100	9,700	9,200	8,500
Males	*6,200	6,100	5,800	5,300
Persons	16,300	15,800	15,000	13,800

* Subject to a relative standard error between 25% and 50%. These estimates should be interpreted accordingly.

Sources: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers and Treasury population projections.

⁶ All projections are based on Treasury population projections for 2003, 2008 and 2013, by age and sex.

Projected carers aged 25–59 years

The baseline propensity to care scenario

In the baseline propensity to care scenario for the age group 25–59 years, the number of primary carers is projected to increase from 301,700 in 1998 to 330,100 in 2003, to 350,100 in 2008 and to 361,600 in 2013 (Table 6). The increases are solely the result of projected changes in the age and sex structure of the population and changing patterns of labour force participation by age and sex, taking into account Department of the Treasury projections of full- and part-time female employment. Further detail is provided in Tables A4, A5 and A6. As discussed, this scenario is not presented as necessarily the most likely outcome. It provides a basis for comparison with each of the other scenarios.

The baseline scenario suggests a declining rate of increase in carers over the projection period – a 9% increase from 1998 to 2003, 6% from 2003 to 2008, and 3% from 2008 to 2013. Nonetheless, despite projected increases in female labour force participation, under the baseline scenario the supply of carers increases substantially during the period (a 20% increase in the number of carers between 1998 and 2013), propelled largely by population growth in key ‘caring’ age groups.

Table 6: Estimated and projected primary carers aged 25–59 years using 1998 carer rates, by sex and labour force status, 1998, 2003, 2008 and 2013

Sex/labour force	1998	2003	2008	2013
Females				
Full-time	35,700	42,500	48,300	51,400
Part-time	66,600	77,200	86,200	91,900
U & NILF ^(a)	120,700	123,400	122,700	121,900
<i>Total</i>	<i>223,100</i>	<i>243,100</i>	<i>257,200</i>	<i>265,200</i>
Males				
Employed ^(b)	43,300	47,700	51,800	53,000
U & NILF ^(a)	35,300	39,300	41,100	43,400
<i>Total</i>	<i>78,700</i>	<i>87,000</i>	<i>92,900</i>	<i>96,400</i>
Persons				
Employed	145,700	167,500	186,300	196,300
U & NILF ^(a)	156,000	162,700	163,800	165,300
Total	301,700	330,100	350,100	361,600

(a) U & NILF is the sum of the categories Unemployed and Not in the labour force.

(b) Male labour force participation is not split into full- and part-time participation because of high relative standard errors in the part-time category.

Sources: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers and Treasury population projections.

By 2013, 265,200 of the 361,600 carers will be women. Of these, 121,900 (46%) will be unemployed or not in the labour force⁷, 91,900 will be working part-time and 51,400 will be

⁷ Of carers in the combined category of Unemployed or Not in the labour force in 1998, approximately 16% were unemployed and 84% were not in the labour force.

working full-time. Of the projected 96,400 male carers in 2013, 43,400 will be unemployed or not in the labour force and 53,000 will be employed.

The women's career preference scenario

The trend towards greater workforce participation by women, particularly those in the later stages of their life, has given rise to concern about the impact on the availability of carers. The ABS 1998 survey data show that an estimated 22,800 female primary carers (7% of female primary carers) reduced the number of hours of employment or ceased employment in order to care. It has been suggested that in the future women may be increasingly less willing to forsake paid work to provide care and that this could have a significant impact on the supply of informal carers. This possibility was examined by considering the case in which, compared with 1998 proportions, 20% fewer women will be prepared to reduce their hours of paid work in order to take up a caring role. It is further assumed that this proportion of women will not be prepared to assume a caring role at all. Carer rates for other projection categories pertaining to the population aged 25–59 years (males, by age group, sex and labour force status and females in the unemployed/not in the labour force category, by age group) remain the same as those in the baseline propensity to care scenario.

Despite the scenario of a 20% reduction in the proportion of women willing to reduce or cease paid employment to provide care, the number of female primary carers in each labour force category is projected to increase in 2003, 2008 and 2013 as a result of population growth (Table 7).

Table 7: Estimated and projected primary carers aged 25–59 years given a decrease reaching 20% by 2013 in the proportion of women who reduce their hours of work to care, by sex and labour force, 1998, 2003, 2008 and 2013

Sex/labour force	1998	2003	2008	2013
Females				
Full-time	35,700	42,400	48,100	51,100
Part-time	66,600	76,100	83,600	87,800
U & NILF ^(a)	120,700	123,100	122,100	121,000
<i>Total</i>	<i>223,100</i>	<i>241,500</i>	<i>253,800</i>	<i>259,900</i>
Males				
Employed ^(b)	43,300	47,700	51,800	53,000
U & NILF ^(a)	35,300	39,300	41,100	43,400
<i>Total</i>	<i>78,700</i>	<i>87,000</i>	<i>92,900</i>	<i>96,400</i>
Persons				
Employed	145,700	166,200	183,500	191,800
U & NILF ^(a)	156,000	162,400	163,200	164,500
Total persons	301,700	328,500	346,700	356,200

(a) U & NILF is the sum of the categories Unemployed and Not in the labour force.

(b) Male labour force participation is not split into full- and part-time participation because of high relative standard errors in the part-time category.

Sources: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers and Treasury population projections.

The projected difference of 5,300 fewer carers than in the baseline propensity to care scenario for this age group represents an overall reduction of only 1% in the number of primary carers (see Tables A7, A8 and A9 for more detail).

In this scenario there are a projected 121,000 female carers unemployed or not in the labour force in 2013, 51,100 full-time employed female carers and 87,800 part-time employed female carers. Thus, if women are less willing to reduce their hours of paid employment to care to this degree, there will be 356,200 carers aged 25–59 years in 2013, compared with 361,600 under the baseline propensity to care conditions. This suggests that a considerable reduction in the willingness of women to take up a primary carer role (because they are not prepared to cease employment or reduce their hours of paid work) is unlikely to have a marked effect on the number of carers throughout the projection period.

To examine the sensitivity of this scenario, the projections were also calculated assuming a 10% and a 30% decrease in the proportion of women who cease or reduce paid employment to care. This did not greatly affect the total number of carers (see Tables A10 and A11).

The decreasing propensity to care scenario

The decreasing propensity to care scenario assumes a linear decrease in the carer rate within each projection category reaching a 20% decrease by 2013. The decrease is applied to the projected population in each age group by age and labour force participation category; projected population changes in relation to age, sex and labour force participation of people aged 25–59 years are thus incorporated in the scenario. In this projection the number of primary carers aged 25–59 years falls to 308,100 in 2003, to 303,400 in 2008 and to 289,300 in 2013 (Table 8; more detail is provided in Tables A12, A13 and A14). This means that there will be 12,500 fewer carers in this age group in 2013 than there were in 1998.

Compared with the baseline propensity to care scenario, where carer rates by projection category are sustained at 1998 levels, there would be 72,300 fewer carers aged 25–59 years in 2013. To examine the sensitivity of this scenario, the projections were also calculated assuming a 10% and a 30% decrease in carer rates. Estimates of the number of carers in 2013 varied considerably under these alternative conditions, from 253,100 primary carers assuming a 30% drop in carer rates to 325,400 for a 10% decline in carer rates (see Tables A15 and A16).

Table 8: Estimated and projected primary carers aged 25–59 years given a linear decrease in carer rates reaching 20% by 2013, by sex and labour force status, 1998, 2003, 2008 and 2013

Sex/labour force	1998	2003	2008	2013
Females				
Full-time	35,700	39,700	41,900	41,100
Part-time	66,600	72,100	74,700	73,500
U & NILF ^(a)	120,700	115,100	106,400	97,500
<i>Total</i>	<i>223,100</i>	<i>226,900</i>	<i>222,900</i>	<i>212,200</i>
Males				
Employed ^(b)	43,300	44,500	44,900	42,400
U & NILF ^(a)	35,300	36,700	35,600	34,700
<i>Total</i>	<i>78,700</i>	<i>81,200</i>	<i>80,500</i>	<i>77,100</i>
Persons				
Employed	145,700	156,300	161,500	157,000
U & NILF ^(a)	156,000	151,800	142,000	132,300
Total	301,700	308,100	303,400	289,300

(a) U & NILF is the sum of the categories Unemployed and Not in the labour force.

(b) Male labour force participation is not split into full- and part-time participation because of high relative standard errors in the part-time category.

Sources: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers and Treasury population projections.

Projected carers aged 60 or more years

The baseline propensity to care scenario

The baseline scenario for the population aged 60 or more years assumes that the 1998 carer rate within each five-year age interval by sex and living arrangement (co-resident spouse/partner or other) is sustained throughout the 15-year projection period. As with other baseline scenarios, this scenario is not presented as necessarily the most likely outcome. It provides a baseline for comparison with other scenarios for the availability of carers in the older population. Table 9 shows the future numbers of carers aged 60 or more, under baseline propensity to care conditions. A projected increase from 132,800 carers in 1998 to 195,100 in 2013 results from projected demographic changes in each projection category (see Tables A4, A5 and A6 for more detail).

This baseline scenario suggests an increasing rate of growth in the number of carers over the projection period – a 10% increase from 1998 to 2003, 15% from 2003 to 2008, and 17% from 2008 to 2013. Under this scenario the supply of carers increases substantially over the period (a 47% increase between 1998 and 2013), largely as a result of population ageing and the associated increase in the number of spouse or partner carers.

Table 9: Estimated and projected primary carers aged 60 or more years given 1998 carer rates, by sex and relationship to care recipient, 1998, 2003, 2008 and 2013

Sex/relationship	1998	2003	2008	2013
Females				
Spouse or partner	48,100	52,900	60,000	69,800
Other ^(a)	36,100	37,600	43,700	52,600
<i>Total</i>	<i>84,200</i>	<i>90,500</i>	<i>103,700</i>	<i>122,400</i>
Males				
Spouse or partner	42,900	48,600	55,700	63,800
Other ^(a)	*5,700	*6,600	*8,000	*8,900
<i>Total</i>	<i>48,600</i>	<i>55,200</i>	<i>63,700</i>	<i>72,700</i>
Persons				
Spouse or partner	90,900	101,500	115,700	133,600
Other ^(a)	41,800	44,200	51,700	61,500
Total	132,800	145,700	167,400	195,100

(a) Includes parent, child, other relative and friend, in the same or a different household, or spouse or partner in a different household.

* Subject to a relative standard error between 25% and 50%. These estimates should be interpreted accordingly.

Sources: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers, ABS living arrangement data, and Treasury population projections.

The number of male carers increases faster than the number of female carers, reflecting a more rapid increase in the older male population. In this scenario the number of male carers is estimated to have increased by 14% between 1998 and 2003 (Table 9).

For 2003 it is projected that there will be 101,500 carers aged 60 or more years who live with a care recipient who is their spouse or partner, an increase of 12% since 1998. Of these, a projected 52,900 are female carers and 48,600 are male carers. The number of spouse or partner carers is projected to increase to 115,700 in 2008, and 133,600 in 2013 (see Table 9; a more detailed breakdown is presented in Tables A17, A18 and A19).

The converging life expectancies scenario

The converging life expectancies scenario assumes an increase in the proportion of spouse or partner carers aged 60 or more years, while 1998 patterns of care continue for older people in other living arrangements. As with all the scenarios, changes in the number of carers in this scenario also reflect increasing population size in this age group, and changes in the age and sex structure of the population that are implicit in the underlying population projections for 2003, 2008 and 2013. It is plausible that, since spouses or partners are one of the most willing groups of carers, an expected increase in the number of couples among older ages will result in an increased rate of spouse or partner carers among older people.

A linear increase in the rate of spouse or partner carers within each five-year age interval by sex (reaching a 20% increase by 2013) would produce a projected 108,300 spouse or partner carers aged 60 or more in 2003, an increase of 19% from 1998. This number is projected to increase to 131,100 in 2008, comprising 68,000 females and 63,100 males, and to 160,300 in 2013, comprising 83,800 females and 76,500 males (Table 10; more detail is provided in

Tables A20, A21 and A22). The total number of carers aged 60 or more years in this scenario, including co-resident spouses and partners and older carers in other living arrangements, increases from 132,800 in 1998 to a projected 221,800 in 2013.

To examine the sensitivity of this scenario, the projections were also calculated assuming linear increases in the rate of spouse/partner carers in each projection category, reaching 10% and 30% by 2013. According to this degree of variation in the rate of increase in the proportion of older spouses and partners who are carers, the scenario projection is between 208,400 and 235,100 primary carers aged 60 years or over in 2013. These results compare to 195,100 older carers in the baseline propensity to care projection for this age group (see Tables A23 and A24).

Table 10: Estimated and projected primary carers aged 60 or more years given a 20% increase in the proportion of spouse or partner carers, by sex and relationship to care recipient, 1998, 2003, 2008 and 2013

Sex/relationship	1998	2003	2008	2013
Females				
Spouse or partner	48,100	56,400	68,000	83,800
Other ^(a)	36,100	37,600	43,700	52,600
<i>Total</i>	<i>84,200</i>	<i>94,000</i>	<i>111,700</i>	<i>136,400</i>
Males				
Spouse or partner	42,900	51,800	63,100	76,500
Other ^(a)	*5,700	*6,600	*8,000	*8,900
<i>Total</i>	<i>48,600</i>	<i>58,400</i>	<i>71,100</i>	<i>85,400</i>
Persons				
Spouse or partner	90,900	108,300	131,100	160,300
Other ^(a)	41,800	44,200	51,700	61,500
Total	132,800	152,400	182,800	221,800

(a) Includes parent, child, other relative and friend, in the same or a different household, or spouse or partner in a different household.

* Subject to a relative standard error between 25% and 50%. These estimates should be interpreted accordingly.

Sources: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers, ABS living arrangement data, and Treasury population projections.

The decreasing propensity to care scenario

The final scenario for the population aged 60 or more years assumes a linear decrease in all carer rates throughout the projection period. The decrease reaches 20% by 2013. It is applied to the projected population in each projection category in 2003, 2008 and 2013. The scenario implicitly models the changing age and sex structure of the population over the projection period in conjunction with projected changes in patterns of spouse and partner cohabitation.

If an across-the-board linear decrease in carer rates up to 20% were to occur, an increase from 132,800 carers aged 60 years or more in 1998 to 136,000 in 2003 could be expected (2% increase). A decreasing propensity to care to the extent modelled in this scenario would therefore offset much of the positive effect of projected population growth at older ages on the number of carers aged 60 or more. Under this scenario the total number of carers is

projected to increase to 145,100 in 2008, comprising 89,900 females and 55,200 males, and to 156,100 in 2013, comprising 97,900 females and 58,100 males (Table 11; more detail is provided in Tables A25, A26 and A27).

These results compare with a baseline propensity to care scenario for this age group of 167,400 carers in 2008 and 195,100 in 2013. A linear decrease in the rate of older carers in each projection category, reaching a 20% decline by 2013, would thus reduce the number of older carers in 2013 by 39,000.

To examine the sensitivity of this scenario, the projections were also calculated assuming a 10% and a 30% decrease in carer rates. Projected numbers of carers aged 60 years or more by 2013 vary considerably under these conditions – from 175,600 older carers for a decrease in rates up to 10% by 2013 down to 136,500 older carers for a decrease of 30% by 2013 (see Tables A28 and A29).

Table 11: Estimated and projected primary carers aged 60 or more years given a linear decrease in carer rates reaching 20% by 2013, by sex and relationship to care recipient, 1998, 2003, 2008 and 2013

Sex/relationship	1998	2003	2008	2013
Females				
Spouse or partner	48,100	49,400	52,000	55,800
Other ^(a)	36,100	35,100	37,900	42,100
<i>Total</i>	<i>84,200</i>	<i>84,400</i>	<i>89,900</i>	<i>97,900</i>
Males				
Spouse or partner	42,900	45,300	48,300	51,000
Other ^(a)	*5,700	*6,200	*6,900	*7,100
<i>Total</i>	<i>48,600</i>	<i>51,500</i>	<i>55,200</i>	<i>58,100</i>
Persons				
Spouse or partner	90,900	94,700	100,200	106,900
Other ^(a)	41,800	41,300	44,800	49,200
Total	132,800	136,000	145,100	156,100

(a) Includes parent, child, other relative and friend, in the same or a different household, or spouse or partner in a different household.

* Subject to a relative standard error between 25% and 50%. These estimates should be interpreted accordingly.

Sources: AIHW analysis of the ABS 1998 Survey of Disability, Ageing and Carers, ABS living arrangement data, and Treasury population projections.

5 Projected total carer pools

The scenarios presented in Chapter 4 provide projections of the number of carers for specific age groups (10–24 years, 25–59 years and 60 or more years) only. The total pool of carers at each of the future projection years can be calculated by combining these scenarios where it is appropriate to do so.

Projections from the baseline propensity to care scenario for each age group were summed to generate the projected total carer pool under consistent assumptions of baseline propensity to care. Similarly, projections from the decreasing propensity to care scenario for each age group were combined to produce an overall decreasing propensity to care scenario. The projected total carer pool for the women’s career preference scenario was calculated as the sum of that scenario projection for the population aged 25–59 years and the baseline propensity to care projections for the 10–24 years and 60 or more years age groups. The baseline propensity to care projections for the 10–24 years and 25–59 years age groups were also used in conjunction with the converging life expectancies projections for the 60 or more years age group to generate a total carer pool for that scenario. In this way the difference between the projected total carer pools for the baseline propensity to care scenario and any one of the other scenarios measures the possible effect of the type and degree of change described by the other scenario. Every scenario incorporates projected population changes with respect to age, sex, labour force participation (for the 25–59 years age group), and living arrangement (for the 60 or more years age group) since these are incorporated in the underlying population projections for 2003, 2008 and 2013. Consequently, differences in the total carer pools of the baseline scenario and each of the other scenarios measure change beyond that which is the result of demographic and labour force trends throughout the projection period.

Table 12 summarises the projected total carer pool in 2013 for each combined scenario. Combined baseline propensity to care projections are the likely outcome if caring rates remain at 1998 levels within each projection category for each of the broad age groups, but that the age, sex, labour force participation and living arrangements of the population change in line with current population projections. In other words, the population continues to age, labour force participation rates for women increase, and, at older ages, there is an increasing proportion of intact marriages owing to improving male longevity. The results of this scenario show a 27% increase in the number of carers between 1998 and 2013. In 2013 there would be 573,900 primary carers in a population with a projected 1.4 million people with a severe or profound core activity restriction.⁸ In that year, on the basis of this baseline propensity to care scenario, there would be around 40 primary carers for every 100 people with a severe or profound restriction – that is, a care ratio of 0.40. This compares with the 1998 survey estimate of 43 primary carers for every 100 people with a severe or profound restriction, a care ratio of 0.43.

⁸ People with a severe or profound core activity restriction are projected by applying the 1998 rates of people with a severe or profound restriction by age and sex to the projected total populations for 2003, 2008 and 2013 (see Table A1).

Table 12: Estimated and projected primary carers aged 10 or more years, by sex, 1998, 2003, 2008 and 2013

Scenario	1998	2003	2008	2013
Males				
Baseline propensity to care	133,500	148,700	163,200	175,700
Overall decreasing propensity to care	n.a.	138,800	141,400	140,600
Women's career preference	n.a.	148,700	163,200	175,700
Converging life expectancies	n.a.	151,900	170,600	188,500
Females				
Baseline propensity to care	317,300	344,000	371,600	398,200
Overall decreasing propensity to care	n.a.	321,100	322,000	318,600
Women's career preference	n.a.	342,400	368,100	392,900
Converging life expectancies		347,600	379,600	412,200
Persons				
Baseline propensity to care	450,900	492,700	534,800	573,900
Overall decreasing propensity to care	n.a.	459,900	463,500	459,200
Women's career preference	n.a.	491,100	531,300	568,600
Converging life expectancies	n.a.	499,500	550,200	600,700

n.a. Not applicable

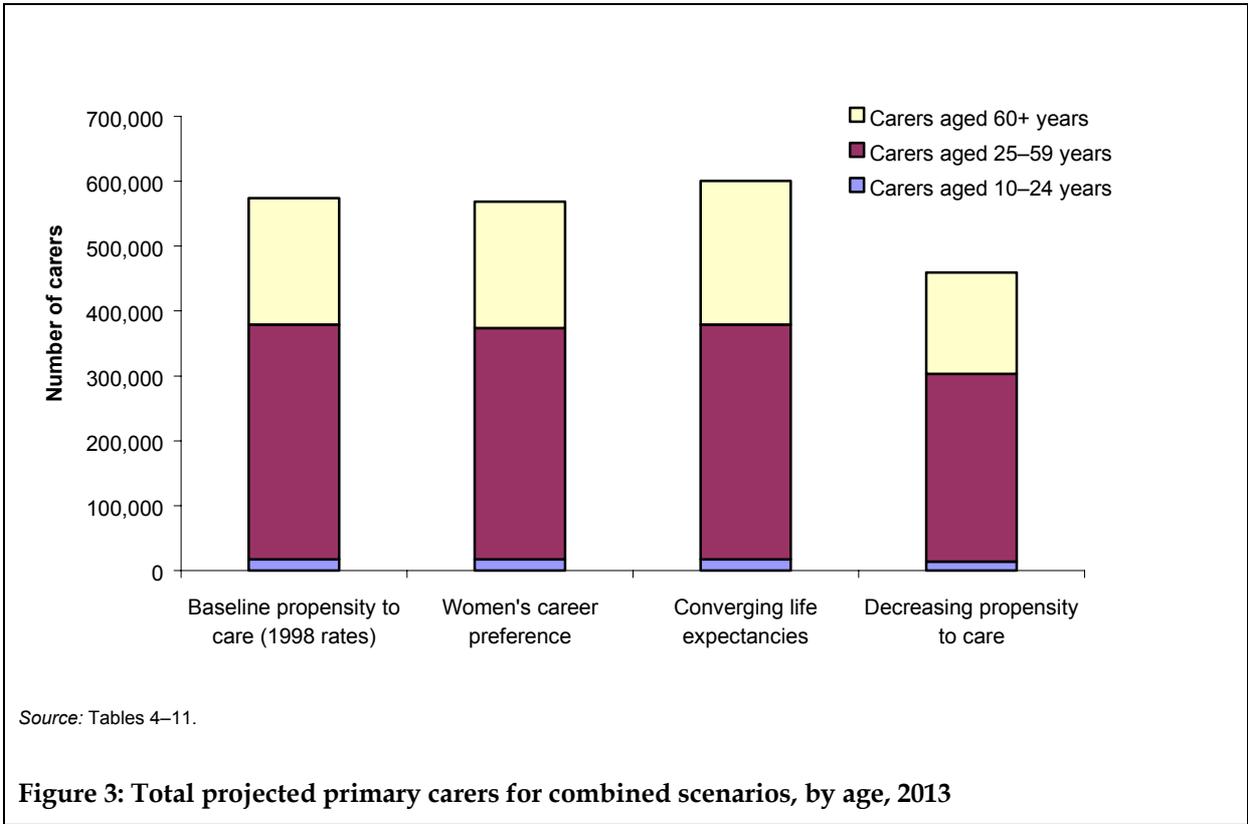
Sources: Tables 4–11 (2003, 2008 and 2013 projections); 1998 ABS Survey of Disability, Ageing and Carers (1998 baseline estimates).

The decrease in propensity to care scenario, which combines the decreasing propensity to care projections across the three age groups, assumes that carer rates within each projection category decrease linearly over the projection period, up to a 20% decrease by 2013. Again, the previously described age, sex, living arrangement and labour force participation rates continue to change in line with population projections. The projections under this scenario might be considered a 'worst case', in which the decline in carer availability occurs across all ages, for both sexes and across all categories of living arrangement and labour force participation. In this scenario, the total number of carers in 2013 is projected to be 459,200, compared with an estimated 450,900 carers in 1998 and a projected 573,900 in 2013 under baseline propensity to care conditions throughout the projection period. In this instance, the ratio of carers to people with a severe or profound restriction would be around 32 to 100 (0.32) in 2013, compared with 43 to 100 (0.43) in 1998 or 40 to 100 (0.40) in 2013 if 1998 caring rates are sustained.

Two other scenarios were considered. One, the converging life expectancies scenario, assumes that there will be an increase in the proportion of older spouses and partners who will assume a caring role. This scenario was calculated on the basis of an increase in the rate of co-resident spouses and partners aged 60 or more years who take on a caring role. The increase is assumed to be linear throughout the projection period, reaching a 20% increase in each projection category (five-year age interval, sex and living arrangement) by 2013. This calculation projects a total of 221,800 carers aged 60 or more years in 2013 (Table 10). In combination with the baseline propensity to care projections for people aged less than 60 years, this scenario yields 600,700 carers aged 10 or more years in 2013. Under these

conditions, the 2013 care ratio is expected to be 42 primary carers for every 100 people with a severe or profound core activity restriction (0.42).

Finally, the analysis explored the possibility that women will be less willing in the future to reduce their hours of paid work to care – the women’s career preference scenario. This calculation focuses on female carers aged 25–59 years. It estimates the impact of a reduction in women’s willingness to reduce their paid employment based on the 1998 proportions who were willing to do so. The decrease is linear throughout the projection period, reaching a 20% decrease by 2013. Combined with baseline propensity to care projections for age groups 10–24 years and 60 or more years, this scenario yields a total of 568,600 carers in 2013, equating to a ratio of 40 carers for every 100 people with a severe or profound core activity restriction (a care ratio of 0.40).



The projections of these single-effect scenarios show that only an overall decrease in the propensity to care would have a marked impact on the number of primary carers during the projection period (Figure 3). According to this scenario, there would be 114,700 fewer carers than in the baseline propensity to care scenario. If among older people the rate of co-resident spouse and partner carers were to increase by 20%, it is projected that there would be 26,800 more carers than if carer rates remained constant at 1998 levels over all age groups. The scenario producing the least impact on carer availability in 2013 is that of an arbitrary 20% reduction in the proportion of employed women who leave the paid workforce or reduce their hours of paid work in order to continue in or take up a caring role. The projected impact on the total number of carers, compared with the baseline propensity to care scenario, is 5,300 fewer carers in 2013. Age groups that traditionally exhibit high rates of caring among

both men and women will register record population growth during this 15-year projection period as a result of ageing baby-boomers. For this reason, conclusions based on a comparison of these scenario projections with informal care in 1998 should be viewed in the context of this demographically unique period.

6 Conclusion

Given the constraints imposed by existing national data collections, the most robust way to deal with questions about the future supply of carers is to construct a set of scenarios where the assumptions are clear and a range of possible outcomes can be described. This report adopts that approach, applying various carer rates to population projections that reflect the changing age and sex profile of the population, and changing patterns of labour force participation and spouse or partner cohabitation living arrangements over time. In the absence of statistical analysis of the issues, the most common perception has tended to be that the future will see a shortage of carers because of the increasing labour force participation of women. The reality is likely to be much more complex, since many factors come into play in the decision to assume a caring role.

This report projects the number of primary carers at five-year intervals, from the base year of 1998 to 2013. The results of the 1998 ABS Survey of Disability, Ageing and Carers were used to provide the characteristics of carers on which the projections are based. Projected changes in the population's age and sex distribution and labour force status (as calculated by the Department of Treasury) and changes in living arrangement (as calculated by the Australian Bureau of Statistics) were used to estimate changes in the number of carers under a series of assumptions. The effects of three possible changes were investigated and compared with the result if the carer rates observed in 1998 remained constant within each age, sex, labour force participation and living arrangement category over the projection period. The three changes of interest are:

- an overall decline in the willingness of people to care;
- a decrease in the number of carers that could result from reduced willingness on the part of employed women to leave the paid workforce to care; and
- an increase in the number of carers that could result from higher numbers of co-resident spouses and partners in the older population.

In relation to the future of informal care, social commentators have been predominantly preoccupied with the potential impacts of population ageing and increasing labour force participation among women. Population ageing is generally discussed in terms of the increased demand for carers that may be associated with it. Increasing labour force participation among women is generally expected to reduce the supply of carers. This report shows, however, that the future of informal care is substantially more complex than is often thought.

Assuming that the proportions of people in similar life circumstances who become carers will be the same in the future as they were reported to be in 1998, projected changes in these life circumstances provide a scenario that is used as the baseline in this report. By projecting changes in part-time and full-time labour force participation – including increases in female labour force participation – changes in living arrangements for older age groups, changes in the age and sex structure of the population and, of course, increases in the size of the population, it is found that the number of carers continues to increase. Between 1998 and 2013 the total number of carers would increase by 27% from 450,900 to 573,900.

National survey data show that the majority of carers fall between the ages of 25 and 59 years. Population growth in the coming decade will see an increase in the number of people in this age group. Despite projected increases in female labour force participation, the baseline scenario projects that the number of carers in this age group will continue to grow by 20% between 1998 and 2013, although the rate of growth will decline during the projection period. The greatest projected growth will be among people aged 60 or more years. The population of older people is growing substantially. The baseline scenario, which assumes carer availability rates among older people will continue as they have been in the age, sex, and living arrangement categories, projects that there will be large growth in the number of older carers: the number of carers will increase by 47% between 1998 and 2013 and the rate of growth will continue to increase during the projection period. Under this scenario, by 2013 there will be an estimated 195,100 older carers, who may account for 34% of all carers. These projections show that population ageing will bring with it an increase in the number of carers and that this increase is likely to be greatest among those aged 60 or more years. They also show that carer numbers will continue to increase among people of working age, even in the presence of increasing labour force participation among women.

One scenario posed here examines a situation in which, within each population group of employed women, by age and labour force status, the proportions who would cease or reduce paid employment actually reduce by 20% over the projection period. The proportions to which this reduction applies are those observed in each age and labour force category in 1998. In 1998 7% of female primary carers said they had reduced their hours of paid work to provide care, although the proportions vary across age and labour force groups. A reduced willingness on the part of women to sacrifice employment that results in a 20% reduction in these proportions by 2013 could be regarded as a pessimistic outlook. While it is not unreasonable to expect female workforce participation (particularly among women aged 55 years or more) to continue to rise during the coming decade, in line with current trends, it is less likely that those continuing or returning to work will not provide care in some capacity. Research has suggested that women are more likely than men to arrange their working hours to accommodate other family caring responsibilities (Fine 1994). In this respect, the scenario presented here is a somewhat pessimistic outlook.

These results emphasise the point that a large proportion of female carers are actually in the labour force, highlighting the need to specifically consider employed carers in the ongoing development of carer support programs. Employed women accounted for 34% (102,400) of all primary carers in 1998. The ability of many women to balance paid work and family caring responsibilities and to continue to do so into the future will no doubt depend on the availability of other family and community supports. As the 1999 National Survey of Carer Health and Wellbeing found, carers see respite care and other services as an integral part of their lives and essential to their ability to continue in their role as carers (CAA 2000).

The projections also show that an increase in the number of older co-resident spouses and partners is likely to provide only a small number of additional carers in the coming decade. The converging life expectancies scenario poses a 20% increase in the rate of caring among co-resident spouses and partners by 2013. This is perhaps optimistic. While life expectancies are improving, particularly for men, and, as Mathers (1996) reports, severe disability-free life expectancies are increasing in line with life expectancies, these factors are only two of a multitude of variables influencing the availability of people to care for their spouse or partner. The scenario assumes that surviving partners will remain married rather than become divorced or separated and that, in addition to physical capability, these partners will have the necessary skills and emotional capacity to undertake the caring role. These assumptions may not always find support in reality. For example, Sammut (1996) describes

some of the difficulties faced by carers of those with dementia, who can sometimes exhibit disturbing and physically exhausting symptoms.

The projections suggest that, even if there is a considerable decline in the proportion of working-age women who reduce their workforce participation (including ceasing paid work altogether) or a considerable increase in the number of people available to care for their partner in later life, the implications for the future supply of informal carers will be small. If, however, there is a decline in the proportion of informal carers across all age and sex categories and across all labour force and living arrangement categories, the consequences will be much greater.

The plausibility of a scenario in which there is a broad decline in carer availability is difficult to assess, not least because of the multitude of variables relevant in determining the carer supply, many of which are not well understood. This report has investigated the impact of only some of these factors and even then only in the artificial circumstance in which all other factors are held constant. Developing a detailed predictive model to address fully the question of the future supply of carers would require a level of detail in the data that is not currently available. The lack of time series data from which a trend could be more firmly determined adds to the difficulty of projecting future carer numbers. It is not surprising that to date there has been no published research into the likely future supply of informal carers in Australia.

The focus of this report is on the supply of informal carers. Population ageing has implications for the demand for informal care in that larger numbers of people will be in need of care. This report assumes that levels of disability within specific age and sex categories will remain constant into the future, which is plausible on the basis of previously observed trends. It is also possible that age-specific disability rates will decline in older age groups as population health and technologies for enhancing it improve. In an attempt to give an indication of the relationship between supply and demand, this report developed carer ratios based on the projected number of primary carers per projected 100 people with a severe or profound core activity restriction.

In 1998 the ratio of carers to people with a disability was 0.43 (that is, 43 primary carers per 100 people with a severe or profound restriction). Under the baseline propensity to care scenario, which assumes constant carer rates in the context of changing population structure, living arrangements and labour force participation, this ratio suffers only a small decline, to 0.40 in 2013. This finding contradicts the commonly held perception that future social and demographic changes will dramatically alter carer – care recipient ratios. When calculated for the pessimistic scenario that 20% fewer women will be willing to sacrifice employment than is currently the case, the ratio of carers to people with a severe or profound core activity restriction drops to around 0.40 in 2013 (the same as the baseline projection). Given a scenario of a 20% increase in the proportion of spouses or partners who are carers (in each projection category), the ratio of carers to people with a severe or profound core activity restriction would be slightly higher than the baseline (0.42 compared with 0.40). Thus, greater availability of spouse or partner carers in the future is a factor that is likely to bring only a marginal increase in carer numbers relative to the number of people in need of assistance. In contrast, a scenario that assumes a 20% decline in carer rates by 2013 generates a ratio of carers to people with a severe or profound core activity restriction that is considerably lower than the ratio under the baseline propensity to care scenario (0.32 compared with 0.40 respectively in 2013).

These ratios provide only a broad indication of the relationship between carer supply and demand since primary carers might care for more than one person and people needing help

might have a network or family and friends who provide assistance but are not classified as primary carers. In addition, improvements in the health of people over their life course and into old age, combined with advances in treatment, prevention and care of illness and injury, may reduce the number of people with a disability and thus further improve these ratios.

The projections examined in this report are based on data for primary carers – that is, individuals providing the most assistance to people with a disability. Many people with a disability receive help from more than one person, usually other family members (Miller & McFall 1991). This group of additional carers is not included in the projections. Thus, the scenarios that project a decline in the number of primary carers do not allow for the possibility that these carers will be replaced by carers in circumstances other than those identified in the model. A survey of carers by Braithwaite (1990:46) found that 25% of primary carers took on the role because there was no one else and 28% of carers surveyed indicated that other potential carers had refused (other potential carers who had refused were mainly siblings of the carer). According to the 1998 Survey of Disability, Ageing and Carers (ABS 1999a), 30% of carers of parents felt that there were no other family or friends available and 19% felt that no one else was willing to take on the role of primary carer. In contrast, Miller and McFall (1991) observed that additional informal assistance varied in intensity and size (in terms of the number of additional carers) as a function of, among other things, the need of the recipient, with greater care needs finding more support from an additional carer network. The contribution of additional carers and the implications of this for future care needs are difficult to assess and beyond the scope of this report.

Carer accessibility in terms of geographic location, is a further consideration in the interpretation of the scenario projections presented here. There is an assumption that additional primary carers arising from population growth and ageing will be available in a practical sense. However, the phenomenon of geographic ageing and the tendency of many people to retire to coastal locations will also play a part in future patterns of informal care.

While these limitations are important to note, they do not detract from the strength of the conclusions. The scenarios presented here offer an empirical base for some likely projected future trends, indicating the possible scope of changes over the period from 1998 to 2013. Shifts in carer responsibility that result from the changing availability of the group identified as primary carers will have implications for formal services and for the caring responsibility placed on others in informal networks. The effectiveness of these extended networks is dependent on the availability of relevant formal services and programs and on policies that facilitate broader community support.