

# Keeping dementia front of mind: incidence and prevalence 2009-2050

August 2009

Final report by Access Economics Pty Limited for

## **Alzheimer's Australia**

## Contents

Glossary .....	ii
Executive Summary .....	i
1 Dementia, risk factors, and Australian incidence and prevalence estimates.....	1
1.1 What is dementia? .....	2
1.2 Estimated incidence and prevalence dementia rates in Australia .....	6
1.3 Dementia and CALD populations .....	10
2 Dementia projections .....	15
2.1 Non modifiable risk factors and Australia's demography .....	15
2.2 Modifiable risk factors .....	21
2.3 Prevalence and incidence projections .....	26
2.4 General observations regarding prevalence and incidence.....	82
3 Implications for the future of dementia care .....	83
3.1 Prevalence and incidence summary .....	83
3.2 Implications.....	83
3.3 Conclusions .....	89
References.....	95

## Charts

Estimated prevalence and incidence of dementia in Australia 2009.....	ii
Estimated dementia prevalence rates in Australia 2009 .....	iv
Chart 1.1 : Estimated dementia prevalence rates in Australia 2009 .....	10
Chart 2.1 : Australian population projection .....	15
Chart 2.2 : Australian population, by languages other than English spoken at home 2006.....	18
Chart 2.3 :Estimated proportion of people in NSW by language spoken at home.....	19
Chart 2.4 : Projection of CALD and non-CALD populations in Australia.....	20
Chart 2.5 : Australian population, by languages (other than English) spoken at home .....	20
Chart 2.6 : Prevalence rates of hypertension in Australian residents 2000.....	22
Chart 2.7 : Projected prevalence rates of hypertension in Australia .....	23
Chart 3.1 : Disability burden (YLD) of dementia relative to other conditions 2003 .....	85
Chart 3.2 : The 'Big 5' health expenditure conditions of the future (2006-07 million dollars)...	88

## Tables

Projections of dementia prevalence (people).....	ii
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Projections of dementia incidence (people) .....	iii
Table 1.1 : Types of dementia .....	3
Table 1.2 : Risk factors associated with dementia .....	4
Table 1.3 : Protective factors associated with dementia .....	5
Table 1.4 : Alternative dementia prevalence rate estimates for the Australian population .....	8
Table 1.5 : Estimated dementia prevalence rates for those aged 80 years and over.....	9
Table 1.6 : Perceptions of dementia across selected ethnic communities.....	11
Table 1.7 : Estimated dementia prevalence rates for Indigenous Australians .....	13
Table 2.1 : Projected proportion of Australians over the age of 60 living in capital cities .....	16
Table 2.2 : Australian population, by languages spoken at home 1986 to 2006.....	17
Table 2.3 : Prevalence rates of hypertension over time .....	22
Table 2.4 : Prevalence rates of sedentary and low levels of physical activity 2004-05 .....	24
Table 2.5 : Prevalence rates of physical activity over time .....	25
Table 2.6 : Estimated attributable fractions for hypertension and physical inactivity .....	26
Table 2.7 : Relative risk of mortality associated with dementia .....	28
Table 2.8 : Estimated dementia incidence rates in Australia.....	29
Table 2.9 : Total Australian prevalence projections by gender and scenario .....	31
Table 2.10 : Total Australian incidence projections by gender and scenario .....	31
Table 2.11 : Australian prevalence projections, capital city and balance of state, by gender and scenario .....	32
Table 2.12 : Australian incidence projections, capital city and balance of state, by gender and scenario .....	33
Table 2.13 : Australian prevalence projections, language spoken at home, by gender and scenario .....	34
Table 2.14 : Australian incidence projections, language spoken at home, by gender and scenario .....	35
Table 2.15 : Total ACT prevalence projections by gender and scenario .....	37
Table 2.16 : Total ACT incidence projections by gender and scenario .....	37
Table 2.17 : ACT prevalence projections, language spoken at home, by gender and scenario..	38
Table 2.18 : ACT incidence projections, language spoken at home, by gender and scenario ....	39
Table 2.19 : Total NSW prevalence projections by gender and scenario .....	41
Table 2.20 : Total NSW incidence projections by gender and scenario.....	41
Table 2.21 : NSW prevalence projections, capital city and balance of state, by gender and scenario .....	42
Table 2.22 : NSW incidence projections, capital city and balance of state, by gender and scenario .....	43

---

Table 2.23 : NSW prevalence projections, language spoke at home, by gender and scenario ..	44
Table 2.24 : NSW incidence projections, language spoken at home, by gender and scenario ..	45
Table 2.25 : Total NT prevalence projections by gender and scenario .....	47
Table 2.26 : Total NT incidence projections by gender and scenario .....	47
Table 2.27 : NT prevalence projections, capital city and balance of state, by gender and scenario .....	48
Table 2.28 : NT incidence projections, capital city and balance of state, by gender and scenario .....	49
Table 2.29 : NT prevalence projections, language spoken at home, by gender and scenario....	50
Table 2.30 : NT incidence projections, language spoken at home, by gender and scenario .....	51
Table 2.31 : Total Qld prevalence projections by gender and scenario .....	53
Table 2.32 : Total Qld incidence projections by gender and scenario .....	53
Table 2.33 : Qld prevalence projections, capital city and balance of state, by gender and scenario .....	54
Table 2.34 : Qld incidence projections, capital city and balance of state, by gender and scenario .....	55
Table 2.35 : Qld prevalence projections, language spoken at home, by gender and scenario ..	56
Table 2.36 : Qld incidence projections, language spoken at home, gender and scenario .....	57
Table 2.37 : Total SA prevalence projections by gender and scenario .....	59
Table 2.38 : Total SA incidence projections by gender and scenario .....	59
Table 2.39 : SA prevalence projections, capital city and balance of state, by gender and scenario .....	60
Table 2.40 : SA incidence projections, capital city and balance of state, by gender and scenario .....	61
Table 2.41 : SA prevalence projections, language spoken at home, by gender and scenario....	62
Table 2.42 : SA incidence projections, language spoken at home, by gender and scenario .....	63
Table 2.43 : Total Tas prevalence projections by gender and scenario .....	65
Table 2.44 : Total Tas incidence projections by gender and scenario .....	65
Table 2.45 : Tas prevalence projections, capital city and balance of state, by gender and scenario .....	66
Table 2.46 : Tas incidence projections, capital city and balance of state, by gender and scenario .....	67
Table 2.47 : Tas prevalence projections, language spoken at home, by gender and scenario...	68
Table 2.48 : Tas incidence projections, language spoken at home, by gender and scenario .....	69
Table 2.49 : Total Vic prevalence projections by gender and scenario .....	71
Table 2.50 : Total Vic incidence projections by gender and scenario .....	71

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Table 2.51 : Vic prevalence projections, capital city and balance of state, by gender and scenario .....	72
Table 2.52 : Vic incidence projections, capital city and balance of state, by gender and scenario .....	73
Table 2.53 : Vic prevalence projections, language spoken at home, by gender and scenario ...	74
Table 2.54 : Vic incidence projections, language spoken at home, by gender and scenario.....	75
Table 2.55 : Change in dementia projections to low and high case scenarios by 2050.....	82
Table 3.1 : Major causes of all DALYs, 2003 and 2023 .....	84
Table 3.2 : Disability burden in Australians aged 65 years and older 2003 .....	86
Table 3.3 : Dementia health and residential aged care (RAC) expenditure projections, relative to other conditions and total (2006-07 dollars).....	87

## Figures

Figure 2.1 : Simple disease model.....	27
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## Foreword

Alzheimer's Australia commissioned *Keeping Dementia Front of Mind: Incidence and Prevalence 2009-2050* because planning dementia care for the future requires a solid evidence base.

The critical components of this evidence need to include the direct and indirect economic impacts of the prevalence and incidence of dementia, as well as the related disability burden and health and aged care costs. It must be understood that these figures do not include the much larger numbers of older adults with declining cognitive performance, not yet classifiable as dementia, which may have significant impact on their daily lives and need for support.

There were a number of other reasons for commissioning this report at this time.

First, the 2010 Budget will be a critical budget for people living with dementia. In May 2010, the Federal Government will announce their decisions on the future of *the Dementia Initiative – Making Dementia a National Health Priority* that was implemented with additional funding in the 2005 Budget. Planning for that Budget has already commenced within the Australian Government. There is bipartisan support to continue this Initiative. The key issue for consumers is to secure additional resources to build on what has been achieved in the last five years as a result of the Dementia Initiative.

Second, it is five years since Alzheimer's Australia last commissioned Access Economics to produce estimates and projections of the prevalence and incidence of dementia. Since that time, researchers have revised prevalence rates and the Australian Bureau of Statistics has produced new population forecasts.

Third, the National Health and Hospital Reform Commission have released their report making recommendations at the strategic level for change in the Australian health and hospital system. Alzheimer's Australia supports the general approach recommended but it is necessary to remind policy makers and political decision-makers that reforming structures will not, by itself, achieve the changes that are required to provide better health and community services for people living with dementia.

Lastly, there is a need to better define the numbers of people with dementia who have special challenges in accessing mainstream support including people from culturally and linguistically diverse backgrounds, Indigenous people and those who live outside metropolitan areas.

The companion document to this report, *Dementia: Facing the Epidemic*, sets out the priorities of people living with dementia. This publication will be released during Dementia Awareness Week in September this year.

Australia can take a great pride in being the first country in the world to make dementia a National Health Priority but much more remains to be done to improve outcomes for the 245,000 Australians with dementia and those who support them

**Marc Budge**  
**President, Alzheimer's Australia**

## Glossary

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ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AD	Alzheimer's disease
AE-Dem	Access Economics' Demographic Model
AF	attributable fraction
AIHW	Australian Institute of Health and Welfare
(APOE-ε4)	apolipoprotein E isoform ε4
ASCCEG	Australian Standard Classification of Cultural and Ethnic Groups
AusDiab	Australian Diabetes, Obesity and Lifestyle Study
CALD	Culturally and Linguistically Diverse
CHS	Cardiovascular Health Study
DALY	disability adjusted life year
DLB	dementia with Lewy bodies
DoHA	Department of Health and Ageing (Australian Government)
DYNOPTA	Dynamic Analyses to Optimise Ageing
FTD	fronto-temporal (lobe) dementia (FTD)
FTE	full time equivalent
GP	general practitioner
HASA	Healthy Ageing Savings Account
health and residential aged care expenditure	refers to health care expenditure and expenditure on the high care portion of residential aged care expenditure as per Goss (2008)
HRT	hormone replacement therapy
KICA	Kimberley Indigenous Cognitive Assessment
MMSE	Mini-Mental State Examination
NHHRC	National Health and Hospital Reform Commission
NHS	National Health Survey
NSMHW	National Survey of Mental Health and Wellbeing
NSW	New South Wales
NT	Northern Territory
RAC	residential aged care
SA	South Australia
VaD	vascular dementia
WA	Western Australia
WHO	World Health Organization
YLD	healthy years lost due to disability
YOD	younger onset dementia

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## Executive Summary

Access Economics was commissioned by Alzheimer's Australia to provide up-to-date estimates and projections of prevalence and incidence for people with dementia in Australia, states and territories segregated into Culturally and Linguistically Diverse (CALD) populations and non-CALD populations, as well as metropolitan and regional (rural and remote) areas. The latter splits were based on the Australian Bureau of Statistics (ABS) categories of 'capital cities' and 'balance of state'. The projections cover the period 2009 to 2050.

Chapter 1 presents background information on dementia and provides estimates of the incidence and prevalence rates for dementia in Australia for 2009. This includes:

- a definition of dementia and a discussion of dementia risk factors;
- a literature review on dementia incidence and prevalence rates relevant to the Australian population;
- an overview of issues surrounding dementia in CALD Australians; and
- an exploration of issues associated with accessibility to dementia care services for Australians in regional (rural and remote) areas.

Chapter 2 presents dementia incidence and prevalence projections, from 2009 to 2050, with a base case of current trends in physical inactivity but no further gains in hypertension management. Results are presented at national, state and territory levels, further broken down into capital cities and balance of state as well as CALD and non-CALD populations. The chapter also investigates 'high' and 'low' scenario analysis using alternative assumptions about expected change in physical activity and hypertension.

Chapter 3 discusses the implications of the dementia incidence and prevalence projections in the current Australian policy context. Appendices<sup>1</sup> provide detailed estimates of dementia incidence and prevalence, including by age and gender, for future planning purposes.

## Findings and recommendations

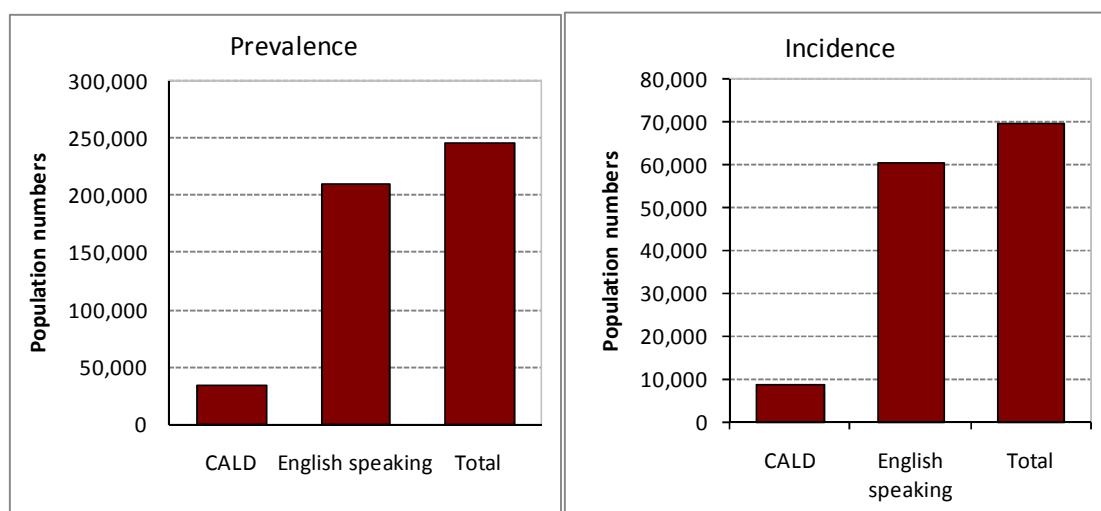
The prevalence of dementia is projected to increase over four-fold from 245,400 people in 2009 to around 1.13 million people by 2050. There is some evidence to suggest that there are many more with cognitive impairment. A snapshot of dementia prevalence and incidence in 2009, and projections of dementia prevalence to 2050 (by state and territory) are shown in the following charts and tables.

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<sup>1</sup> Appendices can be downloaded from the Alzheimer's Australia website, found at [www.alzheimers.org.au](http://www.alzheimers.org.au).



### Estimated prevalence and incidence of dementia in Australia 2009



Source: Access Economics calculations.

### Projections of dementia prevalence (people)

	2010			2030			2050		
	Total	Capital	CALD	Total	Capital	CALD	Total	Capital	CALD
<b>NSW</b>	87,961	50,163	12,926	188,131	106,189	22,990	341,414	198,624	46,427
<b>VIC</b>	65,844	45,353	12,623	146,044	101,223	21,703	275,237	197,604	39,752
<b>QLD</b>	46,888	19,328	3,191	123,562	48,571	6,367	258,316	102,047	13,538
<b>SA</b>	23,102	17,076	3,035	46,381	33,159	4,216	80,774	57,599	6,499
<b>WA</b>	23,023	17,207	2,850	60,852	44,471	5,052	125,292	92,543	10,254
<b>TAS</b>	6,569	2,778	245	14,666	6,123	301	26,278	11,414	464
<b>NT</b>	791	496	208	2,992	2,135	450	6,371	4,705	1,086
<b>ACT</b>	3,111	3,111 <sup>(a)</sup>	476	8,918	8,918 <sup>(a)</sup>	789	17,008	17,008 <sup>(a)</sup>	1,563
<b>AUST</b>	257,275	155,435	35,549	591,531	350,349	61,855	1,130,691	681,350	119,582

Note: 'Capital' refers to capital cities (a) It is assumed that the whole of the ACT represents a capital city

Source: Access Economics calculations.

### Projections of dementia incidence (people)

	2010			2030			2050		
	Total	Capital	CALD	Total	Capital	CALD	Total	Capital	CALD
<b>NSW</b>	25,669	14,724	3,302	59,566	33,724	6,291	116,346	116,346	13,579
<b>VIC</b>	19,356	13,348	3,255	46,395	32,171	6,035	94,114	67,384	11,840
<b>QLD</b>	13,769	5,723	848	39,193	15,448	1,771	87,664	34,614	4,000
<b>SA</b>	6,743	5,022	782	14,677	10,530	1,189	27,589	19,691	1,956
<b>WA</b>	6,798	5,111	753	19,296	14,132	1,400	42,753	31,529	3,036
<b>TAS</b>	1,871	800	62	4,579	1,918	83	8,872	3,850	139
<b>NT</b>	212	133	51	865	622	118	1,972	1,469	310
<b>ACT</b>	932	932 <sup>(a)</sup>	120	2,875	2,875 <sup>(a)</sup>	215	5,867	5,867 <sup>(a)</sup>	458
<b>AUST</b>	75,336	45,768	9,169	187,443	111,299	17,100	385,176	231,907	35,318

Note: 'Capital' refers to capital cities (a) It is assumed that the whole of the ACT represents a capital city

Source: Access Economics calculations.

In 2009, people with dementia represent 1.1% of the total population in capital cities (149,000 people) and 1.2% of the population in the balance of the states (97,000 people). By 2050, these proportions will increase to 2.9% in capital cities (681,000 people) and 3.8% in the balance of the states (449,000 people). In Tasmania and Queensland, there are already more people with dementia living in the balance of those states than living in Hobart and Brisbane. The faster ageing of regional Australia is important for dementia service delivery planning.

Of people with dementia in 2009, the majority speak English at home (211,000) compared to a non-English (CALD) language (35,000). The prevalence of people with dementia speaking English at home increases 4.8 times to 1.01 million in 2050, with those speaking a CALD language at home increasing 3.4 times to around 120,000 in 2050. The tripling in the absolute number of people with dementia who speak a CALD language at home represents a very significant increase in the future demand for CALD trained dementia care providers and culturally appropriate services.

Incidence of dementia is estimated to increase from 69,600 new cases in 2009 to 385,200 new cases in 2050.

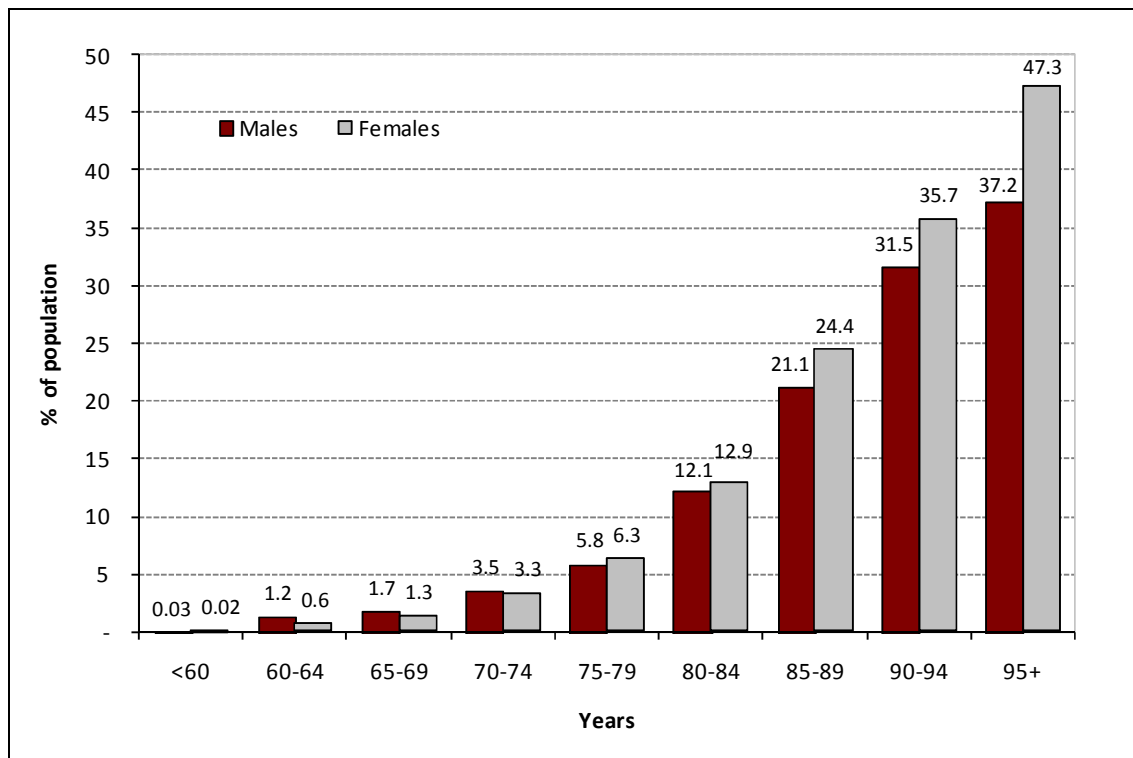
- In 2009, 42,000 of the new cases are in capital cities and 28,000 in the balance of states. By 2050, 232,000 will be in capital cities and 153,000 will be in the balance of the states.
- Of people with new cases of dementia in 2009, the majority speak English at home (61,000) compared to a CALD language (9,000). The number of people with new cases of dementia speaking English at home increases 5.8 times to 350,000 in 2050, with those speaking a CALD language at home increasing 4.0 times to around 35,000 by 2050.

If physical inactivity could be improved in the population from 70% to 50% from 2009 to 2050 there would be an estimated 5.7% fewer cases of dementia, while if improvements in hypertension could not be maintained an estimated increase in the prevalence of dementia of 5.6% would be expected. However, these projections have been made on the basis of changing one factor individually. It is expected that a much larger cumulative reduction would take place if more than one risk factor were reduced at the same time.

Dementia prevalence rates that underlie these projections are derived from the literature and shown in the chart below. Due to the lack of epidemiological data related to dementia in Australia, these rates have been based on international studies.

A significant area of further research should be to undertake epidemiological studies on the incidence and prevalence of all types of dementia among CALD and non-CALD populations in Australia, and younger onset dementia. This should also include an investigation of risks factors associated with dementia and the specific care needs required by these groups.

**Estimated dementia prevalence rates in Australia 2009**



Source: Access Economics calculations.

The year 2010 is significant as it marks the first of the baby-boomer generation turning 65 years of age. By 2020 there will be around 75,000 baby boomers with dementia.

With a higher retirement age of 67, it will also be the case that more people will be unable to remain in the workforce due to dementia onset, or due to the need to care for someone with the condition. Consequently, the already high productivity losses due to dementia are expected to grow, reflecting the increase in the pension age as well as population growth.

The baby boomer bulge in Australia's demographic profile means that the coming decade will see an acceleration of the impacts of ageing on dementia prevalence greater than previously seen in Australia's history. The rising prevalence of dementia will have dire consequences for our health care system and our quality of life, with the emphasis changing strikingly from cardiovascular disease and cancer to the neurodegenerative conditions, marking an important epidemiological transition. Access Economics' report *Making choices. Future dementia care:*

*projections, problems, and preferences*<sup>2</sup> has already highlighted the massive gap in the supply of dementia care services expected in the future.

Policy makers cannot ignore the huge impost that dementia imposes and will increasingly impose on Australian society.

There are currently around 245,000 people with dementia in Australia.

By mid-century, we will have over 1.13 million Australians with dementia.

Dementia is the leading single cause of disability in older Australians (aged 65 years or older) and is responsible for one year in every six years of disability burden for this group.

It is one of the fastest growing sources of major disease burden, overtaking coronary heart disease in its total wellbeing cost by 2023.

Dementia will become the third greatest source of health and residential aged care spending within about two decades. These costs alone will be around 1% of GDP.

By the 2060s, spending on dementia is set to outstrip that of any other health condition. It is projected to be \$83 billion (in 2006-07 dollars), and will represent around 11.0% of the entire health and residential aged care sector spending.

Given these compelling projections, strategies for managing the dementia epidemic must be kept front of mind, with priorities being for:

- prevention, research and early intervention;
- efficiently tailored services for quality care; and
- financial provisioning.

These priorities accord with the flavour and directions in the National Health and Hospital Reform Commission's (NHHRC's) final report. This report makes welcome recommendations including on facing inequities, prevention and early intervention, strengthened primary care, increasing choice in aged care services, end of life issues and the emphasis on health services research and knowledge translation.

However, despite its current and projected impact on a system under growing pressure, dementia is not mentioned in the Executive Summary. It is also not discussed in the body of the report in the context, for example, of tackling major equity issues and prevention including, the potential opportunities to reduce prevalence costs and burden through targeted early intervention approaches for those most at risk.

To ameliorate the current and projected impact of dementia, it will be important that:

- investment in dementia research and prevention is expanded and awareness of dementia risk reduction approaches is promoted;

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<sup>2</sup> This report can be downloaded from Alzheimer's Australia web site, [www.alzheimers.org.au](http://www.alzheimers.org.au).

- the Government's response to the NHHRC report specifically addresses dementia prevention and early intervention strategies;
- people with dementia and their families and carers have scope to choose between whether they receive care in the community or in a residential facility, with options to provide flexibility in tailoring a consumer-directed service package to best meet their needs;
- there is particular attention to planning for special needs groups:
  - for a CALD person with dementia and their carer, it may be important to have resources available in their own language and in their own home that are culturally appropriate;
  - for Indigenous Australians who have lived in communities it may be important to have care such that they can continue to be near or in their land and kinship group;
  - for people with younger onset dementia (YOD) it is important to have age-appropriate services; while
  - for someone with more severe behavioural and psychological symptoms it may be most important to access support and information to manage behaviours of concern and provide much-needed respite; and
- growth in private as well as public sector financial provisioning for aged care is facilitated. The right health financing model may depend on a parallel, complementary private savings mechanism such as dedicated Healthy Ageing Savings Accounts (HASAs) that are additional to superannuation and that complement private health insurance as well as complementing a means tested 'next generation' of Medicare safety nets.

## Access Economics

## 1 Dementia, risk factors, and Australian incidence and prevalence estimates

In 2005 Access Economics was commissioned by Alzheimer's Australia to develop estimates and projections of dementia incidence and prevalence for the year 2000 up to 2050 (Access Economics 2005). It was estimated that the prevalence of dementia in Australia was around 205,000 people or 1.0% of the total population in 2005, with an incidence of around 52,000 people. It was projected that prevalence would increase to around 235,000 people by 2009. It was projected that by 2050 the prevalence of dementia among Australians would be 731,000 people, or around 2.7% of the total population, with a projected incidence of approximately 173,000 people.

Projections undertaken by Access Economics (2005) were derived from constant prevalence rates and reflect the impact of demographic ageing alone. New evidence suggests prevalence rates may have increased in recent years, which means the projected number of people with dementia in the future is likely to be greater. In addition, new data have been released by the Australian Bureau of Statistics (ABS) on the size and structure of the Australian population based on the 2006 national census.

In line with the projected increase, there will be a strong increase in the demand for dementia care services in upcoming decades. Without adequate policy changes, this could lead to a shortage in the supply of care, and a subsequent lower quality of life for those with dementia and their family carers. Modelling by Access Economics projected that, on the basis of recent trends and in the absence of policy or any other change, by 2029:

- there will be a shortage of 58,887 full time equivalent (FTE) paid dementia care staff (which is equivalent to 70% of the full time equivalent dementia care staff in 2008);
- there will be a shortage of 94,266 FTE family carers (which is equivalent to 80% of the FTE family carers in 2008); and
- overall, there will be a shortage of 153,153 FTE carers for people with dementia in 2029, relative to 2008 levels. This is approximately 76% of the 2008 dementia carer workforce (Access Economics 2009).

The expected substantial deficit in the dementia carer workforce is a matter requiring urgent planning responses. On the basis of current policy settings, population ageing alone will lead to shortages in the supply of key types of specific care for people with dementia. In particular, there are likely to be major supply shortages in family care and high care residential aged care (RAC) facilities. Planning for future demand is an important consideration in terms of cost effective and appropriate dementia care. It is therefore crucial that projections of incidence and prevalence are kept up to date and kept front of mind.

In addition to an update on dementia prevalence and incidence, this chapter also contains updated estimates for Culturally and Linguistically Diverse (CALD) populations, building on past estimates developed by Access Economics (2006). In that study it was projected that dementia prevalence in CALD Australians would rise from around 25,000 people in 2005 to 84,000 by 2050.

## 1.1 What is dementia?

Dementia is not one condition but a term encompassing a range of conditions characterised by impairment of brain functions, including language, memory, perception, personality and cognitive skills (AIHW, 2007). Dementia can lead to a loss of intellect, rationality, social skills, and normal emotional reactions (Alzheimer's Australia, 2009). Conditions associated with dementia are typically progressive, degenerative and irreversible, for which there is currently no cure.

There are many types of dementia, the most common being Alzheimer's disease, which accounts for around 50% of all dementia (DoHA, 2006). A person can experience more than one type of dementia at the same time. Table 1.1 lists the most common types of dementia and their characteristics.

The type and severity of symptoms will vary depending on type of dementia and the stage of the condition. For example, a person with mild dementia may only experience one or two symptoms that have a relatively minor impact on day to day living, while a person in the late stages of dementia may experience many symptoms and require 24 hour care.

The early signs of dementia are usually subtle and not always obvious to the individual or family and friends. However, there are a large number of symptoms associated with dementia. Some of these include:

- progressive and frequent memory loss;
- decline in ability to perform routine tasks;
- disorientation to time and space;
- impaired judgement and physical coordination;
- learning and concentration difficulties;
- loss of language and communication skills;
- altered sleeping patterns, eating disturbances and screaming;
- changes in personality/behaviour/mood;
- apathy and withdrawal;
- focal neurological signs and symptoms; and
- muscle rigidity.

**Table 1.1: Types of dementia**

Type of Dementia	Description
Alzheimer's Disease (AD)	AD is the most common of the dementia disorders (approximately 50% of cases in Australia) and is associated with shrinkage/atrophy of the brain due to nerve cell loss. Abnormal brain tissue changes occur in the form of 'tangles' and 'plaque'
Vascular Dementia (VaD)	VaD occurs through a reduced blood supply to the brain, usually through a stroke. It is the second most common dementia, accounting for around 20% of cases.
Dementia with Lewy bodies (DLB)	DLB accounts for around 15% of all dementia, and is associated with Lewy bodies which are abnormal brain cells. DLB is similar to AD but progresses much more rapidly, with earlier occurrence of frontal lobe and visuo-spatial impairments.
Fronto-temporal (lobe) dementia (FTD)	FTD is associated with tangled bundles of proteins in brain nerve cells as well as rounded ones. It occurs in 1 in 5000 people, but with earlier onset (as young as 30 to 40 years of age). It accounts for around 5% of all dementia cases.
Parkinson's disease	This is a progressive disorder of the central nervous system which results from loss of the neurotransmitter dopamine in the brain. It is characterised by tremors, stiffness in limbs and joints, speech impediments and difficulty in initiating physical movements. It accounts for around 3% to 4% of all dementia cases.
Huntington's disease	This is a hereditary disorder of the central nervous system affecting 1 in 10,000 people. Cell death may be caused by a ball of protein that forms in the cell nucleus.
Creutzfeldt-Jakob disease	This is characterised by a swelling and loss of nerve cells, an increase in the size and number of brain cells (astrocytes) and abnormal prion protein deposits between nerve cells. People may quickly pass from symptoms to akinetic mutism and die within 6 to 18 months.

Source: Access Economics (2003), DoHA(2006).

### 1.1.2 Risk factors associated with dementia

There are many risk and protective factors associated with dementia, some that are firmly established, some that are probable, while others remain unconfirmed. DoHA (2006) undertook a comprehensive literature review of risk and protective factors associated with dementia. Dementia Collaborative Research Centres have also undertaken a comprehensive literature review of the evidence relating to dementia risk reduction (DCRC, 2007). These have been summarised in Table 1.2 and Table 1.3.

There are several factors that have been confirmed as having a direct link with dementia. Older age is the greatest risk factor for nearly all types of dementia, although how the brain changes with age is not well understood, and even less is known on the impact of ageing on the risk of developing dementia. Family history and Type 2 diabetes has been found to increase the risk of AD, while stroke increases the risk of VaD, and the protein apolipoprotein E isoform ε4 (APOE-ε4) increases the risk and decline associated with AD and VaD. Hypertension



and obesity have been found to increase the risk of dementia through higher risk of cardiovascular disease and stroke (Table 1.2).

**Table 1.2: Risk factors associated with dementia**

Factors	Findings
Age	Dementia prevalence and incidence rates increase with age and prevalence approximately doubles every five years from the age of 65. Old age is the greatest dementia risk factor.
Family history	Individuals are at higher risk of developing AD if their relatives also have AD, although the contribution of shared environmental factors to the risk is yet to be separated.
Down Syndrome	Most individuals with Down Syndrome develop AD
Apolipoprotein E isoform ε4 (APOE-ε4)	The APOE-ε4 gene variant increases the risk of developing AD, increases the rate of preclinical cognitive decline, and increases the risk of VaD, regardless of gender and ethnic group (although the magnitude of the risk varies across groups).
Stroke	Stroke is the second highest cause of dementia in developed countries. Furthermore, VaD is usually a direct consequence of stroke, although not all who experience a stroke also experience VaD.
Diabetes Mellitus	The incidence of AD has been found to increase between 50% to 100% for those with diabetes. Similarly, the incidence of VaD has been found to increase by 100% to 150%. The relationship is generally due to Type 2 diabetes.
Hypertension	Those with midlife hypertension have been found to be at significantly greater risk of developing dementia, including VaD and AD.
Homocysteine	There is a positive relationship between elevated plasma homocysteine and dementia, including AD and VaD.
Depression	Meta-analyses have suggested that people with depression in earlier stages of life are at greater risk of developing AD in late life. However it is unclear whether depression in late life is a risk factor or an early symptom.
Head trauma	Some evidence suggests a history of prior head injury (with loss of consciousness) may be positively associated with developing AD in males. However, evidence is not firmly established.
Obesity	Obesity is a risk factor for VaD through its impact on risk of coronary heart disease and stroke. However, studies have also found a direct link between midlife obesity and dementia, including AD, in later life.
Exposure to environmental toxins	Studies have found pesticide exposure is positively associated with developing AD in Canada, and some synthetic chemicals and the herbicide 'paraquat' are positively associated with Parkinson's Disease.
Gender	Dementia prevalence and incidence rates suggest females are at greater risk of developing AD than males, particularly at older ages. Studies have found males are at more risk of developing VaD than females.
Smoking	Smoking can increase the risk of developing VaD through increased risk of stroke. Smoking is also associated with an increased risk of AD.

Source: DoHA (2006) and Access Economics (from evaluation for DoHA of the National Dementia Priority Initiative), DCRC (2007).

**Table 1.3: Protective factors associated with dementia**

Factors	Findings
<b>Probable</b>	
Education and intelligence	A high level of education and high intelligence quotient (IQ) are associated with lower risk of developing dementia. Complex mental activity throughout all stages of life may therefore reduce the likelihood of developing dementia in later life. This may be due to the Brain Reserve Hypothesis. <sup>(a)</sup>
Occupation	A complex work environment that requires frequent intellectually demanding activity has been found to be associated with reduced risk of AD. This may be due to the Brain Reserve Hypothesis <sup>(a)</sup>
Physical activity	Increased physical activity decreases the risk of VaD through its impact on the likelihood of cardiovascular disease, stroke, and Type 2 diabetes. It may also be neuroprotective and reduce the risk of other dementias, including AD.
Social integration, cognitive activity, leisure	Hobbies, such as reading, playing board games, playing musical instruments and dancing, have been found to reduce the risk of dementia. Furthermore, an active social life in later years also reduces the risk of developing dementia. This may be due to the Brain Reserve Hypothesis <sup>(a)</sup>
Alcohol consumption	Mild to moderate alcohol consumption has been associated with reduced risk of developing dementia, both directly and indirectly through its positive influences on the likelihood of cardiovascular disease. However, moderate drinkers carrying the APOE-ε4 gene variant had a greater risk, along with heavy drinkers (regardless of whether they have the APOE-ε4 gene variant).
<b>Inconclusive</b>	
Caffeine consumption	Some studies have found a correlation between high caffeine intake and reduced risk of AD, although levels of caffeine required may cause other health problems.
Cholesterol lowering medications	As there is no firm link between the level of cholesterol and the risk of dementia, there is inconclusive evidence on whether cholesterol lowering drugs (statins) can reduce the risk of developing dementia.
Non-steroidal anti-inflammatory Drugs (NSAIDs)	Although there is some evidence that NSAIDs (such as Aspirin) may lead to reduced risk of developing dementia, studies have not been of sufficient quality to draw firm conclusions.
Omega-3 fatty acids	Although some studies have suggested a positive link between omega-3 fatty acids (typically found in fish oil) and reduced risk of dementia, they have not been of sufficient quality to draw firm conclusions. <sup>(b)</sup>
Race and regional variation	Although some studies have found differences in dementia prevalence and incidence across countries, results are ambiguous due to different survey methodologies, sample selection, and definition of dementia.
Hormone replacement therapy (HRT)	Evidence is conflicting. HRT has been associated with an increased risk for women over the age of 65, and a reduced risk for all women.

Note: (a) The Brain Reserve Hypothesis suggests undertaking complex tasks can lead to a sophisticated cerebral network, thereby building cognitive reserve and greater capacity to cope with AD pathology (Katzman, 1993). (b) More recent studies have suggested there is no link (Devore et al, 2009).

Source: DoHA (2006), DCRC (2007).

There are several factors that protect against dementia (Table 1.3); positive relationships have been found for education, occupation, physical activity, social integration, and moderate alcohol consumption. Others are unconfirmed (for example, statins and Omega 3).

## 1.2 Estimated incidence and prevalence dementia rates in Australia

In determining the number of people with dementia in Australia in 2009, and projecting estimates to 2050, age-gender prevalence and incidence rates for dementia must first be determined.<sup>3</sup>

There is no epidemiological study of the incidence and prevalence of dementia in Australia at level of detail (by age and gender) required to produce practical estimates. Although the Disability, Ageing and Carers Survey undertaken in Australia in 2003 (ABS, 2004) attempted to determine the prevalence of dementia within Australia, it relied on self-reported identification, leading to severe under reporting due to an individual's limited capacity to recognise mild and moderate dementia if it has not been formally diagnosed.

Due to the lack of epidemiological data, over the last decade a number of studies have explicitly estimated dementia prevalence in Australia (Access Economics 2003, 2005, 2006; Jorm et al 2005; AIHW 2007). In addition, Begg et al (2007) implicitly estimated the incidence and prevalence of AD and VaD in their burden of disease and injury report for Australia.

These studies have used meta-analyses performed on a set of epidemiological studies undertaken in Europe to estimate prevalence rates by age and gender in Australia. This has not been ideal as the data used in these studies are relatively old (from the mid 1980s to the mid 1990s) and, moreover, imply that Australia has the same dementia incidence and prevalence rates as Europe. This is despite known differences in dementia risk factors.

Recent modelling on *probable* dementia prevalence in Australia was undertaken at the Australian National University through the Dynamic Analyses to Optimise Ageing (DYNOPTA) study (Anstey et al, 2009). This study aimed to evaluate rates of probable dementia based on large Australian datasets containing the Mini-Mental State Examination (MMSE). It was noted that the MMSE was the most widely used screening measure for dementia and only cognitive measure used in the National Survey of Mental Health and Wellbeing (NSMHW) (ABS 1999). The prevalence of dementia was assessed using the MMSE cut-off of 23/34 from available Australian datasets, to compare with past estimates from Jorm et al (2005) and Access Economics (2005).

Although based on Australian data, dementia incidence and prevalence rates from the DYNOPTA study also suffer from some limitations. Of primary concern is possible bias introduced through the survey technique used to administer the MMSE (for example, there was considerable non-response within the NSMHW (ABS, 1999)), and the method used to impute missing values and to derive total MMSE scores.

According to Anstey et al (2009), probable dementia rates were compared to clinical diagnosis from Sydney and Canberra. Although the model was able to identify around 93% of people with dementia, it was only able to identify 70% of people without dementia. This means around 30% were identified as having dementia when they did not according to the clinical

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<sup>3</sup> The prevalence of dementia refers to the number of people in the population with dementia at a given time, while the incidence of dementia refers to the number of new cases of dementia in a specified period, such as a year.

diagnosis. While some of this may reflect under-diagnosis, 'probable' dementia rates may be an over estimation of true dementia prevalence rates. Anstey et al (2009) recognise this problem and suggest their estimates for very old adults are not reliable.

Most recently, the Primary Dementia Collaborative Research Centre at the University of NSW has also estimated dementia prevalence rates using assumed incidence and mortality rates and their interactive multi-factorial model of dementia prevalence in the Australia population. As their main focus is on modelling behavioural and psychological symptoms of dementia at the clinical and policy level, the model uses a more clinical definition of dementia. They have explicitly included undiagnosed mild, moderate and severe dementia, but specifically excluded probable dementia and mild cognitive impairment. This aligns their incidence and prevalence rate estimates with those used in Begg et al (2007) (Dr Geoff McDonnell, pers. comm. 23 July 2009). Results from the model are due to be published soon.

A summary of assumed prevalence rates by age and gender from the published studies previously mentioned are shown in Table 1.4. Trends in assumed dementia prevalence rates for Australia have been generally comparable. All show that rates increase with age and that females have higher rates. However, the magnitudes of rates across studies show some differences, which have meant differences in total prevalence and incidence estimates.

There is very little data related to incidence of dementia. In general, there are problems with diagnosing dementia as the date of onset is generally undetermined due to the progressive onset of the condition. This suggests there may be significant positive diagnoses missed. Furthermore, screening instruments are not specific and therefore it can be difficult to separate mild dementia with other cognitive conditions, suggesting an over-estimation problem in determining incidence rates (AIHW, 2007). A recent study in the US has found that around 22% of adults aged 71 years or older had cognitive impairment where the level of impairment did not reach the dementia threshold (Plassman et al, 2008). The study suggests the number of individuals with chronic impairment without dementia is about 70% higher than the number of individuals with dementia.

Most recently there has been focus on the incidence and prevalence of dementia among older groups (80 years and over). Two epidemiological studies have shown that dementia rates do not flatten or go down after the age of 90 years, as previously thought, instead dementia rates are shown to continue to rise (Lucca et al 2009; Corrada et al 2008). One study focuses on a large Italian population while the other uses a population from the United States. Although both come to the same general conclusion, absolute levels of prevalence differ substantially between the two studies, most likely due to different methods used to diagnose individuals. Prevalence rates of dementia for those 80 years and older from the two studies are shown in Table 1.5.

**Table 1.4: Alternative dementia prevalence rate estimates for the Australian population**

Age	Access Economics (2003) <sup>(a)</sup>		Jorm et al (2005) <sup>(b)</sup>		Access Economics (2005, 2006) <sup>(c)</sup>		Begg et al (2007), AIHW (2007) <sup>(d)</sup>		Anstey et al (2009)	
	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)
<60	0.2	0.1	na	na	0.1	0.1	0.1	0	na	na
60-64	0.2	0.1	1.2	0.6	1.2	0.6	0.1	0	na	Na
65-69	1.9	1.1	1.7	1.3	1.7	1.3	1.6	1.0	2.2	2.5
70-74	1.9	1.1	3.5	3.3	3.5	3.3	2.9	3.1	4.9	5.6
75-79	5.7	6.8	5.8	6.3	5.8	6.3	5.6	6.0	8.2	9.2
80-84	5.7	6.8	11.8	12.6	11.8	12.6	11.0	12.6	12.3	17.0
85-89	22.8	33.6	18.6	21.5	18.6	21.5	12.8	20.2	18.8	22.8
90-94	22.8	33.6	31.1	33.3	31.1	33.3	22.1	30.8	41.2	32.7
95+	22.8	33.6	38.1	40.3	38.1	40.3	22.1	30.8	53.9	73.8

Note: (a) Prevalence for those under 25 years was considered zero (b) Uses an average of four meta analyses including Jorm et al (1987), Hofman et al (1991), Richie and Kildea (1995) and Lobo et al (2000) (c) Estimates were derived from Jorm et al (2005) (d) Based of Harvey et al (2003) for those <65 years old and Lobo et al (2000) for all other age groups.

Source: Access Economics (2003, 2005, 2006), Jorm et al (2005), Begg et al (2007), AIHW (2007), Anstey et al (2009).

**Table 1.5: Estimated dementia prevalence rates for those aged 80 years and over**

Age	Lucca et al (2009) <sup>(a)</sup>	Corrada et al (2008) <sup>(b)</sup>		Corrada et al (2008) <sup>(c)</sup>	
years	All (%)	Male (%)	Female (%)	Male (%)	Female (%)
80-84	13.5	na	na	na	na
85-89	30.8	na	na	na	na
90-94	39.5	17.3	31.1	40.4	42.6
95+	52.8	20.6	50.0	37.2	58.7

Note: (a) Participants were diagnosed based on DSM-IV criteria (b) Includes participants diagnosed from a neurological examination or a Mini-Mental State Examination administered in person (c) Includes participants diagnosed from a Cognitive Assessment Screening Instrument-Short Version, a Dementia Questionnaire, or the Informant Questionnaire that combines information from the Dementia Severity Rating Scale, Functional Activities, and Activities of Daily Living.

### 1.2.2 Estimated dementia prevalence rates in Australia

Prevalence rates were estimated using a combination of published epidemiological studies and meta-analyses.

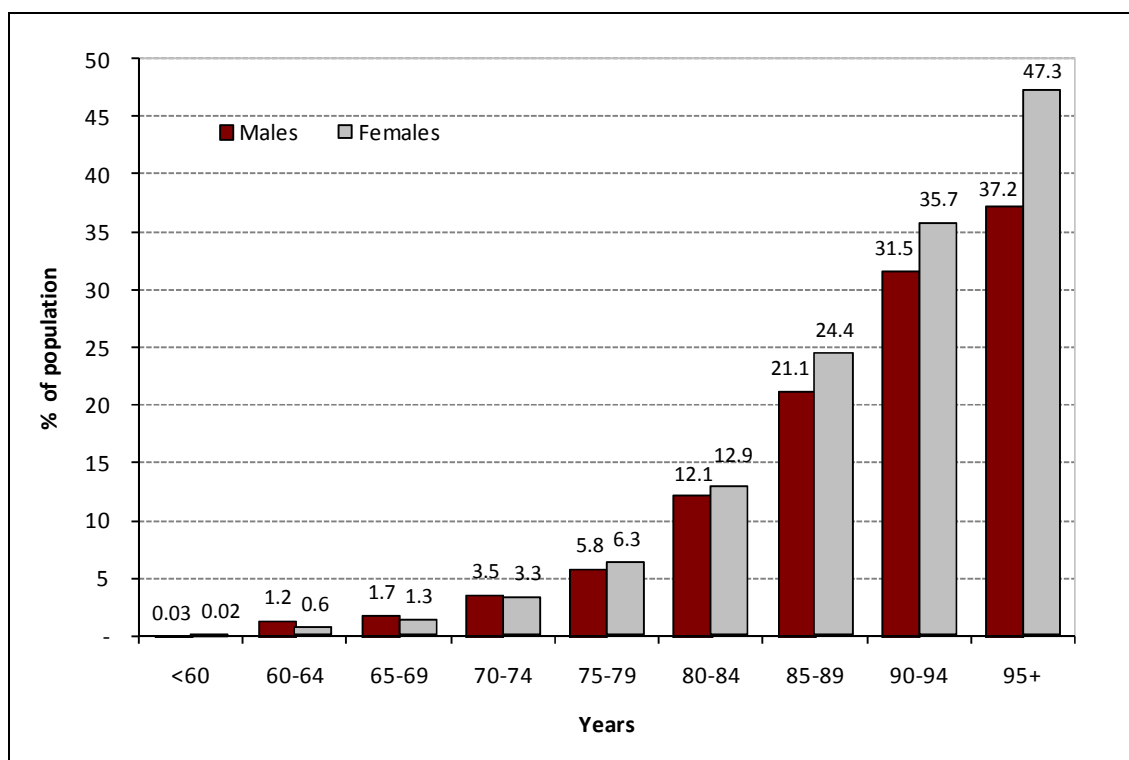
- **Age brackets 0 to 59 years:** a weighted average for the entire population was calculated using five year age bracket prevalence rates derived from Harvey et al (2003) and Australian population estimates.
- **Age brackets between 60 and 79 years:** previous prevalence rates used in Access Economics (2005, 2006) were used.
- **Age brackets between 80 and 89 years:** a weighted average of prevalence rates found in Access Economics (2005, 2006) and Lucca et al (2009) were used, with the former receiving three times as much weight as the latter.
- **Age brackets 90 years and above:** a weighted average of prevalence rates was calculated using rates found in Access Economics (2005, 2006), Lucca et al (2009), and Corrada et al (2008). An average prevalence rate was calculated using the latter two studies and this average was given an equal weighting with the prevalence rates from Access Economics (2005, 2006). Estimated prevalence rates are shown in Chart 1.1.

Underlying population data used to calculate prevalence and incidence in 2009 was estimated using the AE-DEM model, which is an in-house demographic model based on the 2006 national census undertaken by the Australian Bureau of Statistics. Building up from the demographic 'first principles' of births, deaths, migration and household formation, the model projects population by age and gender for each State and Territory. Metropolitan and regional population splits for 2009 were derived from the Australian Bureau of Statistics.

Incidence and prevalence estimates for 2009 are presented in Chapter 2, together with projections to 2050. The appendices provide detailed estimates and projections including by age and gender. CALD and Indigenous estimates are in Appendix C.<sup>4</sup>

<sup>4</sup> Appendices can be downloaded from the Alzheimer's Australia website, found at [www.alzheimers.org.au](http://www.alzheimers.org.au).

**Chart 1.1: Estimated dementia prevalence rates in Australia 2009**



Source: Access Economics calculations.

### 1.3 Dementia and CALD populations

For this study, 'Main Language Other than English Spoken at Home' was used to identify whether an individual belonged to a CALD population. One reason for this is because persons from CALD populations, even those who are fluent in English, often revert back to their original language as their dementia progresses (Lewis and Kirchener, 1996). This increases the likelihood of delayed and reduced access to services so it is vital that service provision for dementia be tailored to such populations so that care can be provided by multi-lingual carers.

Perceptions of dementia vary across CALD populations. Table 1.6 summarises perceptions of dementia across specific ethnic communities in Australia. Although beliefs about dementia can vary within communities, and across individuals, there are some common beliefs brought about by cultural norms, societal 'rules' and religions. Cheng et al (2009) note that some international studies have found CALD groups have less knowledge regarding dementia than White or Caucasian groups once adjustments had been made for education and socioeconomic status, although there have been no similar studies conducted in Australia.

Differences in perceptions regarding dementia have implications for recognising those with dementia and developing and implementing formal care within the community and in residential care facilities. For example, individuals and their carers from CALD backgrounds have less information about formal community services, lower utilisation rates of community services and lower access to respite care (Schofield et al 1998; Ward et al 2005; Thomas et al 2007). Access Economics (2009) found that residential aged care (RAC) facilities that can accommodate diverse cultural backgrounds and recreational needs on an individual basis were highly valued by informal carers.

Table 1.6 provides a summary of some general observations about perceptions across selected ethnic communities. They do not necessarily apply to all people from such communities.

**Table 1.6: Perceptions of dementia across selected ethnic communities**

<b>Culture</b>	<b>Perceptions and beliefs regarding dementia</b>
<b>Arabic</b>	Dementia is considered to be a normal part of ageing but associated with mental illness. There is reluctance to admit the illness, due to associated stigma. It is expected that the family, particularly children, will play a strong role in care due to strong family-orientation and religious beliefs. There is a strong preference for services that will allow the person with dementia to stay at home and residential care is not seen as an option, unless as last resort. Counselling services for dementia are generally not favoured.
<b>Chinese</b>	Understanding of dementia varies within the community, with dementia stigmatised as a form of mental illness in some sections of the community, and attributed to normal ageing in other sections. Dementia is not openly discussed and social isolation is a concern. The traditional 'filial piety' concept means that children often care for their parents with dementia. Chinese place great importance on peer support so Senior Citizens' groups, support groups and Planned Activity groups are highly valued, but residential care is still perceived negatively.
<b>Serbian</b>	There is little understanding of dementia in the community. Most see it as a form of mental illness and mental illness carries much stigma. For older members with low education, dementia may be attributed to past mistakes of the family. The primary carer is usually the spouse and residential care is not seen as an acceptable option. The most accepted form of therapy is medication.
<b>Italian</b>	Views and opinions vary according to education level and English proficiency. Some perceive dementia as benign forgetfulness and a normal part of ageing. Social isolation is a major issue. Views on community care vary but the community is generally family-centred. Residential care is often not acceptable due to strong attachment to the home and stigma. Trust and building a strong relationship is considered to be a key to successful counselling.
<b>Polish</b>	Dementia is either seen as a usual sign of ageing, or with more severe symptoms, as mental illness. Dementia is highly stigmatised and denial is a common issue, and social isolation may occur. Because of stigma, there is a reluctance to seek support outside of the family network, and thus family remains the strongest support area. It is considered shameful to place a family member in residential care.

Source: Alzheimer's Australia Victoria (2008). Note these are generalisations and will not apply to all people in a particular group.

### **1.3.2 Dementia prevalence and incidence rates for CALD populations**

There are currently no epidemiological data on dementia incidence and prevalence rates among CALD populations in Australia.

It has been suggested that dementia incidence rates are lower in developing regions compared to developed countries due to factors underlying regional and genetic variations (Ferri et al, 2005). These include genes, the environment, chemical neurotoxins, diet, vascular disease and its risk factors, lifestyles and interactions between genes and the environment. However, Ferri et al (2005) also note that lower incidence rates in developing countries may be attributed to under-detected mild dementia due to difficulties in determining cognitive impairment. A further complication in comparing epidemiological data across regions results from different study designs, sample selection, and definitions of dementia (DoHA, 2006).



The American Cardiovascular Health Study (CHS) examined the incidence and prevalence of AD and VaD amongst Caucasian Americans and African American participants (Fitzpatrick et al, 2004). It concluded that racial differences were only of borderline significance after adjustment for age and education. Overall, the CHS results were similar to other studies, reporting no sex or racial differences in dementia incidence and prevalence, and strong associations with education (Fitzpatrick et al, 2004).

Psychosocial factors such as educational attainment, social network and leisure activities can play a part in the development of dementia (Qui et al, 2007). For example, there is strong evidence that low educational attainment and literacy can increase the risk of dementia and AD. This rests on the cognitive reserve hypothesis in that education might stimulate compensatory mechanisms of cognitive function (Qiu et al, 2007). Consequently, any differences in dementia prevalence and incidence in CALD populations may result from differences in psychosocial factors, although this has not been formally evaluated in Australia.

However, when CALD populations live in another country for extended periods of time, dementia prevalence rates may tend towards those of the country of residence. This is due to the similarity of risk factors faced by CALD populations and the rest of the population within the country of residence. For example, although AD is more common in Caucasian populations, while VaD is more common in Japan (Access Economics, 2006), two studies of older Japanese immigrants in Hawaii (White et al, 1996) and King County (Graves et al, 1996) observed a ratio of VaD to AD cases that was more typical of European and American Caucasians.

Due to the paucity of data, previous estimates of dementia among CALD populations in Australia have relied on an implicit assumption that incidence and prevalence rates are the same among CALD populations as the general population (Access Economics, 2006). Unfortunately there is no way to measure the limitations associated with this methodology.

Given the evidence presented above, and the difficulties in comparing international studies, there is not a strong case to suggest prevalence and incidence rates differ significantly among CALD populations in Australia. As such, dementia incidence and prevalence rates for the Australian population in general (as presented in Section 1.3) have been used to represent CALD populations.

The lack of epidemiological data relating to dementia for Australian CALD populations, and the Australian population in general, highlights the immediate need for further research. Given the importance of accurate prevalence and incidence numbers for policy purposes, epidemiological studies on all types of dementia should be undertaken within Australia. This should also include an investigation of risks factors associated with dementia and the specific care needs required by these groups.

#### **1.3.2.1 Indigenous Australians**

There have been a small number of studies on dementia incidence and prevalence among Indigenous Australians. The Indigenous Dementia Project (AANT, 2002) found that between 1993 and 1997, Aboriginal males in the Northern Territory were admitted to hospital for treatment of mental illness slightly more often than non-Aboriginal males. Comparative admission rates for Aboriginal and non-Aboriginal women were also found. Furthermore, hospitalisation due to dementia was much less common among Aboriginal people than non-Aboriginal people in the Northern Territory, although the reasons for this were not clear.

A recent study was conducted on dementia prevalence in the Kimberley region in the far north of Western Australia (Smith et al, 2008). A total of 363 Indigenous Australians (55% women) aged over 45 years from the region were assessed, with recruitment through semi-purposeful sampling. Assessment was undertaken using the Kimberley Indigenous Cognitive Assessment (KICA) tool, which collects information from the patient and informant on prior medical history, smoking and alcohol use, emotional wellbeing and depression, and activities of daily living. All those who scored less than 37 on the KICA and a proportion of those scoring 37 or more were reviewed by specialist clinicians.

The estimated dementia prevalence rates for Indigenous people in the Kimberley region are presented in Table 1.7. Compared to the prevalence rates for all Australians (as shown in Table 1.4) there is a remarkable difference in prevalence rates for Indigenous Australians. Smith et al (2008) noted that the prevalence of dementia in the Indigenous community under investigation was 5.2 times greater than the overall Australian population rate of 2.4%. It was suggested that cardiovascular disease, hypertension, diabetes, obesity, smoking, physical activity and poor quality diets are substantially more prevalent among Indigenous Australians, which may contribute to increased dementia risk. It also indicates that Indigenous Australians may have a high rate of VaD compared to the general population.

Overall, the study highlighted a previously under-recognised issue among Indigenous populations in developed countries and the importance of developing models of care to meet the specific needs of these people. Despite the fact that this study indicated higher prevalence rates for the Australian Indigenous population than for the general Australian population, it should be remembered that the study had a limited sample size as well as covering only one area in Australia. Additionally some practical limitations of the study were noted by Bennett (2008); random sampling was not used but rather a semi-purposeful sampling technique to obtain a sufficient number of participants over the age of 45. Furthermore, Bennett notes that even though a cognitive assessment tool was used to stratify the population, it did not appear that a cognitive battery could be used to determine dementia due to the limited education status of the older population.

**Table 1.7: Estimated dementia prevalence rates for Indigenous Australians**

Age	Indigenous Australians <sup>(a)</sup>	General population <sup>(b)</sup>
	%	%
45-59 years	2.6	0.1
60- 69 years	16.9	1.2
70-79 years	16.4	5.1
45+	12.4	na
65+	26.8	na
80+	56.7	na

Note: (a) Derived from the Kimberley Region, Western Australia (b) Average of figures presented in Access Economics (2005, 2006).

Source: Smith et al (2008), Access Economics (2005, 2006).

There are specific issues related to recognising dementia within Indigenous communities and providing appropriate care. Politt (1997) noted that alcohol could play a major role in the poor mental health of Indigenous people. While the proportion of Indigenous people who consumed alcohol regularly was significantly less than that of non-Indigenous people, many

Indigenous people who did drink did so at harmful levels (Politt, 1997). Swan and Raphael (1995) stated that alcohol abuse could not be separated from poor health and disturbed behaviour, and that it was identified by Indigenous people themselves as a leading contributor to mental health problems.

Furthermore, Politt (1997) suggests mental and physical disorders may not be seen as separate but rather covered by the overarching term of 'sickness'. Distinctions are, however, drawn between sickness and disturbed behaviour or 'madness'. For northern Australian communities, behaviour which disrupts the community and defies cultural norms may be considered abnormal (Politt, 1997). Such behaviour may be attributed to physical, spiritual, social and psychological explanations.

There may also be wide variations in Indigenous communities from western concepts of abnormal behaviour. For example, decline in old age which might be labelled mild or moderate dementia by 'western medicine' may be seen as 'tiredness' or 'child-like behaviour' by Indigenous communities. In many Indigenous communities, caring for people manifesting abnormal behaviour is considered to be the responsibility of the family (Politt, 1997). When families cannot cope, traditional remedies and healers may be the first resort.

## 2 Dementia projections

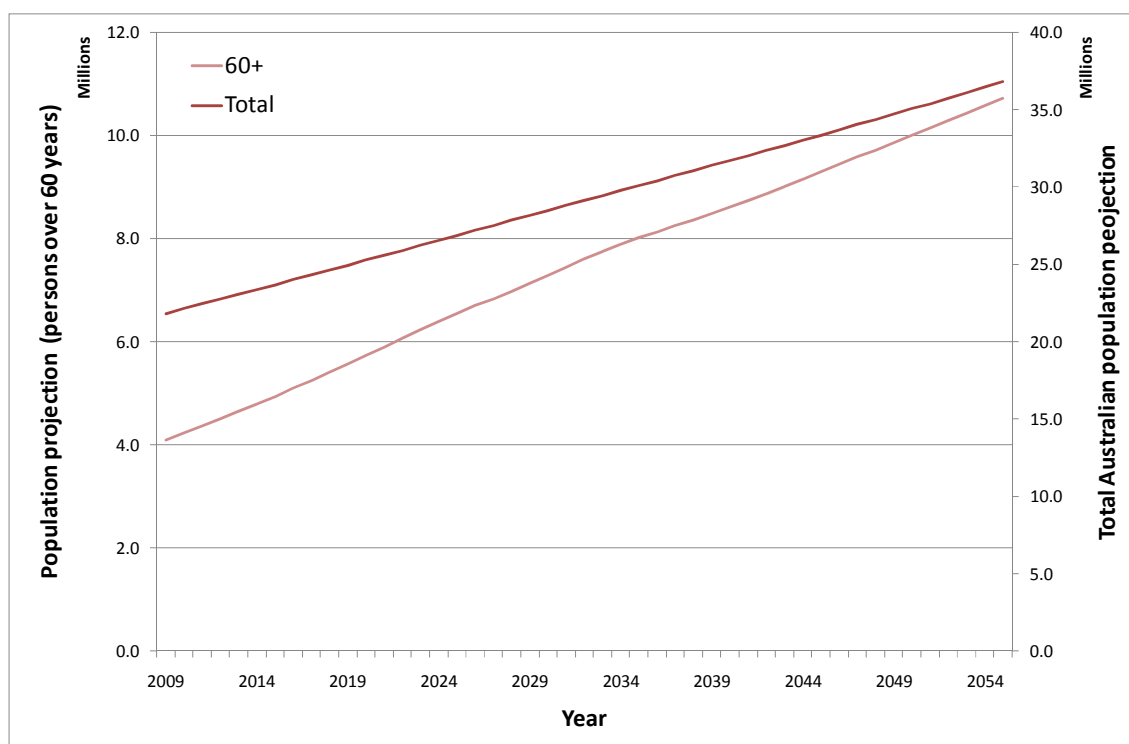
This chapter provides incidence and prevalence projections for Australia. Projections are based on modelling non modifiable risk factors (age and gender) with high and low estimates based on projected changes in modifiable risk factors, including hypertension and physical inactivity.

### 2.1 Non modifiable risk factors and Australia's demography

Studies examining incidence and prevalence rates of dementia presented in Chapter 1 show a positive association with increasing age such that the older a person is the more likely they will have dementia. Therefore, the number of people with dementia is sensitive to the age structure of the population.

Projections of the Australian population (Chart 2.1) show an overall increase in the number of people living in Australia, from approximately 21.8 million people in 2009 to 35.1 million people in 2050, or a 60.1% increase. Australia's population ages over this time period, the result of increasing longevity and a declining birth rate. In 2009 it was projected that there are approximately 4.1 million people aged over 60 years, increasing to approximately 10.0 million in 2050, or a total increase of 144.3%.

**Chart 2.1: Australian population projection**



Source: Access Economics (AE-Dem).

These demographic trends alone are the first indication of an expected increase in the number of Australians with dementia. Higher population growth rates in the over 60s (approximately 2.4 times the total population growth rate), and the associated increase in prevalence, indicate that demand for dementia care services will increase significantly to 2050, requiring careful

planning and strategic policy directions to ensure adequate and cost effective services are provided.

### 2.1.2 Capital city and balance of state population forecasts

The ABS produces population projections by single year of age, gender, state and territory by capital city and balance of state (which represents all populations outside a capital city) (ABS 2009).<sup>5</sup>

In 2009, 58.7% of the Australian population aged 60 years and above lived in a capital city. However, the proportion of this population group living in a capital city varies between the jurisdictions (Table 2.1). The state or territory with the greatest proportion is South Australia, followed by Western Australia, and Victoria. The largest proportion of people aged 60 years or above living outside a capital city is located in Queensland, followed by Tasmania.

Further urbanisation is expected for those people aged 60 years and above between 2009 and 2050 (Table 2.1). With the exception of Queensland and South Australia, each jurisdiction is expected to experience an increased proportion of people living in a capital city in 2050, although fluctuations are present through the horizon.

**Table 2.1: Projected proportion of Australians over the age of 60 living in capital cities**

	2009	2020	2030	2040	2050
	%	%	%	%	%
Australia*	59.2	58.4	58.7	59.6	60.9
NSW	56.1	55.6	56.1	57.4	59.4
Vic	68.7	68.5	69.7	71.5	73.5
Qld	40.0	39.0	38.8	39.1	39.8
SA	74.5	70.4	69.8	70.0	70.6
WA	72.9	71.8	72.0	72.8	73.9
Tas	40.1	40.4	41.0	42.2	43.9
NT	63.2	67.5	69.0	69.8	70.3

Note: \*The whole of the ACT has been assumed to be classified as 'capital city'.

Source: ABS (2009).

Given those aged 60 years and above are expected to make up a greater proportion of the total population, demand for dementia care services is expected to grow at a greater rate in capital cities.

### 2.1.3 People from CALD background groups

ABS demographic data identifies people from CALD backgrounds by country of birth, by language spoken at home and by ancestry (ie, birthplace of parents). However there are no ABS public projections of population by any of these definitions of ethnicity (Access Economics, 2006).

<sup>5</sup> Capital city and balance of state projections could not be obtained for the ACT. Consequently, the entire population of the ACT has been assumed to live in a capital city.

Consequently, CALD population projections were modelled based on historical CALD census data. The implicit assumption with this method is that immigration policy does not significantly change through to 2050.

CALD populations were defined by languages spoken at home, and data were collected and stratified by age, gender and jurisdiction from five Australian censuses (1986, 1991, 1996, 2001 and 2006).<sup>6</sup> In line with Access Economics' report on prevalence and incidence in non-English speaking Australians (Access Economics, 2006), language spoken at home was grouped as English, other European, Asian, Middle Eastern, African and South American, Other and Aboriginal and Torres Strait Islander (Indigenous) languages.

The share of people speaking English at home declined from 86.8% of the total population in 1986 to 83.4% in 2006. Over the same time period, people speaking other European languages at home fell from 9.6% to 7.0%. People speaking Asian languages at home increased from 2.1% to 6.7%, while people speaking Middle Eastern languages increased from 1.0% to 2.1% of the total population. People speaking African, South American and Other languages increased from 0.2% to 0.6% of the total population, while Indigenous languages remained constant at around 0.3% (Table 2.2).

**Table 2.2: Australian population, by languages spoken at home 1986 to 2006**

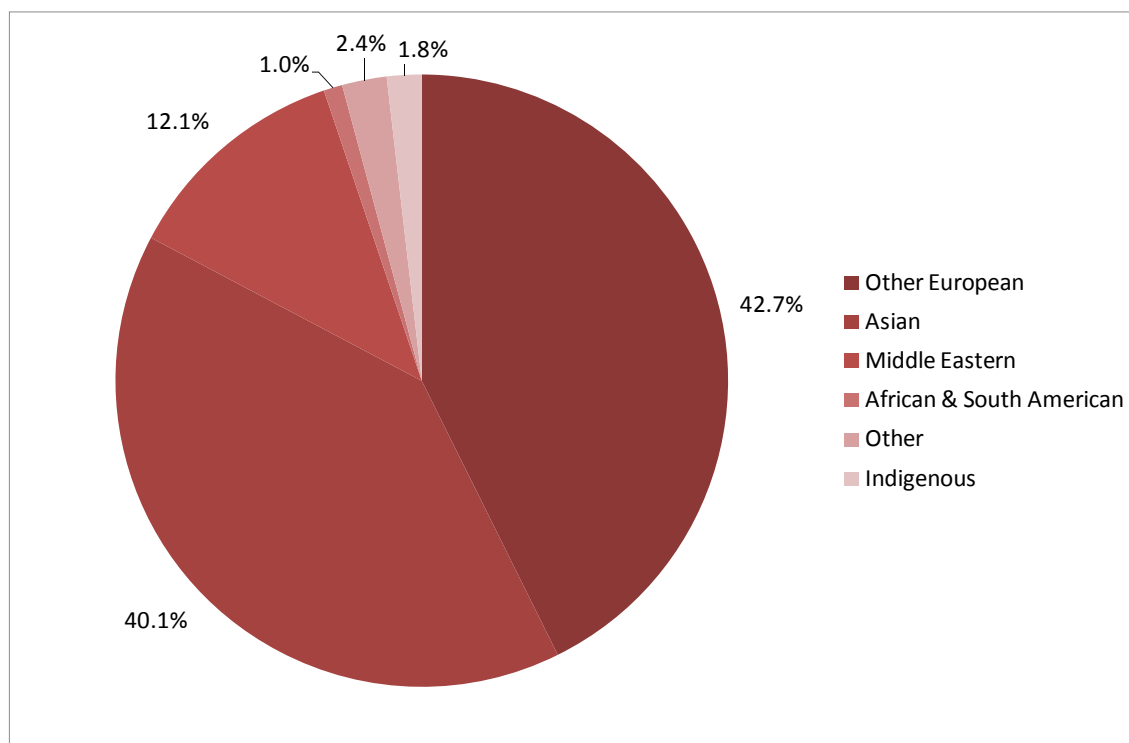
	1986	1991	1996	2001	2006
	%	%	%	%	%
English	86.8	85.1	84.8	84.2	83.4
Other European	9.6	9.2	8.2	7.7	7.0
Asian	2.1	3.9	4.8	5.6	6.7
Middle Eastern	1.0	1.3	1.6	1.8	2.1
African & South American	0.0	0.1	0.1	0.1	0.2
Other	0.2	0.2	0.3	0.4	0.4
Indigenous	0.3	0.3	0.3	0.3	0.3
Total	100	100	100	100	100

Source: ABS census data.

Of those who spoke other languages, large proportions either spoke other European languages (42.7%) or Asian languages (40.1%). Within the remaining language groups, 12.1% spoke Middle Eastern languages, 1.8% spoken Indigenous languages and 3.4% spoke African, South American and Other languages (Chart 2.2).

<sup>6</sup> The Australian Census includes people in residential aged care facilities. In the case of a person in the late stages of dementia, the census form would be filled out by their primary care giver. As such it is reasonable to conclude that the language spoken at home would be recorded for these people.

**Chart 2.2: Australian population, by languages other than English spoken at home 2006**



Source: Access Economics.

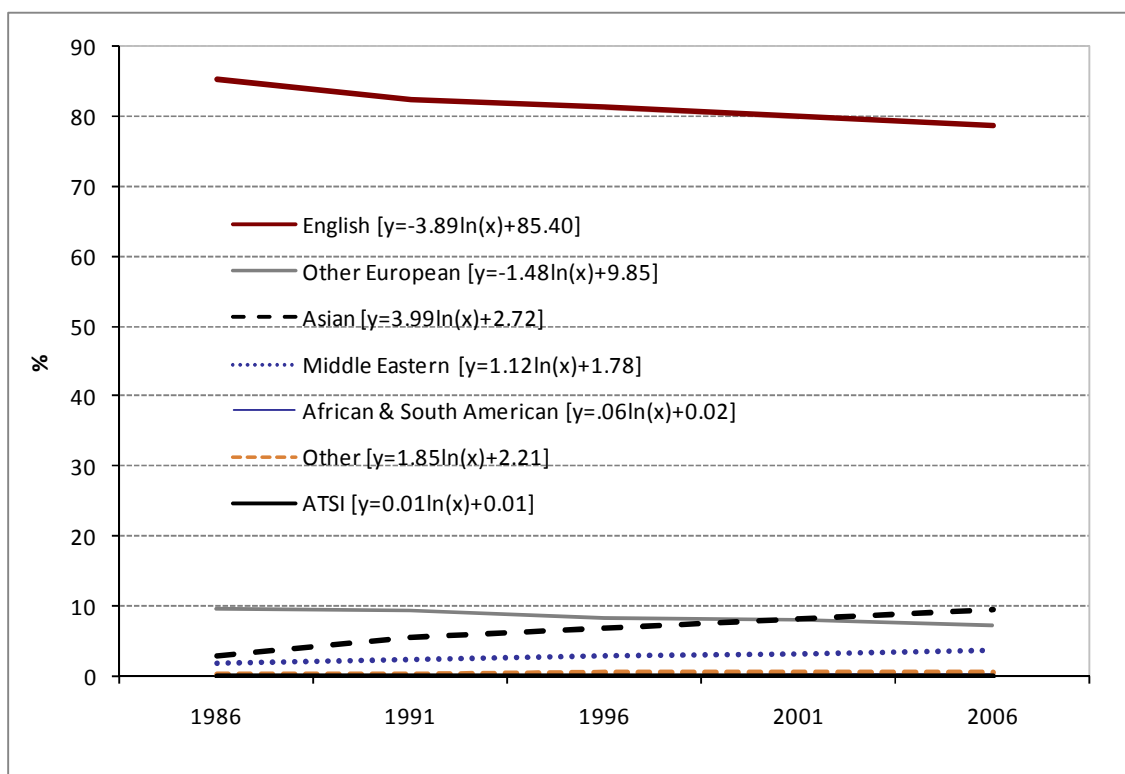
#### 2.1.4 Projecting populations with CALD backgrounds

Population projections were calculated from logarithmic lines<sup>7</sup> of best fit through the Census date series for each 'language spoken at home' grouping by jurisdiction. An example is shown below for New South Wales (Chart 2.3). The regression equations associated with each logarithmic line were used to project CALD populations from 2006 to 2050. Adjustments were made to match total population numbers from ABS published projections for jurisdictions by year (since language spoken at home was not reported by all Australians in the Census data).

The projected age distribution by CALD background was based on ageing the population each year, applying average mortality rates and assuming new immigrants in each CALD group arrived in the same proportions as in 2006. A two year smoothed average was used to reduce volatility in the projections, particularly important for the very small cohorts.

<sup>7</sup> Logarithmic regressions are used to avoid the continual projection of the status quo. Linear projections often result in unrealistic results over medium to long time frames.

**Chart 2.3: Estimated proportion of people in NSW by language spoken at home**



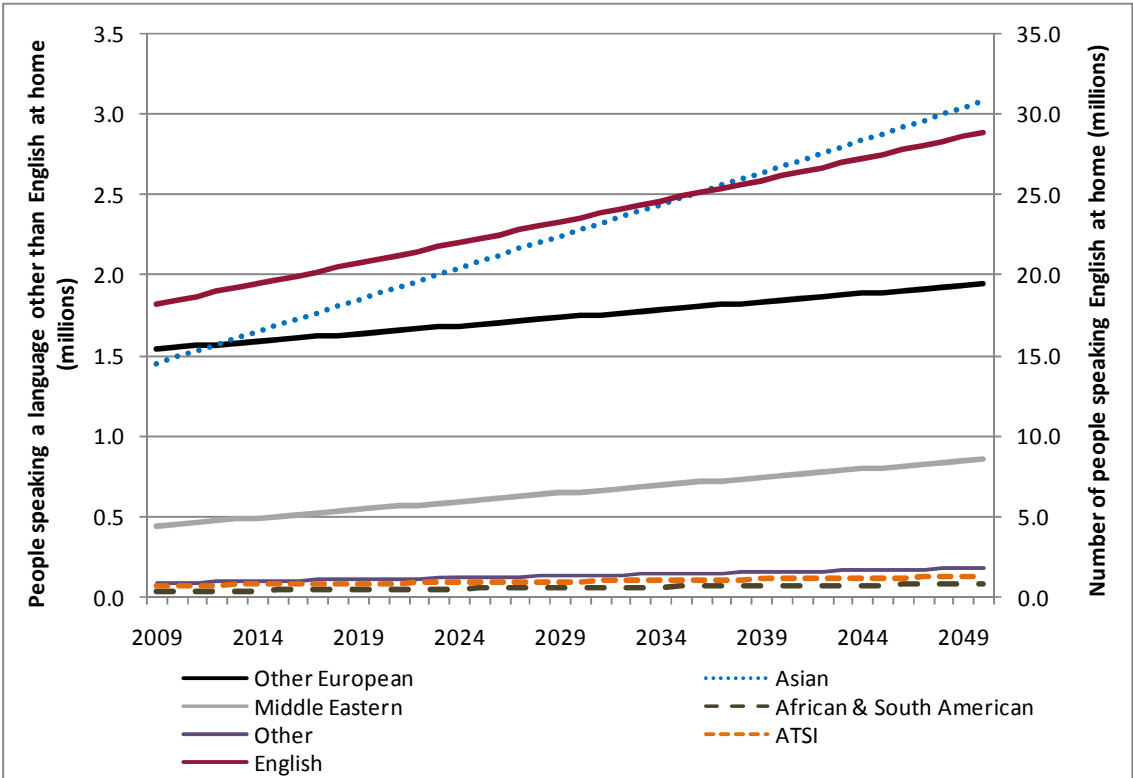
Source: Access Economics, ABS Census (1986, 1991, 1996, 2001 and 2006).

Chart 2.4 and Chart 2.5 illustrate the population projections for CALD and non-CALD populations, from 2009 to 2050. In summary:

- people speaking English at home is expected to increase from 18.0 million to 28.8 million (falling to 82.1% of the total Australian population);
- people speaking other European languages at home is expected to increase from 1.5 million to 1.9 million (falling to 6.0% of the total Australian population);
- people speaking Asian languages at home increases from 1.4 million to around 3.0 million (rising to 8.8% of the total Australian population);
- people speaking Middle Eastern languages at home increases from 437,000 to 859,000 (rising to 2.4% of the total Australian population);
- people speaking African and South American languages at home increases from 36,000 to 85,000 (remaining at 0.2% of the total Australian population);
- people speaking Other languages at home increase from 85,000 to 179,000 (rising slightly to 0.5% of the total Australian population);
- people speaking Indigenous languages at home increases from 66,000 to 122,000 (remaining at 0.3% of the total Australian population).

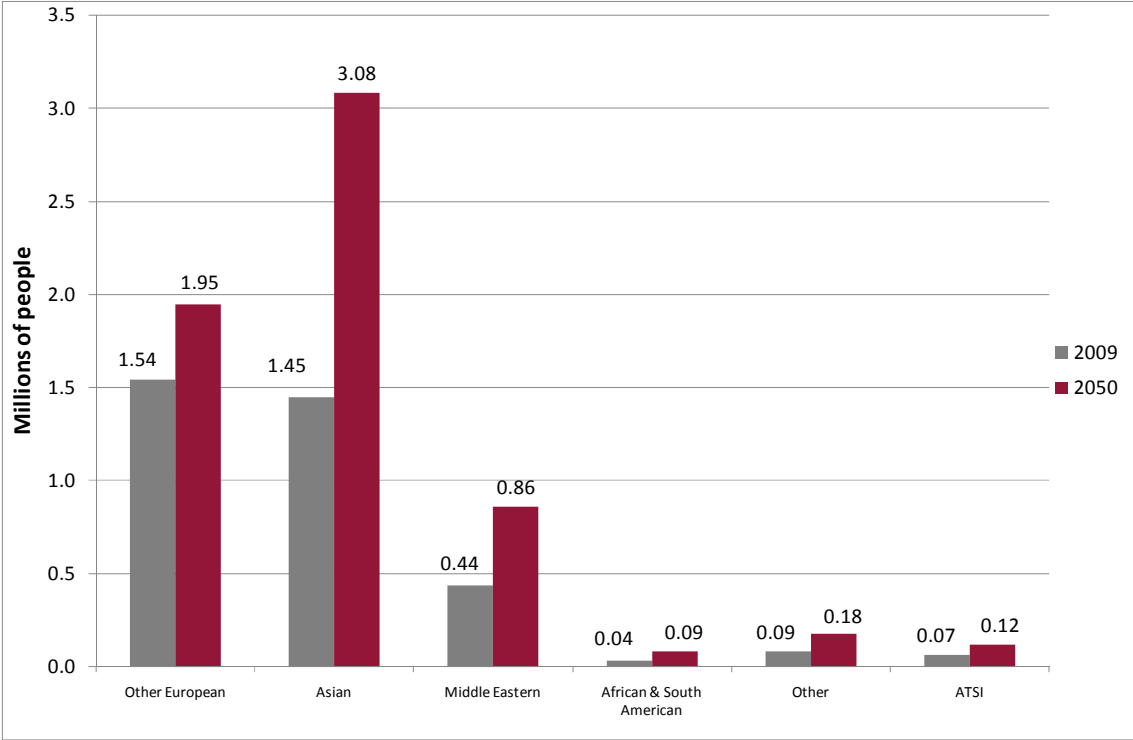


Chart 2.4: Projection of CALD and non-CALD populations in Australia



Source: Access Economics, ABS Census (1986, 1991, 1996, 2001 and 2006).

Chart 2.5: Australian population, by languages (other than English) spoken at home



Source: Access Economics.

## 2.2 Modifiable risk factors

Two modifiable risk factors are modelled (hypertension and physical inactivity) to inform a high case and low case projection of dementia prevalence. These two modifiable risk factors (introduced in Table 1.2 and Table 1.3) increase the risk of dementia through their interactions with cardiovascular pathways. Risk factors are modelled separately to avoid confounding the impacts of each risk factor on dementia prevalence projections. However, it is recognised that effectively treating both risk factors would result in greater reductions in the prevalence of dementia.

The following sections present estimated trends in hypertension and physical inactivity prevalence through to 2050, with the attributable fractions of these two modifiable risk factors estimated in Section 2.2.3.

### 2.2.1 Hypertension

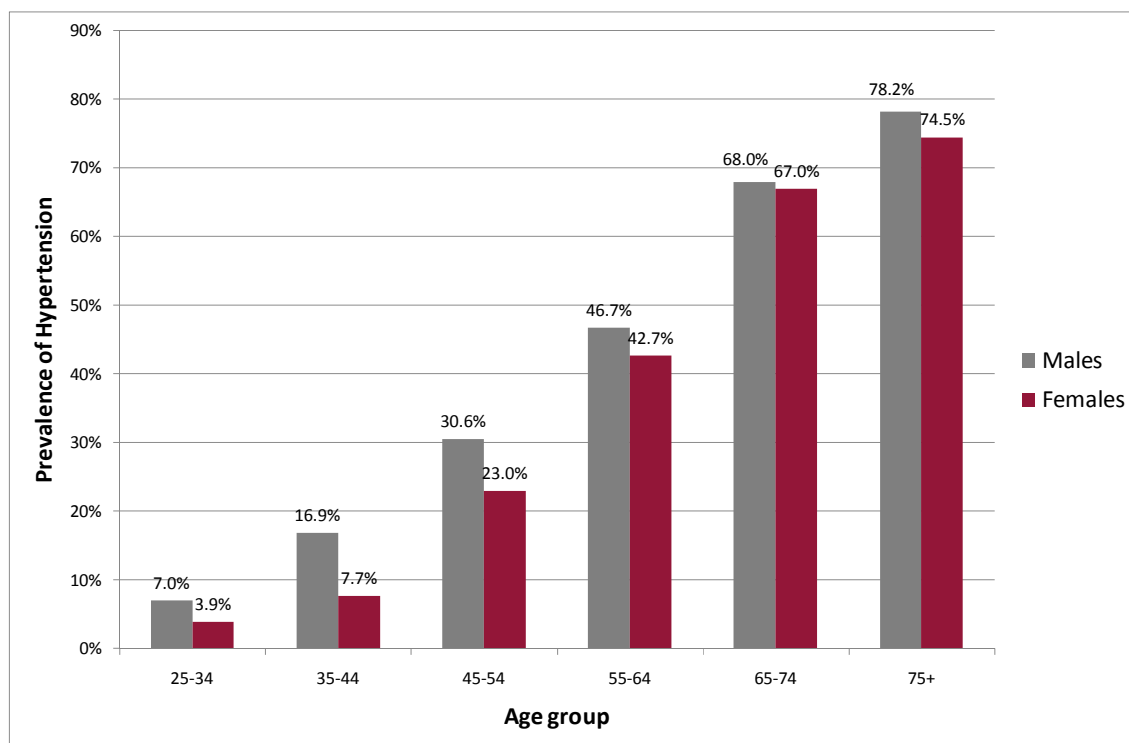
Hypertension is defined by the World Health Organization guidelines as blood pressure that is  $\geq 140/90$  mmHg and/or the person is taking blood pressure lowering medication (WHO, 2003). This definition was used in the Australian Diabetes, Obesity and Lifestyle Study (AusDiab), a longitudinal Australian study measuring the prevalence and incidence of a number of cardiovascular risk factors and events (Dunstan, 2000).

Woodward et al (2007) noted that the treatment of hypertension in old age had been identified in several studies with a reduction in the risk of cognitive decline and dementia. Results from studies linking hypertension to reduced risk of dementia are listed below.

- Forette et al (2002) undertook a 4 year European study and found that hypertensive treatment reduced the risk of dementia by 55%.
- Peila et al (2006) found that men treated for hypertension for more than 12 years had a 60% reduction in risk of all types of dementia as well as a 65% reduction in risk of Alzheimer's disease compared to those who were never treated for hypertension.
- Tzourio et al (2003) found that following a stroke or transient ischaemic attack (TIA), the use of blood pressure lowering medication (irrespective of blood pressure) was associated with a reduced risk of cognitive impairment or dementia in those who sustained new strokes.

The 2000 AusDiab study reported that one in three Australians aged over 25 years of age were classified as being hypertensive and that the prevalence of hypertension increased with age (Chart 2.6).

**Chart 2.6: Prevalence rates of hypertension in Australian residents 2000**



Note: Prevalence rates include treated and untreated people.

Source: Dunstan (2000).

Through the development of effective hypertensive medication, greater awareness and stringent monitoring by general practitioners (GPs) and others, measures of hypertension over time have shown a progressive decline in both males and females (Table 2.3). In 1980, the prevalence of hypertension in males was recorded as 45.3%, which halved to 22.4% in 2000. Females followed a similar trend with a prevalence of 29.4% in 1980, reducing to 15.6% in 2000.

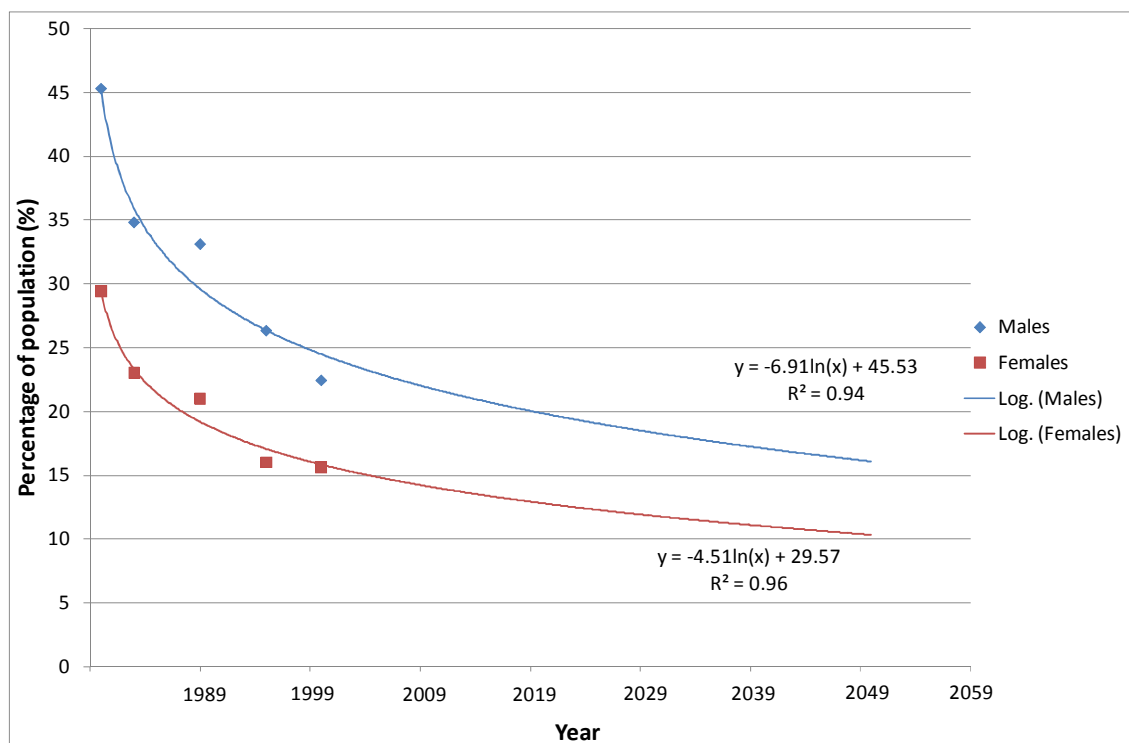
**Table 2.3: Prevalence rates of hypertension over time**

	1980	1983	1989	1995	2000
	%	%	%	%	%
Males	45.3	34.8	33.1	26.3	22.4
Females	29.4	23.0	21.0	16.0	15.6

Source: Dunstan (2000).

The rate of reduction in prevalence of hypertension has tapered over the 20 years between 1980 and 2000, indicating that if current trends continue there will be a further reduction, albeit at a slower rate. This is evident in Chart 2.7, where the data from Table 2.3 have been fitted with a log regression, providing a good fit of the data (with an  $R^2$  of 0.94 and 0.96 for males and females, respectively).

**Chart 2.7: Projected prevalence rates of hypertension in Australia**



Source: Access Economics.

## 2.2.2 Physical inactivity

Woodward et al (2007) noted that while definitive evidence for associations with physical activity and dementia from randomised trials are lacking, a number of observational studies have noted links between physical activity during mid to late life and reduced risks of cognitive decline and dementia. Observational studies that have quantified a link between physical activity and dementia are listed below.

- Rovio et al (2005) observed a 52% reduction in risk of all dementia and a 62% reduced risk of Alzheimer's disease with leisure time physical activity at least twice a week at midlife.
- Larson et al (2006) noted a 38% reduction in dementia with physical exercise at least three times per week in people over 65 years of age.
- Scarmeas (2001) showed that participation in a number of activities (physical, intellectual, leisure and social) was associated with a 38% lower risk of developing dementia in people 65 years or older.

The ABS collects information on levels of physical activity through the National Health Survey (NHS), although data collected uses different thresholds of physical activity to define its groups. These are listed below.

- **High levels of physical activity:** more than 320 minutes of exercise and two or more hours of vigorous exercise over the previous two weeks.
- **Moderate levels of physical activity:** 160 to 320 minutes of exercise, or more than 320 minutes of exercise but less than two hours of vigorous exercise over the previous two weeks.
- **Low levels of physical activity:** 100 minutes to less than 160 minutes of exercise over the previous two weeks.
- **Sedentary levels of physical activity:** participating in less than 100 minutes of exercise (or no exercise at all), over the previous two weeks.

Direct comparisons between the NHS definitions and those used in the National Physical Activity Guidelines cannot be made. However, data from the NHS relating to low and sedentary levels of physical activity are generally used to make a broad comparison about whether enough exercise is being undertaken (ABS, 2006). These NHS data are used for modelling physical inactivity rates in this study.

Physical inactivity is at its lowest in the younger years of life, from an age of 15 years to-34 years for both males and females. As individuals become older they are more likely to reduce their level of activity. In general there are greater rates of physical inactivity in females compared to males (Table 2.4).

**Table 2.4: Prevalence rates of sedentary and low levels of physical activity 2004-05**

	Males	Females
	%	%
18-59	66.3	72.6
60-64	72.8	69.4
65-69	64.8	73.6
70-74	64.8	73.6
75+	75.9	87.6

Source: ABS (2006)

Data collected from the 2004-05 NHS on physical activity levels showed that overall, 66.9% of males and 73.6% of females were classified as participating in low or sedentary levels of physical activity (ABS, 2006). Comparing results from previous NHS reports, overall low and sedentary levels of physical activity have increased slightly from 1995 until 2004-05 (Table 2.5).

**Table 2.5: Prevalence rates of physical activity over time**

	1995	2001	2004-05
	%	%	%
Sedentary	35.3	31.6	34.1
Low	34.5	37.8	36.3
<b>Low and Sedentary</b>	<b>69.8</b>	<b>69.4</b>	<b>70.4</b>
Moderate	23.6	24.2	23.3
High	6.6	6.3	6.3

Source: ABS (2006)

The data presented in Table 2.5 have been used to inform projections of future low and sedentary levels of physical activity. A linear regression line was fitted between the three data points for low and sedentary physical activity rates. Using the associated linear equation,<sup>8</sup> low and sedentary rates of physical activity were projected to 2050, resulting in an estimated rate of approximately 72%.

### 2.2.3 Attributable fractions

To model the future impact of projected changes to hypertension and physical inactivity on the population with dementia, an attributable fraction (AF) for each modifiable risk was calculated. The AF estimates the percentage of people that develop dementia as a result of the presence of a risk factor. The equation used is described below (Jekel et al, 2001).

$$\text{Attributable fraction} = \frac{p_i(RR_i - 1)}{1 + p_i(RR_i - 1)}$$

where,  $i=0$  indicates the baseline category of risk;  
 $p_i$  - prevalence of the risk factor at level  $i$ ; and  
 $RR_i$  - corresponding relative risk.

For hypertension, a relative risk of 1.55 based on the findings of Forette et al (2002) was calculated, while for physical inactivity a relative risk of 1.38 based on Larson et al (2006) was calculated. The resulting AFs are shown in Table 2.6 below.

<sup>8</sup> Linear regression resulted in the equation  $y = 0.0476x - 25.371$  where:  
 $y$  is the proportion of low activity and sedentary people; and  
 $x$  is the year (for example, 2009, 2020, etc).

**Table 2.6: Estimated attributable fractions for hypertension and physical inactivity**

	Hypertension		Physical Inactivity	
	Males	Females	Males	Females
	%	%	%	%
0-59	10.6	7.8	20.1	21.6
60-64	20.4	19.0	21.7	20.9
65-69	27.2	26.9	19.8	21.9
70-74	27.2	26.9	19.8	21.9
75-79	30.0	29.0	22.4	25.0
80-84	30.0	29.0	22.4	25.0
85-89	30.0	29.0	22.4	25.0
90-94	30.0	29.0	22.4	25.0
95+	30.0	29.0	22.4	25.0

Source: Access Economics calculations

### 2.2.4 Base case, high and low projections

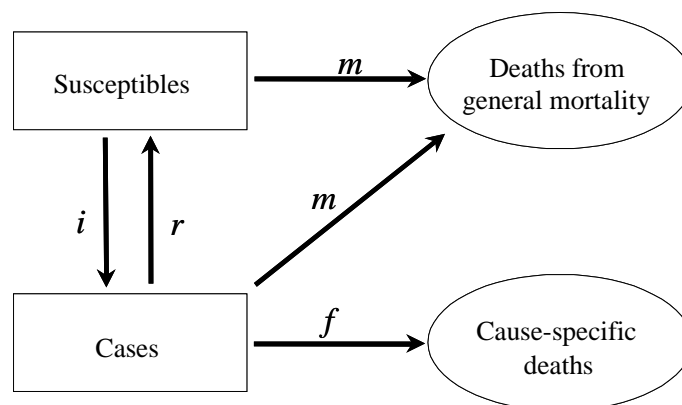
Projections and AFs associated with hypertension and physical inactivity are used to inform the base case, high and low projections reported in Section 2.3. The assumptions underlying each of the projections are outlined below.

- **Base case projections:** depend on age and gender projections and current trends in physical inactivity. Projected changes in hypertension rates are not included in the projections. The implicit assumption is that a further tapered reduction of hypertension prevalence rates does *not* occur.
- **Low case projections:** depend on age and gender projections, with physical inactivity assumed to decline from 70% in 2009 to 50% in 2050. Changes in hypertension rates are not included in the projections.
- **High case projections:** depend on age and gender projections and current trends in physical inactivity. The projected changes in hypertension are also included in the projections.

## 2.3 Prevalence and incidence projections

Prevalence and incidence projections for Australia, states and territories are presented in this section. Projected prevalence of dementia has been calculated assuming prevalence rates (as presented in Chapter 1) are constant. Incidence rates were calculated using a simple disease model similar to that used by the World Health Organization (Figure 2.1).

**Figure 2.1: Simple disease model**



where:  $i$  - incidence rate (new cases of dementia);  
 $r$  - remission rate (which equals zero in this case);  
 $m$  - natural mortality rate in the population;  
 $f$  - case fatality rate, or mortality as a direct result of dementia;  
cases - existing people with dementia; and  
susceptible - people in the population that do not have dementia.

Source: Barendregt (2004)

This is a change in methodology from the 2005 Access Economics report and has been implemented to reflect changes in incidence rates that result from treating risk factors, and reducing or increasing the overall prevalence of dementia over time.

For example, in the low case where physical inactivity improves over time, the relative number of dementia cases decline relative to a point of no change. This would require a reduction in the incidence rate<sup>9</sup> (from Figure 2.1), in order for a reduction in prevalence to occur over time.

Natural mortality rates used in the model were taken from AE-Dem. The number of people susceptible to dementia were calculated as the current population less prevalent cases (by age group and gender), while case fatality rates were calculated from the relative risk of mortality for people with dementia (Table 2.7).

The incidence rate of dementia was estimated to increase overall from 2009 to 2050 (Table 2.8) driven by demographic ageing. For some age-gender groups there was a small increase and for others a small decrease in incidence based on prevalence of risk factors such as physical inactivity as well as minor compositional effects from demographic change by cohort over time, calculated from the DISMOD estimation.

<sup>9</sup> Assuming that remission and mortality rates do not change.



**Table 2.7: Relative risk of mortality<sup>10</sup> associated with dementia**

	<b>Males</b>	<b>Females</b>
0-59	158.9	309.2
60-64	9.8	25.5
65-69	3.6	12.0
70-74	6.2	10.7
75-79	5.8	8.9
80-84	3.8	5.3
85-89	2.6	2.9
90-94	2.2	2.2
95+	2.0	1.7

Source: Access Economics (from modelling for the evaluation of the National Dementia Priority Initiative and DISMOD II).

More detailed projections of prevalence and incidence for the Australia, states and territories are presented in the appendices of this report.<sup>11</sup>

- Appendix A provides a detailed breakdown of prevalence and incidence projections for each scenario by age and gender.
- Appendix B provides a detailed breakdown of prevalence and incidence projections for each scenario by age, gender and capital city/balance of state residence.
- Appendix C provides a detailed breakdown of prevalence and incidence projections for each scenario by age, gender and English/CALD language spoken at home, as well as prevalence and incidence projections of the type of CALD language spoken at home by gender.

<sup>10</sup> The relative risk of mortality represents a ratio of the mortality rate between people with dementia compared to people without dementia. The numbers in Table 2.7 decline with age as the risk of mortality increases in people without dementia.

<sup>11</sup> Appendices can be downloaded from the Alzheimer's Australia website, found at [www.alzheimers.org.au](http://www.alzheimers.org.au).

**Table 2.8: Estimated dementia incidence rates in Australia**

	Base case projection				Low case projection				High case projection			
	2009		2050		2009		2050		2009		2050	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
0-59 years	0.007%	0.007%	0.008%	0.008%	0.007%	0.007%	0.008%	0.007%	0.007%	0.007%	0.008%	0.007%
60-64 years	0.14%	0.10%	0.14%	0.10%	0.14%	0.10%	0.13%	0.09%	0.14%	0.10%	0.14%	0.09%
65-69 years	0.16%	0.19%	0.16%	0.19%	0.16%	0.19%	0.15%	0.18%	0.16%	0.19%	0.16%	0.19%
70-74 years	0.67%	0.65%	0.75%	0.70%	0.67%	0.65%	0.71%	0.66%	0.67%	0.65%	0.77%	0.71%
75-79 years	1.55%	1.57%	1.96%	1.98%	1.55%	1.57%	1.84%	1.84%	1.55%	1.57%	2.03%	2.01%
80-84 years	4.06%	4.08%	5.15%	5.25%	4.06%	4.08%	4.81%	4.86%	4.06%	4.08%	5.43%	5.37%
85-89 years	9.69%	9.73%	11.90%	11.69%	9.69%	9.73%	11.03%	10.68%	9.69%	9.73%	13.02%	12.29%
90-94 years	19.51%	19.61%	27.28%	28.82%	19.51%	19.61%	24.98%	25.89%	19.51%	19.61%	31.73%	32.25%
95 years and older	31.28%	39.87%	42.33%	59.89%	31.28%	39.87%	38.39%	52.09%	31.28%	39.87%	51.79%	73.99%
Total	0.25%	0.39%	0.99%	1.28%	0.25%	0.39%	0.93%	1.20%	0.25%	0.39%	1.07%	1.35%

Source: Access Economics calculations

### 2.3.2 Model results for Australia

In the base case, prevalence of dementia increases over fourfold from approximately 245,000 people in 2009 to 1.1 million people in 2050. Approximately 1.1 million and 1.2 million people are projected to have dementia under the low and high case projections, respectively (Table 2.9).

Incidence numbers increase in line with an ageing population as well as changes in the prevalence of risk factors. In 2009, there are an estimated 70,000 new cases of dementia, increasing to 385,000 new cases in 2050 under the base case (Table 2.10). The low and high case incidence projections increase to 362,000 and 409,000 cases respectively by 2050.

Prevalence increases in dementia are slightly greater in the balance of states compared within capital cities. In the base case, prevalence increases 4.58-fold in capital cities – from approximately 149,000 in 2009 to 681,000 in 2050 – compared to a 4.64-fold increase in the balance of the states – from 99,000 in 2009 to 449,000 in 2050 (Table 2.11).

In 2009, people with dementia are estimated to represent 1.1% of the total population in capital cities and 1.2% of the total population in the balance of the states. By 2050, these proportions increase to 2.9% and 3.8% respectively (Table 2.11).

In 2009, new cases of dementia in capital cities and the balance of states are expected to total 42,000 and 27,000 respectively, (Table 2.12). Under the base case, it is projected there will be 232,000 new cases of dementia in capital cities by 2050 (a 5.5-fold increase compared to 2009) and 153,000 new cases (a 5.6-fold increase) in the balance of states. In the low case, new cases of dementia are expected to be 218,000 for capital cities and 144,000 for the balance of states, while in the high case the estimates are 246,000 and 163,000 respectively.

The majority of estimated people with dementia speak English at home compared to a CALD language (211,000 people compared to 35,000 in 2009, respectively). The prevalence of people with dementia speaking English at home is expected to increase 4.8-fold to 1.0 million (954,000 and 1.1 million in the low and high cases respectively) in 2050. People with dementia who speak a CALD language at home are expected to increase 3.4 fold to around 120,000 (113,000 and 124,000 in the low and high cases respectively) in 2050 (Table 2.13).

Of the estimated new cases of dementia occurring in 2009, approximately 61,000 speak English at home while 9,000 speak a CALD language. The new cases of people who speak English at home are expected to increase 5.8-fold to 350,000 (329,000 and 372,000 in the low and high cases respectively) by 2050, while new CALD dementia cases is expected to increase 4.0-fold to around 35,000 (33,000 and 37,000 in the low and high cases respectively) (Table 2.14).

**Table 2.9: Total Australian prevalence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	97,370	102,655	108,053	113,480	118,848	124,336	130,140	136,272	142,761	149,153	155,786	162,752	251,298	364,392	478,904
Females	148,044	154,621	161,190	167,668	174,049	180,637	187,842	195,264	202,966	210,556	218,488	226,973	340,232	500,345	651,787
Persons	245,414	257,275	269,242	281,148	292,896	304,973	317,982	331,536	345,727	359,709	374,274	389,726	591,531	864,737	1,130,691
<b>Low case projection</b>															
Males	97,370	102,500	107,731	112,977	118,150	123,431	129,010	134,900	141,128	147,245	153,584	160,234	244,153	349,425	453,212
Females	148,044	154,359	160,649	166,831	172,898	179,153	186,003	193,048	200,350	207,520	215,007	223,017	329,410	477,526	613,078
Persons	245,414	256,860	268,380	279,808	291,048	302,584	315,012	327,948	341,478	354,765	368,590	383,251	573,563	826,951	1,066,290
<b>High case projection</b>															
Males	97,370	103,421	109,588	115,774	121,851	128,046	134,595	141,509	148,820	155,984	163,408	171,200	269,500	391,851	510,816
Females	148,044	155,371	162,658	169,807	176,802	184,014	191,936	200,082	208,522	216,793	225,435	234,697	358,034	529,070	683,312
Persons	245,414	258,792	272,246	285,581	298,653	312,060	326,531	341,591	357,342	372,777	388,844	405,897	627,534	920,921	1,194,128

Source: Access Economics calculations.

**Table 2.10: Total Australian incidence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	27,082	29,573	31,291	32,970	34,543	36,283	38,271	40,409	42,679	44,591	46,819	49,232	80,577	123,990	170,694
Females	42,495	45,763	47,777	49,710	51,563	53,682	56,273	58,698	61,253	63,452	66,077	69,023	106,866	161,405	214,482
Persons	69,577	75,336	79,068	82,680	86,106	89,965	94,543	99,107	103,932	108,044	112,896	118,255	187,443	285,395	385,176
<b>Low case projection</b>															
Males	27,082	29,419	31,084	32,706	34,218	35,892	37,808	39,867	42,051	43,876	46,007	48,314	78,064	118,597	161,160
Females	42,495	45,502	47,427	49,267	51,022	53,036	55,512	57,816	60,242	62,309	64,789	67,579	103,131	153,574	201,150
Persons	69,577	74,920	78,511	81,973	85,240	88,928	93,319	97,683	102,294	106,185	110,795	115,893	181,195	272,171	362,310
<b>High case projection</b>															
Males	27,082	30,339	32,307	34,225	35,987	37,947	40,200	42,621	45,189	47,318	49,817	52,525	87,375	134,533	183,459
Females	42,495	46,514	48,741	50,864	52,871	55,191	58,069	60,732	63,536	65,905	68,770	72,002	113,170	171,343	225,456
Persons	69,577	76,853	81,048	85,089	88,858	93,138	98,269	103,353	108,725	113,223	118,587	124,527	200,545	305,876	408,915

Source: Access Economics calculations.

**Table 2.11: Australian prevalence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	57,550	60,634	63,782	66,930	70,039	73,224	76,612	80,184	83,929	87,648	91,531	95,609	147,911	216,209	289,250
Females	90,989	94,801	98,601	102,319	105,975	109,737	113,868	118,113	122,493	126,861	131,437	136,275	202,437	298,441	392,100
Persons	148,539	155,435	162,384	169,249	176,013	182,961	190,479	198,297	206,421	214,509	222,968	231,885	350,349	514,650	681,350
% total pwd	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.9%	2.5%	2.9%
<i>Balance of State</i>															
Males	39,820	42,020	44,270	46,550	48,809	51,113	53,528	56,088	58,832	61,505	64,255	67,143	103,387	148,183	189,654
Females	57,055	59,820	62,588	65,348	68,074	70,900	73,974	77,151	80,473	83,695	87,050	90,698	137,795	201,904	259,687
Persons	96,875	101,840	106,859	111,899	116,883	122,012	127,502	133,239	139,305	145,200	151,305	157,841	241,182	350,087	449,341
% total pwd	1.2%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.8%	2.4%	3.2%	3.8%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	57,550	60,543	63,592	66,633	69,628	72,690	75,946	79,376	82,969	86,527	90,237	94,130	143,704	207,329	273,732
Females	90,989	94,641	98,271	101,808	105,274	108,836	112,753	116,773	120,913	125,032	129,343	133,900	195,997	284,832	368,815
Persons	148,539	155,184	161,863	168,441	174,901	181,526	188,699	196,149	203,883	211,559	219,580	228,029	339,702	492,161	642,548
% total pwd	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	1.8%	2.4%	2.8%
<i>Balance of State</i>															
Males	39,820	41,957	44,139	46,344	48,522	50,741	53,063	55,524	58,159	60,718	63,347	66,104	100,448	142,096	179,479
Females	57,055	59,719	62,378	65,022	67,624	70,317	73,250	76,276	79,436	82,488	85,664	89,117	133,413	192,694	244,263
Persons	96,875	101,676	106,517	111,366	116,146	121,058	126,313	131,799	137,596	143,207	149,010	155,221	233,861	334,790	423,742
% total pwd	1.2%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	2.3%	3.1%	3.6%
<b>High case projection</b>															
<i>Capital City</i>															
Males	57,550	61,094	64,702	68,300	71,830	75,431	79,258	83,292	87,517	91,689	96,036	100,597	158,637	232,492	308,471
Females	90,989	95,270	99,515	103,645	107,675	111,814	116,378	121,055	125,870	130,642	135,638	140,931	213,019	315,573	410,987
Persons	148,539	156,363	164,216	171,945	179,505	187,244	195,636	204,347	213,387	222,331	231,673	241,528	371,656	548,065	719,458
% total pwd	1.1%	1.1%	1.1%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	2.0%	2.6%	3.1%
<i>Balance of State</i>															
Males	39,820	42,327	44,886	47,474	50,021	52,616	55,337	58,217	61,302	64,295	67,372	70,603	110,863	159,358	202,345
Females	57,055	60,102	63,143	66,162	69,127	72,200	75,558	79,027	82,652	86,151	89,798	93,766	145,015	213,498	272,326
Persons	96,875	102,429	108,029	113,636	119,148	124,816	130,895	137,244	143,955	150,446	157,170	164,369	255,878	372,856	474,670
% total pwd	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.7%	1.7%	1.8%	1.8%	2.6%	3.4%	4.0%

Source: Access Economics calculations.

**Table 2.12: Australian incidence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	16,113	17,582	18,590	19,564	20,479	21,489	22,660	23,915	25,226	26,348	27,663	29,084	47,617	73,645	103,027
Females	26,235	28,186	29,353	30,456	31,517	32,726	34,229	35,617	37,062	38,328	39,846	41,538	63,682	96,327	128,881
Persons	42,348	45,768	47,943	50,020	51,997	54,215	56,889	59,532	62,288	64,677	67,508	70,622	111,299	169,972	231,907
% total pwd	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%
<i>Balance of State</i>															
Males	10,969	11,991	12,701	13,406	14,064	14,794	15,611	16,494	17,453	18,243	19,156	20,147	32,960	50,345	67,667
Females	16,260	17,577	18,424	19,254	20,046	20,955	22,044	23,080	24,191	25,124	26,231	27,486	43,184	65,078	85,602
Persons	27,230	29,568	31,125	32,660	34,110	35,750	37,655	39,575	41,644	43,367	45,387	47,633	76,144	115,423	153,269
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.8%	1.1%	1.3%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	16,113	17,491	18,467	19,407	20,287	21,258	22,386	23,595	24,856	25,926	27,183	28,543	46,133	70,442	97,272
Females	26,235	28,026	29,139	30,185	31,187	32,333	33,767	35,083	36,451	37,638	39,070	40,669	61,457	91,654	120,869
Persons	42,348	45,517	47,606	49,593	51,475	53,591	56,153	58,678	61,307	63,564	66,253	69,212	107,590	162,097	218,141
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	0.9%
<i>Balance of State</i>															
Males	10,969	11,928	12,616	13,298	13,931	14,634	15,422	16,272	17,196	17,950	18,823	19,771	31,931	48,155	63,888
Females	16,260	17,476	18,288	19,082	19,835	20,703	21,745	22,733	23,791	24,671	25,719	26,910	41,674	61,919	80,281
Persons	27,230	29,404	30,905	32,380	33,766	35,337	37,167	39,005	40,987	42,620	44,542	46,681	73,606	110,074	144,169
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.7%	1.0%	1.2%
<b>High case projection</b>															
<i>Capital City</i>															
Males	16,113	18,041	19,199	20,314	21,343	22,481	23,809	25,232	26,717	27,967	29,441	31,037	51,642	79,912	110,724
Females	26,235	28,655	29,953	31,171	32,326	33,655	35,331	36,861	38,449	39,816	41,475	43,335	67,437	102,261	135,455
Persons	42,348	46,696	49,152	51,485	53,669	56,136	59,141	62,093	65,166	67,783	70,916	74,372	119,079	182,173	246,178
% total pwd	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%	0.9%	1.1%
<i>Balance of State</i>															
Males	10,969	12,298	13,108	13,911	14,644	15,465	16,391	17,389	18,472	19,351	20,376	21,488	35,734	54,621	72,736
Females	16,260	17,859	18,788	19,693	20,545	21,537	22,738	23,872	25,087	26,089	27,295	28,667	45,733	69,082	90,001
Persons	27,230	30,157	31,896	33,604	35,190	37,002	39,129	41,260	43,559	45,440	47,670	50,155	81,467	123,703	162,737
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.8%	1.1%	1.4%

Source: Access Economics calculations.

**Table 2.13: Australian prevalence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	82,528	87,581	92,724	97,866	102,917	108,063	113,499	119,239	125,314	131,268	137,438	143,916	226,152	329,874	430,831
Females	127,976	134,145	140,266	146,245	152,078	158,078	164,656	171,415	178,423	185,290	192,465	200,159	303,524	449,307	580,278
Persons	210,504	221,726	232,991	244,111	254,995	266,141	278,155	290,654	303,737	316,558	329,904	344,075	529,676	779,181	1,011,109
% total pwd	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.5%	1.6%	1.6%	2.3%	3.0%	3.5%
<i>CALD</i>															
Males	14,842	15,073	15,328	15,614	15,930	16,273	16,641	17,033	17,447	17,885	18,348	18,837	25,146	34,518	48,073
Females	20,067	20,476	20,923	21,423	21,971	22,559	23,186	23,850	24,542	25,266	26,022	26,814	36,709	51,038	71,509
Persons	34,909	35,549	36,252	37,037	37,901	38,832	39,826	40,883	41,990	43,150	44,370	45,651	61,855	85,556	119,582
% total pwd	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.1%	1.2%	1.5%	1.9%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	82,528	87,450	92,448	97,433	102,315	107,278	112,517	118,043	123,886	129,596	135,503	141,698	219,743	316,353	407,738
Females	127,976	133,918	139,796	145,515	151,073	156,781	163,046	169,472	176,127	182,623	189,404	196,676	293,887	428,836	545,813
Persons	210,504	221,368	232,244	242,948	253,388	264,059	275,563	287,515	300,013	312,219	324,907	338,374	513,630	745,190	953,551
% total pwd	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	2.2%	2.9%	3.3%
<i>CALD</i>															
Males	14,842	15,050	15,282	15,544	15,835	16,152	16,493	16,857	17,242	17,650	18,081	18,536	24,409	33,072	45,473
Females	20,067	20,441	20,853	21,316	21,824	22,372	22,957	23,576	24,223	24,897	25,602	26,340	35,524	48,689	67,265
Persons	34,909	35,492	36,136	36,860	37,660	38,525	39,450	40,434	41,465	42,547	43,683	44,877	59,933	81,761	112,739
% total pwd	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.2%	1.5%	1.8%
<b>High case projection</b>															
<i>English speaking</i>															
Males	82,528	88,364	94,287	100,192	105,951	111,796	117,967	124,473	131,352	138,057	144,994	152,269	243,859	356,260	460,967
Females	127,976	134,901	141,737	148,374	154,802	161,398	168,662	176,107	183,814	191,319	199,159	207,580	320,417	476,371	609,352
Persons	210,504	223,265	236,024	248,566	260,753	273,195	286,629	300,580	315,166	329,376	344,153	359,848	564,275	832,631	1,070,319
% total pwd	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	2.4%	3.2%	3.7%
<i>CALD</i>															
Males	14,842	15,057	15,301	15,582	15,900	16,250	16,629	17,036	17,468	17,927	18,415	18,931	25,641	35,591	49,849
Females	20,067	20,470	20,921	21,432	22,000	22,615	23,274	23,976	24,708	25,474	26,276	27,117	37,617	52,699	73,960
Persons	34,909	35,527	36,221	37,015	37,900	38,865	39,903	41,011	42,176	43,401	44,691	46,049	63,259	88,290	123,809
% total pwd	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.1%	1.3%	1.6%	2.0%

Source: Access Economics calculations.

**Table 2.14: Australian incidence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	23,425	25,824	27,467	29,056	30,528	32,161	34,035	36,054	38,199	39,979	42,067	44,331	73,796	114,296	156,579
Females	37,248	40,343	42,222	43,993	45,672	47,608	50,006	52,227	54,576	56,558	58,954	61,659	96,548	146,678	193,279
Persons	60,673	66,167	69,690	73,049	76,200	79,768	84,041	88,281	92,775	96,538	101,020	105,990	170,343	260,974	349,858
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.7%	1.0%	1.2%
<i>CALD</i>															
Males	3,657	3,748	3,823	3,914	4,016	4,123	4,236	4,355	4,480	4,612	4,752	4,901	6,782	9,694	14,115
Females	5,247	5,420	5,555	5,716	5,891	6,074	6,267	6,471	6,677	6,894	7,123	7,364	10,318	14,727	21,204
Persons	8,904	9,169	9,378	9,631	9,907	10,197	10,502	10,826	11,157	11,506	11,875	12,265	17,100	24,421	35,318
% total pwd	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.6%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	23,425	25,693	27,289	28,827	30,245	31,818	33,628	35,576	37,643	39,344	41,344	43,512	71,507	109,344	147,857
Females	37,248	40,116	41,917	43,606	45,197	47,039	49,335	51,447	53,681	55,545	57,811	60,376	93,187	139,580	181,281
Persons	60,673	65,809	69,206	72,432	75,441	78,857	82,963	87,023	91,324	94,889	99,154	103,888	164,694	248,924	329,138
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.7%	1.0%	1.1%
<i>CALD</i>															
Males	3,657	3,726	3,794	3,879	3,974	4,074	4,180	4,292	4,408	4,532	4,663	4,802	6,557	9,253	13,303
Females	5,247	5,386	5,510	5,662	5,825	5,997	6,177	6,368	6,561	6,764	6,978	7,203	9,945	13,994	19,869
Persons	8,904	9,112	9,305	9,541	9,799	10,070	10,357	10,660	10,969	11,295	11,641	12,005	16,501	23,247	33,172
% total pwd	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%
<b>High case projection</b>															
<i>English speaking</i>															
Males	23,425	26,607	28,502	30,326	31,983	33,830	35,965	38,260	40,697	42,686	45,036	47,585	80,432	124,491	168,758
Females	37,248	41,099	43,189	45,142	46,964	49,091	51,764	54,210	56,795	58,934	61,555	64,531	102,569	156,107	203,500
Persons	60,673	67,706	71,690	75,468	78,947	82,921	87,730	92,470	97,492	101,619	106,591	112,116	183,001	280,598	372,257
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.8%	1.1%	1.3%
<i>CALD</i>															
Males	3,657	3,732	3,806	3,899	4,004	4,116	4,235	4,361	4,492	4,632	4,781	4,939	6,943	10,042	14,702
Females	5,247	5,415	5,552	5,722	5,907	6,100	6,305	6,522	6,740	6,971	7,214	7,471	10,601	15,236	21,956
Persons	8,904	9,147	9,358	9,621	9,911	10,217	10,540	10,883	11,233	11,603	11,996	12,411	17,545	25,278	36,658
% total pwd	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%	0.6%

Source: Access Economics calculations.



### **2.3.3 Model results for states and territories**

Summary tables for overall projections for states and territories are presented in the following sections. The same prevalence rates as those used in the Australia projections have been used for state and territory projections, with jurisdictional variations being driven by projected differences in demographic trends. More detailed projections are provided in the Appendices of this report.<sup>12</sup>

#### **2.3.3.1 Australian Capital Territory**

In 2009 there are just under 3,000 people with dementia in the ACT, projected to increase 5.8-fold to 17,000 (16,000-18,100) people by 2050 (Table 2.15).

In 2009, there are approximately 840 incident cases of dementia in the ACT, projected to increase 7.0-fold to approximately 5,900 (5,500-6,300) people by 2050 (Table 2.16).

There are no projections splitting 'capital city' and 'balance of state' for the ACT as it has been assumed that the whole of the ACT represents a capital city.

Of people in the Australian Capital Territory with dementia in 2009, approximately 2,500 speak English at home while 500 speak a CALD language at home. Projections suggest that people with dementia who speak English at home will increase 6.3-fold to approximately 15,400 (14,600-16,600) people, while those who speak a CALD language will increase 3.3-fold to approximately 1,560 (1,470-1,610) by 2050 (Table 2.17).

Of people with new cases of dementia in the ACT in 2009, approximately 700 speak English at home while approximately 100 speak a CALD language at home. Projections suggest that people with new cases of dementia who speak English at home will increase 7.5-fold to approximately 5,410 (5,100-5,820) people, while those who speak a CALD language at home will increase 3.9-fold to approximately 460 (430-470) people by 2050 (Table 2.18).

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<sup>12</sup> Appendices can be downloaded from the Alzheimer's Australia website, found at [www.alzheimers.org.au](http://www.alzheimers.org.au).

**Table 2.15: Total ACT prevalence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	1,179	1,269	1,357	1,451	1,545	1,639	1,741	1,847	1,961	2,073	2,186	2,310	3,852	5,723	7,357
Females	1,738	1,842	1,950	2,060	2,173	2,287	2,401	2,521	2,657	2,796	2,937	3,078	5,065	7,661	9,651
Persons	2,917	3,111	3,307	3,512	3,718	3,926	4,142	4,368	4,618	4,869	5,123	5,389	8,918	13,384	17,008
<b>Low case projection</b>															
Males	1,179	1,267	1,353	1,445	1,536	1,627	1,726	1,828	1,939	2,047	2,155	2,275	3,744	5,490	6,966
Females	1,738	1,839	1,943	2,050	2,159	2,269	2,378	2,493	2,624	2,756	2,891	3,026	4,907	7,317	9,084
Persons	2,917	3,106	3,296	3,495	3,695	3,896	4,104	4,322	4,563	4,803	5,047	5,301	8,652	12,807	16,050
<b>High case projection</b>															
Males	1,179	1,285	1,387	1,496	1,605	1,713	1,831	1,952	2,083	2,211	2,339	2,481	4,212	6,245	7,932
Females	1,738	1,856	1,979	2,105	2,232	2,361	2,489	2,624	2,777	2,931	3,089	3,246	5,444	8,233	10,234
Persons	2,917	3,141	3,366	3,601	3,837	4,074	4,319	4,575	4,859	5,142	5,428	5,727	9,655	14,478	18,165

Source: Access Economics calculations.

**Table 2.16: Total ACT incidence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	332	377	401	433	460	488	524	559	600	634	669	716	1,271	2,004	2,682
Females	509	555	590	624	658	693	726	766	818	859	903	944	1,605	2,485	3,185
Persons	841	932	991	1,058	1,118	1,180	1,250	1,325	1,418	1,493	1,572	1,660	2,875	4,489	5,867
<b>Low case projection</b>															
Males	332	375	399	430	456	483	518	552	591	624	658	703	1,232	1,918	2,534
Females	509	552	586	619	651	685	716	755	805	844	886	925	1,550	2,366	2,989
Persons	841	927	985	1,049	1,107	1,167	1,234	1,307	1,396	1,468	1,543	1,628	2,781	4,284	5,522
<b>High case projection</b>															
Males	332	392	421	458	489	520	562	602	649	687	727	781	1,404	2,204	2,911
Females	509	570	609	648	686	725	762	807	866	911	960	1,005	1,734	2,678	3,384
Persons	841	962	1,030	1,106	1,175	1,245	1,324	1,409	1,515	1,599	1,687	1,786	3,138	4,882	6,294

Source: Access Economics calculations.

**Table 2.17: ACT prevalence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	979	1,068	1,154	1,245	1,336	1,427	1,525	1,626	1,736	1,843	1,950	2,069	3,534	5,284	6,735
Females	1,468	1,568	1,671	1,776	1,882	1,990	2,096	2,209	2,336	2,466	2,598	2,730	4,595	7,002	8,710
Persons	2,447	2,636	2,824	3,021	3,218	3,416	3,621	3,835	4,072	4,309	4,548	4,799	8,129	12,286	15,445
% total pwd	0.8%	0.9%	0.9%	1.0%	1.0%	1.1%	1.1%	1.2%	1.2%	1.3%	1.4%	1.4%	2.2%	3.0%	3.5%
<i>CALD</i>															
Males	200	201	203	206	209	212	216	220	225	230	236	241	318	439	622
Females	270	274	279	285	291	297	305	313	321	330	339	348	471	659	941
Persons	470	476	482	491	500	510	521	533	546	560	574	590	789	1,098	1,563
% total pwd	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%	1.2%	1.5%	1.9%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	979	1,066	1,150	1,240	1,328	1,416	1,512	1,610	1,716	1,820	1,923	2,038	3,436	5,069	6,378
Females	1,468	1,565	1,665	1,767	1,870	1,974	2,076	2,184	2,307	2,431	2,558	2,684	4,452	6,688	8,199
Persons	2,447	2,631	2,816	3,007	3,198	3,390	3,588	3,794	4,023	4,251	4,481	4,721	7,888	11,758	14,576
% total pwd	0.8%	0.9%	0.9%	1.0%	1.0%	1.1%	1.1%	1.2%	1.2%	1.3%	1.3%	1.4%	2.1%	2.9%	3.3%
<i>CALD</i>															
Males	200	201	203	205	208	211	214	218	222	227	232	238	309	421	588
Females	270	274	278	283	289	295	302	309	317	325	333	342	456	629	885
Persons	470	475	481	488	497	506	516	527	539	552	566	580	764	1,049	1,474
% total pwd	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.1%	1.4%	1.8%
<b>High case projection</b>															
<i>English speaking</i>															
Males	979	1,084	1,185	1,292	1,397	1,502	1,616	1,733	1,859	1,982	2,104	2,240	3,891	5,795	7,289
Females	1,468	1,583	1,701	1,821	1,942	2,064	2,184	2,311	2,455	2,601	2,749	2,896	4,964	7,555	9,262
Persons	2,447	2,667	2,885	3,113	3,340	3,566	3,800	4,044	4,314	4,583	4,854	5,136	8,855	13,350	16,550
% total pwd	0.8%	0.9%	0.9%	1.0%	1.1%	1.1%	1.2%	1.3%	1.3%	1.4%	1.5%	1.5%	2.4%	3.3%	3.7%
<i>CALD</i>															
Males	200	201	202	205	207	211	214	219	223	229	234	240	321	450	643
Females	270	274	278	284	290	297	305	313	322	331	340	350	479	678	972
Persons	470	475	481	489	498	508	519	532	545	559	574	590	801	1,128	1,615
% total pwd	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%	1.2%	1.5%	2.0%

Source: Access Economics calculations.

**Table 2.18: ACT incidence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	284	328	352	382	409	435	470	503	543	575	609	654	1,186	1,882	2,501
Females	440	484	517	549	581	614	644	683	732	770	811	849	1,473	2,296	2,908
Persons	724	812	869	932	990	1,048	1,114	1,186	1,275	1,345	1,420	1,504	2,660	4,179	5,409
% total pwd	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.7%	1.0%	1.2%
<i>CALD</i>															
Males	48	49	50	51	52	53	54	55	57	58	60	62	84	121	181
Females	69	71	73	75	77	79	81	84	86	89	92	95	131	188	277
Persons	117	120	123	126	129	132	135	139	143	147	152	156	215	310	458
% total pwd	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.6%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	284	326	349	380	405	430	465	497	536	566	599	643	1,150	1,802	2,363
Females	440	481	513	545	575	606	636	673	720	757	796	832	1,423	2,187	2,729
Persons	724	808	863	924	980	1,037	1,100	1,170	1,255	1,323	1,395	1,475	2,574	3,989	5,093
% total pwd	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.7%	1.0%	1.1%
<i>CALD</i>															
Males	48	49	49	50	51	52	53	55	56	57	59	60	81	116	170
Females	69	71	72	74	76	78	80	83	85	87	90	93	126	179	260
Persons	117	120	122	125	127	130	134	137	141	145	149	153	208	295	430
% total pwd	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.4%	0.5%
<b>High case projection</b>															
<i>English speaking</i>															
Males	284	344	371	408	438	468	509	547	593	629	668	720	1,319	2,079	2,723
Females	440	499	537	574	610	646	680	723	779	822	868	910	1,600	2,484	3,097
Persons	724	843	908	981	1,047	1,114	1,189	1,270	1,372	1,451	1,535	1,629	2,919	4,563	5,820
% total pwd	0.2%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.8%	1.1%	1.3%
<i>CALD</i>															
Males	48	48	49	50	51	52	53	55	56	58	60	61	85	125	187
Females	69	71	73	75	77	79	81	84	87	90	92	95	134	194	287
Persons	117	120	122	125	128	131	135	139	143	147	152	157	219	319	474
% total pwd	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.4%	0.6%

Source: Access Economics calculations.

### **2.3.3.2 New South Wales**

In 2009 there are an estimated 84,000 people with dementia in NSW, projected to increase 4.1-fold to 341,000 (322,000-358,000) people by 2050 (Table 2.19).

In 2009, there are approximately 24,000 new cases of dementia in NSW, projected to increase 4.9-fold to 116,000 (109,000-123,000) people by 2050 (Table 2.20).

Of those people with dementia in New South Wales in 2009, approximately 48,000 live in Sydney while 36,000 reside in the balance of the state. Projections suggest that the prevalence of dementia in Sydney will increase 4.1-fold to approximately 199,000 (187,000-208,000) people, while the prevalence in the balance of NSW will increase 4.0-fold to approximately 143,000 (135,000-150,000) people by 2050 (Table 2.21).

Of those people with new cases of dementia in New South Wales in 2009, approximately 14,000 live in Sydney, while approximately 10,000 reside in the balance of New South Wales (Table 2.22). Projections suggest that the incidence of dementia in Sydney will increase 4.9-fold to approximately 67,600 (63,600-71,400) people, while new cases of dementia in the balance of NSW will increase 4.8-fold to 48,700 (45,800-51,400) people by 2050.

Of people with dementia in New South Wales in 2009, approximately 71,000 speak English at home while approximately 13,000 speak a CALD language at home. Projections suggest that people with dementia who speak English at home will increase 4.1-fold to approximately 295,000 (278,000-310,000) people, while those who speak a CALD language at home will increase 3.7-fold to 46,400 (43,800-48,300) people by 2050 (Table 2.23).

Of people with new cases of dementia in New South Wales in 2009, approximately 20,600 speak English at home while approximately 3,200 speak a CALD language at home. Projections suggest that people with new cases of dementia who speak English at home will increase 5.0-fold to 102,800 (96,600-108,600) people, while those who speak a CALD language at home will increase 4.2-fold to approximately 13,600 (12,800-14,100) people in 2050 (Table 2.24).

**Table 2.19: Total NSW prevalence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	32,977	34,646	36,326	38,011	39,694	41,383	43,160	45,023	46,998	48,943	50,929	53,016	79,213	112,079	143,850
Females	51,172	53,316	55,418	57,491	59,514	61,574	63,827	66,124	68,485	70,781	73,131	75,682	108,918	155,359	197,565
Persons	84,149	87,961	91,744	95,502	99,208	102,957	106,987	111,147	115,483	119,724	124,060	128,698	188,131	267,438	341,414
<b>Low case projection</b>															
Males	32,977	34,594	36,218	37,842	39,460	41,080	42,784	44,567	46,458	48,314	50,205	52,191	76,946	107,447	136,088
Females	51,172	53,226	55,231	57,203	59,120	61,067	63,199	65,371	67,598	69,755	71,959	74,355	105,425	148,216	185,740
Persons	84,149	87,819	91,449	95,045	98,580	102,147	105,983	109,938	114,057	118,069	122,164	126,546	182,371	255,663	321,828
<b>High case projection</b>															
Males	32,977	34,879	36,789	38,699	40,596	42,490	44,484	46,570	48,782	50,949	53,156	55,476	84,407	119,785	152,507
Females	51,172	53,549	55,864	58,136	60,336	62,570	65,026	67,525	70,087	72,562	75,091	77,847	113,726	163,015	205,554
Persons	84,149	88,428	92,653	96,836	100,933	105,060	109,510	114,095	118,870	123,510	128,247	133,323	198,133	282,800	358,061

Source: Access Economics calculations.

**Table 2.20: Total NSW incidence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	9,146	9,940	10,472	11,005	11,528	12,060	12,677	13,332	14,041	14,636	15,298	16,036	25,412	38,202	51,372
Females	14,658	15,729	16,358	16,992	17,587	18,249	19,076	19,829	20,613	21,276	22,041	22,973	34,154	50,121	64,974
Persons	23,804	25,669	26,831	27,997	29,115	30,310	31,754	33,161	34,654	35,911	37,338	39,009	59,566	88,323	116,346
<b>Low case projection</b>															
Males	9,146	9,888	10,403	10,916	11,419	11,930	12,523	13,152	13,833	14,400	15,031	15,736	24,615	36,532	48,490
Females	14,658	15,639	16,238	16,840	17,401	18,029	18,817	19,530	20,271	20,890	21,608	22,489	32,951	47,672	60,906
Persons	23,804	25,527	26,641	27,757	28,821	29,959	31,340	32,682	34,104	35,290	36,639	38,225	57,566	84,203	109,396
<b>High case projection</b>															
Males	9,146	10,174	10,780	11,386	11,972	12,567	13,263	14,000	14,799	15,458	16,196	17,021	27,399	41,238	54,944
Females	14,658	15,962	16,651	17,345	17,984	18,703	19,617	20,437	21,289	21,994	22,819	23,837	35,906	52,842	67,836
Persons	23,804	26,136	27,431	28,731	29,956	31,270	32,880	34,438	36,088	37,453	39,015	40,858	63,306	94,080	122,780

Source: Access Economics calculations.

**Table 2.21: NSW prevalence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	18,452	19,393	20,340	21,286	22,229	23,192	24,202	25,254	26,350	27,453	28,596	29,789	44,945	64,401	84,898
Females	29,592	30,770	31,915	33,026	34,127	35,238	36,453	37,690	38,932	40,172	41,427	42,792	61,244	88,036	113,726
Persons	48,044	50,163	52,255	54,312	56,356	58,430	60,655	62,943	65,281	67,625	70,022	72,581	106,189	152,437	198,624
% total pwd	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.9%	2.4%	2.9%
<i>Balance of State</i>															
Males	14,525	15,253	15,986	16,725	17,465	18,191	18,958	19,769	20,649	21,490	22,333	23,227	34,268	47,678	58,952
Females	21,580	22,546	23,502	24,465	25,387	26,336	27,373	28,435	29,553	30,609	31,704	32,890	47,674	67,323	83,839
Persons	36,105	37,798	39,489	41,190	42,852	44,527	46,331	48,204	50,202	52,099	54,037	56,117	81,942	115,001	142,791
% total pwd	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.9%	1.9%	2.0%	2.7%	3.6%	4.3%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	18,452	19,364	20,279	21,191	22,098	23,022	23,991	24,998	26,047	27,100	28,189	29,326	43,658	61,740	80,317
Females	29,592	30,718	31,808	32,861	33,901	34,948	36,095	37,260	38,428	39,590	40,763	42,041	59,280	83,990	106,920
Persons	48,044	50,082	52,087	54,052	55,999	57,970	60,086	62,259	64,475	66,691	68,953	71,367	102,938	145,730	187,238
% total pwd	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.3%	1.4%	1.4%	1.8%	2.3%	2.7%
<i>Balance of State</i>															
Males	14,525	15,230	15,939	16,651	17,362	18,058	18,793	19,569	20,412	21,214	22,016	22,865	33,288	45,707	55,770
Females	21,580	22,508	23,424	24,343	25,219	26,119	27,104	28,110	29,170	30,165	31,196	32,313	46,145	64,227	78,820
Persons	36,105	37,737	39,362	40,993	42,581	44,177	45,897	47,680	49,582	51,379	53,212	55,179	79,433	109,933	134,590
% total pwd	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	1.9%	2.6%	3.4%	4.0%
<b>High case projection</b>															
<i>Capital City</i>															
Males	18,452	19,527	20,604	21,679	22,744	23,823	24,956	26,134	27,362	28,591	29,859	31,183	47,899	68,830	89,991
Females	29,592	30,909	32,180	33,408	34,613	35,824	37,157	38,508	39,861	41,202	42,553	44,030	63,942	92,373	118,292
Persons	48,044	50,435	52,785	55,087	57,357	59,648	62,113	64,642	67,223	69,793	72,412	75,213	111,841	161,204	208,283
% total pwd	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	2.0%	2.6%	3.0%
<i>Balance of State</i>															
Males	14,525	15,353	16,185	17,020	17,852	18,667	19,528	20,436	21,421	22,358	23,297	24,293	36,508	50,955	62,515
Females	21,580	22,640	23,684	24,729	25,724	26,746	27,869	29,018	30,226	31,360	32,537	33,817	49,784	70,642	87,262
Persons	36,105	37,992	39,868	41,748	43,576	45,413	47,396	49,454	51,647	53,718	55,835	58,110	86,292	121,597	149,777
% total pwd	1.4%	1.4%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.9%	1.9%	2.0%	2.0%	2.8%	3.8%	4.5%

Source: Access Economics calculations.

**Table 2.22: NSW incidence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	5,146	5,596	5,896	6,196	6,491	6,793	7,147	7,518	7,911	8,253	8,637	9,062	14,493	21,985	30,299
Females	8,523	9,129	9,470	9,807	10,132	10,489	10,940	11,344	11,751	12,108	12,514	13,018	19,231	28,415	37,337
Persons	13,669	14,724	15,366	16,004	16,623	17,283	18,087	18,862	19,661	20,361	21,151	22,080	33,724	50,399	67,637
% total pwd	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%
<i>Balance of State</i>															
Males	3,999	4,345	4,576	4,809	5,037	5,267	5,530	5,814	6,130	6,383	6,660	6,974	10,919	16,217	21,073
Females	6,135	6,600	6,889	7,185	7,455	7,760	8,136	8,486	8,862	9,168	9,527	9,955	14,924	21,707	27,636
Persons	10,134	10,945	11,465	11,994	12,492	13,027	13,667	14,299	14,992	15,551	16,187	16,929	25,843	37,924	48,709
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.8%	1.2%	1.5%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	5,146	5,566	5,857	6,146	6,430	6,720	7,060	7,417	7,794	8,120	8,487	8,893	14,039	21,024	28,599
Females	8,523	9,077	9,400	9,720	10,026	10,363	10,792	11,173	11,556	11,889	12,269	12,744	18,553	27,026	35,000
Persons	13,669	14,643	15,257	15,866	16,455	17,083	17,852	18,590	19,350	20,009	20,755	21,637	32,592	48,050	63,599
% total pwd	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	0.9%
<i>Balance of State</i>															
Males	3,999	4,322	4,546	4,770	4,990	5,210	5,463	5,735	6,039	6,280	6,544	6,843	10,576	15,508	19,891
Females	6,135	6,562	6,838	7,120	7,376	7,666	8,025	8,357	8,715	9,002	9,339	9,745	14,398	20,645	25,906
Persons	10,134	10,884	11,383	11,890	12,365	12,876	13,488	14,092	14,754	15,281	15,883	16,588	24,974	36,153	45,797
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.8%	1.1%	1.4%
<b>High case projection</b>															
<i>Capital City</i>															
Males	5,146	5,729	6,072	6,414	6,745	7,083	7,481	7,899	8,341	8,721	9,148	9,622	15,631	23,736	32,405
Females	8,523	9,268	9,643	10,015	10,366	10,756	11,257	11,698	12,141	12,522	12,960	13,512	20,216	29,959	38,975
Persons	13,669	14,997	15,716	16,430	17,111	17,838	18,738	19,597	20,483	21,243	22,108	23,134	35,847	53,695	71,381
% total pwd	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%	0.9%	1.0%
<i>Balance of State</i>															
Males	3,999	4,445	4,708	4,972	5,227	5,484	5,782	6,101	6,457	6,737	7,048	7,399	11,768	17,502	22,538
Females	6,135	6,694	7,008	7,329	7,617	7,947	8,360	8,739	9,148	9,473	9,859	10,325	15,690	22,883	28,861
Persons	10,134	11,139	11,716	12,301	12,845	13,431	14,142	14,841	15,605	16,210	16,906	17,724	27,459	40,385	51,399
% total pwd	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%	0.9%	1.3%	1.5%

Source: Access Economics calculations.



**Table 2.23: NSW prevalence projections, language spoke at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	27,561	29,146	30,733	32,311	33,875	35,432	37,067	38,776	40,589	42,360	44,161	46,054	69,698	98,704	124,844
Females	43,874	45,890	47,847	49,753	51,587	53,440	55,470	57,528	59,636	61,666	63,736	65,992	95,443	136,231	170,143
Persons	71,435	75,036	78,580	82,064	85,462	88,872	92,537	96,304	100,225	104,025	107,897	112,046	165,141	234,934	294,987
% total pwd	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	2.5%	3.3%	3.8%
<i>CALD</i>															
Males	5,416	5,500	5,593	5,699	5,819	5,951	6,093	6,246	6,410	6,583	6,767	6,962	9,515	13,375	19,006
Females	7,298	7,426	7,571	7,738	7,927	8,134	8,357	8,597	8,849	9,115	9,395	9,690	13,475	19,129	27,421
Persons	12,714	12,926	13,164	13,438	13,746	14,085	14,450	14,843	15,259	15,698	16,162	16,652	22,990	32,504	46,427
% total pwd	0.8%	0.8%	0.8%	0.8%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.1%	1.4%	1.8%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	27,561	29,102	30,642	32,168	33,676	35,174	36,745	38,385	40,124	41,817	43,536	45,339	67,708	94,629	118,103
Females	43,874	45,812	47,686	49,504	51,245	53,000	54,925	56,873	58,864	60,773	62,716	64,836	92,384	129,964	159,938
Persons	71,435	74,914	78,328	81,672	84,921	88,174	91,670	95,258	98,988	102,590	106,252	110,176	160,092	224,592	278,041
% total pwd	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.7%	1.8%	2.4%	3.1%	3.6%
<i>CALD</i>															
Males	5,416	5,491	5,576	5,674	5,784	5,907	6,039	6,182	6,335	6,497	6,669	6,852	9,238	12,819	17,985
Females	7,298	7,414	7,545	7,700	7,874	8,067	8,275	8,498	8,734	8,982	9,243	9,519	13,041	18,253	25,802
Persons	12,714	12,905	13,121	13,373	13,658	13,973	14,314	14,680	15,068	15,479	15,913	16,370	22,280	31,071	43,787
% total pwd	0.8%	0.8%	0.8%	0.8%	0.8%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.1%	1.4%	1.7%
<b>High case projection</b>															
<i>English speaking</i>															
Males	27,561	29,386	31,207	33,012	34,788	36,546	38,392	40,318	42,358	44,340	46,352	48,464	74,659	105,915	132,684
Females	43,874	46,129	48,303	50,406	52,412	54,431	56,653	58,899	61,194	63,386	65,617	68,060	99,903	143,212	177,094
Persons	71,435	75,515	79,510	83,418	87,200	90,977	95,044	99,216	103,552	107,726	111,970	116,524	174,563	249,126	309,778
% total pwd	1.3%	1.3%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	2.6%	3.5%	4.0%
<i>CALD</i>															
Males	5,416	5,493	5,582	5,688	5,809	5,944	6,092	6,253	6,425	6,609	6,804	7,012	9,748	13,871	19,822
Females	7,298	7,420	7,561	7,730	7,924	8,139	8,374	8,626	8,894	9,176	9,473	9,787	13,822	19,804	28,460
Persons	12,714	12,913	13,143	13,418	13,733	14,083	14,465	14,879	15,318	15,784	16,277	16,799	23,570	33,674	48,282
% total pwd	0.8%	0.8%	0.8%	0.8%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.2%	1.5%	1.9%

Source: Access Economics calculations.

**Table 2.24: NSW incidence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	7,827	8,588	9,094	9,593	10,079	10,570	11,145	11,754	12,415	12,959	13,568	14,250	22,889	34,511	45,873
Females	12,765	13,779	14,364	14,941	15,474	16,070	16,828	17,507	18,216	18,799	19,480	20,324	30,387	44,640	56,894
Persons	20,592	22,368	23,458	24,534	25,552	26,641	27,973	29,262	30,631	31,759	33,048	34,573	53,275	79,152	102,767
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.8%	1.1%	1.3%
<i>CALD</i>															
Males	1,319	1,352	1,378	1,412	1,450	1,490	1,532	1,578	1,625	1,676	1,730	1,787	2,523	3,690	5,499
Females	1,893	1,950	1,994	2,051	2,113	2,179	2,248	2,322	2,397	2,477	2,561	2,650	3,768	5,481	8,080
Persons	3,212	3,302	3,372	3,463	3,563	3,669	3,780	3,900	4,023	4,153	4,290	4,436	6,291	9,171	13,579
% total pwd	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.4%	0.5%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	7,827	8,545	9,035	9,517	9,985	10,458	11,011	11,598	12,234	12,753	13,334	13,985	22,175	33,009	43,306
Females	12,765	13,701	14,260	14,809	15,312	15,878	16,601	17,245	17,915	18,460	19,100	19,898	29,320	42,463	53,334
Persons	20,592	22,246	23,295	24,326	25,297	26,335	27,613	28,842	30,149	31,213	32,433	33,883	51,495	75,472	96,639
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.8%	1.0%	1.2%
<i>CALD</i>															
Males	1,319	1,344	1,368	1,399	1,434	1,472	1,512	1,555	1,599	1,647	1,697	1,751	2,440	3,523	5,184
Females	1,893	1,937	1,978	2,031	2,089	2,151	2,216	2,285	2,356	2,430	2,509	2,592	3,632	5,209	7,573
Persons	3,212	3,281	3,346	3,430	3,524	3,623	3,728	3,840	3,955	4,077	4,206	4,342	6,071	8,732	12,757
% total pwd	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.4%	0.5%
<b>High case projection</b>															
<i>English speaking</i>															
Males	7,827	8,828	9,409	9,980	10,527	11,079	11,731	12,420	13,168	13,773	14,454	15,218	24,807	37,397	49,187
Females	12,765	14,018	14,663	15,297	15,871	16,520	17,361	18,102	18,874	19,495	20,230	21,154	32,034	47,160	59,446
Persons	20,592	22,847	24,072	25,277	26,398	27,599	29,092	30,522	32,042	33,268	34,684	36,372	56,840	84,557	108,633
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.9%	1.2%	1.4%
<i>CALD</i>															
Males	1,319	1,346	1,371	1,406	1,445	1,488	1,532	1,581	1,631	1,685	1,742	1,803	2,593	3,841	5,757
Females	1,893	1,943	1,988	2,047	2,113	2,183	2,256	2,335	2,415	2,499	2,589	2,683	3,873	5,681	8,390
Persons	3,212	3,289	3,359	3,453	3,558	3,670	3,788	3,915	4,046	4,184	4,331	4,487	6,465	9,522	14,147
% total pwd	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.4%	0.6%

Source: Access Economics calculations.

### **2.3.3.3 Northern Territory**

In 2009 there are an estimated 740 people with dementia in the Northern Territory, projected to increase 8.6-fold to 6,400 (6,000-6,890) people by 2050 (Table 2.25).

In 2009, there are approximately 190 new cases of dementia in NT, projected to increase 10.5-fold to approximately 1,970 (1,860-2,140) people by 2050 (Table 2.26).

Of those people with dementia in the Northern Territory in 2009, approximately 460 live in Darwin while 280 reside in the balance of the Territory. Projections suggest that the prevalence of dementia in Darwin will increase 10.2-fold to approximately 4,700 (4,450-5,090) people, while the prevalence in the balance of Northern Territory will increase 5.9-fold to approximately 1,670 (1,570-1,800) people by 2050 (Table 2.27).

Of those people with new cases of dementia in the Northern Territory in 2009, approximately 120 live in Darwin, while approximately 70 reside in the balance of the Territory. Projections suggest that the incidence of dementia in Darwin will increase 12.6-fold to approximately 1,470 (1,380-1,590) people, while new cases of dementia in the balance of the NT will increase 7.0-fold to 500 (470-540) people by 2050 (Table 2.28).

Of people with dementia in the Northern Territory in 2009, approximately 540 speak English at home while approximately 210 speak a CALD language at home. Projections suggest that people with dementia who speak English at home will increase 9.9-fold to approximately 5,290 (4,990-5,740) people, while those who speak a CALD language at home will increase 5.3-fold to 1,090 (1,030-1,150) people by 2050 (Table 2.29).

Of people with new cases of dementia in NT in 2009, approximately 140 speak English at home while approximately 50 speak a CALD language at home. Projections suggest that people with new cases of dementia who speak English at home will increase 12.0-fold to 1,660 (1,570-1,810) people, while those who speak a CALD language at home will increase 6.2-fold to approximately 310 (290-330) people by 2050 (Table 2.30).

**Table 2.25: Total NT prevalence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	370	397	427	458	486	515	551	591	633	673	714	765	1,349	1,976	2,581
Females	371	394	421	446	480	516	551	596	640	689	745	800	1,643	2,788	3,791
Persons	741	791	847	904	966	1,031	1,103	1,187	1,273	1,362	1,459	1,565	2,992	4,764	6,371
<b>Low case projection</b>															
Males	370	397	425	456	484	512	547	585	626	665	705	754	1,312	1,897	2,445
Females	371	393	419	444	477	511	546	590	632	680	734	787	1,594	2,666	3,573
Persons	741	790	845	900	960	1,023	1,093	1,175	1,258	1,345	1,438	1,541	2,906	4,564	6,019
<b>High case projection</b>															
Males	370	402	436	471	505	538	579	625	673	719	766	825	1,484	2,164	2,792
Females	371	397	428	457	495	536	577	628	679	735	798	861	1,810	3,059	4,097
Persons	741	798	863	928	1,000	1,074	1,156	1,253	1,352	1,454	1,565	1,686	3,294	5,223	6,889

Source: Access Economics calculations.

**Table 2.26: Total NT incidence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	88	101	108	114	118	124	137	148	159	167	178	197	376	581	807
Females	100	111	121	125	138	148	156	173	183	198	216	229	489	843	1,165
Persons	188	212	228	240	256	272	292	321	342	365	394	427	865	1,424	1,972
<b>Low case projection</b>															
Males	88	101	107	113	117	123	135	146	157	165	175	194	364	556	762
Females	100	110	120	124	136	146	154	171	180	194	212	225	472	804	1,095
Persons	188	211	226	237	254	269	289	317	336	359	387	418	837	1,360	1,857
<b>High case projection</b>															
Males	88	105	113	121	125	131	146	160	172	182	193	216	417	641	878
Females	100	114	125	130	145	156	165	185	196	213	234	249	540	925	1,258
Persons	188	220	238	251	270	288	311	345	368	395	428	465	957	1,566	2,136

Source: Access Economics calculations.

**Table 2.27: NT prevalence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	238	259	281	304	326	348	375	405	435	466	497	535	981	1,471	1,945
Females	222	237	257	277	302	329	355	386	419	455	496	536	1,154	2,003	2,760
Persons	460	496	537	581	628	677	729	790	854	921	993	1,072	2,135	3,474	4,705
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.7%	0.7%	1.2%	1.7%	2.0%
<i>Balance of State</i>															
Males	131	139	146	153	161	167	177	186	197	207	217	230	369	505	636
Females	149	156	164	169	177	186	197	211	222	234	249	263	488	784	1,030
Persons	281	295	310	323	338	354	373	397	419	442	466	493	857	1,290	1,666
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.7%	0.9%	1.1%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	238	258	280	303	324	346	372	401	431	460	490	527	954	1,412	1,843
Females	222	237	256	276	300	327	351	381	413	449	489	528	1,120	1,916	2,602
Persons	460	495	535	579	624	672	723	782	844	909	979	1,055	2,074	3,328	4,445
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.7%	1.2%	1.6%	1.9%
<i>Balance of State</i>															
Males	131	138	146	153	160	166	175	185	195	205	214	227	359	485	602
Females	149	156	164	168	176	185	195	208	219	231	245	259	474	750	971
Persons	281	295	309	321	336	351	370	393	414	436	459	486	832	1,235	1,574
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.7%	0.9%	1.0%
<b>High case projection</b>															
<i>Capital City</i>															
Males	238	262	286	313	338	363	394	428	463	498	534	577	1,080	1,614	2,107
Females	222	239	261	284	312	342	371	407	444	485	532	578	1,273	2,200	2,986
Persons	460	501	547	597	650	706	765	835	908	983	1,066	1,155	2,354	3,813	5,093
% total pwd	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.7%	0.7%	0.8%	1.3%	1.9%	2.2%
<i>Balance of State</i>															
Males	131	140	149	158	166	174	185	197	209	221	233	247	404	551	685
Females	149	158	167	173	183	194	205	222	235	249	266	283	537	859	1,112
Persons	281	298	316	331	349	368	391	418	444	470	499	530	941	1,410	1,796
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.8%	1.0%	1.2%

Source: Access Economics calculations.

**Table 2.28: NT incidence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	57	66	71	76	80	84	94	103	111	117	125	140	276	438	616
Females	60	67	73	78	87	94	100	112	120	131	144	154	346	609	853
Persons	117	133	144	154	166	179	194	215	230	248	269	294	622	1,048	1,469
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.3%	0.5%	0.6%
<i>Balance of State</i>															
Males	31	35	37	38	39	40	43	46	48	50	53	58	99	143	191
Females	41	44	47	48	51	54	56	61	63	67	72	75	143	234	313
Persons	72	79	84	86	90	93	99	107	112	117	125	133	243	377	504
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.3%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	57	66	70	76	79	83	92	101	109	115	123	137	268	419	582
Females	60	66	73	77	86	93	99	110	118	129	142	151	334	581	801
Persons	117	132	143	153	165	177	191	212	227	244	265	288	602	1,000	1,383
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.3%	0.5%	0.6%
<i>Balance of State</i>															
Males	31	35	36	38	38	39	42	45	48	50	52	57	96	137	180
Females	41	44	47	47	50	53	55	60	62	66	71	74	138	223	294
Persons	72	79	83	85	89	92	97	105	110	115	123	130	235	360	474
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.3%
<b>High case projection</b>															
<i>Capital City</i>															
Males	57	69	74	81	84	89	100	111	120	127	136	153	307	484	671
Females	60	69	76	81	91	100	106	120	128	141	157	168	382	669	921
Persons	117	138	151	161	175	189	207	230	248	268	293	321	689	1,153	1,592
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.4%	0.6%	0.7%
<i>Balance of State</i>															
Males	31	36	38	40	41	42	46	49	52	54	57	63	110	157	207
Females	41	46	49	49	53	56	59	65	68	72	78	81	158	256	337
Persons	72	82	87	90	94	98	105	114	120	126	135	144	268	413	544
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%

Source: Access Economics calculations.

**Table 2.29: NT prevalence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	284	309	336	364	389	415	447	483	520	557	593	640	1,160	1,686	2,139
Females	253	274	299	322	351	382	413	453	492	535	585	633	1,383	2,378	3,147
Persons	536	583	635	686	741	797	860	936	1,012	1,091	1,178	1,272	2,543	4,064	5,286
% total pwd	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	1.1%	1.6%	1.9%
<i>CALD</i>															
Males	86	88	91	94	97	101	104	108	112	116	121	126	190	291	441
Females	119	120	122	125	129	133	138	143	149	154	160	167	260	410	644
Persons	205	208	212	218	226	234	242	251	261	271	281	293	450	701	1,086
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.1%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	284	309	335	362	387	412	443	478	515	550	585	630	1,128	1,618	2,027
Females	253	274	298	320	349	379	409	448	486	528	576	623	1,342	2,275	2,966
Persons	536	582	633	683	736	791	853	926	1,000	1,078	1,161	1,253	2,470	3,893	4,993
% total pwd	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	1.1%	1.5%	1.8%
<i>CALD</i>															
Males	86	88	91	93	96	100	103	107	111	115	119	124	185	279	418
Females	119	119	121	124	128	132	137	142	147	152	158	164	252	392	607
Persons	205	208	212	217	224	232	240	249	258	267	277	288	436	671	1,025
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%
<b>High case projection</b>															
<i>English speaking</i>															
Males	284	313	344	377	407	436	473	515	559	600	643	696	1,284	1,855	2,322
Females	253	278	307	333	367	403	438	484	529	578	635	691	1,539	2,625	3,416
Persons	536	591	651	710	773	839	912	999	1,087	1,179	1,278	1,386	2,823	4,481	5,737
% total pwd	0.3%	0.3%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.7%	0.7%	1.3%	1.8%	2.0%
<i>CALD</i>															
Males	86	88	91	94	98	102	106	110	114	119	124	129	200	309	470
Females	119	119	121	124	128	133	139	144	150	156	163	170	271	433	682
Persons	205	208	212	218	226	235	244	254	264	275	287	299	471	743	1,152
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.2%

Source: Access Economics calculations.

**Table 2.30: NT incidence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	68	80	86	92	95	100	112	123	133	140	149	167	329	505	683
Females	71	81	89	92	104	112	119	135	143	157	174	185	418	728	979
Persons	138	161	175	185	199	212	231	257	276	297	323	352	747	1,233	1,662
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.3%	0.5%	0.6%
<i>CALD</i>															
Males	20	21	21	22	23	24	25	26	26	27	29	30	47	77	123
Females	30	31	31	33	34	36	37	38	40	41	43	45	71	115	187
Persons	50	51	53	55	57	59	62	64	66	69	71	74	118	192	310
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	68	80	85	92	95	99	111	121	131	138	147	164	319	483	645
Females	71	80	89	92	103	111	117	133	141	154	170	181	404	694	920
Persons	138	160	174	183	197	210	228	254	271	292	317	346	723	1,177	1,565
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.3%	0.5%	0.6%
<i>CALD</i>															
Males	20	21	21	22	23	24	24	25	26	27	28	29	46	73	116
Females	30	30	31	32	34	35	36	38	39	40	42	44	68	109	175
Persons	50	51	52	54	57	59	61	63	65	67	70	73	114	183	292
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%
<b>High case projection</b>															
<i>English speaking</i>															
Males	68	84	91	99	102	107	121	134	145	153	164	185	367	559	746
Females	71	84	94	97	110	121	128	146	156	171	191	204	466	803	1,061
Persons	138	168	185	196	212	228	249	280	301	325	355	389	833	1,363	1,807
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.4%	0.5%	0.6%
<i>CALD</i>															
Males	20	21	22	22	23	24	25	26	27	28	29	31	50	82	132
Females	30	30	31	33	34	36	37	39	40	42	43	45	74	121	197
Persons	50	51	53	55	57	60	62	65	67	70	73	76	124	203	329
% total pwd	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%

Source: Access Economics calculations.



#### **2.3.3.4 Queensland**

In 2009 there are an estimated 44,500 people with dementia in Queensland, projected to increase 5.8-fold to 258,000 (244,000-276,000) people by 2050 (Table 2.31).

In 2009 there are approximately 12,600 new cases of dementia in Queensland, projected to increase 6.9-fold to approximately 87,700 (82,500-93,900) people by 2050 (Table 2.32).

Of those people with dementia in Queensland in 2009, approximately 18,500 live in Brisbane while 26,000 reside in the balance of Queensland. Projections suggest that the prevalence of dementia in Brisbane will increase 5.5-fold to approximately 102,000 (96,300-108,900) people, while the prevalence in the balance of Queensland will increase 6.0-fold to approximately 156,300 (147,500-166,800) people by 2050 (Table 2.33).

Of those people with new cases of dementia in Queensland in 2009, approximately 5,300 live in Brisbane while approximately 7,350 people reside in the balance of Queensland. Projections suggest that the incidence of dementia in Brisbane will increase 6.6-fold to approximately 34,600 (32,600-37,100) people, while new cases of dementia in the balance of Queensland will increase 7.2-fold to 53,000 (49,900-56,800) people by 2050 (Table 2.34).

Of people with dementia in Queensland in 2009, approximately 41,400 speak English at home while approximately 3,100 speak a CALD language at home. Projections suggest that people with dementia who speak English at home will increase 5.9-fold to approximately 244,800 (231,000-261,400) people, while those who speak a CALD language at home will increase 4.4-fold to 13,540 (12,780-14,220) people by 2050 (Table 2.35).

Of people with new cases of dementia in Queensland in 2009, approximately 11,800 speak English at home while approximately 800 speak a CALD language at home. Projections suggest that people with new cases of dementia who speak English at home will increase 7.1-fold to 83,700 (78,700-89,700) people, while those who speak a CALD language at home will increase 4.9-fold to approximately 4,000 (3,760-4,200) people by 2050 (Table 2.36).

**Table 2.31: Total Qld prevalence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	18,279	19,364	20,493	21,645	22,770	23,950	25,220	26,580	28,031	29,460	30,962	32,559	53,283	80,071	109,133
Females	26,228	27,524	28,847	30,146	31,477	32,872	34,433	36,055	37,736	39,429	41,233	43,218	70,279	109,173	149,183
Persons	44,508	46,888	49,340	51,792	54,247	56,822	59,653	62,634	65,768	68,889	72,195	75,776	123,562	189,244	258,316
<b>Low case projection</b>															
Males	18,279	19,335	20,432	21,550	22,637	23,777	25,002	26,314	27,713	29,086	30,528	32,059	51,782	76,812	103,328
Females	26,228	27,478	28,750	29,996	31,270	32,604	34,098	35,649	37,255	38,866	40,584	42,473	68,077	104,263	140,437
Persons	44,508	46,813	49,183	51,546	53,907	56,380	59,101	61,963	64,968	67,953	71,111	74,532	119,860	181,075	243,765
<b>High case projection</b>															
Males	18,279	19,528	20,825	22,147	23,429	24,771	26,216	27,762	29,413	31,028	32,724	34,526	57,704	86,855	117,370
Females	26,228	27,684	29,166	30,615	32,093	33,642	35,384	37,190	39,059	40,932	42,930	45,132	74,980	116,909	158,298
Persons	44,508	47,212	49,992	52,762	55,522	58,413	61,599	64,952	68,471	71,960	75,653	79,658	132,684	203,764	275,668

Source: Access Economics calculations.

**Table 2.32: Total Qld incidence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	5,076	5,579	5,935	6,284	6,584	6,956	7,388	7,854	8,352	8,759	9,256	9,804	17,032	27,077	38,597
Females	7,545	8,190	8,594	8,961	9,365	9,809	10,371	10,886	11,420	11,911	12,510	13,211	22,161	35,237	49,067
Persons	12,620	13,769	14,529	15,245	15,949	16,765	17,758	18,740	19,772	20,670	21,766	23,015	39,193	62,314	87,664
<b>Low case projection</b>															
Males	5,076	5,550	5,896	6,234	6,522	6,882	7,299	7,749	8,230	8,619	9,096	9,622	16,506	25,908	36,454
Females	7,545	8,144	8,532	8,882	9,268	9,692	10,232	10,724	11,233	11,698	12,269	12,938	21,398	33,549	46,051
Persons	12,620	13,694	14,428	15,116	15,789	16,574	17,530	18,473	19,463	20,318	21,365	22,560	37,903	59,457	82,506
<b>High case projection</b>															
Males	5,076	5,743	6,152	6,554	6,889	7,312	7,804	8,337	8,904	9,360	9,922	10,542	18,632	29,594	41,760
Females	7,545	8,350	8,802	9,206	9,652	10,144	10,776	11,348	11,940	12,477	13,142	13,923	23,772	37,834	52,133
Persons	12,620	14,093	14,954	15,760	16,541	17,456	18,580	19,685	20,844	21,837	23,063	24,465	42,404	67,429	93,893

Source: Access Economics calculations.

**Table 2.33: Qld prevalence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	7,174	7,584	8,014	8,451	8,874	9,307	9,784	10,307	10,858	11,401	11,974	12,580	20,690	31,281	43,105
Females	11,273	11,744	12,231	12,695	13,171	13,679	14,244	14,832	15,435	16,061	16,740	17,472	27,881	43,132	58,942
Persons	18,447	19,328	20,245	21,146	22,045	22,987	24,028	25,139	26,293	27,462	28,714	30,053	48,571	74,413	102,047
% total pwd	0.9%	1.0%	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.7%	2.2%	2.6%
<i>Balance of State</i>															
Males	11,105	11,780	12,480	13,194	13,896	14,643	15,436	16,273	17,174	18,059	18,988	19,978	32,593	48,790	66,029
Females	14,955	15,780	16,615	17,452	18,306	19,193	20,189	21,222	22,302	23,368	24,493	25,745	42,398	66,041	90,241
Persons	26,060	27,560	29,095	30,646	32,202	33,835	35,625	37,495	39,475	41,427	43,481	45,723	74,990	114,832	156,269
% total pwd	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	2.1%	2.8%	3.3%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	7,174	7,573	7,990	8,414	8,822	9,240	9,700	10,204	10,735	11,257	11,806	12,387	20,107	30,008	40,812
Females	11,273	11,724	12,190	12,631	13,084	13,568	14,105	14,665	15,238	15,832	16,476	17,171	27,008	41,192	55,487
Persons	18,447	19,297	20,180	21,045	21,906	22,808	23,805	24,869	25,972	27,089	28,282	29,559	47,115	71,200	96,298
% total pwd	0.9%	1.0%	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.6%	2.1%	2.5%
<i>Balance of State</i>															
Males	11,105	11,763	12,443	13,136	13,815	14,537	15,302	16,110	16,979	17,829	18,722	19,672	31,675	46,804	62,517
Females	14,955	15,753	16,560	17,365	18,186	19,036	19,993	20,983	22,017	23,035	24,107	25,302	41,070	63,071	84,950
Persons	26,060	27,516	29,002	30,501	32,001	33,573	35,295	37,094	38,996	40,864	42,829	44,973	72,745	109,875	147,466
% total pwd	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	2.0%	2.6%	3.1%
<b>High case projection</b>															
<i>Capital City</i>															
Males	7,174	7,649	8,145	8,648	9,131	9,626	10,171	10,766	11,393	12,008	12,654	13,339	22,404	33,929	46,348
Females	11,273	11,814	12,369	12,895	13,432	14,003	14,640	15,303	15,978	16,675	17,430	18,248	29,744	46,188	62,533
Persons	18,447	19,463	20,514	21,543	22,564	23,630	24,811	26,069	27,371	28,683	30,085	31,586	52,148	80,117	108,881
% total pwd	0.9%	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.8%	2.4%	2.8%
<i>Balance of State</i>															
Males	11,105	11,879	12,681	13,499	14,297	15,144	16,045	16,996	18,020	19,020	20,069	21,187	35,300	52,926	71,022
Females	14,955	15,870	16,797	17,719	18,661	19,639	20,743	21,887	23,081	24,257	25,499	26,884	45,236	70,721	95,765
Persons	26,060	27,750	29,478	31,219	32,958	34,783	36,788	38,883	41,100	43,277	45,569	48,072	80,536	123,647	166,787
% total pwd	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	2.2%	3.0%	3.5%

Source: Access Economics calculations.

**Table 2.34: Qld incidence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	2,005	2,197	2,332	2,463	2,575	2,709	2,872	3,053	3,242	3,397	3,587	3,795	6,636	10,602	15,242
Females	3,272	3,525	3,675	3,800	3,946	4,106	4,313	4,501	4,688	4,869	5,095	5,357	8,812	13,945	19,373
Persons	5,277	5,723	6,007	6,263	6,520	6,816	7,185	7,554	7,930	8,266	8,682	9,152	15,448	24,547	34,614
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.5%	0.7%	0.9%
<i>Balance of State</i>															
Males	3,071	3,381	3,602	3,821	4,009	4,247	4,516	4,801	5,110	5,362	5,669	6,009	10,397	16,476	23,355
Females	4,273	4,665	4,920	5,161	5,419	5,703	6,058	6,385	6,732	7,042	7,415	7,854	13,348	21,292	29,694
Persons	7,344	8,046	8,522	8,982	9,428	9,950	10,573	11,186	11,842	12,404	13,084	13,862	23,745	37,768	53,049
% total pwd	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.7%	0.9%	1.1%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	2,005	2,186	2,317	2,444	2,551	2,680	2,837	3,013	3,194	3,343	3,525	3,725	6,431	10,144	14,396
Females	3,272	3,505	3,648	3,767	3,905	4,057	4,255	4,434	4,611	4,782	4,997	5,247	8,509	13,277	18,182
Persons	5,277	5,692	5,965	6,210	6,455	6,738	7,093	7,447	7,806	8,125	8,522	8,972	14,939	23,421	32,578
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.5%	0.7%	0.8%
<i>Balance of State</i>															
Males	3,071	3,364	3,579	3,791	3,971	4,201	4,461	4,737	5,035	5,276	5,571	5,897	10,075	15,764	22,059
Females	4,273	4,638	4,884	5,115	5,363	5,634	5,976	6,290	6,622	6,916	7,272	7,691	12,889	20,271	27,869
Persons	7,344	8,002	8,463	8,906	9,334	9,836	10,438	11,027	11,658	12,193	12,844	13,589	22,964	36,036	49,928
% total pwd	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.9%	1.1%
<b>High case projection</b>															
<i>Capital City</i>															
Males	2,005	2,262	2,418	2,569	2,695	2,848	3,034	3,241	3,456	3,630	3,844	4,080	7,258	11,587	16,489
Females	3,272	3,595	3,764	3,905	4,068	4,248	4,483	4,693	4,902	5,101	5,352	5,646	9,452	14,974	20,580
Persons	5,277	5,857	6,183	6,474	6,762	7,096	7,516	7,934	8,358	8,731	9,197	9,726	16,711	26,561	37,069
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%
<i>Balance of State</i>															
Males	3,071	3,480	3,734	3,985	4,194	4,464	4,771	5,096	5,448	5,730	6,077	6,461	11,373	18,007	25,271
Females	4,273	4,755	5,037	5,301	5,584	5,897	6,294	6,655	7,038	7,376	7,790	8,277	14,320	22,861	31,553
Persons	7,344	8,236	8,771	9,286	9,778	10,361	11,064	11,751	12,486	13,106	13,867	14,739	25,693	40,868	56,824
% total pwd	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.7%	1.0%	1.2%

Source: Access Economics calculations.

**Table 2.35: Qld prevalence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	16,963	18,014	19,106	20,218	21,299	22,431	23,651	24,959	26,356	27,727	29,169	30,703	50,640	76,269	103,679
Females	24,438	25,683	26,950	28,189	29,455	30,781	32,269	33,815	35,418	37,028	38,747	40,641	66,554	103,689	141,099
Persons	41,400	43,697	46,056	48,407	50,753	53,212	55,920	58,773	61,774	64,756	67,916	71,344	117,195	179,958	244,778
% total pwd	1.0%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	2.0%	2.6%	3.1%
<i>CALD</i>															
Males	1,317	1,350	1,387	1,427	1,472	1,519	1,569	1,621	1,676	1,733	1,793	1,855	2,642	3,802	5,454
Females	1,791	1,841	1,897	1,957	2,022	2,091	2,164	2,240	2,319	2,401	2,487	2,577	3,725	5,484	8,084
Persons	3,107	3,191	3,284	3,385	3,494	3,610	3,733	3,861	3,994	4,134	4,279	4,432	6,367	9,286	13,538
% total pwd	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.0%	1.0%	1.1%	1.4%	1.7%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	16,963	17,987	19,049	20,129	21,174	22,269	23,447	24,709	26,057	27,376	28,761	30,233	49,216	73,167	98,165
Females	24,438	25,639	26,860	28,049	29,261	30,530	31,956	33,435	34,966	36,500	38,137	39,941	64,471	99,027	132,825
Persons	41,400	43,626	45,909	48,178	50,436	52,799	55,403	58,144	61,023	63,876	66,897	70,174	113,687	172,193	230,991
% total pwd	1.0%	1.1%	1.1%	1.1%	1.1%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	1.9%	2.5%	3.0%
<i>CALD</i>															
Males	1,317	1,348	1,383	1,421	1,463	1,508	1,555	1,605	1,656	1,710	1,767	1,826	2,566	3,646	5,163
Females	1,791	1,838	1,890	1,947	2,009	2,074	2,142	2,214	2,289	2,366	2,447	2,532	3,606	5,236	7,611
Persons	3,107	3,186	3,273	3,368	3,472	3,582	3,698	3,819	3,945	4,076	4,214	4,358	6,173	8,882	12,774
% total pwd	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.0%	1.1%	1.3%	1.6%
<b>High case projection</b>															
<i>English speaking</i>															
Males	16,963	18,177	19,435	20,714	21,948	23,238	24,629	26,119	27,710	29,263	30,894	32,629	54,953	82,858	111,624
Females	24,438	25,840	27,264	28,647	30,056	31,531	33,194	34,918	36,702	38,486	40,391	42,496	71,108	111,161	149,822
Persons	41,400	44,017	46,699	49,361	52,004	54,769	57,823	61,037	64,412	67,749	71,285	75,124	126,060	194,019	261,447
% total pwd	1.0%	1.1%	1.1%	1.1%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	2.1%	2.8%	3.3%
<i>CALD</i>															
Males	1,317	1,351	1,390	1,434	1,481	1,532	1,586	1,643	1,702	1,764	1,829	1,898	2,752	3,997	5,745
Females	1,791	1,844	1,902	1,967	2,037	2,111	2,190	2,272	2,357	2,446	2,539	2,636	3,872	5,748	8,476
Persons	3,107	3,195	3,293	3,401	3,518	3,644	3,776	3,915	4,059	4,210	4,368	4,534	6,624	9,745	14,222
% total pwd	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%	1.2%	1.5%	1.8%

Source: Access Economics calculations.

**Table 2.36: Qld incidence projections, language spoken at home, gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	4,743	5,233	5,578	5,915	6,201	6,560	6,977	7,429	7,911	8,302	8,782	9,312	16,314	26,004	36,992
Females	7,065	7,688	8,076	8,424	8,808	9,231	9,772	10,265	10,776	11,243	11,817	12,491	21,108	33,649	46,672
Persons	11,808	12,921	13,654	14,339	15,009	15,792	16,749	17,694	18,687	19,545	20,599	21,803	37,422	59,652	83,664
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.9%	1.1%
<i>CALD</i>															
Males	333	346	357	369	382	396	411	425	441	457	474	492	718	1,074	1,605
Females	480	502	518	537	557	577	599	621	644	668	693	720	1,053	1,588	2,395
Persons	812	848	875	906	939	974	1,009	1,046	1,084	1,124	1,167	1,212	1,771	2,662	4,000
% total pwd	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	4,743	5,206	5,541	5,868	6,143	6,490	6,893	7,330	7,796	8,170	8,631	9,140	15,811	24,882	34,940
Females	7,065	7,645	8,018	8,350	8,717	9,122	9,642	10,113	10,601	11,043	11,590	12,234	20,382	32,038	43,805
Persons	11,808	12,851	13,559	14,218	14,860	15,612	16,535	17,443	18,397	19,214	20,221	21,374	36,193	56,921	78,746
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%
<i>CALD</i>															
Males	333	344	354	366	378	392	405	419	434	449	465	482	694	1,026	1,514
Females	480	499	514	532	551	570	590	611	633	655	679	704	1,016	1,510	2,246
Persons	812	843	869	898	929	962	996	1,031	1,066	1,104	1,144	1,187	1,710	2,536	3,760
% total pwd	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%
<b>High case projection</b>															
<i>English speaking</i>															
Males	4,743	5,395	5,793	6,182	6,502	6,911	7,387	7,904	8,454	8,893	9,435	10,036	17,882	28,462	40,064
Females	7,065	7,846	8,280	8,664	9,088	9,559	10,167	10,716	11,283	11,795	12,432	13,184	22,676	36,169	49,623
Persons	11,808	13,241	14,073	14,846	15,591	16,469	17,555	18,619	19,737	20,687	21,867	23,220	40,557	64,630	89,687
% total pwd	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.7%	0.9%	1.1%
<i>CALD</i>															
Males	333	348	359	372	386	402	417	433	450	467	486	506	750	1,133	1,696
Females	480	504	522	542	564	586	609	633	657	683	710	739	1,097	1,666	2,510
Persons	812	852	881	914	950	987	1,026	1,066	1,107	1,150	1,196	1,245	1,847	2,798	4,206
% total pwd	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%

Source: Access Economics calculations.

### **2.3.3.5 South Australia**

In 2009 there are an estimated 22,200 people with dementia in South Australia, projected to increase 3.6-fold to 80,800 (76,200-84,300) people by 2050 (Table 2.37).

In 2009 there are approximately 6,300 new cases of dementia in South Australia, projected to increase 4.4-fold to approximately 27,600 (25,900-29,000) people by 2050 (Table 2.38).

Of those people with dementia in South Australia in 2009, approximately 16,400 live in Adelaide while 5,700 reside in the balance of South Australia. Projections suggest that the prevalence of dementia in Adelaide will increase 3.5-fold to approximately 57,600 (54,300-60,100) people, while the prevalence in the balance of South Australia will increase 4.0-fold to approximately 23,200 (21,900-24,200) people by 2050 (Table 2.39).

Of those people with new cases of dementia in South Australia in 2009, approximately 4,700 live in Adelaide while approximately 1,600 reside in the balance of South Australia. Projections suggest that the incidence of dementia in Adelaide will increase 4.2-fold to approximately 19,700 (18,500-20,700) people, while new cases of dementia in the balance of South Australia will increase 5.0-fold to approximately 7,900 (7,400-8,300) people by 2050.

Of people with dementia in South Australia in 2009, approximately 19,200 speak English at home while approximately 3,000 speak a CALD language at home. Projections suggest that people with dementia who speak English at home will increase 3.9-fold to approximately 74,300 (70,000-77,700) people, while those who speak a CALD language at home will increase 2.2-fold to approximately 6,500 (6,150-6,550) people by 2050 (Table 2.41).

Of people with new cases of dementia in South Australia in 2009, approximately 5,500 speak English at home while approximately 760 speak a CALD language at home. Projections suggest that people with new cases of dementia who speak English at home will increase 4.6-fold to approximately 25,600 (24,100-27,000) people, while those who speak a CALD language at home will increase 2.6-fold to approximately 1,960 (1,840-1,980) people by 2050 (Table 2.42).

**Table 2.37: Total SA prevalence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	8,510	8,890	9,263	9,640	10,015	10,399	10,789	11,183	11,614	12,040	12,491	12,948	18,918	26,498	33,326
Females	13,678	14,211	14,745	15,269	15,766	16,261	16,787	17,326	17,875	18,396	18,951	19,534	27,463	38,602	47,448
Persons	22,188	23,102	24,008	24,908	25,781	26,660	27,576	28,509	29,489	30,436	31,442	32,481	46,381	65,101	80,774
<b>Low case projection</b>															
Males	8,510	8,880	9,241	9,604	9,970	10,341	10,717	11,091	11,492	11,895	12,323	12,757	18,394	25,448	31,555
Females	13,678	14,195	14,711	15,215	15,684	16,154	16,654	17,165	17,685	18,180	18,695	19,229	26,592	36,843	44,610
Persons	22,188	23,075	23,952	24,819	25,654	26,494	27,371	28,256	29,178	30,075	31,019	31,987	44,987	62,291	76,165
<b>High case projection</b>															
Males	8,510	8,952	9,377	9,808	10,245	10,683	11,129	11,562	12,022	12,481	12,975	13,481	20,073	28,269	35,202
Females	13,678	14,296	14,909	15,504	16,050	16,594	17,177	17,768	18,360	18,939	19,524	20,129	28,530	40,338	49,071
Persons	22,188	23,248	24,286	25,312	26,295	27,277	28,306	29,330	30,382	31,420	32,500	33,611	48,603	68,607	84,273

Source: Access Economics calculations.

**Table 2.38: Total SA incidence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	2,372	2,551	2,664	2,789	2,907	3,035	3,164	3,293	3,458	3,590	3,751	3,902	6,051	9,040	11,943
Females	3,919	4,192	4,362	4,523	4,662	4,817	5,003	5,186	5,372	5,519	5,719	5,920	8,625	12,463	15,646
Persons	6,291	6,743	7,026	7,312	7,569	7,852	8,167	8,479	8,830	9,109	9,470	9,822	14,677	21,502	27,589
<b>Low case projection</b>															
Males	2,372	2,540	2,650	2,770	2,888	3,010	3,135	3,253	3,403	3,532	3,688	3,832	5,866	8,654	11,278
Females	3,919	4,176	4,340	4,493	4,619	4,769	4,947	5,121	5,298	5,439	5,617	5,799	8,324	11,856	14,665
Persons	6,291	6,716	6,990	7,263	7,507	7,779	8,082	8,374	8,701	8,972	9,306	9,631	14,190	20,510	25,943
<b>High case projection</b>															
Males	2,372	2,612	2,737	2,882	3,025	3,165	3,313	3,444	3,613	3,759	3,943	4,114	6,492	9,728	12,723
Females	3,919	4,277	4,469	4,646	4,786	4,958	5,169	5,366	5,561	5,739	5,928	6,133	9,021	13,081	16,240
Persons	6,291	6,889	7,206	7,529	7,811	8,123	8,482	8,810	9,173	9,497	9,871	10,247	15,512	22,808	28,963

Source: Access Economics calculations.



**Table 2.39: SA prevalence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	6,145	6,402	6,655	6,913	7,164	7,419	7,682	7,942	8,238	8,527	8,830	9,142	13,261	18,592	23,464
Females	10,297	10,674	11,052	11,415	11,765	12,104	12,466	12,838	13,215	13,579	13,959	14,354	19,898	27,892	34,135
Persons	16,443	17,076	17,706	18,328	18,929	19,522	20,148	20,780	21,452	22,106	22,789	23,497	33,159	46,484	57,599
% total pwd	1.4%	1.4%	1.5%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.7%	1.8%	1.8%	2.4%	3.1%	3.6%
<i>Balance of State</i>															
Males	2,364	2,488	2,609	2,727	2,851	2,980	3,107	3,241	3,376	3,513	3,660	3,805	5,656	7,906	9,862
Females	3,381	3,538	3,693	3,854	4,001	4,157	4,322	4,488	4,661	4,817	4,992	5,180	7,566	10,711	13,313
Persons	5,745	6,026	6,302	6,581	6,852	7,138	7,429	7,729	8,036	8,330	8,652	8,985	13,222	18,617	23,175
% total pwd	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	2.6%	3.5%	4.2%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	6,145	6,394	6,639	6,887	7,131	7,377	7,631	7,876	8,152	8,424	8,712	9,008	12,894	17,855	22,217
Females	10,297	10,662	11,026	11,374	11,704	12,023	12,366	12,719	13,074	13,419	13,770	14,131	19,266	26,620	32,094
Persons	16,443	17,056	17,665	18,261	18,835	19,400	19,997	20,595	21,226	21,843	22,483	23,138	32,161	44,475	54,311
% total pwd	1.4%	1.4%	1.5%	1.5%	1.5%	1.6%	1.6%	1.6%	1.7%	1.7%	1.7%	1.8%	2.3%	3.0%	3.4%
<i>Balance of State</i>															
Males	2,364	2,486	2,602	2,716	2,838	2,964	3,086	3,214	3,341	3,471	3,611	3,749	5,500	7,593	9,338
Females	3,381	3,534	3,685	3,841	3,980	4,130	4,288	4,446	4,611	4,761	4,925	5,099	7,326	10,223	12,516
Persons	5,745	6,019	6,287	6,557	6,819	7,094	7,374	7,661	7,952	8,232	8,536	8,848	12,826	17,816	21,854
% total pwd	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	2.5%	3.4%	4.0%
<b>High case projection</b>															
<i>Capital City</i>															
Males	6,145	6,447	6,739	7,037	7,331	7,625	7,928	8,215	8,531	8,842	9,176	9,523	14,075	19,841	24,789
Females	10,297	10,738	11,176	11,592	11,979	12,353	12,757	13,168	13,574	13,982	14,384	14,794	20,672	29,152	35,309
Persons	16,443	17,185	17,915	18,629	19,310	19,978	20,685	21,383	22,105	22,824	23,560	24,317	34,747	48,993	60,098
% total pwd	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.7%	1.8%	1.8%	1.9%	2.5%	3.3%	3.7%
<i>Balance of State</i>															
Males	2,364	2,505	2,639	2,771	2,913	3,058	3,201	3,347	3,491	3,638	3,799	3,959	5,998	8,428	10,413
Females	3,381	3,558	3,733	3,912	4,071	4,240	4,420	4,600	4,785	4,958	5,141	5,335	7,858	11,186	13,762
Persons	5,745	6,063	6,372	6,683	6,984	7,299	7,621	7,948	8,277	8,596	8,940	9,294	13,857	19,614	24,175
% total pwd	1.3%	1.4%	1.4%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	2.0%	2.8%	3.7%	4.4%

Source: Access Economics calculations.

**Table 2.40: SA incidence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	1,734	1,858	1,937	2,023	2,102	2,187	2,274	2,358	2,472	2,563	2,672	2,776	4,266	6,369	8,423
Females	2,964	3,163	3,285	3,396	3,494	3,600	3,730	3,858	3,985	4,088	4,226	4,364	6,264	9,027	11,268
Persons	4,698	5,022	5,222	5,419	5,596	5,787	6,004	6,216	6,457	6,651	6,899	7,140	10,530	15,396	19,691
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.8%	1.0%	1.2%
<i>Balance of State</i>															
Males	638	693	728	766	805	848	890	934	985	1,027	1,079	1,126	1,785	2,671	3,520
Females	956	1,029	1,077	1,127	1,168	1,217	1,273	1,329	1,387	1,431	1,493	1,556	2,361	3,436	4,378
Persons	1,593	1,722	1,805	1,893	1,973	2,065	2,163	2,263	2,373	2,458	2,571	2,683	4,146	6,107	7,898
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.8%	1.2%	1.4%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	1,734	1,850	1,926	2,009	2,088	2,169	2,253	2,330	2,434	2,522	2,628	2,726	4,136	6,097	7,954
Females	2,964	3,151	3,268	3,374	3,462	3,564	3,688	3,809	3,930	4,029	4,151	4,275	6,045	8,588	10,561
Persons	4,698	5,002	5,195	5,383	5,550	5,733	5,941	6,139	6,363	6,551	6,779	7,001	10,181	14,685	18,516
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.7%	1.0%	1.2%
<i>Balance of State</i>															
Males	638	690	724	761	800	841	882	923	970	1,011	1,061	1,106	1,730	2,557	3,324
Females	956	1,025	1,072	1,120	1,157	1,205	1,259	1,312	1,368	1,410	1,466	1,524	2,279	3,268	4,103
Persons	1,593	1,715	1,795	1,880	1,957	2,046	2,141	2,235	2,338	2,421	2,526	2,630	4,009	5,825	7,427
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.8%	1.1%	1.4%
<b>High case projection</b>															
<i>Capital City</i>															
Males	1,734	1,903	1,991	2,092	2,188	2,282	2,383	2,468	2,584	2,684	2,810	2,928	4,577	6,855	8,974
Females	2,964	3,227	3,366	3,489	3,588	3,706	3,854	3,992	4,125	4,251	4,382	4,521	6,552	9,476	11,698
Persons	4,698	5,131	5,357	5,581	5,775	5,988	6,237	6,459	6,709	6,936	7,192	7,449	11,129	16,331	20,672
% total pwd	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.8%	1.1%	1.3%
<i>Balance of State</i>															
Males	638	709	747	791	837	883	931	976	1,029	1,074	1,133	1,187	1,914	2,873	3,749
Females	956	1,049	1,103	1,157	1,198	1,252	1,315	1,374	1,436	1,487	1,546	1,611	2,469	3,604	4,542
Persons	1,593	1,758	1,850	1,948	2,035	2,135	2,246	2,350	2,464	2,562	2,679	2,798	4,383	6,477	8,291
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.9%	1.2%	1.5%

Source: Access Economics calculations.

**Table 2.41: SA prevalence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	7,248	7,623	7,990	8,359	8,726	9,101	9,480	9,861	10,279	10,691	11,126	11,566	17,311	24,560	30,872
Females	11,935	12,443	12,949	13,443	13,910	14,372	14,863	15,365	15,875	16,357	16,872	17,413	24,854	35,373	43,403
Persons	19,183	20,066	20,939	21,802	22,636	23,472	24,342	25,226	26,154	27,048	27,998	28,979	42,165	59,933	74,275
% total pwd	1.4%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	2.5%	3.4%	3.9%
<i>CALD</i>															
Males	1,262	1,267	1,274	1,281	1,289	1,298	1,309	1,322	1,335	1,349	1,365	1,382	1,607	1,939	2,454
Females	1,743	1,768	1,796	1,825	1,856	1,889	1,925	1,962	2,000	2,039	2,079	2,121	2,609	3,229	4,045
Persons	3,005	3,035	3,069	3,106	3,145	3,188	3,234	3,284	3,335	3,388	3,444	3,503	4,216	5,168	6,499
% total pwd	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.6%	1.6%	1.6%	1.6%	1.8%	2.1%	2.4%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	7,248	7,614	7,969	8,326	8,684	9,047	9,413	9,775	10,165	10,554	10,969	11,387	16,818	23,563	29,210
Females	11,935	12,429	12,919	13,395	13,836	14,275	14,742	15,219	15,705	16,164	16,643	17,140	24,060	33,755	40,803
Persons	19,183	20,042	20,888	21,721	22,520	23,322	24,155	24,995	25,870	26,718	27,611	28,527	40,877	57,318	70,012
% total pwd	1.4%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.7%	1.8%	1.8%	2.5%	3.2%	3.7%
<i>CALD</i>															
Males	1,262	1,266	1,272	1,278	1,285	1,294	1,304	1,315	1,327	1,341	1,355	1,370	1,577	1,884	2,346
Females	1,743	1,767	1,792	1,820	1,849	1,879	1,912	1,946	1,980	2,016	2,052	2,090	2,532	3,088	3,807
Persons	3,005	3,033	3,064	3,098	3,134	3,173	3,216	3,261	3,308	3,357	3,407	3,460	4,109	4,973	6,153
% total pwd	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.6%	1.6%	1.6%	1.7%	2.0%	2.3%
<b>High case projection</b>															
<i>English speaking</i>															
Males	7,248	7,684	8,102	8,526	8,953	9,382	9,816	10,236	10,682	11,125	11,603	12,091	18,447	26,294	32,714
Females	11,935	12,524	13,107	13,671	14,185	14,696	15,242	15,795	16,347	16,887	17,432	17,995	25,903	37,080	45,008
Persons	19,183	20,208	21,210	22,197	23,138	24,078	25,059	26,031	27,029	28,012	29,035	30,087	44,350	63,374	77,722
% total pwd	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	1.9%	2.7%	3.6%	4.1%
<i>CALD</i>															
Males	1,262	1,268	1,275	1,283	1,291	1,301	1,313	1,326	1,340	1,356	1,372	1,390	1,626	1,975	2,488
Females	1,743	1,771	1,801	1,833	1,865	1,898	1,935	1,974	2,013	2,052	2,093	2,134	2,627	3,258	4,063
Persons	3,005	3,039	3,077	3,115	3,156	3,198	3,247	3,300	3,353	3,408	3,465	3,524	4,254	5,233	6,551
% total pwd	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.8%	2.1%	2.5%

Source: Access Economics calculations.

**Table 2.42: SA incidence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	2,058	2,233	2,343	2,465	2,579	2,702	2,826	2,949	3,108	3,234	3,389	3,533	5,602	8,477	11,203
Females	3,468	3,728	3,889	4,040	4,170	4,313	4,487	4,658	4,832	4,966	5,152	5,340	7,886	11,520	14,430
Persons	5,526	5,961	6,232	6,505	6,749	7,015	7,313	7,607	7,940	8,200	8,541	8,873	13,488	19,998	25,633
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.8%	1.1%	1.4%
<i>CALD</i>															
Males	314	318	321	325	328	333	338	344	350	356	362	369	449	563	740
Females	451	464	473	483	492	504	516	528	540	553	567	581	740	942	1,216
Persons	765	782	794	807	821	837	854	872	890	909	929	949	1,189	1,505	1,956
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%	0.7%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	2,058	2,223	2,330	2,447	2,561	2,679	2,798	2,911	3,057	3,180	3,330	3,468	5,427	8,109	10,575
Females	3,468	3,714	3,869	4,013	4,130	4,270	4,437	4,599	4,765	4,895	5,061	5,230	7,609	10,959	13,526
Persons	5,526	5,937	6,199	6,460	6,691	6,949	7,235	7,511	7,821	8,075	8,391	8,697	13,036	19,068	24,101
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.8%	1.1%	1.3%
<i>CALD</i>															
Males	314	317	320	323	327	331	336	341	347	352	358	364	439	544	703
Females	451	463	471	480	489	499	511	522	533	545	557	569	715	897	1,139
Persons	765	780	791	803	816	830	847	863	880	897	915	933	1,154	1,442	1,842
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%	0.7%
<b>High case projection</b>															
<i>English speaking</i>															
Males	2,058	2,293	2,415	2,557	2,695	2,832	2,974	3,099	3,261	3,401	3,579	3,743	6,035	9,153	11,971
Females	3,468	3,809	3,992	4,160	4,290	4,452	4,649	4,833	5,016	5,181	5,357	5,548	8,273	12,127	15,016
Persons	5,526	6,103	6,408	6,717	6,986	7,284	7,623	7,932	8,277	8,582	8,936	9,291	14,308	21,280	26,987
% total pwd	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.9%	1.2%	1.4%
<i>CALD</i>															
Males	314	319	322	325	329	333	340	346	352	358	365	372	456	575	752
Females	451	467	476	486	496	506	520	533	545	558	571	584	747	954	1,224
Persons	765	786	799	811	825	839	860	878	897	916	935	956	1,204	1,529	1,975
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%	0.7%

Source: Access Economics calculations.

### **2.3.3.6 Tasmania**

In 2009 there are an estimated 6,300 people with dementia in Tasmania, projected to increase 4.2-fold to 26,300 (24,800-27,600) people by 2050 (Table 2.43).

In 2009 there are approximately 1,750 new cases of dementia in Tasmania, projected to increase 5.1-fold to approximately 8,870 (8,350-9,380) people by 2050 (Table 2.44).

Of those people with dementia in Tasmania in 2009, approximately 2,700 live in Hobart while 3,600 reside in the balance of Tasmania. Projections suggest that the prevalence of dementia in Hobart will increase 4.2-fold to approximately 11,400 (10,800-12,000) people, while the prevalence in the balance of Tasmania will increase by 4.1-fold to approximately 14,900 (14,000-15,600) people by 2050 (Table 2.45).

Of those people with new cases of dementia in Tasmania in 2009, approximately 750 live in Hobart while approximately 1,000 reside in the balance of Tasmania. Projections suggest that the incidence of dementia in Hobart will increase 5.1-fold to approximately 3,850 (3,620-4,070) people, while new cases of dementia in the balance of Tasmania will increase 5.0-fold to approximately 5,020 (4,72-5,310) people by 2050 (Table 2.46).

Of people with dementia in Tasmania in 2009, approximately 6,000 speak English at home, while approximately 250 speak a CALD language at home. Projections suggest that people with dementia who speak English at home will increase 4.2-fold to approximately 25,800 (24,300-27,200) people, while those who speak a CALD language at home will increase 1.9-fold to approximately 464 (440-464) people in 2050 (Table 2.47).

Of people with new cases of dementia in Tasmania in 2009, approximately 1,700 speak English at home while approximately 60 speak a CALD language at home. Projections suggest that new cases of people with dementia who speak English at home will increase 5.2-fold to approximately 8,730 (8,210-9,240) people, while those who speak a CALD language at home will increase 2.2-fold to 140 (130-140) people in 2050 (Table 2.48).

**Table 2.43: Total Tas prevalence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	2,489	2,608	2,737	2,855	2,978	3,105	3,241	3,385	3,540	3,693	3,855	4,024	6,153	8,636	10,721
Females	3,833	3,961	4,103	4,244	4,385	4,527	4,682	4,855	5,038	5,221	5,413	5,617	8,513	12,397	15,557
Persons	6,321	6,569	6,839	7,099	7,362	7,632	7,923	8,240	8,578	8,914	9,268	9,640	14,666	21,033	26,278
<b>Low case projection</b>															
Males	2,489	2,604	2,729	2,843	2,961	3,083	3,214	3,352	3,501	3,647	3,803	3,964	5,982	8,290	10,149
Females	3,833	3,955	4,090	4,223	4,356	4,491	4,637	4,801	4,974	5,147	5,328	5,520	8,245	11,836	14,635
Persons	6,321	6,560	6,819	7,066	7,317	7,574	7,851	8,153	8,475	8,794	9,131	9,484	14,226	20,126	24,784
<b>High case projection</b>															
Males	2,489	2,625	2,772	2,906	3,044	3,188	3,341	3,503	3,678	3,849	4,032	4,220	6,587	9,270	11,378
Females	3,833	3,976	4,131	4,283	4,436	4,589	4,759	4,948	5,145	5,344	5,554	5,775	8,939	13,087	16,252
Persons	6,321	6,601	6,903	7,189	7,480	7,777	8,100	8,450	8,823	9,193	9,585	9,996	15,526	22,357	27,630

Source: Access Economics calculations.

**Table 2.44: Total Tas incidence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	676	733	777	806	843	882	928	977	1,033	1,076	1,131	1,188	1,937	2,907	3,808
Females	1,077	1,138	1,190	1,232	1,274	1,318	1,370	1,434	1,495	1,547	1,609	1,676	2,643	3,952	5,064
Persons	1,752	1,871	1,967	2,038	2,117	2,200	2,298	2,412	2,528	2,623	2,741	2,864	4,579	6,860	8,872
<b>Low case projection</b>															
Males	676	729	772	800	835	873	917	964	1,019	1,060	1,112	1,166	1,877	2,782	3,595
Females	1,077	1,132	1,181	1,221	1,261	1,302	1,352	1,413	1,470	1,519	1,578	1,641	2,551	3,762	4,749
Persons	1,752	1,862	1,953	2,021	2,096	2,175	2,269	2,377	2,489	2,579	2,691	2,807	4,428	6,544	8,345
<b>High case projection</b>															
Males	676	750	801	833	874	918	970	1,026	1,089	1,137	1,199	1,262	2,095	3,148	4,075
Females	1,077	1,153	1,208	1,251	1,299	1,344	1,404	1,473	1,538	1,596	1,664	1,736	2,791	4,187	5,304
Persons	1,752	1,903	2,009	2,084	2,173	2,263	2,374	2,499	2,627	2,733	2,863	2,999	4,886	7,335	9,380

Source: Access Economics calculations.

**Table 2.45: Tas prevalence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	1,017	1,064	1,118	1,168	1,215	1,266	1,321	1,380	1,444	1,506	1,569	1,640	2,558	3,686	4,705
Females	1,669	1,714	1,770	1,830	1,888	1,941	2,000	2,065	2,141	2,217	2,292	2,371	3,565	5,259	6,709
Persons	2,686	2,778	2,888	2,998	3,103	3,207	3,320	3,446	3,585	3,723	3,861	4,011	6,123	8,946	11,414
% total pwd	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	2.4%	3.3%	3.9%
<i>Balance of State</i>															
Males	1,472	1,544	1,619	1,688	1,762	1,839	1,920	2,004	2,096	2,187	2,286	2,384	3,596	4,950	6,016
Females	2,163	2,247	2,332	2,414	2,497	2,586	2,682	2,790	2,897	3,004	3,121	3,245	4,947	7,138	8,848
Persons	3,635	3,791	3,951	4,101	4,259	4,426	4,602	4,794	4,993	5,191	5,407	5,629	8,543	12,087	14,864
% total pwd	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.9%	2.8%	3.8%	4.6%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	1,017	1,062	1,115	1,163	1,208	1,257	1,310	1,367	1,428	1,487	1,548	1,616	2,486	3,539	4,454
Females	1,669	1,711	1,765	1,821	1,876	1,925	1,980	2,042	2,114	2,185	2,256	2,330	3,453	5,022	6,312
Persons	2,686	2,774	2,880	2,984	3,084	3,182	3,290	3,409	3,542	3,672	3,804	3,946	5,939	8,560	10,766
% total pwd	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	2.4%	3.2%	3.7%
<i>Balance of State</i>															
Males	1,472	1,542	1,614	1,681	1,753	1,827	1,904	1,985	2,073	2,160	2,255	2,348	3,495	4,751	5,695
Females	2,163	2,244	2,325	2,402	2,481	2,566	2,656	2,759	2,861	2,961	3,072	3,190	4,792	6,815	8,324
Persons	3,635	3,786	3,939	4,083	4,233	4,392	4,561	4,744	4,934	5,121	5,327	5,538	8,287	11,566	14,018
% total pwd	1.3%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.7%	1.7%	1.8%	1.8%	2.7%	3.7%	4.4%
<b>High case projection</b>															
<i>Capital City</i>															
Males	1,017	1,071	1,133	1,189	1,243	1,300	1,362	1,429	1,501	1,570	1,642	1,721	2,739	3,958	4,993
Females	1,669	1,720	1,783	1,847	1,910	1,968	2,032	2,105	2,186	2,270	2,351	2,438	3,744	5,552	7,007
Persons	2,686	2,791	2,915	3,036	3,153	3,268	3,395	3,534	3,688	3,840	3,993	4,159	6,483	9,510	12,000
% total pwd	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	2.6%	3.5%	4.1%
<i>Balance of State</i>															
Males	1,472	1,554	1,639	1,717	1,801	1,888	1,979	2,073	2,177	2,279	2,390	2,500	3,848	5,312	6,386
Females	2,163	2,256	2,348	2,436	2,526	2,622	2,726	2,843	2,959	3,074	3,202	3,337	5,195	7,535	9,244
Persons	3,635	3,810	3,988	4,153	4,327	4,509	4,705	4,916	5,136	5,354	5,592	5,837	9,043	12,847	15,630
% total pwd	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.7%	1.7%	1.8%	1.9%	1.9%	2.9%	4.1%	4.9%

Source: Access Economics calculations.

**Table 2.46: Tas incidence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	281	304	323	335	349	365	383	404	426	443	465	488	809	1,244	1,669
Females	473	495	517	535	552	568	589	614	638	660	685	711	1,108	1,678	2,181
Persons	754	800	840	870	901	933	972	1,017	1,065	1,104	1,150	1,199	1,918	2,922	3,850
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.8%	1.1%	1.3%
<i>Balance of State</i>															
Males	394	429	454	471	494	518	545	574	607	633	667	700	1,128	1,663	2,139
Females	604	642	673	697	722	749	782	821	856	886	925	965	1,534	2,274	2,883
Persons	999	1,071	1,127	1,168	1,215	1,267	1,326	1,394	1,463	1,520	1,591	1,665	2,662	3,937	5,022
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.6%	0.9%	1.3%	1.6%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	281	303	321	332	346	361	379	398	420	436	457	479	784	1,191	1,576
Females	473	493	513	530	547	562	581	605	628	649	672	696	1,070	1,597	2,046
Persons	754	796	834	863	892	922	959	1,003	1,048	1,085	1,129	1,175	1,854	2,788	3,622
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.7%	1.0%	1.2%
<i>Balance of State</i>															
Males	394	427	451	468	489	512	538	566	598	623	655	687	1,093	1,592	2,019
Females	604	639	668	690	714	740	771	808	842	871	907	945	1,481	2,164	2,704
Persons	999	1,066	1,119	1,158	1,203	1,252	1,310	1,374	1,441	1,494	1,562	1,632	2,573	3,756	4,723
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.8%	1.2%	1.5%
<b>High case projection</b>															
<i>Capital City</i>															
Males	281	311	333	346	362	380	401	424	449	468	493	519	875	1,347	1,786
Females	473	502	525	543	563	580	603	630	657	681	708	736	1,171	1,778	2,284
Persons	754	813	858	890	925	960	1,004	1,054	1,106	1,150	1,201	1,255	2,046	3,125	4,071
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.8%	1.2%	1.4%
<i>Balance of State</i>															
Males	394	439	468	487	512	539	569	602	640	669	707	743	1,220	1,800	2,289
Females	604	651	683	708	736	764	801	843	881	914	956	1,000	1,620	2,409	3,020
Persons	999	1,090	1,151	1,195	1,248	1,303	1,370	1,445	1,521	1,583	1,662	1,743	2,840	4,210	5,309
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.9%	1.3%	1.7%

Source: Access Economics calculations.



**Table 2.47: Tas prevalence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	2,388	2,507	2,636	2,755	2,878	3,005	3,140	3,284	3,439	3,591	3,752	3,920	6,035	8,494	10,543
Females	3,689	3,816	3,958	4,098	4,238	4,379	4,532	4,704	4,885	5,066	5,256	5,458	8,330	12,175	15,272
Persons	6,077	6,324	6,594	6,853	7,115	7,384	7,673	7,988	8,324	8,657	9,009	9,378	14,365	20,669	25,814
% total pwd	1.3%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.8%	1.8%	2.7%	3.7%	4.3%
<i>CALD</i>															
Males	101	101	100	100	100	100	100	101	101	102	103	104	118	142	178
Females	144	144	145	146	147	148	150	151	153	155	157	159	183	222	285
Persons	245	245	245	246	247	248	250	252	254	257	260	262	301	364	464
% total pwd	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.5%	1.5%	1.5%	1.5%	1.6%	1.9%	2.3%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	2,388	2,504	2,629	2,743	2,861	2,983	3,114	3,251	3,400	3,546	3,700	3,860	5,865	8,151	9,978
Females	3,689	3,811	3,945	4,078	4,210	4,344	4,488	4,651	4,822	4,993	5,173	5,363	8,066	11,623	14,365
Persons	6,077	6,315	6,574	6,821	7,071	7,327	7,602	7,902	8,222	8,539	8,873	9,224	13,931	19,774	24,344
% total pwd	1.3%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	2.6%	3.5%	4.1%
<i>CALD</i>															
Males	101	101	100	100	100	100	100	101	101	102	102	103	117	138	171
Females	144	144	145	145	146	147	149	150	152	154	155	157	178	214	270
Persons	245	245	245	245	246	247	249	251	253	255	258	260	295	352	440
% total pwd	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.5%	1.5%	1.5%	1.6%	1.8%	2.2%
<b>High case projection</b>															
<i>English speaking</i>															
Males	2,388	2,525	2,672	2,806	2,944	3,087	3,240	3,401	3,576	3,747	3,928	4,116	6,469	9,127	11,199
Females	3,689	3,831	3,986	4,137	4,289	4,441	4,608	4,795	4,991	5,188	5,396	5,616	8,755	12,865	15,967
Persons	6,077	6,355	6,658	6,943	7,233	7,528	7,848	8,197	8,567	8,935	9,324	9,732	15,224	21,991	27,166
% total pwd	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.8%	1.8%	1.9%	2.8%	3.9%	4.6%
<i>CALD</i>															
Males	101	101	101	100	100	100	101	101	102	103	103	104	119	143	179
Females	144	145	145	146	147	149	150	152	154	156	158	160	183	222	285
Persons	245	245	246	247	248	249	251	253	256	259	261	264	302	365	464
% total pwd	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%	1.6%	1.9%	2.3%

Source: Access Economics calculations.

**Table 2.48: Tas incidence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	651	708	752	782	818	857	903	952	1,007	1,050	1,105	1,161	1,904	2,866	3,754
Females	1,039	1,100	1,152	1,194	1,236	1,279	1,330	1,394	1,454	1,505	1,567	1,633	2,592	3,888	4,979
Persons	1,690	1,808	1,904	1,976	2,053	2,136	2,233	2,346	2,461	2,556	2,672	2,794	4,496	6,755	8,733
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.8%	1.2%	1.5%
<i>CALD</i>															
Males	25	25	25	25	25	25	25	26	26	26	27	27	32	41	54
Females	37	38	38	38	38	39	40	40	41	41	42	43	51	64	85
Persons	62	62	62	63	63	64	65	66	67	68	69	70	83	105	139
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.7%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	651	704	747	775	810	848	892	939	993	1,034	1,086	1,139	1,845	2,743	3,544
Females	1,039	1,095	1,143	1,183	1,223	1,263	1,312	1,373	1,430	1,478	1,537	1,599	2,501	3,700	4,669
Persons	1,690	1,799	1,891	1,958	2,033	2,111	2,204	2,312	2,423	2,512	2,623	2,739	4,346	6,443	8,213
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.8%	1.1%	1.4%
<i>CALD</i>															
Males	25	25	25	25	25	25	25	25	26	26	26	27	32	40	51
Females	37	38	38	38	38	39	39	40	40	41	42	42	50	61	80
Persons	62	62	62	63	63	64	65	65	66	67	68	69	81	101	131
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%
<b>High case projection</b>															
<i>English speaking</i>															
Males	651	725	776	808	849	893	945	1,000	1,063	1,111	1,173	1,235	2,063	3,106	4,021
Females	1,039	1,115	1,170	1,213	1,260	1,305	1,364	1,433	1,497	1,554	1,621	1,693	2,740	4,123	5,219
Persons	1,690	1,840	1,946	2,021	2,109	2,198	2,309	2,433	2,560	2,665	2,794	2,929	4,802	7,229	9,240
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.9%	1.3%	1.6%
<i>CALD</i>															
Males	25	25	25	25	25	25	25	26	26	26	27	27	32	41	54
Females	37	38	38	38	39	39	40	41	41	42	42	43	51	64	85
Persons	62	63	63	63	64	64	65	66	67	68	69	70	84	105	139
% total pwd	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.7%

Source: Access Economics calculations.

### **2.3.3.7 Victoria**

In 2009 there are an estimated 63,000 people with dementia in Victoria, projected to increase 4.4-fold to 275,000 (260,000-290,000) people by 2050 (Table 2.49).

In 2009 there are approximately 17,900 new cases of dementia in Victoria, projected to increase 5.3-fold to 94,100 (88,500-99,700) people by 2050 (Table 2.50).

Of those people with dementia in Victoria in 2009, approximately 43,200 live in Melbourne while approximately 19,600 reside in the balance of Victoria. Projections suggest that the prevalence of dementia in Melbourne will increase 4.6-fold to approximately 197,600 (186,300-208,100) people, while the prevalence of dementia in the balance of Victoria will increase 4.0-fold to approximately 77,600 (73,200-81,800) people by 2050 (Table 2.51).

Of those people with new cases of dementia in Victoria in 2009, approximately 12,300 live in Melbourne while approximately 5,560 reside in the balance of Victoria. Projections suggest that the incidence of dementia in Melbourne will increase 5.5-fold to approximately 67,400 (63,400-71,400) people, while new cases of dementia in the balance of Victoria will increase 4.8-fold to approximately 26,700 (25,100-28,300) people by 2050 (Table 2.52).

Of people with dementia in Victoria in 2009, approximately 50,400 speak English at home, while approximately 12,400 speak a CALD language at home. Projections suggest that people with dementia who speak English at home will increase 4.7-fold to approximately 235,500 (222,100-249,000) people, while those who speak a CALD language at home will increase 3.2-fold to approximately 39,800 (37,500-41,000) people by 2050 (Table 2.53).

Of people with new cases of dementia in Victoria in 2009, approximately 14,700 speak English at home while approximately 3,200 speak a CALD language at home. Projections suggest that new cases of people with dementia who speak English at home will increase 5.6-fold to approximately 82,300 (77,400-87,500) people, while those who speak a CALD language at home will increase 3.8-fold to 11,800 (11,100-12,300) people by 2050 (Table 2.54).

**Table 2.49: Total Vic prevalence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	24,710	26,060	27,451	28,830	30,183	31,569	33,015	34,556	36,141	37,698	39,326	41,010	62,117	89,525	117,917
Females	38,086	39,784	41,472	43,100	44,683	46,342	48,124	49,950	51,812	53,644	55,572	57,570	83,927	121,374	157,321
Persons	62,796	65,844	68,922	71,930	74,866	77,911	81,139	84,506	87,952	91,343	94,898	98,580	146,044	210,899	275,237
<b>Low case projection</b>															
Males	24,710	26,021	27,369	28,702	30,006	31,339	32,728	34,207	35,727	37,215	38,769	40,374	60,346	85,841	111,581
Females	38,086	39,717	41,332	42,885	44,387	45,961	47,652	49,382	51,143	52,869	54,684	56,564	81,245	115,815	147,943
Persons	62,796	65,738	68,701	71,586	74,393	77,300	80,380	83,589	86,869	90,084	93,453	96,937	141,591	201,656	259,524
<b>High case projection</b>															
Males	24,710	26,257	27,849	29,421	30,953	32,518	34,147	35,883	37,664	39,405	41,223	43,100	66,458	96,074	125,588
Females	38,086	39,979	41,851	43,644	45,374	47,187	49,140	51,136	53,166	55,152	57,243	59,408	87,945	127,811	164,342
Persons	62,796	66,236	69,700	73,065	76,327	79,705	83,287	87,019	90,830	94,557	98,466	102,509	154,403	223,885	289,930

Source: Access Economics calculations.

**Table 2.50: Total Vic incidence projections by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	6,930	7,567	8,028	8,454	8,857	9,310	9,805	10,364	10,903	11,382	11,950	12,529	20,060	30,646	42,282
Females	10,954	11,789	12,311	12,781	13,232	13,788	14,421	15,024	15,633	16,174	16,828	17,492	26,335	39,148	51,832
Persons	17,885	19,356	20,339	21,235	22,089	23,098	24,227	25,388	26,536	27,556	28,779	30,021	46,395	69,795	94,114
<b>Low case projection</b>															
Males	6,930	7,528	7,976	8,387	8,774	9,210	9,687	10,226	10,743	11,200	11,743	12,296	19,434	29,312	39,918
Females	10,954	11,721	12,221	12,667	13,093	13,622	14,226	14,797	15,374	15,882	16,500	17,125	25,411	37,242	48,600
Persons	17,885	19,249	20,197	21,054	21,867	22,832	23,913	25,023	26,117	27,082	28,243	29,421	44,844	66,554	88,518
<b>High case projection</b>															
Males	6,930	7,764	8,295	8,780	9,231	9,743	10,303	10,937	11,544	12,076	12,713	13,361	21,709	33,196	45,390
Females	10,954	11,984	12,562	13,075	13,561	14,171	14,872	15,531	16,195	16,776	17,489	18,209	27,780	41,407	54,317
Persons	17,885	19,748	20,857	21,856	22,792	23,913	25,175	26,468	27,739	28,852	30,202	31,570	49,489	74,603	99,707

Source: Access Economics calculations.

**Table 2.51: Vic prevalence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	16,927	17,869	18,832	19,773	20,711	21,679	22,694	23,774	24,875	25,959	27,105	28,294	43,168	63,095	85,471
Females	26,307	27,484	28,641	29,760	30,834	31,967	33,209	34,474	35,759	37,015	38,350	39,729	58,055	84,708	112,134
Persons	43,234	45,353	47,473	49,533	51,545	53,645	55,903	58,248	60,633	62,975	65,455	68,023	101,223	147,803	197,604
% total pwd	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.9%	2.5%	3.0%
<i>Balance of State</i>															
Males	7,783	8,191	8,619	9,056	9,472	9,891	10,321	10,782	11,266	11,739	12,221	12,716	18,949	26,430	32,446
Females	11,779	12,301	12,830	13,340	13,849	14,375	14,915	15,476	16,053	16,629	17,221	17,841	25,872	36,666	45,187
Persons	19,562	20,491	21,449	22,396	23,321	24,266	25,235	26,257	27,319	28,368	29,443	30,556	44,821	63,096	77,633
% total pwd	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	2.0%	2.7%	3.7%	4.4%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	16,927	17,842	18,776	19,686	20,589	21,521	22,497	23,534	24,590	25,626	26,721	27,855	41,938	60,498	80,878
Females	26,307	27,437	28,545	29,611	30,630	31,704	32,883	34,082	35,297	36,481	37,738	39,035	56,200	80,829	105,450
Persons	43,234	45,279	47,321	49,297	51,219	53,224	55,380	57,617	59,887	62,107	64,459	66,890	98,137	141,328	186,328
% total pwd	1.1%	1.1%	1.2%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.9%	2.4%	2.9%
<i>Balance of State</i>															
Males	7,783	8,178	8,593	9,016	9,416	9,819	10,231	10,673	11,137	11,589	12,048	12,519	18,408	25,342	30,703
Females	11,779	12,280	12,787	13,274	13,758	14,257	14,768	15,300	15,846	16,388	16,946	17,529	25,045	34,986	42,493
Persons	19,562	20,458	21,380	22,290	23,174	24,076	24,999	25,973	26,983	27,977	28,994	30,047	43,454	60,328	73,196
% total pwd	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	1.9%	2.6%	3.5%	4.1%
<b>High case projection</b>															
<i>Capital City</i>															
Males	16,927	18,005	19,106	20,180	21,241	22,332	23,474	24,690	25,927	27,138	28,416	29,741	46,183	67,683	90,992
Females	26,307	27,619	28,904	30,137	31,311	32,550	33,911	35,294	36,694	38,056	39,503	40,998	60,828	89,180	117,090
Persons	43,234	45,624	48,011	50,317	52,553	54,882	57,386	59,984	62,621	65,194	67,920	70,738	107,012	156,863	208,083
% total pwd	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%	2.0%	2.7%	3.2%
<i>Balance of State</i>															
Males	7,783	8,252	8,743	9,241	9,712	10,186	10,673	11,193	11,737	12,267	12,806	13,360	20,274	28,391	34,596
Females	11,779	12,360	12,947	13,508	14,063	14,637	15,228	15,843	16,472	17,096	17,740	18,410	27,117	38,632	47,252
Persons	19,562	20,613	21,690	22,749	23,775	24,823	25,901	27,035	28,209	29,363	30,546	31,770	47,391	67,022	81,847
% total pwd	1.4%	1.4%	1.5%	1.5%	1.6%	1.7%	1.7%	1.8%	1.8%	1.9%	2.0%	2.0%	2.9%	3.9%	4.6%

Source: Access Economics calculations.

**Table 2.52: Vic incidence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	4,756	5,200	5,521	5,811	6,091	6,409	6,760	7,154	7,530	7,864	8,267	8,678	13,958	21,534	30,547
Females	7,570	8,148	8,506	8,829	9,134	9,513	9,956	10,373	10,793	11,164	11,617	12,076	18,213	27,264	36,837
Persons	12,325	13,348	14,027	14,640	15,225	15,922	16,716	17,527	18,323	19,028	19,884	20,754	32,171	48,797	67,384
% total pwd	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%
<i>Balance of State</i>															
Males	2,175	2,367	2,508	2,643	2,765	2,900	3,045	3,210	3,374	3,518	3,683	3,851	6,102	9,113	11,735
Females	3,385	3,641	3,805	3,952	4,098	4,275	4,465	4,651	4,840	5,010	5,211	5,416	8,122	11,885	14,995
Persons	5,560	6,008	6,313	6,595	6,863	7,175	7,511	7,861	8,213	8,528	8,894	9,267	14,224	20,998	26,730
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.9%	1.2%	1.5%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	4,756	5,173	5,485	5,764	6,034	6,341	6,678	7,058	7,419	7,738	8,124	8,516	13,522	20,596	28,839
Females	7,570	8,101	8,444	8,751	9,038	9,398	9,821	10,217	10,614	10,963	11,391	11,822	17,574	25,936	34,539
Persons	12,325	13,275	13,929	14,515	15,072	15,739	16,500	17,275	18,034	18,701	19,514	20,339	31,096	46,531	63,378
% total pwd	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%
<i>Balance of State</i>															
Males	2,175	2,355	2,491	2,622	2,739	2,869	3,009	3,167	3,324	3,461	3,619	3,779	5,911	8,716	11,079
Females	3,385	3,620	3,777	3,917	4,055	4,223	4,405	4,581	4,760	4,920	5,109	5,302	7,837	11,306	14,061
Persons	5,560	5,975	6,268	6,539	6,794	7,093	7,413	7,748	8,084	8,381	8,729	9,082	13,748	20,022	25,140
% total pwd	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.8%	1.2%	1.4%
<b>High case projection</b>															
<i>Capital City</i>															
Males	4,756	5,336	5,705	6,035	6,350	6,708	7,103	7,550	7,973	8,345	8,796	9,255	15,107	23,320	32,785
Females	7,570	8,283	8,680	9,033	9,361	9,777	10,267	10,723	11,181	11,580	12,073	12,571	19,211	28,832	38,590
Persons	12,325	13,619	14,385	15,068	15,711	16,485	17,371	18,273	19,155	19,924	20,869	21,826	34,319	52,152	71,375
% total pwd	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.7%	0.9%	1.1%
<i>Balance of State</i>															
Males	2,175	2,428	2,590	2,745	2,882	3,035	3,200	3,387	3,571	3,731	3,917	4,106	6,602	9,875	12,606
Females	3,385	3,701	3,882	4,042	4,199	4,393	4,604	4,808	5,014	5,197	5,416	5,638	8,569	12,575	15,727
Persons	5,560	6,129	6,473	6,788	7,081	7,428	7,804	8,195	8,585	8,928	9,333	9,744	15,171	22,451	28,333
% total pwd	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%	0.9%	1.3%	1.6%

Source: Access Economics calculations.

**Table 2.53: Vic prevalence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	19,404	20,669	21,967	23,244	24,486	25,753	27,073	28,481	29,927	31,339	32,814	34,336	53,412	77,898	102,139
Females	31,021	32,552	34,062	35,497	36,873	38,311	39,861	41,443	43,052	44,623	46,277	47,992	70,928	103,703	133,346
Persons	50,426	53,221	56,029	58,741	61,359	64,065	66,934	69,924	72,979	75,961	79,091	82,328	124,340	181,601	235,485
% total pwd	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	2.3%	3.1%	3.7%
<i>CALD</i>															
Males	5,305	5,391	5,484	5,586	5,697	5,816	5,942	6,075	6,214	6,359	6,512	6,673	8,705	11,627	15,778
Females	7,065	7,232	7,410	7,603	7,810	8,031	8,263	8,507	8,760	9,022	9,294	9,578	12,999	17,671	23,974
Persons	12,370	12,623	12,893	13,188	13,507	13,847	14,205	14,582	14,974	15,381	15,807	16,251	21,703	29,298	39,752
% total pwd	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.2%	1.2%	1.4%	1.7%	2.1%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	19,404	20,638	21,902	23,141	24,343	25,566	26,838	28,195	29,586	30,940	32,352	33,807	51,898	74,704	96,662
Females	31,021	32,497	33,947	35,320	36,629	37,997	39,470	40,972	42,497	43,979	45,539	47,155	68,666	98,961	125,399
Persons	50,426	53,135	55,849	58,461	60,971	63,563	66,309	69,167	72,083	74,918	77,891	80,962	120,564	173,665	222,061
% total pwd	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%	1.5%	1.6%	1.6%	1.7%	2.3%	3.0%	3.5%
<i>CALD</i>															
Males	5,305	5,383	5,467	5,561	5,663	5,773	5,890	6,013	6,141	6,276	6,417	6,567	8,448	11,137	14,919
Females	7,065	7,220	7,385	7,565	7,759	7,964	8,181	8,410	8,646	8,890	9,145	9,409	12,579	16,854	22,544
Persons	12,370	12,603	12,852	13,125	13,422	13,737	14,071	14,422	14,787	15,166	15,562	15,976	21,027	27,991	37,463
% total pwd	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.2%	1.3%	1.6%	1.9%
<b>High case projection</b>															
<i>English speaking</i>															
Males	19,404	20,871	22,374	23,845	25,265	26,708	28,208	29,807	31,444	33,034	34,692	36,400	57,616	84,155	109,332
Females	31,021	32,744	34,432	36,025	37,537	39,117	40,824	42,561	44,322	46,030	47,831	49,695	74,609	109,588	139,625
Persons	50,426	53,615	56,806	59,870	62,801	65,825	69,032	72,368	75,767	79,064	82,523	86,095	132,225	193,742	248,957
% total pwd	1.2%	1.2%	1.3%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%	1.8%	2.5%	3.3%	3.9%
<i>CALD</i>															
Males	5,305	5,386	5,476	5,576	5,688	5,810	5,939	6,076	6,220	6,371	6,531	6,700	8,842	11,919	16,256
Females	7,065	7,236	7,419	7,619	7,837	8,070	8,316	8,575	8,843	9,122	9,412	9,713	13,336	18,224	24,717
Persons	12,370	12,622	12,894	13,196	13,526	13,879	14,255	14,651	15,064	15,493	15,943	16,413	22,178	30,143	40,973
% total pwd	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.4%	1.7%	2.1%

Source: Access Economics calculations.

**Table 2.54: Vic incidence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	5,625	6,229	6,663	7,056	7,422	7,837	8,293	8,810	9,306	9,739	10,259	10,787	17,686	27,334	37,591
Females	9,106	9,872	10,344	10,754	11,140	11,628	12,191	12,719	13,253	13,715	14,287	14,863	22,674	34,023	44,682
Persons	14,732	16,101	17,007	17,810	18,562	19,465	20,484	21,529	22,559	23,455	24,545	25,650	40,360	61,358	82,273
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.8%	1.1%	1.3%
<i>CALD</i>															
Males	1,305	1,338	1,365	1,398	1,435	1,473	1,513	1,554	1,597	1,643	1,691	1,742	2,374	3,312	4,691
Females	1,848	1,917	1,967	2,027	2,092	2,159	2,230	2,305	2,380	2,459	2,542	2,629	3,661	5,125	7,149
Persons	3,153	3,255	3,333	3,426	3,527	3,632	3,743	3,859	3,977	4,102	4,233	4,371	6,035	8,437	11,840
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%	0.6%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	5,625	6,198	6,621	7,001	7,354	7,754	8,194	8,694	9,172	9,585	10,084	10,589	17,139	26,151	35,498
Females	9,106	9,817	10,269	10,660	11,024	11,490	12,028	12,529	13,035	13,470	14,010	14,553	21,882	32,372	41,902
Persons	14,732	16,015	16,890	17,661	18,378	19,244	20,222	21,223	22,207	23,055	24,093	25,142	39,021	58,523	77,400
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.7%	1.0%	1.2%
<i>CALD</i>															
Males	1,305	1,330	1,355	1,386	1,420	1,455	1,493	1,531	1,572	1,614	1,659	1,707	2,295	3,161	4,420
Females	1,848	1,904	1,952	2,008	2,069	2,132	2,198	2,268	2,339	2,413	2,490	2,571	3,529	4,870	6,698
Persons	3,153	3,234	3,307	3,394	3,488	3,587	3,691	3,800	3,911	4,027	4,150	4,279	5,824	8,031	11,118
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%	0.6%
<b>High case projection</b>															
<i>English speaking</i>															
Males	5,625	6,431	6,935	7,386	7,799	8,270	8,789	9,379	9,941	10,425	11,011	11,604	19,283	29,777	40,527
Females	9,106	10,064	10,589	11,039	11,456	11,994	12,619	13,199	13,783	14,280	14,905	15,532	24,010	36,105	46,929
Persons	14,732	16,495	17,524	18,425	19,255	20,264	21,409	22,578	23,724	24,705	25,916	27,136	43,293	65,882	87,456
% total pwd	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.8%	1.1%	1.4%
<i>CALD</i>															
Males	1,305	1,333	1,360	1,394	1,432	1,472	1,514	1,558	1,603	1,651	1,702	1,757	2,426	3,419	4,863
Females	1,848	1,920	1,973	2,036	2,105	2,177	2,252	2,332	2,412	2,496	2,585	2,677	3,770	5,302	7,388
Persons	3,153	3,253	3,333	3,430	3,537	3,649	3,766	3,890	4,015	4,147	4,287	4,434	6,196	8,721	12,252
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%	0.6%

Source: Access Economics calculations.



### **2.3.3.8 Western Australia**

In 2009 there are an estimated 21,800 people with dementia in Western Australia, projected to increase 5.7-fold to 125,300 (118,200-133,700) people by 2050 (Table 2.55).

In 2009 there are approximately 6,200 new cases of dementia in Western Australia, projected to increase 6.9-fold to 42,800 (40,200-45,800) people by 2050 (Table 2.56).

Of those people with dementia in Western Australia in 2009, approximately 16,300 live in Perth while approximately 5,500 reside in the balance of Western Australia. Projections suggest that the prevalence of dementia in Perth will increase 5.7-fold to approximately 92,500 (87,300-98,700) people, while the prevalence in the balance of Western Australia will increase 6.0-fold to approximately 32,800 (30,900-35,000) people by 2050 (Table 2.57).

Of those with new cases of dementia in Western Australia in 2009, approximately 4,700 live in Perth, while approximately 1,500 reside in the balance of Western Australia. Projections suggest that the incidence of dementia in Perth will increase 6.7-fold to approximately 31,500 (29,700-33,800) people, while new cases of dementia in the balance of Western Australia will increase 7.4-fold to approximately 11,230 (10,570-12,030) people by 2050 (Table 2.58).

Of people with dementia in WA in 2009, approximately 19,000 speak English at home while approximately 2,800 speak a CALD language at home. Projections suggest that people with dementia who speak English at home will increase 6.1-fold to approximately 115,000 (108,600-123,000) people, while those who speak a CALD language at home will increase 3.7-fold to approximately 10,250 (9,670-10,670) people by 2050 (Table 2.59).

Of people with new cases of dementia in WA in 2009, approximately 5,500 speak English at home while approximately 730 speak a CALD language at home. Projections suggest that people with new cases of dementia who speak English at home will increase 7.3-fold to approximately 39,700 (37,400-42,600) people, while those who speak a CALD language at home will increase 4.1-fold to approximately 3,040 (2,850-3,160) people by 2050 (Table 2.60).

**Table 2.55: Total WA prevalence projections, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	8,857	9,424	10,003	10,595	11,182	11,782	12,430	13,116	13,851	14,581	15,333	16,131	26,425	39,888	54,019
Females	12,937	13,599	14,255	14,936	15,603	16,298	17,083	17,881	18,750	19,610	20,511	21,480	34,427	52,994	71,273
Persons	21,794	23,023	24,257	25,531	26,785	28,079	29,513	30,998	32,601	34,192	35,843	37,611	60,852	92,882	125,292
<b>Low case projection</b>															
Males	8,857	9,410	9,973	10,549	11,117	11,697	12,323	12,986	13,694	14,397	15,119	15,884	25,682	38,266	51,146
Females	12,937	13,576	14,207	14,861	15,500	16,165	16,917	17,680	18,511	19,330	20,188	21,111	33,347	50,606	67,087
Persons	21,794	22,986	24,180	25,410	26,617	27,861	29,240	30,666	32,205	33,727	35,306	36,994	59,029	88,873	118,233
<b>High case projection</b>															
Males	8,857	9,513	10,179	10,861	11,533	12,217	12,956	13,738	14,575	15,402	16,251	17,152	28,670	43,338	58,151
Females	12,937	13,683	14,418	15,181	15,923	16,695	17,572	18,461	19,429	20,383	21,381	22,456	36,710	56,702	75,528
Persons	21,794	23,195	24,597	26,042	27,455	28,912	30,528	32,199	34,004	35,785	37,632	39,609	65,381	100,040	133,679

Source: Access Economics calculations.

**Table 2.56: Total WA incidence projections, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
Males	2,463	2,729	2,905	3,086	3,248	3,429	3,651	3,883	4,135	4,350	4,589	4,862	8,441	13,533	19,203
Females	3,733	4,069	4,262	4,481	4,662	4,877	5,166	5,410	5,715	5,958	6,248	6,579	10,855	17,155	23,550
Persons	6,196	6,798	7,167	7,567	7,910	8,306	8,817	9,294	9,851	10,308	10,836	11,441	19,296	30,688	42,753
<b>Low case projection</b>															
Males	2,463	2,715	2,886	3,061	3,218	3,393	3,607	3,832	4,075	4,281	4,510	4,772	8,181	12,949	18,138
Females	3,733	4,046	4,231	4,442	4,613	4,819	5,097	5,330	5,622	5,852	6,128	6,443	10,481	16,333	22,101
Persons	6,196	6,761	7,117	7,503	7,831	8,211	8,704	9,162	9,698	10,133	10,638	11,215	18,662	29,282	40,240
<b>High case projection</b>															
Males	2,463	2,817	3,020	3,229	3,412	3,617	3,872	4,137	4,425	4,665	4,935	5,244	9,252	14,816	20,800
Females	3,733	4,153	4,367	4,614	4,811	5,049	5,375	5,645	5,987	6,252	6,573	6,941	11,638	18,408	24,996
Persons	6,196	6,970	7,387	7,843	8,223	8,667	9,246	9,782	10,411	10,918	11,508	12,185	20,889	33,223	45,796

Source: Access Economics calculations.

**Table 2.57: WA prevalence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	6,426	6,818	7,217	7,625	8,031	8,442	8,892	9,365	9,877	10,390	10,916	11,476	18,829	28,515	39,033
Females	9,914	10,389	10,856	11,340	11,814	12,310	12,871	13,447	14,076	14,699	15,360	16,064	25,642	39,583	53,509
Persons	16,340	17,207	18,073	18,965	19,845	20,752	21,763	22,812	23,954	25,089	26,276	27,540	44,471	68,099	92,543
% total pwd	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.8%	2.4%	2.8%
<i>Balance of State</i>															
Males	2,432	2,607	2,786	2,970	3,151	3,340	3,538	3,751	3,974	4,192	4,417	4,654	7,596	11,373	14,986
Females	3,023	3,210	3,399	3,596	3,789	3,987	4,212	4,434	4,674	4,911	5,151	5,416	8,785	13,410	17,764
Persons	5,455	5,816	6,185	6,566	6,940	7,327	7,750	8,185	8,648	9,103	9,568	10,071	16,381	24,783	32,750
% total pwd	0.9%	1.0%	1.0%	1.1%	1.1%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	2.1%	2.9%	3.5%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	6,426	6,807	7,196	7,591	7,984	8,381	8,815	9,272	9,766	10,258	10,763	11,301	18,299	27,356	36,957
Females	9,914	10,372	10,819	11,283	11,737	12,210	12,746	13,296	13,897	14,489	15,118	15,787	24,838	37,800	50,366
Persons	16,340	17,179	18,015	18,875	19,720	20,590	21,561	22,567	23,662	24,747	25,881	27,088	43,137	65,156	87,324
% total pwd	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.3%	1.8%	2.3%	2.7%
<i>Balance of State</i>															
Males	2,432	2,603	2,777	2,957	3,133	3,316	3,508	3,714	3,929	4,139	4,355	4,583	7,383	10,910	14,189
Females	3,023	3,205	3,388	3,578	3,764	3,955	4,171	4,384	4,614	4,841	5,070	5,323	8,510	12,806	16,720
Persons	5,455	5,807	6,165	6,535	6,897	7,271	7,679	8,098	8,543	8,980	9,425	9,906	15,892	23,717	30,909
% total pwd	0.9%	1.0%	1.0%	1.1%	1.1%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.4%	2.1%	2.8%	3.3%
<b>High case projection</b>															
<i>Capital City</i>															
Males	6,426	6,882	7,346	7,818	8,284	8,755	9,270	9,811	10,395	10,976	11,571	12,204	20,430	30,979	42,008
Females	9,914	10,454	10,981	11,527	12,058	12,611	13,240	13,883	14,587	15,279	16,012	16,794	27,344	42,357	56,702
Persons	16,340	17,336	18,326	19,345	20,342	21,366	22,510	23,694	24,981	26,255	27,583	28,999	47,773	73,335	98,710
% total pwd	1.0%	1.0%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	2.0%	2.6%	3.0%
<i>Balance of State</i>															
Males	2,432	2,630	2,833	3,043	3,248	3,462	3,686	3,927	4,180	4,426	4,680	4,948	8,241	12,359	16,143
Females	3,023	3,229	3,437	3,654	3,865	4,084	4,332	4,577	4,843	5,105	5,369	5,662	9,367	14,346	18,826
Persons	5,455	5,859	6,270	6,697	7,113	7,546	8,018	8,505	9,023	9,531	10,049	10,610	17,607	26,705	34,970
% total pwd	0.9%	1.0%	1.0%	1.1%	1.1%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.6%	2.3%	3.1%	3.8%

Source: Access Economics calculations.

**Table 2.58: WA incidence projections, capital city and balance of state, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>Capital City</i>															
Males	1,801	1,989	2,110	2,233	2,344	2,467	2,622	2,782	2,959	3,110	3,277	3,470	6,030	9,676	13,848
Females	2,874	3,123	3,259	3,415	3,542	3,695	3,903	4,080	4,301	4,477	4,690	4,931	8,102	12,833	17,681
Persons	4,674	5,111	5,369	5,648	5,887	6,162	6,525	6,862	7,260	7,586	7,967	8,401	14,132	22,509	31,529
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%
<i>Balance of State</i>															
Males	662	741	795	853	904	962	1,029	1,101	1,177	1,240	1,312	1,392	2,411	3,857	5,355
Females	859	946	1,002	1,066	1,119	1,182	1,262	1,330	1,414	1,481	1,558	1,648	2,753	4,322	5,869
Persons	1,521	1,687	1,798	1,919	2,023	2,144	2,291	2,432	2,591	2,721	2,870	3,040	5,164	8,179	11,225
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.7%	1.0%	1.2%
<b>Low case projection</b>															
<i>Capital City</i>															
Males	1,801	1,978	2,096	2,215	2,323	2,441	2,590	2,745	2,916	3,060	3,221	3,406	5,844	9,259	13,080
Females	2,874	3,105	3,236	3,385	3,506	3,651	3,851	4,019	4,231	4,397	4,600	4,830	7,823	12,218	16,593
Persons	4,674	5,084	5,332	5,600	5,828	6,092	6,442	6,765	7,147	7,457	7,821	8,235	13,667	21,477	29,673
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	0.9%
<i>Balance of State</i>															
Males	662	737	790	846	896	952	1,017	1,086	1,160	1,220	1,289	1,366	2,336	3,690	5,058
Females	859	941	995	1,057	1,108	1,168	1,245	1,311	1,391	1,455	1,528	1,614	2,658	4,115	5,508
Persons	1,521	1,677	1,785	1,903	2,003	2,120	2,262	2,397	2,551	2,675	2,817	2,980	4,994	7,805	10,567
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.9%	1.1%
<b>High case projection</b>															
<i>Capital City</i>															
Males	1,801	2,053	2,194	2,337	2,463	2,603	2,781	2,964	3,166	3,336	3,525	3,743	6,609	10,593	14,997
Females	2,874	3,188	3,340	3,516	3,656	3,826	4,061	4,257	4,505	4,698	4,934	5,202	8,686	13,771	18,765
Persons	4,674	5,241	5,534	5,853	6,119	6,429	6,842	7,221	7,671	8,033	8,459	8,945	15,296	24,364	33,762
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.9%	1.0%
<i>Balance of State</i>															
Males	662	764	826	892	949	1,015	1,091	1,173	1,259	1,330	1,410	1,502	2,642	4,223	5,803
Females	859	965	1,027	1,098	1,155	1,223	1,313	1,388	1,481	1,555	1,639	1,738	2,951	4,637	6,231
Persons	1,521	1,729	1,853	1,989	2,104	2,238	2,404	2,561	2,740	2,884	3,050	3,240	5,594	8,860	12,034
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.7%	1.0%	1.3%

Source: Access Economics calculations.

**Table 2.59: WA prevalence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	7,702	8,247	8,802	9,370	9,929	10,500	11,117	11,770	12,469	13,162	13,873	14,628	24,362	36,981	49,880
Females	11,299	11,926	12,545	13,186	13,810	14,458	15,193	15,939	16,752	17,555	18,395	19,301	31,437	48,759	65,159
Persons	19,001	20,173	21,348	22,556	23,739	24,958	26,310	27,709	29,222	30,716	32,268	33,929	55,799	85,740	115,038
% total pwd	1.0%	1.0%	1.0%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	2.0%	2.7%	3.1%
<i>CALD</i>															
Males	1,155	1,177	1,200	1,226	1,253	1,282	1,313	1,346	1,382	1,420	1,460	1,503	2,063	2,908	4,140
Females	1,639	1,673	1,709	1,750	1,793	1,840	1,889	1,942	1,998	2,055	2,116	2,179	2,990	4,235	6,114
Persons	2,794	2,850	2,910	2,975	3,046	3,121	3,202	3,289	3,380	3,475	3,576	3,682	5,052	7,142	10,254
% total pwd	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.3%	1.5%	1.9%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	7,702	8,235	8,776	9,328	9,871	10,424	11,021	11,653	12,329	12,996	13,680	14,405	23,680	35,480	47,229
Females	11,299	11,906	12,504	13,121	13,719	14,340	15,046	15,760	16,539	17,305	18,106	18,970	30,454	46,566	61,334
Persons	19,001	20,141	21,280	22,449	23,591	24,765	26,068	27,413	28,868	30,301	31,786	33,375	54,134	82,046	108,564
% total pwd	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.2%	1.2%	1.3%	1.3%	1.3%	1.4%	1.9%	2.5%	3.0%
<i>CALD</i>															
Males	1,155	1,175	1,197	1,220	1,245	1,272	1,301	1,333	1,366	1,401	1,439	1,479	2,002	2,787	3,917
Females	1,639	1,670	1,704	1,741	1,781	1,824	1,871	1,920	1,971	2,025	2,082	2,141	2,893	4,040	5,753
Persons	2,794	2,845	2,900	2,961	3,026	3,097	3,172	3,252	3,337	3,427	3,521	3,620	4,896	6,827	9,670
% total pwd	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%	1.2%	1.5%	1.8%
<b>High case projection</b>															
<i>English speaking</i>															
Males	7,702	8,336	8,979	9,636	10,280	10,934	11,641	12,388	13,187	13,975	14,781	15,637	26,554	40,317	53,828
Females	11,299	12,011	12,709	13,431	14,128	14,852	15,677	16,510	17,420	18,313	19,246	20,255	33,650	52,326	69,187
Persons	19,001	20,347	21,688	23,067	24,408	25,786	27,318	28,898	30,607	32,288	34,028	35,891	60,203	92,642	123,015
% total pwd	1.0%	1.0%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	2.1%	2.9%	3.4%
<i>CALD</i>															
Males	1,155	1,176	1,200	1,225	1,253	1,282	1,315	1,350	1,387	1,427	1,470	1,516	2,117	3,021	4,323
Females	1,639	1,672	1,709	1,750	1,795	1,843	1,895	1,951	2,009	2,070	2,134	2,202	3,061	4,377	6,341
Persons	2,794	2,849	2,909	2,975	3,048	3,126	3,210	3,301	3,397	3,498	3,605	3,717	5,177	7,398	10,665
% total pwd	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.3%	1.6%	2.0%

Source: Access Economics calculations.

**Table 2.60: WA incidence projections, language spoken at home, by gender and scenario**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	2040	2050
<b>Base case projection</b>															
<i>English speaking</i>															
Males	2,169	2,427	2,597	2,771	2,926	3,098	3,311	3,534	3,775	3,979	4,206	4,467	7,885	12,716	17,982
Females	3,295	3,617	3,800	4,007	4,174	4,375	4,648	4,877	5,165	5,391	5,662	5,974	10,012	15,932	21,735
Persons	5,464	6,045	6,397	6,778	7,100	7,473	7,959	8,410	8,941	9,369	9,868	10,441	17,897	28,649	39,717
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.9%	1.1%
<i>CALD</i>															
Males	294	302	308	315	323	331	340	350	360	371	383	395	556	817	1,221
Females	438	451	462	474	488	502	517	534	550	567	585	604	844	1,223	1,815
Persons	732	753	770	789	810	833	857	883	910	938	968	1,000	1,400	2,040	3,036
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.6%
<b>Low case projection</b>															
<i>English speaking</i>															
Males	2,169	2,415	2,581	2,749	2,899	3,066	3,272	3,487	3,721	3,916	4,134	4,385	7,643	12,170	16,987
Females	3,295	3,597	3,773	3,972	4,131	4,323	4,587	4,805	5,082	5,296	5,554	5,852	9,668	15,170	20,400
Persons	5,464	6,013	6,353	6,722	7,030	7,389	7,858	8,292	8,803	9,212	9,689	10,237	17,311	27,340	37,387
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.8%	1.0%
<i>CALD</i>															
Males	294	300	305	312	319	327	336	345	354	365	376	387	538	780	1,151
Females	438	449	458	470	482	495	510	525	540	556	573	591	813	1,162	1,701
Persons	732	748	764	782	802	823	845	870	895	921	949	979	1,351	1,942	2,852
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%
<b>High case projection</b>															
<i>English speaking</i>															
Males	2,169	2,516	2,713	2,915	3,090	3,287	3,531	3,786	4,063	4,292	4,550	4,845	8,680	13,965	19,521
Females	3,295	3,702	3,906	4,140	4,322	4,546	4,855	5,108	5,433	5,680	5,981	6,329	10,773	17,143	23,114
Persons	5,464	6,218	6,619	7,054	7,412	7,832	8,386	8,894	9,495	9,972	10,531	11,174	19,454	31,109	42,635
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.7%	1.0%	1.2%
<i>CALD</i>															
Males	294	301	307	314	322	331	340	351	362	373	386	399	571	850	1,279
Females	438	451	461	474	488	503	520	537	554	572	592	612	865	1,265	1,882
Persons	732	752	769	789	811	834	860	888	916	946	977	1,011	1,436	2,115	3,161
% total pwd	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%	0.6%

Source: Access Economics calculations.

## 2.4 General observations regarding prevalence and incidence

Demographic ageing of the Australian population is driving the increase in the number of people with dementia, while changes in risk factor profiles through changes in rates of physical inactivity and the control of hypertension result in a 5% to 6% variation (nationally) either side of the base case.

Nationally, the base case projections estimate a four fold increase in the prevalence of dementia from 2009 to 2050, with just over 1.13 million people estimated to have dementia by 2050. If physical inactivity could be improved in the population from 70% to 50% from 2009 to 2050 there would be an estimated 5.7% fewer cases of dementia. If the improvements in hypertension rates are not maintained across the population then a 5.6% increase in the prevalence of dementia is expected (Table 2.61).

**Table 2.61: Change in dementia projections to low and high case scenarios by 2050**

	Prevalence		Incidence	
	Low case	High case	Low case	High case
	%	%	%	%
Australia	-5.7	5.6	-5.9	6.2
ACT	-5.6	6.8	-5.9	7.3
NSW	-5.7	4.9	-6.0	5.5
NT	-5.5	8.1	-5.8	8.3
Qld	-5.6	6.7	-5.9	7.1
SA	-5.7	4.3	-6.0	5.0
Tas	-5.7	5.1	-5.9	5.7
Vic	-5.7	5.3	-5.9	5.9
WA	-5.6	6.7	-5.9	7.1

Source: Access Economics calculations.

The locality of people with dementia impacts on service delivery planning. Nationally, throughout the forecast period total absolute numbers of people with dementia remain larger in capital city areas than in the balance of states. That said, overall a higher proportion of people living in the balance of states (3.8%) are projected to have dementia by 2050 than those in capital cities (2.9%). This leads to a higher growth rate in dementia in the balance of states compared to the capital cities (a 4.64-fold increase in the balance of states compared to a 4.59-fold increase in capital cities). Exceptions to this include Tasmania and Queensland where the numbers of people with dementia living in the balance of those states are already greater than those living in the capital city.

People with dementia who speak a language at home other than English require interpreters or specifically trained carers to assist with communication. They also require culturally appropriate services. Projected growth of people with dementia who speak a CALD language at home is not expected to grow as fast as for people with dementia who speak English at home (a 3.4-fold increase compared to a 4.8-fold increase). However, the tripling in the absolute number of people with dementia who speak a CALD language at home represents a very significant increase in the demand for CALD trained dementia care providers and culturally appropriate services.

### 3 Implications for the future of dementia care

This chapter briefly summarises the findings of the modelling in the previous chapters and places the prevalence and incidence estimates in the context of the overall Australian health environment – in terms of overall burden of disease and health expenditure relative to other conditions now and in future, and policy implications.

#### 3.1 Prevalence and incidence summary

The prevalence of dementia is projected to increase nearly four-fold from 245,400 people in 2009 to 1.13 million people in 2050.

- In 2009, people with dementia represent 1.1% of the total population in capital cities (147,000 people) and 1.2% of the population in the balance of the states (98,000 people). By 2050, these proportions will increase to 2.9% in capital cities (681,000 people) and 3.8% in the balance of the states (449,000 people). In Tasmania and Queensland, there are already more people with dementia living in the balance of those states than living in Hobart and Brisbane. The faster ageing of regional Australia is important for dementia service delivery planning.
- Of people with dementia in 2009, the majority speak English at home (211,000) compared to a CALD language (35,000). The prevalence of people with dementia speaking English at home increases 4.8 times to 1.01 million in 2050, with those speaking a CALD language at home increasing 3.4 times to around 120,000 in 2050. The tripling in the absolute number of people with dementia who speak a CALD language at home represents a very significant increase in the future demand for CALD trained dementia care providers and culturally appropriate services.

Incidence of dementia is estimated to increase from 69,600 new cases in 2009 to 385,000 new cases in 2050.

- In 2009, 42,000 of the new cases are in capital cities and 28,000 in the balance of states. By 2050, 232,000 new cases will be in capital cities and 153,000 new cases will be in the balance of the states.
- Of people with new cases of dementia in 2009, the majority speak English at home (61,000) compared to a CALD language (9,000). The number of people with new cases of dementia speaking English at home increases 5.8 times to 350,000 in 2050, with those speaking a CALD language at home increasing 4.0 times to around 35,000 by 2050.

By 2020 there will be around 75,000 baby boomers with dementia.

#### 3.2 Implications

The year 2010 is significant as it marks the first of the baby-boomer generation turning 65 years of age. The baby boomer bulge in Australia's demographic profile means that the coming decade will see an acceleration of the impacts of ageing greater than previously seen in Australia's history. The impacts of this ageing and, in particular, the rising prevalence of dementia, will have dire consequences for our health care system, with the emphasis changing



strikingly from cardiovascular disease and cancer to the neurodegenerative conditions, marking an important epidemiological transition.

### 3.2.1 Burden of disease

Dementia will rapidly become one of the major sources of burden of disease in Australia over the next decade. The 20<sup>th</sup> century's great killer, ischaemic (coronary) heart disease, will decline in relative ranking by disability adjusted life years (DALYs), falling to fourth ranking for females and second for males. 'Anxiety and depression' will maintain its ranking of third for males and highest for females, although its share of total disease burden is falling.

In contrast, the two rising high-ranking conditions will be diabetes (rising to second place for females and highest for males) and dementia. However, the rapidity of the rise of dementia is more pronounced than for diabetes.

- For females, dementia increased by 1.1 percentage points to 4.8% of the total burden in the decade between 1993 and 2003 and is expected to be ranked third at 7.4% of the total burden in 2023.
- For males, dementia is expected to occupy fourth position in 2023, up from 11th place in 2003 (Table 3.1).

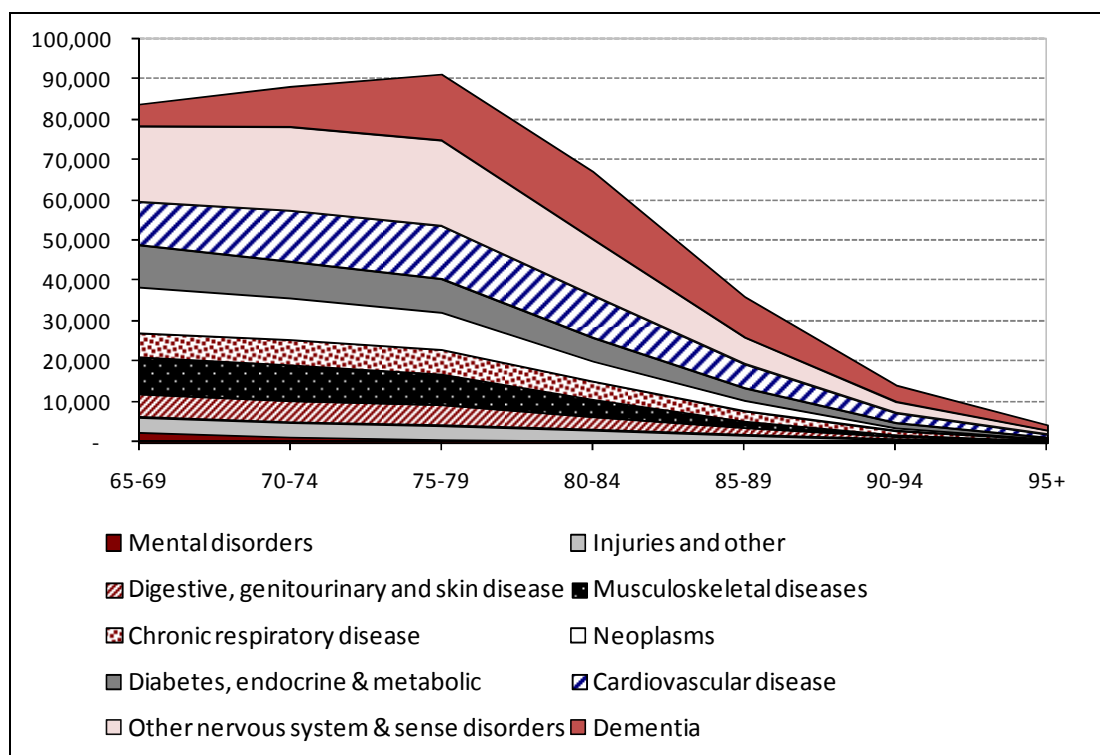
**Table 3.1: Major causes of all DALYs, 2003 and 2023**

Males	2003		2023		Females	2003		2023	
	%	Rank	%	Rank		%	Rank	%	Rank
Type 2 diabetes	5.2	2	8.6	1	Anxiety & depression	10.0	1	8.7	1
Ischaemic heart disease	11.1	1	7.1	2	Type 2 diabetes	4.9	4	8.0	2
Anxiety & depression	4.8	3	4.5	3	<b>Dementia</b>	<b>4.8</b>	<b>5</b>	<b>7.4</b>	<b>3</b>
<b>Dementia</b>	<b>2.5</b>	<b>11</b>	<b>4.4</b>	<b>4</b>	Ischaemic heart disease	8.9	2	6.1	4
Adult-onset hearing loss	3.1	7	4.2	5	Stroke	5.1	3	3.8	5
Lung cancer	4.0	4	3.4	6	Breast cancer	4.8	6	3.5	6
Stroke	3.9	5	3.2	7	Lung cancer	2.7	8	3.5	7
Prostate cancer	2.7	9	3.1	8	COPD	3.0	7	2.8	8
Colorectal cancer	2.5	10	2.4	9	Asthma	2.7	9	2.4	9
Suicide & self-inflicted injuries	2.8	8	2.4	10	Osteoarthritis	1.6	12	2.2	10
COPD	3.6	6	2.2	11	Adult-onset hearing loss	1.8	11	2.2	11
Asthma	2.1	13	1.9	12	Colorectal cancer	2.3	10	1.9	12
Parkinson's disease	1.0	20	1.6	13	Lower respiratory tract infections	1.1	16	1.6	13
Alcohol dependence & harmful use	2.0	14	1.6	14	Parkinson's disease	1.0	18	1.5	14
Osteoarthritis	1.1	17	1.6	15	Back pain	1.2	15	1.3	15
Back pain	1.1	18	1.3	17	Personality disorders	1.3	13	1.3	16
Road traffic accidents	2.3	12	1.3	18	Migraine	1.3	14	1.1	18
Personality disorders	1.2	15	1.2	19	Falls	1.0	17	1.1	19
Melanoma	1.0	19	1.1	20	Rheumatoid arthritis	1.0	20	1.0	20
Schizophrenia	1.1	16	1.0	23	Schizophrenia	1.0	19	0.9	25

Source: Begg et al (2007:127-8).

For 'older' Australians (aged 65 years and older), the disability burden of dementia looms even larger. Disability burden is the morbidity component of burden of disease – measured in years of healthy life lost due to disability (YLD). By 2003, dementia was already the leading single cause of disability burden in older Australians – accounting for 16.6% (or one year in every six years) of lost healthy life. Other nervous system and sense disorders (comprising neurodegenerative conditions such as Parkinson's disease, as well as vision and hearing loss) combined were around 21.9%. In 2003, dementia already substantially exceeded the disability burden in older Australians when compared to that for each of all cardiovascular diseases, all cancers, all musculoskeletal diseases (including arthritis and osteoporosis) and all diabetes, endocrine and metabolic disorders (Chart 3.1, Table 3.2).

**Chart 3.1: Disability burden (YLD) of dementia relative to other conditions 2003**



Source: Access Economics based on Begg et al (2007).

**Table 3.2: Disability burden in Australians aged 65 years and older 2003**

	% total 65+ DALYs	DALYs, 65-74	DALYs 75+
<b>Dementia</b>	<b>16.6%</b>	<b>15,282</b>	<b>48,423</b>
Other nervous system and sense disorders	21.9%	39,400	44,916
Cardiovascular disease	14.5%	23,219	32,443
Neoplasms	10.4%	22,060	17,941
Diabetes, endocrine & metabolic	10.0%	19,536	18,899
Musculoskeletal diseases	8.5%	18,104	14,519
Chronic respiratory disease	6.9%	12,122	14,334
Digestive, genitourinary and skin disease	5.7%	10,942	10,983
Injuries and other	4.2%	7,374	8,639
Mental disorders	1.4%	4,003	1,407
<b>Total</b>	<b>100%</b>	<b>172,041</b>	<b>212,504</b>

Source: Access Economics derived from Begg et al (2007).

### 3.2.2 Health system expenditures

Accompanying the burgeoning growth of dementia prevalence and disease burden will be a commensurate increase in health and aged care costs (Table 3.3).

The AIHW (Goss, 2008) projects health and residential aged care expenditures to 2032-33 in constant 2006-07 dollars, also outlining the standard Australian definition of such spending.

- Expenditure on dementia increases from \$3.85 billion in 2002-03 (4.5% of total health and aged care spending, ranked 8<sup>th</sup>) to \$17.84 billion in 2032-33 (7.2% of the total).
- Spending on dementia will become the third greatest source of health and aged care spending within about two decades – about 1% of Australian GDP. Based on the growth rates by specific condition calculated by the AIHW, Access Economics has projected Australian health and residential aged care expenditure out a further 30 years. By that point, expenditure on dementia would far outstrip that of any other health condition.
- Spending on dementia would exceed spending for each of respiratory diseases, digestive diseases, cardiovascular diseases and diabetes – the ‘big five’ chronic conditions of the new millennium (Chart 3.2).
- Dementia expenditure would reach \$82.7 billion (in 2006-07 dollars) by 2062-63 – roughly our current total national expenditure on health – and would represent 11.0% of the entire sector
- This excludes spending on community aged care and dementia-specific care programs – such as Extended Aged Care in the Home for Dementia (EACH-D).<sup>13</sup>

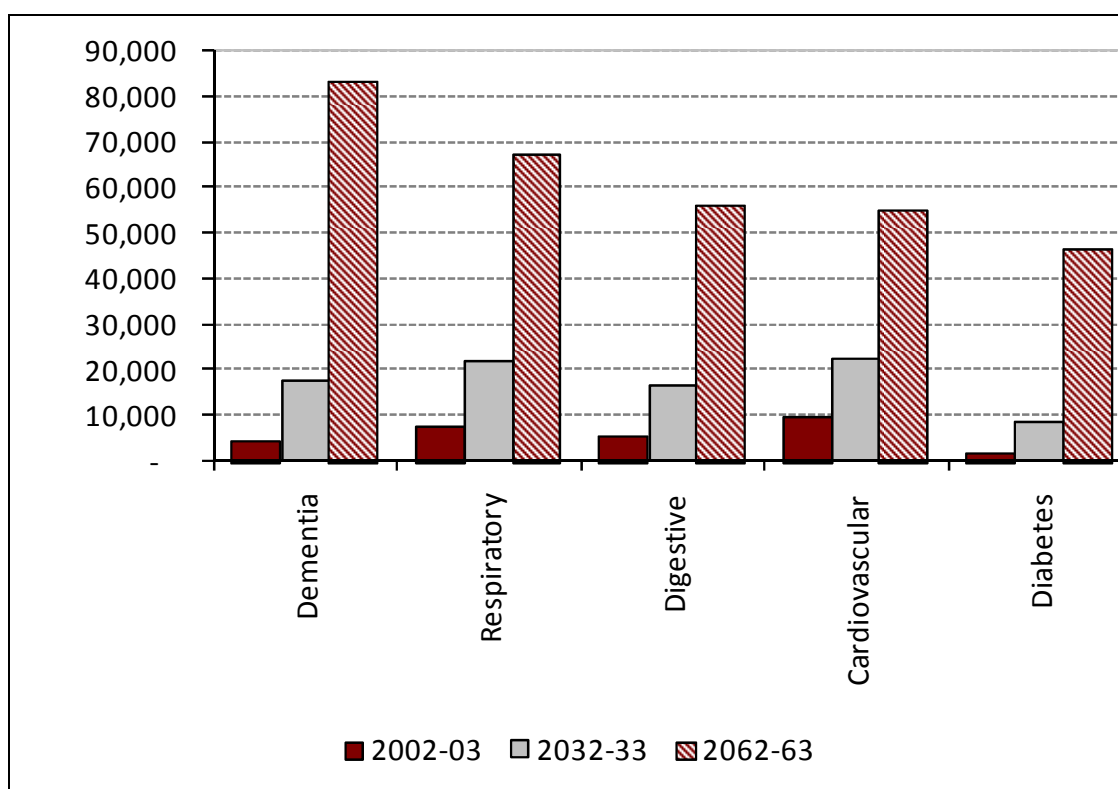
<sup>13</sup> EACH-D programs are packages funded by the Commonwealth government and targeted to people with complex high care needs associated with dementia. The program participant must require a high level of care and have a preference to live at home.

**Table 3.3: Dementia health and residential aged care (RAC) expenditure projections, relative to other conditions and total (2006-07 dollars)**

Condition	2002-03			2032-33			Increase	2062-63		
	\$m	% total	Rank	\$m	% total	Rank		\$m	% total	Rank
<b>Dementia</b>	<b>3,847</b>	<b>4.5%</b>	<b>8</b>	<b>17,837</b>	<b>7.2%</b>	<b>3</b>	<b>364%</b>	<b>82,703</b>	<b>11.0%</b>	<b>1</b>
Respiratory	7,188	8.5%	2	21,947	8.9%	2	205%	67,010	8.9%	2
Digestive	4,877	5.7%	6	16,488	6.7%	4	238%	55,742	7.4%	3
Cardiovascular	9,329	11.0%	1	22,559	9.2%	1	142%	54,551	7.3%	4
Diabetes	1,607	1.9%	16	8,610	3.5%	12	436%	46,131	6.2%	5
Musculoskeletal	4,411	5.2%	7	14,234	5.8%	7	223%	45,932	6.1%	6
Dental	5,888	6.9%	4	14,925	6.1%	5	153%	37,832	5.0%	7
Genitourinary	3,678	4.3%	9	10,857	4.4%	9	195%	32,049	4.3%	8
Injuries	6,650	7.8%	3	14,353	5.8%	6	116%	30,979	4.1%	9
Sense disorders	2,636	3.1%	11	8,859	3.6%	11	236%	29,773	4.0%	10
Cancer	3,487	4.1%	10	10,112	4.1%	10	190%	29,324	3.9%	11
Mental	5,147	6.1%	5	12,109	4.9%	8	135%	28,488	3.8%	12
Skin	2,373	2.8%	13	7,767	3.2%	13	227%	25,422	3.4%	13
Endocrine, nutritional & metabolic	2,584	3.0%	12	6,395	2.6%	14	147%	15,827	2.1%	14
Infectious	1,890	2.2%	15	4,673	1.9%	15	147%	11,554	1.5%	15
Other neurological	557	0.7%	18	2,325	0.9%	17	317%	9,705	1.3%	16
Maternal	2,150	2.5%	14	3,953	1.6%	16	84%	7,268	1.0%	17
Parkinson's disease	323	0.4%	19	1,399	0.6%	18	333%	6,059	0.8%	18
Neonatal	631	0.7%	17	1,185	0.5%	19	88%	2,225	0.3%	19
Congenital	310	0.4%	20	633	0.3%	20	104%	1,293	0.2%	20
Other*	15,500	18.2%	na	44,837	18.2%	na	189%	129,700	17.3%	na
<b>Total health &amp; RAC</b>	<b>85,063</b>	<b>100.0%</b>		<b>246,056</b>	<b>100.0%</b>		<b>189%</b>	<b>749,567</b>	<b>100.0%</b>	

\* 'Other' includes expenditures which cannot be allocated by disease such as signs, symptoms and ill-defined conditions and other contacts with the health system. Expenditure for aids & appliances, ambulances, community health and some capital goods are allocated proportionally across all categories. Source: AIHW Disease expenditure projection model.

**Chart 3.2: The 'Big 5' health expenditure conditions of the future (2006-07 million dollars)**



Source: Access Economics derived from Goss et al (2008).

### 3.2.3 Productivity losses due to dementia

In addition to health and residential aged care expenditures and burden of disease, dementia is also associated with productivity losses. Access Economics (2003) estimated the productivity losses of people with dementia at around 10% of the health and aged care expenditures (\$364 million in 2002 prices). The lost productivity of informal family carers for people with dementia were estimated as a further 50% of the health and aged care costs (\$1.7 billion in 2002 prices). These productivity losses reflect the human capital valuation of lower participation in the workforce (caused by disability or premature death) due to the condition itself or to caring for someone with dementia. A substantial proportion of the productivity loss for people with dementia is associated with younger onset dementia (YOD) i.e. onset prior to age 65.

The 2009 Australian Government budget announced a rise in the pension age to 67 years, phased in over the next decade. This measure could be expected, *a priori*, to encourage Australians to remain in the workforce for longer. However, with the higher retirement age, it will also be the case that more people will be unable to remain in the workforce due to dementia onset, or due to the need to care for a loved one with the condition. Thus in the future, productivity losses due to dementia can be expected to grow reflecting the increase in the pension age as well as population growth.

### 3.3 Conclusions

Policy makers cannot ignore the huge impost that dementia imposes and will increasingly impose on Australian society.

There are currently around 245,000 people with dementia in Australia.

By mid-century, we will have over 1.13 million Australians with dementia.

Dementia is the leading single cause of disability in older Australians (aged 65 years or older) and is responsible for one year in every six years of disability burden for this group.

It is one of the fastest growing sources of major disease burden, overtaking coronary heart disease in its total wellbeing cost by 2023.

Dementia will become the third greatest source of health and residential aged care spending within about two decades. These costs alone will be around 1% of GDP.

By the 2060s, spending on dementia is set to outstrip that of any other health condition. It is projected to be \$83 billion (in 2006-07 dollars), and will represent around 11.0% of the entire health and residential aged care sector spending.

Given these compelling projections, strategies for managing the dementia epidemic must be kept front of mind, with priorities being for:

- prevention, research and early intervention;
- efficiently tailored services for quality care; and
- financial provisioning.

#### 3.3.1 Prevention, research and early intervention

The National Health and Hospital Reform Commission recently released its final report (NHHRC, 2009). The report includes recommendations emphasising the importance of primary, secondary and tertiary prevention.<sup>14</sup>

Primary prevention involves addressing known risk factors. The modelling in this report has illustrated the importance of continuing to control hypertension and starting to address physical inactivity as two particular means of reducing overall dementia incidence and prevalence.

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<sup>14</sup> Despite the enormity of its impact, dementia including the positive potential of risk reduction, is not mentioned within the Executive Summary of the NHHRC report. The body of the report notes: “consider the development of a vaccine to prevent dementia or a treatment to mitigate its effects. It has been predicted that there will be a 200 per cent increase in the numbers of people with dementia over the next 30 years. Such an innovation would dramatically reduce the need for a myriad of dementia related home and residential support services in the future.” However, rather than take up this prevention focus, recommendations are geared only to increases in aged care packages and specialist mental health services (of which dementia is a part).

If physical inactivity could be improved in the population from 70% to 50% from 2009 to 2050 there would be an estimated 5.7% fewer cases of dementia, while if improvements in hypertension could not be maintained an estimated increase in the prevalence of dementia of 5.6% would be expected.

The NHHRC report recommended redesigning the health system – the first design element being to embed prevention and early intervention into every aspect of the health system and individual lives. To this end the Commission recommended the establishment of an independent National Health Promotion and Prevention Agency, with a broad role to drive a fundamental paradigm shift in how Australians, and their health system, think and act about health and keeping well, including through better education, evidence and research. However, the preventive focus of the report is on children and younger people and does not recognise the benefit of early intervention to delay the onset and progression of dementia.

Recent developments in neuroscience, genetic and medical technology suggest that prevention in terms of slowing the progression of dementia is possible and, if new biomarkers can potentially bring forward diagnosis of dementia risk, there would be scope for targeted prevention strategies aimed at high risk groups. However, there is currently underinvestment in such research and silence in government health prevention policies about the potential for dementia risk reduction or the links between dementia and other chronic diseases such as vascular disease and diabetes. It is important that:

- investment in dementia research and prevention continues to be expanded;
- awareness of dementia risk reduction is promoted eg, through the Mind your Mind program; and
- the Government's response to the NHHRC report specifically addresses dementia prevention and early intervention strategies.

### **3.3.2 Access to tailored, quality services**

People with dementia have different needs and access to quality services is a particular issue for Indigenous Australians, regional Australians, people from CALD backgrounds and people with younger onset of dementia.

The NHHRC report recommends (recommendation 49) that 'people supported to receive care in the community should be given the option to determine how the resources allocated for their care and support are used.

People with dementia and their families and carers should have scope to choose between whether they receive care in the community or in a residential facility, with options so they have more flexibility in tailoring a consumer-directed service package to best meet their needs. People with special needs may require more of some services and less of others. For a CALD person with dementia and their carer, it may be important to have resources available in their own language and in their own home that are culturally appropriate. For Indigenous Australians who have lived in communities it may be important to have care such that they can continue to be near or in their land and kinship group. For people with YOD it is important to have age-appropriate services, while for someone with more severe behavioural and psychological symptoms it may be most important to access support and information to manage behaviours of concern and provide much-needed respite. The NHHRC (2009, Recommendation 47) also concluded that 'there be a more flexible range of care subsidies for

people receiving community care packages, determined in a way that is compatible with care subsidies for residential care’.

Ongoing growth, education and up-skilling of the dementia care workforce will be paramount in providing such flexibility and quality in care. Access Economics (2009) found, in a choice modelling survey, that family carers of people with dementia highly value having skilled residential aged care workers specialised in providing dementia care and the ability to accommodate cultural and recreational needs on an individual basis. To respond to these needs, it will be important to improve the consistency and coverage of dementia skills training by extending access to dementia training for formal and family carers, promoting a pervasive understanding of quality person-centred dementia care through knowledge transfer, and monitoring outcomes. To this end, the Dementia Training Study Centres and other dementia initiatives are valuable to develop pathways that provide career opportunities and training for those with a commitment to dementia care.

The same choice modelling survey above also found that what family carers value most highly in institutional accommodation is the ability for residents to have a private room and ensuite. However, current capital financing regulations on high care residential facilities cap the payment (of government and the individual) which undermines the viability of new investment in quality facilities. Access Economics (2009a) found that the cap must be substantially raised (from \$26.88 per bed day to \$40.32 per bed day) in order to meet the needs and preferences of consumers for new facilities. The NHHRC also concluded that additional capital investments will be required and that ‘older Australians, including those residing in aged care facilities, (should) have adequate access to specialty mental health and dementia care services’ (NHHRC, 2009, Recommendation 78). The NHHRC (2009:30) also noted that ‘capital can be raised through both government and private financing options’.

### 3.3.3 Financial provisioning

*While the Australian health system has served us well, it is a system under growing pressure, facing significant emerging challenges as the health needs of our population change... The structure and funding of our health system has become incredibly complex... What is clear is that providers of health care services are under strain now and will not cope with the rising tide of chronic disease and frailty in the future. We have an overloaded sickness system and offer scant resources for illness prevention and early intervention... **Under these conditions, government’s ability to meet its share of that expenditure is unlikely to be sustainable without reform.** (NHHRC 2009, pp. 45).*

The NHHRC Report observes that growth in private as well as public sector financial provisioning will be important in the future as health and aged care spending rises to 12.4% of GDP in the next two decades. While Australia has ‘an envied mix of public and private financing’ now, ‘major reforms are needed to improve the outcomes from this spending and national productivity and to contain the upward pressure on health care costs’. While there are some specifics about which aspects the Commission believes should be publicly financed (eg, Denticare through a 0.75% Medicare Levy hike across all taxpayers), it is less clear how private financing is to be stimulated – the commissioned paper (Foley 2009) loosely describes principles for options but provides no recommendations. Clearly, stimulating private financing is in the much harder basket given the current moral hazard of universal entitlement.



In a world where reforms centralise more health and aged care expenditure from the jurisdictions to the Australian Government, there is great scope for innovation in financing that encourages a more vibrant and viable private sector. The current system for *co-financing* aged care includes mean-tested bonds in low-level RAC and means-tested accommodation charges for consumers of high level RAC, as well as fee structures for community services (HACC, CACP, EACH and EACH-D, and so on). However, the current level of government support for these services is unlikely to be able to be continued in the future as needs burgeon (the gaps are modelled in Access Economics, 2009). It will become increasingly important for people with the capacity to pay (through accumulated household wealth) to do so, allowing the government to continue to provide a safety net for those without the financial means to cover their dementia care costs.

In the future, if 11% of health and residential aged care spending is used to support people with dementia, the right health financing model should rely largely on a parallel, complementary private savings mechanism such as dedicated Healthy Ageing Savings Accounts (HASAs) that are additional to superannuation. As detailed in Access Economics (2009), this would overcome the moral hazard in the current superannuation and insurance financing model, since currently people who can afford to have incentives to spend their retirement incomes on less essential goods and services (e.g. leisure, travel) and fall back on public safety nets rather than provisioning for their dementia care needs.

The three pillars of Australian health and aged care financing of the future would then be:

1. private savings vehicles including superannuation and HASAs for largely predictable health and aged care expenses;
2. private health insurance for catastrophic events; and
3. a means tested 'next generation' of Medicare for safety nets.

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