

Southern Fleurieu Benchmarking Project

A Project of:
The Southern Fleurieu Positive Ageing Taskforce

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1. Introduction

Successful planning for future infrastructure, community resources and services to meet the need of our ageing population requires a prediction of population growth, an awareness of the nature of the future population and their needs and an understanding of the impact of these factors on infrastructure, community resources and services.

Population projections for the region have been developed by the Australian Bureau of Statistics with some further analysis by local governments.

The Local Government Association of NSW and Shires Association of NSW state in their 2004 report *Planning the Local Government Response to Ageing and Place* that by 2004, 13% of the Australian population will be aged over 65. According to a recent study of population growth undertaken on behalf of the City of Victor Harbor (Piron 2005), the percentage of the population aged over 65 years of age in 2004 had already reached 31.2% - a figure which Australia as a whole is not expected to reach until beyond 2050.

The study also reported that by 2002 the population of Victor Harbor aged over 65 years will rise to over 40% compared with 25% for South Australia as a whole. Over 14% of the population will be aged over 80 years and less than 14% of the population will be under 20 years of age. The percentage of population of working age (15-64 years) will decline steadily from 55% of the total population in 2007 to 48% of the population in 2022.

While this study focused on the City of Victor Harbor, it did report that ABS Population Projections for the Southern Fleurieu Councils indicate that similar growth rates can be expected for Alexandrina Council (Coastal Region) with the projected growth rates for the District Council of Yankalilla being significantly lower.

This kind of information provides a good indication of expected population growth across the Fleurieu Peninsula over the next 15 years or so. However this knowledge has only resulted in more questions:

- How will the needs and preferences of future populations differ to those of our current population?
- What infrastructure, resources and services will this population require, how much, when and where?
- Will there be any changes in the way infrastructure, resources and services are provided that will change how we will respond to these needs?

The Southern Fleurieu Planning Ratio's and Benchmarks Project has attempted to:

- bring together existing planning tools or develop tools based on current data in order to predict the needs of future populations.
- Provide some indication of future trends that will affect:
 - The prevalence or incidence of particular needs within a population
 - The way infrastructure, resources or services are offered to meet these needs

Benchmarking tools are provided in the form of an excel program enabling users to input any notional population from which projections are calculated with respect to the impact of this notional population on a range of variables.

The Project Report provides an overview of the process undertaken to develop this range of tools, it presents some projections for future growth in the needs and demands of the Fleurieu community based on ABS projections from 2001 census and offers information on future trends that may influence these predictions.

In some cases appropriate tools for predicting the needs of communities were already in existence. These were available through research, planning departments of government agencies and peak bodies or organisations that advocate for particular consumers groups.

In other cases information about current levels of service delivery, incidence or prevalence of particular needs in a given population was used to identify per capita rates that could be applied to future populations.

The key area of difference between the Southern Fleurieu and other populations is their age composition. According to the ABS Census of Population and Housing (2001) 24% of the population of the Southern Fleurieu were 65 years of age and over in 2001 compared with the 14% State-wide.

Many planning formulae for services and infrastructure are based on average populations and use total population figures to estimate demand. This practice can provide a particularly inaccurate estimate of real need. For example if the number of General Practitioners required is estimated per 10,000 population, the same number of GP's would be estimated as required for a population with 14% of it's population aged over 65 as it would for the same size population with 24% of it's population aged over 65. However individuals over the age of 65 are much higher users of GP services.

Therefore the benchmarking tools used in this project were selected for their capacity to represent the influence of age on the needs of a population. The need for age cohort specific tools sometimes led to the rejection of existing and accepted tools in favour of developing new tools that incorporate the influence of age.

The capacity for application of these tools to communities other than the Southern Fleurieu Peninsula differs from tool to tool. Some tools use state-wide or national data as the basis for projections, others offer a choice of data source. These tools have a much greater capacity for application to other communities. Other tools were developed from local data, necessary because of the unique nature of the local area. An example of this is emergency presentations. Because of the unique nature of access to general practice and after hours services on the Southern Fleurieu, state-wide data would not be indicative of local demand. As such the tools developed reflect local demand but will not accurately predict demand in other communities.

The tools provided are simplistic. While accounting for the variable of age, they do not account for other variables such as aboriginality, ethnicity or socio-economic status. While these variables may have particularly significant influence in some communities they were not the focus of this exercise. As a result of their simplicity, numerous disclaimers have been identified with respect to the tools developed and the information provided. While in many cases the accuracy of these tools is limited, they were developed with the view that some idea of the impact of future population on infrastructure, resources and services will better serve proactive planning to support these communities than no idea at all.

Information on trends must also be considered when looking at the projections or using the tools provided. These trends may not be comprehensive but give a point in time view of the types of changes that may impact on nature of demand and supply.

2. Executive Summary

In order to improve local planning for infrastructure, community resources and services, the Southern Fleurieu Positive Ageing Taskforce collected or produced a range of planning tools to predict the impact of future population growth. The tools were selected or developed to represent the influence of distribution of age across communities.

The tools are offered for use in determining the impact of any given population on demand or supply of infrastructure, resources and services. In addition estimates are provided based on projected population growth for the Southern Fleurieu Peninsula to 2020 as provided by the Australian Bureau of Statistics based on 2001 Census data.

As a result of the age distribution in the local population, the tools projected greatest growth in those needs and services characteristic of older people while those characteristic of younger age groups showed smaller increases or declines.

The tools developed, indicated that by 2020:

- There will be 332 more people with diabetes, an increase of 35%
- There will be 192 more people with asthma, an increase of 7%
- There will be 563 more people with cardiovascular, an increase of 44%
- There will be 1123 more people with arthritis, an increase of 35%
- There will be 288 more people with osteoporosis, an increase of 42%
- There will be 274 more people with mental illness, an increase of 15%
- There will be 202 more smokers, an increase of 8%
- There will be 1093 more people with hypertension, an increase of 39%
- There will be 748 more people with high cholesterol, an increase of 36%
- There will be 1425 more people who have insufficient physical activity, an increase of 21%
- There will be 1201 more obese people, an increase of 16%
- 44 more people will be diagnosed with dementia each year – an increase of 54%
- 14 more people will be diagnosed with parkinsons disease each year – an increase of 54%
- 29 more people will be diagnosed with age related vision disorders each year – an increase of 51%
- 16 more people will be diagnosed with prostate cancer each year – an increase of 50%
- 43 more people will have a stroke each year – an increase of 49%
- 21 more people will be diagnosed with benign prostatic hypertrophy each year – an increase of 49%
- 219 more people will be diagnosed with adult onset hearing loss each year – an increase of 48%
- 10 more people will be diagnosed with lung cancer each year – an increase of 47%
- There will be 359 more individuals with dementia – an increase of 79%
- public dental services for children are unlikely to increase while adult dental services may require an increase of around 30%.

- The Fleurieu Peninsula will need 8.9 FTE additional General Practitioners
- The number of younger disabled in the Southern Fleurieu will slightly decrease
- There will be a 50% more individuals with a disability over the age of 60 years
- There will be a total of 2128 additional individuals needing assistance with at least 1 activity, 650 of whom will need assistance with self care, 770 with transport and 279 with meal preparation.
- There will be 1515 more potential HACC clients – an increase of 40%.
- 1746 more people will require domestic assistance – an increase of 28%
- 306 more people will require equipment – an increase of 57%
- 557 more people will require assessment – an increase of 55%
- 960 more people will require home nursing – an increase of 49%
- 7428 more people will require assistance with transport – an increase of 58%
- A further 245 residential aged care and 56 community aged care places will be needed
- 127 additional primary carers – an increase of 20%
- 734 additional carers in total – an increase of 19%
- 128 additional referrals to palliative care per annum
- There will be 80269 more library loans per annum - an increase of 80269 or 29%
- There will be 1411 additional ambulance carries per annum, an increase of 43%
- There will be 1128 additional emergency presentations per annum, an increase of 17%

Many trends were identified as having potential influence on these projections. They included:

- Changes in health risk factors and improved prevention as a result of health promotion, environmental or socio-economic changes.
- Improvement in the detection, treatment and cure of disease and disability
- Changes to access of infrastructure, resources or services as a result of public policy, promotion or location
- Changes to models of service delivery and professional roles
- Changes in some areas of health and life expectancy will impact on other areas of health and disability and thus demand for infrastructure, resources and services
- Changes in the availability of informal carers

3. General Disclaimers

ABS Population Projections:

According to the recent study of population growth undertaken on behalf of the City of Victor Harbor by Sophie Piron (2005) ABS population projections for 2002 to 2022 project growth rates below those currently being experienced by the City of Victor Harbor. It identifies that 2004 preliminary Estimated Resident Population (ERP) figures released by the ABS report a population of 12,082 residents for the City of Victor Harbor. This figure exceeds ABS population projections of 11,873 based on 2001 census data – thereby indicating that for 2004, the ABS projections may already be underestimating actual population by something in the order of 1.7%.

ABS Census data is based on the permanent resident population. The needs of non-permanent residents property can have an impact on infrastructure, community resources and services. Some of the tools developed accounted for use of services by the non-resident population while others did not. As reported by Piron (2005) the 2001 Census shows a total of 26% of Victor Harbor properties are not occupied on permanent basis.

4. Health and Disease

Selection of Variables

The South Australian Burden of Disease Study (2005) was consulted to determine the key health impacts on older people in South Australia.

Years of healthy life lost to disability (YLDs)

Years of healthy life lost to disability (YLDs) were evaluated, as disability is assumed to have a greater impact on health care, independence and demand on support services than morbidity. YLD's for the 65+ age cohort across Australia (Appendix 1 Table 1) showed the most significant loss of healthy life was due to:

- Disease of the nervous system, particularly dementia & hearing loss
- Cardiovascular disease particularly stroke and ischaemic heart disease;
- Cancers, particularly prostate, colorectal, breast and lung cancers;
- Musculoskeletal disease, particularly osteoarthritis;
- Genitourinary disease, particularly benign prostatic hypertrophy;

Risk Factor Burden

The burden due to a particular risk factor (eg smoking) is simply the sum of all the disease burdens known to be causally associated with that risk factor. Highest risk factor burdens for the population of South Australia over 65 years of age were smoking, hypertension, physical inactivity and obesity (Appendix 1, Table 2).

Incidence and Prevalence

Prevalence or incidence data on those risk factors and conditions which contribute most to disability across the state (as well as some others identified as important by the project steering group) was then sought. It was recommended that this data was not taken for the Southern Fleurieu Peninsula because the smaller size of the area and potential for significant change in the nature of its population meant this information would be less reliable. The conditions and risk factors selected were:

Conditions

- Dementia and Alzheimers disease
- Adult onset hearing loss
- Age related hearing disorders
- Other nervous system disorders
- Parkinsons disease
- Stroke
- Ischaemic heart disease
- Prostate Cancer
- Colorectal cancer
- Breast cancer
- Lung cancer

- Osteoarthritis
- Chronic obstructive pulmonary disease
- Benign prostatic hypertrophy
- Diabetes Type 2
- Mental Disorders

Risk Factors

- Smoking
- Hypertension
- Physical inactivity
- Obesity

Prevalence

Process for developing planning tool

The Population Research and Outcome Studies Unit provided information on prevalence of chronic conditions (Appendix 1 table 4) and health related risk factors (Appendix 1 table 5) for South Australians and for people living in the Southern Fleurieu Peninsula. This information was gathered from questions asked as part of the South Australian Monitoring and Surveillance System (South Australian Monitoring and Surveillance System, Department of Health January 2003 – November 2005). From January 2003 to November 2005 a total of 20144 respondents (all ages) were interviewed, 300 in the Southern Fleurieu (Appendix 1 Table 3). The system uses Computer Assisted Telephone Interviewing (CATI) technology to interview respondents. Data are weighted by sex, age, area and probability of selection of the household.

The current (2003-2005) prevalence rates, as provided by the Population Research and Outcome Studies Unit from the SAMSS system were directly transferred to the Benchmarking tool. These rates were provided as a percentage of the population. The tool then multiplies these prevalence rates for each age cohort by the correlating population at any given time to determine future numbers of people in the community with those chronic conditions or risk factors.

Projections

Table (1) shows 5 yearly projections for prevalence of chronic conditions and risk factors in the Southern Fleurieu from 2005 to 2020 based on the tool outlined above.

Over the next 15 years, the number of people with diabetes is likely to increase by around 332 people or 35%. Asthma by 192 or 7%, Cardiovascular disease by 563 or 44%, Arthritis by 1123 or 35%, Osteoporosis by 288 or 42%, Mental Health by 274 or 15% and Psychological Distress by 187 or 14%. Quite obviously those chronic conditions that are more prevalent in an older population will be showing significant growth due to population growth and ageing.

In the same period the number of smokers is set to increase by 202 or 8%, hypertension by 1093 or 39%, High Cholesterol by 748 or 36%, insufficient physical activity by 1425

or 21% (definition 1), Obesity by 1201 or 16% and risky alcohol consumption by 64 or 13%. Again risk factors associated with ageing are to show a greater increase.

Table 1: Predicted Prevalence of Chronic Conditions and Risk Factors 2005 - 2020

Based On: Population Research and Outcome Studies Unit. (2002). The South Australian Monitoring and Surveillance System (SAMSS). Adelaide: Department of Health.								
2005-2020	# Predicted Prevalence of Conditions							
	Diabetes	Asthma	Cardiovascular Disease	Arthritis	Osteoporosis	Current Mental Health Condition	Psychological distress	
2005	954.19	2651.57	1291.31	3211.60	683.16	1875.21		1356.54
2010	1053.75	2728.49	1446.86	3552.25	763.29	1994.07		1438.71
2015	1172.17	2795.41	1651.08	3950.29	867.44	2084.73		1501.73
2020	1286.70	2843.99	1854.67	4334.78	971.19	2149.36		1543.83
2005-2020	# Predicted Prevalence of Risk Factors							
	Smoking	Hypertension	Cholesterol	Insufficient Physical Activity definition 1	Insufficient Physical Activity definition 2	Obesity	Risky to high risk of harm from alcohol consumption	
2005	2463.94	2793.48	2097.99	6762.91	8207.40	7464.51		509.45
2010	2580.40	3111.47	2325.46	7268.11	8796.15	7938.38		539.05
2015	2643.75	3502.74	2589.94	7761.61	9352.30	8354.59		560.14
2020	2665.50	3886.94	2845.22	8187.36	9818.13	8665.32		573.27

Disclaimers and Explanatory Notes:

The resulting estimations are based entirely on current prevalence rates applied to future populations. While these estimates account for population growth and population ageing; they do not account for factors that will impact on the future prevalence rates such as increasing life expectancy, lifestyle changes, environmental factors, significant health promotion activity and improvement in preventions or treatment over time.

Prevalence rates were identified both for South Australia and specifically for the Southern Fleurieu. However the benchmarking tool developed is based on the South Australian figures, because of the larger sample size used in determining these figures (see table 1) and hence the greater resilience of the data.

Data were not age – sex standardised. Different age and sex structures of the population may have an influence on prevalence rates.

References:

Population health in South Australia : burden of disease and injury estimates, 1999-2001. 2005, Department of Health, Government of South Australia.

Population Research and Outcome Studies Unit. (2002). *The South Australian Monitoring and Surveillance System (SAMSS)*. Adelaide: Department of Health. Available at <http://www.dh.sa.gov.au/pehs/PROS/br-samss02-20.pdf>

Incidence

Process for Developing Planning Tool

State level estimates of incident (morbidity) cases were obtained from the SA Department of Health (Appendix 1 Table 6). These estimates were then used to predict future incidence of each disease category. Rates were provided as the number of cases per 100,000 population. Any population is divided by 100,000 and multiplied by the incident rate (per 100,000) to predict future number of incident cases in that population.

Projections

Table (2) shows 5 yearly projections for incidence of chronic conditions in the Southern Fleurieu from 2005 to 2020 based on the tool outlined above.

Notably the disease showing greatest projected were those that related to ageing. Potential increases of more than 45% between 2005 and 2020 were indicated for the following disease categories:

- Dementia 54% or 44 additional cases per annum
- Parkinsons disease 54% or 14 additional cases per annum
- Age related vision disorders, 51% or 29 additional cases per annum
- Prostate Cancer 50% or 16 additional cases per annum
- Stroke 49% or 43 additional cases per annum
- Benign Prostatic Hypertrophy 49% or 21 additional cases per annum

- Adult onset hearing loss 48% or 219 additional cases per annum
- Lung Cancer 47% or 10 additional cases per annum

Table 2: Southern Fleurieu Projected Estimates of Incident (Morbidity) Cases, number by selected disease categories for 2005 to 2020

Incidence #	TOTAL # 2005	TOTAL # 2010	TOTAL # 2015	TOTAL # 2020
<i>Communicable diseases, maternal and neonatal conditions</i>				
Acute respiratory infections				
Pneumonia	467	522	584	648
Other lower respiratory tract infections ^(d)	2386	2532	2665	2782
Non-communicable diseases				
Malignant neoplasms				
Colorectal cancer	33	37	43	48
Lung cancer	21	24	28	31
Breast cancer	25	28	31	33
Prostate cancer	32	37	43	48
Diabetes mellitus				
Type 2 diabetes	88	99	111	122
Mental disorders				
Alcohol dependence and harmful use	170	177	178	177
Depression	459	480	492	498
Bipolar affective disorder	5	6	6	6
Anxiety disorders	158	158	157	155
Panic disorder	9	9	10	10
Agoraphobia	6	6	6	6
Social phobia	22	23	24	23
Generalised anxiety disorder	28	29	30	31
Obsessive-compulsive disorder	7	7	8	8
Post-traumatic stress disorder	20	20	20	19
Nervous system and sense organ disorders				
Dementia & Alzheimer's disease	82	96	110	126
Parkinson's disease	26	31	35	40
Age-related vision disorders ^(k)	57	66	76	86
Adult-onset hearing loss ^(l)	453	521	596	672
Other nervous system disorders				
Cardiovascular disease				
Ischaemic heart disease ^(m)	203	232	263	294
Stroke	87	101	115	130
Chronic respiratory disease				
Chronic obstructive pulmonary disease ^(o)	46	52	58	64
Asthma	78	79	80	82
Other chronic respiratory diseases	18	20	22	24
Genitourinary diseases^(q)				
Benign prostatic hypertrophy	43	49	57	64
Musculoskeletal diseases				
Rheumatoid arthritis	8	8	9	10

Osteoarthritis	113	128	145	161
Unintentional injury				
Falls	550	589	627	666

Disclaimers and Explanatory Notes:

Data on current incidence rates are based on information from a variety of sources, can be incomplete and of varying quality. For example:

- ◆ Cancer counts are based on registry data. This data is very reliable;
- ◆ IHD & Stroke (ex TIA) are based on hospital separations. This is good data but it is more difficult to identify first events. Counts were limited to the first record for patient record number at each hospital site involving the relevant conditions;
- ◆ The other conditions are generally based on surveys or discrete epidemiological studies.

While incidence by age data was used, other factors are also associated with incidence, for example, aboriginality, socio-economic status and nursing home bed numbers. These are variables which can have significant influence when looking at small area estimates and projection models. However they were not included in the benchmark tool.

This data relates to morbidity, if wider population goals are being considered (eg pursuing SA strategic plan targets such as maximizing healthy life expectancy within your local area) then mortality figures may be well worth looking at too.

Updated estimates for 00-02 & 01-03 are almost complete and should be available in the first quarter of 2006.

Data were not age – sex standardised. Different age and sex structures of the population may have an influence on prevalence rates.

Predicted incidence rates are based on SA estimates of current incident rates only and do not account for local variables other than age, or future trends which may affect incident rates. Such local variables may include differences in the socio economic status or the distribution of multicultural or aboriginal populations within the community. Trends may include increasing life expectancy, lifestyle changes, environmental factors, significant health promotion activity and improvement in preventions or treatment over time.

References:

State Level Estimates of Incident (Morbidity) Cases, Rates per 100,000 population by age cohort and selected disease categories (Department of Health 2005)

Trends

The following information about trends and possible influences affecting incident rates is provided for parallel consideration with the predictions offered by the tool to enable these factors to be taken into account.

Cancer

Over recent decades developments in detection and treatment have improved the chances of survival for people with cancer.

The government designated cancer as a National Health Priority Area (NHPA) in 1996, identifying lung, melanoma skin, non-melanocytic skin, cervical, breast, colorectal and prostate cancers, and non-Hodgkin's lymphoma as priority cancers to be targeted (Department of Health and Ageing 2006). The NHPA initiative focuses public attention and policy on health areas known to contribute most to the burden of disease in Australia, and which have potential for significant health gains (Department of Health and Ageing 2006).

Early in the 20th century, cancer accounted for a relatively small proportion of deaths (7% of all male deaths and 8% of all female deaths in 1909). The death rate from cancer peaked in the 1980s, then declined slightly from 215 deaths per 100,000 people in 1985 to 188 per 100,000 in 2002, when cancer accounted for 31% of all male deaths and 26% of all female deaths.

Ironically, the increased proportion of cancer deaths partly reflects longer life expectancy in the population. That is, cancer is predominantly a disease of the elderly, and the longer people live, the more likely they are to die from cancer than from other conditions.

While there has been a decrease in cancer deaths since 1985, the cancer incidence rate increased between 1985 and 2000. In 1985, there were 392 new cases of cancer diagnosed per 100,000 population. A high incidence of prostate cancer, combined with slightly higher rates for breast and ovarian cancer, contributed to an overall peak in cancer incidence in 1994, when 478 new cases per 100,000 population were diagnosed. Cancer incidence then fell to a rate of 451 in 2000.

Of the seven priority cancers for which data are routinely collected, the incidence of lung cancer among men, and cervical cancer among women, decreased between 1985 and 2000. There was an increase in the incidence of prostate and colorectal cancer among men; lung and breast cancer among women; and melanoma skin cancer and non-Hodgkin's lymphoma for both men and women.

While changes in the incidence rates for specific cancers may reflect more, or fewer, people developing a type of cancer, they may also relate to medical advances that improve detection and identification of the site of origin of cancer in the body. For example, the increased incidence of prostate cancer has been largely attributed to the PSA test, which increased detection and reporting of latent prostate cancers (Smith & Armstrong 1998). Conversely, the halving of the incidence rate for cervical cancer between 1985 and 2000 (from 15 new cases per 100,000 women to 8) may be partly due to a national cervical screening program introduced in the early-1990s (AIHW 2004). Cervical cancer is one of the most preventable and curable of all cancers - up to 90% of cases of the most common type of cervical cancer can be prevented if cell changes are detected and treated early

(AIHW 2004). Thus screening, which encouraged women to have regular Pap smear tests, supported more effective control of this cancer.

In summary incidence rates may increase due to the ageing of the population and better detection. Incidence rates could decrease as a result of prevention such as screening and health promotion, along with improvements in treatment this could result in a decrease in death rates. To date this has shown up in decreases first in death rates (between 1985 and 2002) and in incidence rates (between 1994 and 2000).

A stabilization or even decrease in cancer incidence and death rates may mean that increases in the demand on health services resulting from Cancer may be purely from population growth and ageing. However this is dependent on increases in health promotion, screening and early detection, which will themselves put pressure on health services.

Diabetes

Diabetes is a common condition that contributes significantly to premature mortality, morbidity, disability and loss of potential years of life. The incidence and prevalence of diabetes are on the rise worldwide.

In 2002, diabetes was the sixth leading underlying cause of death of Australians (AIHW 2002). It was the underlying cause of 3,329 registered deaths (2.5% of all deaths). There were 8,138 deaths where diabetes was reported on death certificates in 2002, but not as the underlying cause. Diabetes-related deaths are substantially higher among Aboriginal and Torres Strait Islander people. (AIHW, 2000).

Estimates of current and future prevalence continue to increase. It was estimated that 700,000 Australians had diabetes in 1995, about half of whom were not aware that they had the condition. This figure is double that of the 1980's and was projected to rise to 770,000 by the year 2000 and to 950,000 by 2010 according to the National Health Priority Areas Report, Diabetes mellitus (1998).

The Australian Diabetes, Obesity and Lifestyle study (1999) estimated that the prevalence of diabetes was higher again, estimating that in 1999 about 940,000 (7.5%) Australians over the age of 25 years had diabetes (including diagnosed and undiagnosed cases). This study also reported that:

- ◆ for every known case of diabetes, there was one undiagnosed case
- ◆ the number of people with diabetes has trebled since a broadly-based blood survey was undertaken in 1981
- ◆ almost one in four Australians aged 25 years and over has diabetes or a condition of impaired glucose metabolism.

In recognition of the impact that diabetes has on the Australian community, and the potential for improved health outcomes, the Australian Health Ministers agreed in 1996 to make diabetes mellitus one of the National Health Priority Areas.

Type 1 diabetes cannot be prevented at present, although studies are in progress to investigate the causes of the disease. However, there is evidence that Type 2 diabetes can at least be delayed among high-risk groups through modification of risk factors. High-risk groups for primary prevention

include people with impaired glucose tolerance or gestational diabetes, and those with other risk factors for diabetes such as obesity and physical inactivity (AIHW 1998).

- ◆ About three-quarters of people with Type 2 diabetes aged 30 and over are overweight or obese. The risk of developing Type 2 diabetes is approximately five to ten times greater in those classified as obese than in those with an acceptable weight.
- ◆ Lack of physical activity is also associated with diabetes. People who exercise regularly have a 30 to 60 per cent lower risk of developing diabetes than those who do not.
- ◆ Age is another contributory factor to the development of diabetes.
- ◆ Studies linking low birth weight with later disease also suggest an increased lifetime risk for Type 2 diabetes.

Early detection is important because diabetes, in particular Type 2 diabetes, can remain asymptomatic and significant diabetes-related complications may set in before the diagnosis is made. The earlier a person with diabetes is diagnosed, the sooner treatment can be started to control blood glucose levels and delay the onset and progression of many diabetes-related complications (AIHW 1998).

The duration of poorly controlled diabetes is a major determinant of diabetes-related complications. Good glucose control can delay the onset and slow progression of complications in both types of diabetes. Following diagnosis, effective management of the disease is critical to improving health-related quality of life, as it reduces the risks and severity of complications and premature mortality (AIHW 1998).

While different studies predict different figures for the future incidence of diabetes, the message is clear. Diabetes is on the increase and this increase is very significant, being a composite of increasing population, ageing population and increasing incidence rates. It will have significant impact on health services both in responding to the associated complications of diabetes, in the management of diabetes to delay onset of these complications and in health promotion to reduce the incidence of type 2 diabetes.

Asthma

Perceptions of the trends in Asthma are not necessarily consistent. There are widespread reports that asthma has become more common in the last 20 years, particularly in Western nations (Burney 2002; Peat et al. 1994; Robertson et al. 1991). Some recent studies, however, suggest this trend may be levelling or decreasing (Anderson et al. 2004; Braun-Fahrlander et al. 2004; Devenny et al. 2004; Mommers et al. 2005; Robertson et al. 2004; Wong et al. 2004). However, the interpretation of these reports is complex since small differences in study methodology and definitions may confound comparisons between surveys. Furthermore, most surveys are based on self-reports of diagnosed asthma and these may be subject to changes in the tendency of doctors to apply the diagnostic label 'asthma'.

The Asthma in Australia report (2005) is probably the most recent information on incidence in Australia. The findings of this report confirm that asthma continues to be a common chronic condition among Australians, particularly children. However, over the past five to 10 years, there has been a substantial decline in deaths and hospitalisations and also in rates of GP consultation for

asthma. This has been accompanied by changes in the nature of drug treatment for asthma, and by an increase in expenditure on asthma, particularly for pharmaceuticals.

Some of the key findings of the report are as follows.

- ◆ A significant proportion of the Australian population has asthma. Asthma affects 14–16% of children and 10–12% of adults. These rates are high by international standards.
- ◆ The prevalence of asthma in Australia increased through the 1980s and 1990s, but evidence suggests there has been no further increase in recent years.
- ◆ In primary school-aged children, asthma is more common among boys than among girls. After teenage years, more women have asthma than men.
- ◆ Asthma is more common among Indigenous Australians, particularly adults, than among other Australians.
- ◆ Asthma is less common among Australians who were born in non-English-speaking countries than among other Australians.
- ◆ The number of deaths due to asthma has continued to decline. In 2003, 314 people died from asthma, representing 0.3% of all deaths. Asthma deaths have decreased in Australia since the early 1980s, but the rate of asthma deaths in Australia is still high in comparison to other countries.
- ◆ The risk of dying from asthma is highest in the elderly; however, asthma deaths occur in all age groups.
- ◆ Children aged 0 to 4 years are the group that most commonly visits general practitioners or emergency departments or is hospitalized for asthma.
- ◆ Since the 1990s, there has been a decline in the rate of general practice visits and hospitalizations for asthma in all age groups. The fall has been most pronounced in children.

In summary increases in the demand on health services from asthma will primarily result from population growth as the prevalence of this condition has leveled in recent years.

Cardiovascular Disease

Major Reference: (AIHW 2001)

Cardiovascular disease refers to all diseases involving the heart and blood vessels including coronary heart disease, stroke, peripheral vascular disease and heart failure. In Australia, cardiovascular disease kills more people than any other disease and creates enormous costs for the health care system. As the average life expectancy of Australians increases, cardiovascular disease is expected to become more common.

Statistics from the Australian Institute of Health and Welfare (AIHW 2001) show that in Australia:

- In 1995, an estimated 2.8 million Australians, 16% of the population, had cardiovascular conditions.
- More than 60% of people aged 75 and over had a cardiovascular condition in 1995 compared with less than 9% of those aged under 35.
- cardiovascular disease was responsible for 40% of all deaths
- coronary heart disease (mainly heart attacks) was the leading single cause of death, causing 22% of all deaths
- stroke was the second greatest single killer, causing 9% of all deaths

- cardiovascular disease was the principal diagnosis for 7% of all hospitalisations
- In 1999–00, cardiovascular problems represented 11% of all problems managed by general practitioners. Hypertension was the most common cardiovascular problem managed and was the most frequent problem seen in general practice overall, accounting for 5.7% of all problems.
- the cost of cardiovascular drugs amounted to \$1,180 million, 30% of government and patient costs for all prescription drugs
- cardiovascular conditions consuming most health system resources were coronary heart disease (\$894 million), high blood pressure (\$831 million) and stroke (\$630 million).

Over the last few decades there have been substantial and continuing falls in death rates, improvements in some risk factor levels, and major advances in treatment and care. Over the 12 year period 1987–98, death rates showed a total decline of 37.0% among males and 35.2% among females. Over the 26 years between 1972 and 1998, there was a decline in death rates of 64% for both males and females.

This decline is partly due to improved survival following cardiovascular events, and partly due to falls in the rate at which people get the disease, owing to improvements in and better management of the associated risk factors.

The major preventable risk factors for cardiovascular disease are tobacco smoking, high blood pressure, high blood cholesterol, overweight and obesity, insufficient physical activity and diabetes. For stroke, atrial fibrillation is a further risk factor. Research continues on other possible risk factors, including stress and social factors (Refer to discussion on risk factors)

Any future decrease in incidence and death rates from cardiovascular disease will be somewhat counteracted by population growth. Continued decreases in incidence and death rates will also be dependent on continued health promotion, intervention and advances in treatment, which will themselves put pressure on health services.

Respiratory Disease

According to an August 2005 report of the Australian Institute of Health and Welfare, age standardized rates for chronic obstructive pulmonary disease in Australia have shown a steady decline from 34 incidents per 100,000 population in 1997 to 28 in 2002 and 26.1 in 2003.

The report states that the prevalence of COPD in Australia is difficult to determine due to major differences in how the disease is defined and the poor match between definition and available data. As such the estimated prevalence of emphysema and bronchitis provided by the National Health Survey can only be used as a rough approximation of the prevalence of COPD in Australia.

The rate of male deaths from COPD increased markedly from the early 1950s until the early 1970s, but has been decreasing since the 1980s. In contrast, the female death rate has been increasing since the early 1960s, albeit it has plateaued in the last five years. Despite a marked decrease in the male death rate over the last two decades, it remains about double the female rate.

Reductions in male mortality from COPD probably reflect the decline in tobacco smoking rates in the last three decades and may also reflect better management of the disease. The increase in the female

rate on the other hand could be due to the delayed effect of an increase in the proportion of female smokers since the late 1970s.

Estimates from respondents' self-reports to the 2001 National Health Survey indicate that about 3.5% of the Australian population had emphysema or bronchitis (ABS 2002). This compares to 3.0% in 1989 and 4.1% in 1995.

There is a likelihood that the true prevalence of COPD in Australia has been underestimated. This is because COPD is usually not diagnosed until it begins to restrict a person's lifestyle and is, by that time, moderately advanced.

Osteoporosis

Osteoporosis Australia reports that in 2002, 1.9 million people in Australia had osteoporosis. This number is expected to rise to 2.2 million by the year 2006 and to 3 million by the year 2021. This growth is expected primarily as a result of the ageing of the population rather than an increase in incidence rates.

Sanders et al (1999) estimated that in 1996 about 83 000 Australians aged 35 years and over sustained fractures. They predict that by 2006 the total number of fractures per year will increase by 25%, to 104 000

Good nutrition (especially calcium and vitamin D), Healthy lifestyle (not smoking, low alcohol intake) and Exercise (keeps bones and muscles strong) contribute to strong healthy bones. Current therapies (such as hormone replacement therapy and bisphosphonates) may reduce fracture rates by 50%, but their cost-effectiveness remains controversial. Recently, a large randomised controlled trial has been carried out, confirming that parathyroid hormone produces substantial increases in bone density and a reduced incidence of fractures.

Reduction of risk factors and advances in treatment may reduce incidence rates of osteoporosis and the incidence of related complications such as fractures.

Arthritis

A report by Access Economics (2005) reported that there are 3.4 million Australians with arthritis - 16.7% of the population. If current trends continue in Australia, 1 in five people - around 4.6 million - will be living with arthritis in 2020.

In 2004 and 2005, The Arthritis Foundation of America developed a list of the top 10 advances in Arthritis. These included

- Two new experimental biologic agents with promising results showing significant and sustained improvement in disease symptoms in recent clinical trials.
- Abatacept (*Orencia*), was approved by the U.S. Food and Drug Administration (FDA) on December 23, 2005. For those who completed two years of treatment in the trial of this drug, nearly half sustained a remission.

- Scientists have discovered a variation in a gene linked with an increased risk for Rheumatoid Arthritis. These findings point to a potential new therapeutic target aimed at the source of the overactive immune process and not just the symptoms.
- Researchers identified several biological markers that predicted who is at risk for more severe disease. These markers could improve early diagnosis and treatment and reduce joint damage and side effects.
- The potential of a novel therapeutic agent based for postmenopausal women with low bone density, appears to rapidly inhibit the bone turnover process, resulting in improvements in hip bone mineral density.

According to the Access Economics report (2005) there would be 517,000 fewer cases by 2020 if an intervention in 2005 enabled arthritis onset to be delayed by 10 years. Currently interventions can include weight loss, education programs, surgery, exercise and pain management

Arthritis is a highly prevalent and costly disease, necessarily a National Health Priority due to its extent and socio-economic impacts. Increases in the number of people with Arthritis will result primarily from population growth and ageing. Cost-effective interventions and continued research and development to delay the onset of osteoarthritis (the most common form of arthritis in Australia) in particular offer potential for substantial reductions in the future projected costs and burden of the disease.

Parkinsons Disease

Parkinson's disease is the second most common neurodegeneration after Alzheimer's disease. The cause of the disease remains unknown despite extensive surveys of potential risk factors.

Epidemiological studies continue to suggest the disorder may be caused by environmental factors such as the use of herbicides and pesticides, genetic predisposition, a possible role of manganese toxicity in welders, the apparent protective effect of smoking and the less well established negative association between Parkinson's disease and caffeine intake (University of Toronto).

There has been progress in the treatment of symptoms as well as delaying the diseases progression. There is also considerable hope for the development of effective neurorestorative/neuroregenerative therapies including novel gene therapies and other cell-based therapies (possibly including stem cells). Parkinson's disease also shares common ground with many other neurodegenerative disorders and it is likely that breakthroughs in our understanding of conditions such as Alzheimer's disease will have important implications for Parkinson's disease as well.

Very little seems to be written on the projected prevalence of this disease, other than that which reflects changes resulting purely from the ageing of the population. It appears that limited understanding of causes and unclear impacts of potential treatments are making it inappropriate to predict changes in the incidence of this disease.

Hearing Loss

According to Malcolm (2003), 1 in 5 Australians suffer from hearing loss and this figure rises to 1 in 3 of those over 65 years of age. As a result over 2 million adults and children in Australia currently suffer from hearing disabilities. With rising noise levels in everyday life, and the aging of the population, the number of people with hearing loss is predicted to continue to rise.

New medical and technological advances in treating and managing hearing loss may reduce the disability experienced as a result of hearing loss, however there are associated costs with making these advances available to affected individuals. Medical advances include bilateral cochlear implants, brain stem implantation and complex ear surgery. Cochlear implants alone have delivered hearing worldwide to more than 46,000 children and adults.

In relation to new technology, the progress has been enormous and there seems to be no end in sight. There is now a wide variety of technology products available to the hearing impaired to assist them in their daily lives. For example, assistive listening devices operate by excluding background noise and providing individual volume control, flashing and vibrating alarms, to home audit loops systems and infra red listening devices.

Vision Impairment

According to the Australian Institute of Health and Welfare (2005), ageing is the major contributing factor to visual impairment and blindness. Prevalence rates are greater among successive age groups and rates of major vision-threatening conditions are also strongly age-related. Unless these rates fall markedly, the number of older people with vision problems will increase over future decades as the population ages. Some vision problems among older Australians are acquired early in life (e.g. congenital eye disorders, retinitis pigmentosa and eye trauma) but at a population level their prevalence is small compared with vision problems associated with ageing towards the end of life.

Over recent decades advances both in the aids that can compensate for vision impairment and surgical interventions have continued. When symptoms begin to appear, spectacles such as glasses, strong bifocals, magnifying glasses or other visual aids may be used to improve vision in the case of most vision impairments.

- When cataracts become serious enough to affect daily life, a simple and effective surgical procedure can restore vision.
- Since the true causal keys to macular degeneration have not yet been discovered, evidence-based potential for primary prevention (preventing the onset of AMD) does not exist. There is no cure for age-related macular degeneration (AMD) but treatment may delay or halt its progress. Laser therapies can help reduce the short-term risk of advancing vision loss in selected cases. Such intervention relies on early detection. Though screening is not currently possible for macular degeneration, new technology may make it feasible in the future. (Steun 2004). There is some evidence that, in people with particular indications of AMD, taking a supplement of antioxidants and certain minerals may delay progression of the disease but further research is needed (AIHW 2005).
- In many cases medical treatment, laser treatment or surgery can slow or halt the progress of glaucoma but any vision loss cannot be restored. Screening and early treatment represent the two most effective opportunities to improve outcomes. Since the cause of glaucoma is unknown, primary prevention is not yet possible. Secondary prevention relying on early detection is the current first choice for controlling the disease on a population basis.
- Diabetic retinopathy can be treated successfully by laser surgery if identified early. Improved treatment and monitoring of diabetes will aid in prevention and early intervention.

However Presbyopia remains the most common ageing related vision impairment, treated primarily with prescription eyewear, e.g. reading glasses, bifocal glasses or progressive addition lenses (multifocal glasses). Contact lenses may also be used (AIHW 2005)

Steun (2004) reports that with 1.6 million Americans currently diagnosed with late macular degeneration, this number will increase to 2.7 million by 2020, and 5.5 million by 2050, if no significant primary preventive efforts occur over the next 20 to 30 years. Such a dramatic increase in the burden of illness will make macular degeneration management a top priority for vision rehabilitation organizations. The Holy Grail of the genetic cause of AMD and its genetic management (gene treatment) is unlikely to be achieved within the next 20 years. As a result, service providers' strategic plans must include ways and means to offer clinical and rehabilitative services to the increased numbers of individuals who will develop the disease.

Falls

While the number of falls over past years has certainly increased, this seems to be predominantly the result of population ageing. Age adjusted rates for falls have fluctuated over the past years showing limited trends.

During financial years 1993–94 to 1997–98, the number of hospitalizations due to accidental falls in people age 65 years and above increased for both males and females, by 24% in males and 19%, in females, reflecting a growth in the population at risk, especially for the oldest and therefore highest-risk group. The trend in age standardised rates indicates that there has been less change in the rate of hospitalisation from accidental falls once the increased numbers of elderly and the age-composition of these elderly has been taken into account, particularly for females.

An examination of age-adjusted rates of death from accidental falls for males and females aged 65 years and above during the period 1979 to 1998 showed fluctuations in death rates in both sexes during. Death rates from accidental falls declined in both sexes from the late 1980s to the early 1990s. The lowest rate was achieved for both sexes in 1993 at 39.0 for male and 28.9 for female deaths per 100,000 population. Male and female death rates from accidental falls have trended slightly upward since 1993.

Mental Illness

In contrast to the overall health gains of the world's populations in recent decades, the burden of mental illness has grown (WHO 2004). By 2020 depression alone will constitute one of the largest health problems worldwide (Murray & Lopez 1996).

The World Health Report 2001 Mental Health: New Understanding, New Hope (WHO) notes:

- Mental and behavioural health disorders are common, affecting more than 25% of all people at some time during their lives and are present at any point in time in about 10% of the adult population.
- Mental and neurological disorders accounted for 10.5% of the global burden of disease in 1990.

This increased to 12% in 2000 and an analysis of trends indicates this will increase to 15% by 2020.

Risk Factors

The State Plan (SA government 2004) identified a range of targets within their objective relating to "improving wellbeing" (Objective 2). These include:

- ◆ Reduce the percentage of young cigarette smokers by 10% within 10 years
- ◆ Reduce the percentage of South Australians who are overweight or obese by 10% within 10 years
- ◆ Exceed the Australian average for participation in sport and physical activity within 10 years.

Both the activity needed to achieve these targets and the impact, if achieved, of these targets on demand for related health services should be considered when planning future health services across the region.

Smoking

Smoking is associated with an increased risk of developing many diseases including lung cancer. In 2001, 24% of the adult population were current smokers, a decrease since 1989-90 when 28% smoked. Smoking rates were consistently higher among men. In keeping with this, the rate of incidence of lung cancer was also higher among men. However, the gap between men and women is closing, with the incidence of lung cancer declining among men (from 81 new cases per 100,000 men in 1985, to 62 in 2000) but increasing among women (from 19 to 27). As there is a time lag between exposure to the carcinogenic agents of tobacco and the onset of cancer, this increase reflects smoking patterns of around 20 years ago, when the proportion of female smokers increased relative to male smokers.

Currently 24.7% of the population aged 16-35 years are smokers. Based on the 2005 population, the objective to reduce the percentage of young cigarette smokers by 10% over the next 10 years will involve reducing the number of smokers in the Southern Fleurieu from the current 1109 smokers (based on 24.7% smokers), to 685 (based on 14.7% smokers and population growth). Thus use of the information provided will need to consider

- ◆ The possible impact of fewer smokers on demand for related health services, given that the effect of any reduction may not be realised for up to 20 years.
- ◆ Measures needed to achieve the objective of 424 fewer smokers (aged 16-35) than that expected across the Fleurieu Peninsula.

Obesity

According to the Australian Institute of Health and Welfare (2003), the prevalence of obesity has risen so dramatically worldwide that the World Health Organization has called it a 'global epidemic' and Australia is no exception. Data based on measured height and weight show high proportions of adults are overweight:

- In 1999–2000, 17% of men and 20% of women aged 25–64 years were classified as obese.
- A further 49% of men and 27% of women aged 25–64 years were classified as overweight but not obese.
- Between 1980 and 1999–2000 the proportion of men aged 25–64 years who were obese rose from 9% to 17%. In the same period, the obesity rate among women of that age more than doubled, from 8% to 20%.
- Data shows that the prevalence of obesity among Australians is lower than that for adults of the same age in the United Kingdom and the United States, higher than among people of the same age in New Zealand and twice as high as in Italy (9%).

Based on the 2005 population, the objective to reduce the percentage of individuals who are obese by 10% over the next 10 years, means 1150 fewer obese individuals in the Southern Fleurieu than that estimated in 2005, or 1888 less than that expected in 2015 if prevalence were to remain the same and population growth over the next 10 years is considered. Again, planning considerations should consider both:

- ◆ The possible impact of reduced obesity on demand for related health services.
- ◆ Measures needed to achieve the objective of 1150 fewer people who are obese, despite population growth.

Physical Activity

In Australia, in 1999, more than 43% of the adult Australian population did not undertake physical activity at the levels recommended to achieve a health benefit (Heart, Stroke and Vascular Diseases: Australian Facts 2001). AIHW (2000) presents results from a national physical activity survey of Australian adults conducted in November and December 1999. It shows that while 88% of people believe that their health could be improved by being generally more active, the average number of times and amount of time people spent participating each week in walking, moderate and vigorous leisure-time physical activity declined between 1997 and 1999. The proportion of physically inactive Australians increased from 13% in 1997 to 15% in 1999

Hypertension

In Australia in 1999, almost three million Australians (aged 25 and over) had high blood pressure or were on medication for that condition (Heart, Stroke and Vascular Diseases: Australian Facts 2001)

Data from the 1999-2000 Australian Diabetes, Obesity and Lifestyle Study indicate that 30% or 3.7 million Australians over the age of 25 years had high blood pressure or were on medication for that condition - 32% of men and 27% of women. The proportion of men and women with high blood pressure increased with age.

Since 1980 the prevalence of high blood pressure has decreased markedly for both males and females. The proportion of men aged 25-64 years with high blood pressure has more than halved from 47% in 1980 to 21% in 1999-2000 and has halved for women from 32% in 1980 to 16% in 1999-2000.

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5. Dementia

Process for developing planning tool

Prevalence rates (by age cohort) prepared by Access Economics (The Dementia Epidemic: Economic Impact and positive solutions for Australia 2003) are multiplied by any given population (corresponding age cohorts) to predict the number of individuals with dementia in that population.

Henry Brodaty, Brian M Draper & Lee-Fay Low (2003) categorized individuals with dementia according to different behavioural and psychological symptoms of dementia (BPSD) and provided a means for predicting the number of individuals in each category as the basis for comprehensive planning of service delivery. The categories were:

- ◆ No Dementia.
- ◆ Dementia with no behavioural or psychological symptoms of dementia. Approximately 40% of dementia is predicted to fall in this category.
- ◆ Dementia with mild behavioural or psychological symptoms of dementia: This category is characterized by apathy, mild depression, repetitive questioning and shadowing. Individuals may respond to distraction and reassurance and symptoms may be prevented by altering interactions with the environment. Approximately 30% of dementia prevalence is predicted to be in this category.
- ◆ Dementia with moderate behavioural or psychological symptoms of dementia: This category is characterized by major depression, verbal aggression, low level (non-dangerous) physical aggression, psychosis, sexual disinhibition & wandering. Approximately 20% of dementia prevalence is predicted to be in this category.
- ◆ Dementia with severe behavioural or psychological symptoms of dementia: This category is characterized by severe disturbances such as depression, aggression and marked agitation. Individuals affected at this level usually live in residential facilities. Approximately 10% of dementia prevalence is predicted to be in this category.
- ◆ Dementia with very severe behavioural or psychological symptoms of dementia: This category is characterized by superimposed delirium, acute psychiatric problems, severe depression with suicidality and severe behavioral disturbances such as dangerous physical aggression. Approximately 1% of dementia prevalence is predicted to be in this category.
- ◆ Dementia with extreme behavioural or psychological symptoms of dementia: This category is characterized physical violence and requires management in a specialist care unit. This category of dementia is very rare.

These prevalence rates by behavioural and psychological symptoms were applied to the predicted population of individuals with dementia, determined as above, in order to estimate the categories of dependence for this population. Brodaty et al (2003) report that BPSD create problems for the individual, the community and the healthcare system. They are associated with lowered functional abilities, poorer prognosis, an increased burden on caregivers, higher costs of care and earlier institutionalization.

Projections

Table (3) shows 5 yearly projections for dementia prevalence in the Southern Fleurieu from 2005 to 2020 determined as outlined above. These projections show a total increase of 359 persons or 79% between 2005 and 2020.

Table (4) shows 5 yearly projections for categories of dementia dependence in the Southern Fleurieu from 2005 to 2020 determined as outlined above. This shows there will be 143 more individuals with dementia and no behavioural or psychological symptoms of dementia (BPSD) 107 more people with mild BPSD (most common in community settings) in 2020, 72 more people with moderate BPSD (present in both community and residential settings) 36 more people with severe BPSD (most common in residential settings) and less than 3 more people with extreme BPSD.

Table 3: Projected prevalence of dementia for the Southern Fleurieu Peninsula at 5 year intervals between 2005 and 2020.

Age Group	2005 Projected Dementia Prevalence	2010 Projected Dementia Prevalence	2015 Projected Dementia Prevalence	2020 Projected Dementia Prevalence
0-24	0	0	0	0
25-64	13	14	14	15
65-74	55	61	73	84
75-84	163	179	191	219
85+	220	322	434	493
total	452	576	713	811

Table 4: Projected prevalence of dementia by Behavioural and Psychological Symptoms of Dementia (BPSD)

(based on Henry Brodaty, Brian M Draper & Lee-Fay Low 2003)

	2005	2010	2015	2020
No BPSD	181	230	285	324
Mild BPSD	136	173	214	243
Moderate BPSD	90	115	143	162
Severe BPSD	45	58	71	81
Very severe BPSD - less than:	5	6	7	8

Disclaimers and Explanatory Notes

There are a number of formulae available for determining the prevalence of dementia in a population. The formula used by Access Economics has been widely accepted and is based on ABS special data request and international meta-analyses. The standard error may be relatively higher for the 25-64 age groups. Prevalence under age 24 was not statistically significant.

Categories of dependence as projected by Brodaty, Draper & Low do not appear to have been widely used and the validity of this tool in use with different communities is unclear.

This tool does not account for social, ethnic or environmental influences that may have some effect on the prevalence of dementia in different communities.

References

Brodaty H, Draper B & Low L, 2003, Behavioural and Psychological Symptoms of Dementia: a seven –tiered model of service delivery, *The Medical Journal of Australia*, 178 (5) 231-234.

The Dementia Epidemic: Economic Impact and positive solutions for Australia 2003, Prepared for Alzheimers Australia by Access Economics, Canberra March 2003

Trends

According to recent projections the prevalence of dementia is forecast to grow rapidly (Access Economics 2003). However these projections are based on population ageing alone.

Cardiovascular risk factors contribute to Vascular Dementia and there is increasing evidence that they also contribute to Alzheimers Disease. These include high blood pressure, narrowing of the arteries, ischaemic heart disease and attacks, diabetes high cholesterol and smoking. Reduction of these risk factors may have an impact on the incidence of dementia.

Studies have suggested that specific occupational exposures may increase Alzheimers Disease such as manual work, exposure to organic solvents or electromagnetic fields. If further research supports these suggestions preventative measures may result in a reduction in the incidence of dementia.

Decreased prevalence may result if new treatments, including pharmaceutical therapies and lifestyle changes prevent or postpone dementia. Possibilities include a role for anti-inflammatory drugs, statins (cholesterol lowering drugs) and Oestrogen as well as dietary influences including antioxidants, seafood, wine, ginkgo biloba, folic acid and vitamins B2 & B12 in protecting against dementia. However the degree of impact is unknown and cannot be included when projecting future prevalence of the disease.

Surgical interventions are very much in the experimental stages. A US neurosurgeon published results of experimental shunts, increasing the flow of cerebrospinal fluid, slowing disease progression. Another study suggested to improve symptoms involved placing part of the omentum (a biochemical rich membrane of fat and blood vessels in the abdomen) directly on the brain.

As dementia is primarily a disease of advanced ageing, the more life expectancy increases with improved prevention and treatment of other diseases, the more prevalent dementia is expected to become.

References

The Dementia Epidemic: Economic Impact and positive solutions for Australia 2003,
Prepared for Alzheimers Australia by Access Economics, Canberra March 2003

6. Public Dental Services & Infrastructure

Process for developing planning tool

SA Dental Service has a comprehensive management information system, providing:

- Population oral health levels, by population
- Number of eligible client and participation levels by population
- Services/time required per client, by population
- Output per dental provider, by population
- Dental and support staffing requirements.

This information forms the basis of the calculations that SA Dental Service uses to plan community based infrastructure requirements.

Generically, the following formulae apply for a population of 100,000 adults/children:

$$= \frac{100,000 \text{ (adult pop.)} \times .33^* \text{ (eligible)} \times .15^{**} \text{ demand}}{1000 \text{ (Patient load per dentist per yr)}} \quad = 4.95 \text{ chairs}$$

(eligible adults)

$$= \frac{100,000 \text{ (child pop.)} \times .56^* \text{ (consent rate)}}{2800 \text{ (Patient load per dental therapist per yr***)}} \quad = 20.0 \text{ chairs}$$

(children)

The child population is the population aged 0-18 years. Adult population is the population 18 years and over.

These formulae can be weighted for specific needs, or local differences in particular areas.

Staffing requirements are determined in line with the following:

1 chair = 1 dental provider

1 dental provider (adult care) = 0.3 receptionist, 1.0 dental assistant

1 dental provider (child care) = 0.5 receptionist, 0.5 dental assistant

10 chairs = 1.0 manager

Spatial requirements are then built around ratio of support spaces to chair numbers eg. Autoclave requirements dictate size of sterilising room.

Projections

Table (5) shows 5 yearly projections for public dental resources in the Southern Fleurieu from 2005 to 2020 based on the tool outlined above. These projections show that public dental services for children are unlikely to increase in the next 15 years while adult dental services may require an increase of around 30%.

Table 5: Projected Public Dental infrastructure 2005-2020

SA Dental Services Planning Formula				
Planning Basis for Public Dental Services Infrastructure				
Anne Pak-Poy, Director Service Planning, SA Dental Service, November 2005				
	2005	2010	2015	2020
Adult				
Chairs	1.0	1.1	1.2	1.3
Providers	1.0	1.1	1.2	1.3
Receptionist	0.3	0.3	.4	.4
Dental Assist.	1.0	1.1	1.2	1.3
Childrens				
Chairs	1.1	1.1	1	1
Providers	1.1	1.1	1	1
Receptionist	0.5	0.5	0.5	0.5
Dental Assist.	0.5	0.5	0.5	0.5

Disclaimers and Explanatory Notes

Data was not available for the required age cohorts 0-17yrs and 18+ years for this planning formula. Instead age cohorts 0-19yrs and 20+ years were used and will affect the resulting projections.

Eligible populations (*) are variable, reflecting the percentage of the population that are health card holders. The level of demand (**) reflects the proportion of the eligible population likely to access a service and is lower than actual due to private sector contracting – the number of people with private health insurance and access to private dentists. The patient load (***) is the number of patients a Dentist can see each year. Patient load can vary with special needs which result in a dentist taking longer with each patient. These special needs might include communication difficulties in communities with large culturally and linguistically diverse populations. Age profiles of the target community are not included as a variable.

References

Anne Pak-Poy, Director Service Planning, SA Dental Service November 2005

Trends

When asked if there were any special weightings or considerations for communities with high proportion of older people in their planning formula, SA Dental Service reported that while there were weightings for special needs groups, the aged were not one of these. According to the SA Dental Service, older age groups don't necessarily place a higher demand on public dental services. The high incidence of dentures, results in a lower rather than higher demand on services. The highest public dental service users are reported to be the 20 – 50 yrs age groups.

However a number of contributors to a Senate Committee inquiry into Public Dental Services in 1998 identified that there is a trend towards increased retention of teeth by

older people. It was proposed that this brings with it increased tooth decay and periodontal disease and an increased need for dental care. An AIHW report found that the number of natural teeth in older people in 1994 was 62.1% greater than it was in 1989. The number of older people who have dentures is rapidly decreasing and it is estimated that by 2020 only about 20% of the older population will have full upper and lower dentures. Dr Wendell Evans, Senior Lecturer in Preventative and Community Dentistry at the University of Melbourne emphasized to the senate committee that ‘as one ages, the consequences for dental needs are that they tend to become more, rather than less, complex’.

Council on the Ageing provided evidence to the senate committee that the number of people with dementia is increasing and in the future these individuals will have their own teeth. This was seen to translate into difficulties in the provision of dental care and services for these individuals.

This information tends to predict that an ageing population will progressively increase the demand for public dental services and reduce the potential patient load (number of patients a dentist can see over a year). While the SA Dental Service have a clear formula for planning public dental services, unless they take this into consideration, it may not serve communities with high proportions of older people well.

The 1998 Parliamentary Inquiry provided a number of recommendations. One of these recommendations was that the ‘use of dental auxiliaries such as therapists and hygienists be expanded, particularly to cater for the needs of specific disadvantaged groups and that, to this end, the States and Territories be encouraged to review legislation restricting the employment of such auxiliaries. Such changes would impact on the human resource requirements projected for the provision of public dental services.

In 2005, the National Rural Health Alliance released a position paper titled “Public dental services in Australia: whose responsibility”. The paper commented on the success of the Commonwealth Dental Health Program introduced in 1994 to improve access to and waiting times for public dental services by increasing public dental resources and subsidizing patients with concession cards to see private dentists for restorative dental treatment. The program was reported to have achieved significant improvements in reported dental health with an additional 200,000 patients receiving public dental services per year until the program was axed in 1996. The National Rural Health Alliance recommends that ‘a long-term Commonwealth Government-funded dental health scheme should be re-established as a matter of urgency’. Additional government funding would be expected to change the planning formula used by the SA Dental Service. Models such as that used under the Commonwealth Dental Health Program would influence demand on private dental services.

References

National Rural Health Alliance, Position Paper – Public dental services in Australia, October 2005, Deakin West ACT.

Parliament of Australia, Senate Committee, *Inquiry into Public Dental Services*, May 1998, Commonwealth of Australia, Canberra.

7. General Practitioners

Process for developing planning tool

Information was obtained from Medicare Australia showing the number of actual Category 1 professional attendances (General Practitioner) per 100,000 population by age cohort for South Australia and Australia processed from July 2004 to June 2005 (Commonwealth of Australia 2005, www.medicareaustralia.gov.au). (See Appendix 2 Table 1)

Figures were divided by 100,000 to identify a per capita attendance rate. This is then multiplied by the population in question to predict future attendances. Predictions may be based on SA or Australian attendance rates (July 2004-June 2005).

The number of attendances per full time equivalent (FTE) General Practitioner (GP) was determined by dividing the number of estimated Category 1 professional attendances for 2005 by the 32 FTE GP's (Southern Division of General Practice September 2005) located in the Southern Fleurieu at this time. This equated to 5840 attendances per FTE GP.

Predicted numbers of attendances can then be divided by 5840 to determine the number of GP's required of any population. See Table 1.

Projections

Table (6) shows 5 yearly projections for category 1 professional attendances and GP workforce requirements in the Southern Fleurieu from 2005 to 2020 calculated as outlined above. These projections show that the GP attendances will increase by 28% between 2005 and 2020. In order to maintain the current level of service delivery the Southern Fleurieu will need to attract the services of 8.9 FTE additional General Practitioners over this period.

Table 6: Projected category 1 professional attendances and corresponding workforce requirements (General Practitioners) - Southern Fleurieu Peninsula 2005-2020

	2005 Projection Based on SA attendances	2010 Projection Based on SA attendances	2015 Projection Based on SA attendances	2020 Projection Based on SA attendances
Age Range				
0-4yrs	6,886	6,589	6,583	6,642
5-14yrs	8,475	8,001	7,583	7,329
15-24yrs	9,376	9,736	9,527	8,978
25-34yrs	10,204	10,477	10,833	10,893
35-44yrs	15,626	14,547	14,240	14,102
45-54yrs	22,360	24,029	23,475	22,510
55-64yrs	32,689	37,937	41,134	43,750
65-74yrs	41,108	45,529	54,653	63,102
75-84yrs	31,677	34,633	37,113	42,549
>=85yrs	8,445	12,343	16,623	18,890
TOTAL Attendances	186,844	203,822	221,765	238,746
GP's required	32.0	34.9	38.0	40.9

Disclaimers and Explanatory Notes

This data is compiled using the assumption that the length of attendances is consistent across age groups. This assumption is likely to be inaccurate and therefore impact on the accuracy of projections.

This tool estimates the number of GP's required to maintain the current level of service. GP numbers are based on the number of attendances per GP in 2005. Thus there is an underlying assumption that both the current level of service and current workload per GP is satisfactory.

The figures in the report from Medicare Australia include only those services that are performed by a registered provider, for services that qualify for Medicare Benefit and for which a claim has been processed by Medicare Australia. They do not include services provided by hospital doctors to public patients in public hospitals or services that qualify for a benefit under the Department of Veterans' Affairs National Treatment Account.

The data used relates to service usage across SA or Australia. This data therefore reflects service usage of populations that generally have access to services provided by hospital doctors in addition to those offered by a general practice. Populations that do not have equivalent access to hospital doctors would then be expected to show higher usage of general practitioners. This is not taken into account in this tool.

Medicare Australia has taken every care to ensure the data supplied is accurate but does not warrant that the data is error free and does not accept any liability for errors or omissions in the data.

References

Medicare Australia, Professional Attendances processed from July 2004 to June 2005, Commonwealth of Australia 2005, Last Updated February 24, 2006

Trends

An increasing role for the General Practitioner is a focal point of recent focus on a Primary Health approach to health care. This role is reflected in initiatives such as the Enhanced Primary Care Initiatives under the Medical Benefits Scheme. If such initiatives continue to be supported by public policy, are adequately resourced (including human resources) and are embraced by the industry this will potentially increase demand on General Practices.

Two relatively new professional nursing roles have the capacity to complement the role of the General Practitioner and may potentially change the nature of human resourcing for services traditionally provided only by the GP, both in the general practice and other health settings.

Practice Nurses

According to the 2004 report "General Practice Nursing in Australia", General Practice nursing has the potential to contribute to the enhancement of primary health care in Australian general practice. The report recognizes that there is presently little recognition, acceptance, encouragement, education or support available to build the capacity of nurses to contribute to the future of general practice. However the report sees the potential to move towards a future for general practice that sees nurses contributing as professionals in their own right, although not practicing independently, responding to the dynamic and changing needs of primary health care and enhancing the care that is provided to the Australian public.

The nurses and General Practitioners who participated in the project expressed a view that the future general practice nurse will undertake a greater integration role with more time spent on clinical care and clinical organisation, and less time spent on practice administration. In the future, the general practice nurse will contribute to the safe and efficient delivery of quality health care, working in close collaboration with the GP and other health care professionals.

Nurse Practitioner

The nurse practitioner role is a relatively new role in the Australian health care context. The National Consensus Statement on Nurse Practitioners in Australia, endorsed in October 2003 defines a nurse practitioner as a registered nurse who has been authorised by the State or Territory regulatory authority to use the title. The role of the nurse practitioner is characterised by clinical assessment and therapeutic management of health and illness presentations within their scope of practice. This may include the initiation of diagnostic investigations, the prescription of medicines, and referral to other health care providers. Nurse practitioners practice in metropolitan, rural and remote areas of Australia, in both the public and private sectors, and in all clinical areas.

Since 1992 Australia has been considering the Nurse Practitioner role which resulted in ten pilot site projects commencing during 1995 in regional, rural and remote locations. Areas of practice to be examined were competencies, accountability, diagnostic imaging, diagnostic

pathology, prescription of medications, referral procedures and professional indemnity insurance. Research from these projects found that:

'nurse practitioners were feasible, safe and effective in their roles and provide quality health services in the range of settings researched' Access by patients to health services was improved and patient expectations were satisfied.

Subsequently in 1999, in what has been described as a milestone for Australian Nursing forty nurse practitioner positions were made available throughout New South Wales (Duffy, 2000).

'For the first time in Australia, selected experienced registered nurses will have access to clinical privileges which will enable them to take full responsibility for the management of their patients'. (Duffy, 2000).

References

Duffy, E. (2000) Nurse Practitioner / Advanced Practice Nursing Roles in Australia, Evolving Role and Practice Issues: Nurse Practitioners in Australia. Education/Practice Subgroup of the International Nurse Practitioner/Advanced Practice Nursing Network, Monash University School of Rural Health 2000

National Consensus Statement on Nurse Practitioners in Australia, October 2003, Australian Nursing Federation, Kingston ACT 2604

Royal Australian College of General Practitioners & Royal College of Nursing, Australia *General Practice Nursing in Australia*, May 2004

8. Disability

Process for developing planning tool

The Survey of Disability, Ageing and Carers (SDAC) was conducted by the Australian Bureau of Statistics (ABS) throughout Australia, from June to November 2003. The primary objective of the survey was to collect information about three population groups, being; people with a disability, older people (i.e. those aged 60 years and over) and people who provide assistance to older people and people with disabilities (Carers).

Table 6 (South Australia) of the 2003 ABS study on Disability, Ageing and Carers shows estimates of disability status by age and living arrangements for all persons. This was adapted to show the estimated prevalence and severity of disability as a percentage of the population rather than estimated numbers (Appendix 3 table 1). These percentages can then be multiplied by any notional population to project the number of people with disabilities, the severity of disability and living arrangements of these individuals within a population.

Projections

Table (7) shows 5 yearly projections for disability status by age and living arrangements in the Southern Fleurieu from 2005 to 2020 based on the tool outlined above. The table shows the number of younger disabled in the Southern Fleurieu is expected to decrease very slightly while individuals with a disability over the age of 60 years will increase substantially (over 50%).

Table 7: Projected number of persons with a disability by Severity, age and living arrangement - Southern Fleurieu Peninsula 2005 - 2020

**BASED ON: Australian Bureau of Statistics, cat. no. 4430.0 Disability, Ageing and Carers
Table 6. ALL PERSONS, Disability status by age and living arrangements - South Australia - 2003**

		Profound or severe core- activity limitation(a)	Moderate or mild core- activity limitation(a)	Schooling or employment restriction	All with specific limitations or restrictions(b)	All with reported disability(c)	No reported disability	Total
0-59 YEARS								
Lives in a private dwelling	Total 2005	736	1092	2046	2383	2878	14582	17460
	Total 2010	744	1104	2068	2409	2909	14741	
	Total 2015	741	1099	2059	2398	2896	14676	
	Total 2020	729	1081	2026	2360	2850	14442	
Lives in a non-private dwelling	Total 2005	22	-	-	22	23	77	100
	Total 2010	22	-	-	22	23	78	
	Total 2015	22	-	-	22	23	78	
	Total 2020	21	-	-	21	23	77	
60 YEARS AND OVER								
Lives in a private dwelling	Total 2005	1069	2454	569	3659	4052	3830	2350
	Total 2010	1244	2855	662	4257	4714	4455	5532
	Total 2015	1430	3282	762	4895	5420	5123	7882
	Total 2020	1623	3724	864	5553	6150	5812	
Lives in a non-private dwelling	Total 2005	448	90	12	538	567	49	
	Total 2010	521	104	13	625	659	57	
	Total 2015	599	120	15	719	758	66	

	Total 2020	680	136	18	816	860	75	
Lives in accommodation for the retired or aged(d)	Total 2005	127	214	np	338	367	119	
	Total 2010	148	249	np	393	427	138	
	Total 2015	170	286	np	452	491	159	
	Total 2020	193	325	np	513	557	180	

PERSONS

Lives in a private dwelling	Total 2005	1805	3546	2615	6042	6930	18412	2983
	Total 2010	1988	3958	2730	6666	7623	19197	22707
	Total 2015	2171	4381	2820	7293	8317	19798	
	Total 2020	2352	4805	2890	7913	9000	20253	25691
								488
Lives in a non-private dwelling	Total 2005	470	-	-	559	589	127	
	Total 2010	543	-	-	647	682	135	
	Total 2015	621	-	-	741	781	144	
	Total 2020	701	-	-	837	882	151	
Lives in accommodation for the retired or aged(d)	Total 2005	127	214	np	338	367	119	
	Total 2010	148	249	np	393	427	138	
	Total 2015	170	286	np	452	491	159	
	Total 2020	193	325	np	513	557	180	

Disclaimers and Explanatory Notes

Disclaimers and explanatory notes provided by ABS are shown as applying to the original data in appendix 3 table 1.

2003 Survey of Disability, Ageing and Carers (SDAC)

- As estimates were rounded, discrepancies may occur between sums of the component items and totals.
- The survey was conducted throughout Australia during the period June to November 2003.
- The survey covered people in both urban and rural areas in all states and territories, except for those living in remote and sparsely settled parts of Australia.
- The survey included over 40 000 people and weightings were applied to adjust results from a sample survey to infer results for the total population.
- The estimates relate to individuals in both private and non-private dwellings, including people in cared-accommodation establishments (nursing homes, hospitals etc).
- Data was dependent on a respondent's perception of their ability to perform a range of activities associated with daily life and hence will be affected by a number of differences in the way individuals will report.
- In some cases information was provided by another person, some answers may differ from those the selected person would have provided. In particular, interpretation of the concepts of 'need' and 'difficulty' may be affected by the proxy-interview method.
- The estimates provided were subject to sampling and non-sampling error.
- A number of people may not have reported certain conditions because of the sensitive or episodic nature of the condition or a lack of awareness or understanding of the condition. As such data collected from the survey may have underestimated the number of people with one or more disabilities.

Projections

Projections provided are based on SA estimates of support needs provided in the ABS study of Disability Ageing and Carers. Projections include the effects of age distribution within the population but do not account for other population variables that may impact on disability or support needs such as socioeconomic, special needs groups or rural and remoteness variables.

References

Australian Bureau of Statistics, 2003, Disability, Ageing and Carers cat. no. 4430.0 Commonwealth of Australia 2004

Trends

AIHW (2000) identifies the prevalence of disability as being determined by the combined effect of various factors.

Population factors, in particular population ageing, are likely to account for a significant proportion of the future increase in the population with a disability. Population change has contributed strongly

to the growth in the number of people with a severe or profound core activity restriction, particularly during the most recent period. The overall effects of population change can be broken into two major components:

- change in total population size; and
- differential growth among age groups, resulting in population ageing.

Population ageing tends to result in increased disability prevalence because the risk of disability is greater in older age groups. The number of people with a severe or profound core activity restriction in 1998 (954,900) was more than twice that in 1981 (452,900). Population change (both increase in size and population ageing) contributed about 45% of this increase (AIHW 2000)

Changes in mortality and morbidity impact on the prevalence of disability. Medical advances, combined with personal lifestyle choices, mean that more people, including those with a disability, are surviving at every age (AIHW 2000). There is currently debate about the likely impact of greater longevity on trends in disability prevalence. Some argue that later onset of morbidity means that disability will be compressed into a shorter period at the end of the life span, resulting in lower prevalence in the population. Others argue that increased longevity is accompanied by a longer period of disability in the later years of life, causing disability prevalence to increase. As yet there has been no clear resolution of this issue and there is contradictory evidence in the international literature regarding recent and projected change in levels and patterns of morbidity and disability. In Australia, there is no sign of a clear declining trend in disability prevalence among the older population.

Improved health care also means that people are more likely to receive life saving treatment for a vehicle accident, stroke or heart attack. Despite surviving the treatment, the person may be left with a severe or profound disability. In earlier times, the risk of dying from injuries sustained was higher.

Survival to older ages is now a reality for some people with an early onset disability. Of people with a severe or profound core activity restriction, 11% (30,200) of those aged 45–64 and 4% (13,000) of those aged 65 or over reported an early onset disability (i.e. acquired before age 18) (AIHW 2000)

In addition to factors that affect the real underlying prevalence of disability, there are factors that can lead to changes in reported prevalence, even when real underlying prevalence rates remain unchanged. These factors include changes in community perceptions and awareness of disability, changes in social attitudes and economic incentives concerning the reporting of sickness and disability, and changes in survey methodology. These factors are likely to have most impact on the reported prevalence of mild disability, and less impact on reported prevalence of more severe disability.

An example of this can be seen in the higher reports of 'severe restriction' by respondents in the 50–64 year age group in 1998 compared with 1988 or 1993. This increase was mainly due to the prominence of reported musculo-skeletal conditions, particularly conditions other than arthritis such as neck, shoulder and back disorders (Australian Social Trends 2002)

A report by the Australian Institute of Health and Welfare on Disability and ageing - Australian population patterns and implications (2000) found that because of these various uncertainties about future trends in disability, long-term projections of disability prevalence would not be reliable.

However, short-term (5 year) projections can provide broad indicators to aid in planning support services.

References

Australian Bureau of Statistics, Australian Social Trends 2002, 4102.0

Australian Institute of Health and Welfare (AIHW) 2000, Disability and Ageing, Australian population patterns and implications, AIHW, Canberra.

Australian Institute of Health and Welfare (AIHW) 2001, Australia's Welfare 2001, AIHW, Canberra.

9. Support Needs

Process for developing planning tool

The Survey of Disability, Ageing and Carers (SDAC) was conducted by the Australian Bureau of Statistics (ABS) throughout Australia, from June to November 2003. The primary objective of the survey was to collect information about three population groups, being; people with a disability, older people (i.e. those aged 60 years and over) and people who provide assistance to older people and people with disabilities (Carers).

Information provided in tables 14 and 21 of the 2003 ABS study on Disability, Ageing and Carers (South Australia) was adapted to identify the percentage of the population requiring different types of assistance, by age cohort (Appendix 4 table 1). These percentages can then be multiplied by any notional population to project the support needs of disabled persons within that population.

Projections

Table (8) shows 5 yearly projections for support needs in the Southern Fleurieu from 2005 to 2020 based on the tool outlined above. The table shows that the number of people requiring assistance with activities will increase by between 31% and 49%. According to these projections there will be a total of 2128 additional individuals needing assistance with at least 1 activity, 650 of whom will need assistance with self care, 770 with transport and 279 with meal preparation.

Table 8: Projected need for assistance – Southern Fleurieu 2005-2020

Activities for which assistance needed	TOTAL 2005	TOTAL 2010	TOTAL 2015	TOTAL 2020
Self care	1084	1303	1543	1734
Mobility	1698	1989	2309	2574
Communication	442	541	646	725
Cognition or emotion	1448	1648	1852	2017
Health care	2273	2668	3105	3496
Paperwork	884	1079	1290	1459
Transport	1717	1971	2241	2487
Housework	1908	2172	2454	2713
Property maintenance	3194	3633	4105	4587
Meal Preparation	629	721	824	908
Assistance with at least 1 activity	4967	5658	6392	7095

Disclaimers and Explanatory Notes

2003 Survey of Disability, Ageing and Carers (SDAC)

- As estimates were rounded, discrepancies may occur between sums of the component items and totals.
- The survey was conducted throughout Australia during the period June to November 2003.
- The survey covered people in both urban and rural areas in all states and territories, except for those living in remote and sparsely settled parts of Australia.
- The survey included over 40 000 people and weightings were applied to adjust results from a sample survey to infer results for the total population.
- The estimates relate to individuals in both private and non-private dwellings, including people in cared-accommodation establishments (nursing homes, hospitals etc).
- Data was dependent on a respondent's perception of their ability to perform a range of activities associated with daily life and hence will be affected by a number of differences in the way individuals will report.
- In some cases information was provided by another person, some answers may differ from those the selected person would have provided. In particular, interpretation of the concepts of 'need' and 'difficulty' may be affected by the proxy-interview method.
- The estimates provided were subject to sampling and non-sampling error.
- A number of people may not have reported certain conditions because of the sensitive or episodic nature of the condition or a lack of awareness or understanding of the condition. As such data collected from the survey may have underestimated the number of people with one or more disabilities.

Projections

Projections provided are based on SA estimates of support needs provided in the ABS study of Disability Ageing and Carers (2003). Projections include the effects of age distribution within the population but do not account for other population variables that may impact on disability or support needs such as socioeconomic, special needs groups or rural and remoteness variables.

References

Australian Bureau of Statistics, 2003, Disability, Ageing and Carers cat. no. 4430.0, Commonwealth of Australia 2004

Trends

Trends in the support needs of individuals within our community will vary with the trends in the incidence of disability (see section 5: disability). Trends in support needs of individuals will also be affected by technological advances in the aids which compensate for disability or aid independence. An example of such advances would be cochlear implants and the TTY machine for people with hearing loss. There are many further advances pending or in trial phases that have the potential to significantly improve the independence of individuals with physical and sensory deficits. The impact of these on the future need for support is indeterminate.

10. Home and Community Care Services

Introduction

HACC is a joint Australian, State and Territory cost-shared Program providing community care services to frail aged and younger people with disabilities, and their carers. The aims of the HACC Program are:

- to provide a comprehensive, coordinated and integrated range of basic maintenance and support services for frail aged people, people with a disability and their carers; and
- to support these people to be more independent at home and in the community, thereby enhancing their quality of life and/or preventing their inappropriate admission to long term residential care.

The type of services funded through the HACC Program include, but are not limited to:

- nursing care;
- allied health care;
- meals and other food services;
- domestic assistance;
- personal care;
- home modification and maintenance;
- transport;
- respite care;
- counselling, support, information and advocacy; and
- assessment.

HACC PCP

Process for developing planning tool

Assistance from Department of Families and Communities provided the basic criteria for determining allocation of HACC funds to regions. Allocation is determined based on the “Potential Client Population (PCP)” within a region.

The Survey of Disability, Ageing and Carers (SDAC) was conducted by the Australian Bureau of Statistics (ABS) throughout Australia, from June to November 2003. The primary objective of the survey was to collect information about three population groups, being; people with a disability, older people (i.e. those aged 60 years and over) and people who provide assistance to older people and people with disabilities (Carers).

Table 1 of the survey results for South Australia gives estimates of Disability and long-term health condition status by age for all persons. More specifically it estimates the number of people by age category with moderate, severe or profound disability in South Australia.

HACC uses these estimates to show the proportion of the population with moderate, severe or profound disability in each age cohort and multiplies this proportion by any given projected population to determine the estimated potential client population in an area.

A simplified version of this process has been replicated within the planning tool developed.

Projections

Table (9) shows 5 yearly projections for HACC PCP's in the Southern Fleurieu from 2005 to 2020 based on the tool outlined above. The table shows that while there will be a slight decrease in the number of younger potential HACC clients in the next 15 years there will be a significant increase in older potential HACC clients over the same period. In total the potential HACC client population may increase by 1515 or 40%. It might be assumed that the aged care industry will require a corresponding 40% increase in resources and services to meet this need. However this is investigated more closely in the following section.

Table 9: Projected HACC PCP by age cohort 2005-2020

Age Group	2005	2010	2015	2020
0-4	40	38	38	39
5-14	189	178	169	163
15-24	82	86	84	79
25-34	87	89	92	92
35-44	249	232	227	224
45-54	414	445	435	417
55-64	600	696	755	803
65-69	349	388	483	520
70-74	462	516	585	731
75-79	361	358	406	462
80-84	486	606	603	699
85+	488	713	960	1091
TOTAL	3806	4345	4836	5321

Disclaimers and Explanatory Notes

In their determination of Potential Client Population, Home and Community Care apply weightings for Aboriginal / Torres Straight Islander, financial disadvantage and CALD populations. These weightings may have relatively small affect in some communities and larger effect in others. For purposes of simplicity and due to the limited size of these special needs groups in the Southern Fleurieu, they have not been included in the development of our tool.

References

Australian Bureau of Statistics, 2003, Disability, Ageing and Carers cat. no. 4430.0, Commonwealth of Australia 2004

Estimated HACC service growth

Process for developing planning tool

Department of Families and Communities provided MDS data for 2004/2005 on the number of services provided under the various MDS categories (See appendix X for explanation of MDS categories) for:

- South Australia
- Hills, Mallee Southern Region
- Southern Fleurieu Sub-Region
- Alexandrina (Coastal) SLA
- Victor Harbor SLA
- Yankalilla SLA

This information was combined with PCP information to determine the current number of services provided per “potential client” in 0-64 years and 65 and over age cohorts for each MDS category.

This service delivery rate can then be multiplied by future Potential Client Populations to estimate future service delivery requirements. The projections can be based on current service delivery levels for:

- South Australia
- Hills, Mallee Southern Region
- Southern Fleurieu Sub-Region
- Alexandrina (Coastal) SLA
- Victor Harbor SLA
- Yankalilla SLA

The projections are determined for 0-64 and 65 and over age cohorts as they differ significantly in their service usage per PCP.

Projections

As shown in Table 10 the projected service delivery levels can come out very different depending on the geographical area used in determining the projections. This is a result of substantially different service delivery levels in different areas.

These differences, in themselves, tell a story about existing patterns and inequities in service levels which are not related to this project but are notable.

Table 10: Projected Number of HACC Services 2005 & 2020 based on current SA and Southern Fleurieu levels of service delivery.

	2005 Projections		2020 Projections	
	*SA	**SF	*SA	**SF
Allied Health care (centre)	855.23	1,648.85	1,342.74	2,452.78
Allied Health care (home)	463.68	272.38	721.62	436.60
Assessment	1,229.10	1,006.45	1,933.93	1,563.00
Case management	352.41	105.61	499.32	146.25
Case planning / review	3,178.25	2,227.31	4,985.91	3,481.65
Centre-based Day Care	19,224.03	23,681.72	29,713.06	37,797.74
Counselling	3,048.59	3,234.43	4,324.24	4,737.23
Domestic Assistance	11,087.03	6,178.58	16,774.11	7,924.15
Formal linen service	153.15	264.60	227.03	289.62
Goods and Equipment	716.45	529.40	1,124.32	835.60
Home maintenance	1,847.43	465.61	2,873.62	533.71
Home Modification	3,931.47	0.00	6,249.42	0.00
Meals (centre)	4,301.31	22.36	6,818.73	36.51
Meals (home)	14,493.30	400.40	23,395.05	653.91
Nursing Care (centre)	509.79	139.43	714.38	204.61
Nursing Care (home)	6,781.69	1,954.40	10,599.18	2,914.20
Other food services	300.81	22.53	389.10	24.67
Personal care	5,887.20	2,805.67	8,824.74	4,438.71
Respite care	4,282.15	2,304.64	5,854.83	3,518.66
Social support	12,593.78	8,873.54	18,221.41	10,507.19
Transport	9,805.96	12,775.31	15,553.86	20,203.54

* = predictions for Southern Fleurieu made on the basis of 04/05 average services per PCP for South Australia

** = predictions made for Southern Fleurieu on the basis of 04/05 average services per PCP for the Southern Fleurieu Peninsula

Disclaimers and Explanatory Notes

It must be noted that only 80% of all SA-HACC funded agencies submitted MDS data to HACC in the 04/05 period. The actual totals are higher than reported in data supplied by Home and Community Care. Data is also subject to the interpretation of the MDS data requirements by individuals responsible for reporting in each provider organisation.

In order to account for this, projections can be based on 04/05 service levels for any of six different geographical areas: South Australia, Hills Mallee Southern, Southern Fleurieu, Alexandrina, Victor Harbor and Yankalilla. The different perspective that each of these service levels and mixes provide must be fully understood in using the selected region as the basis for projections.

Projections are made on the basis of levels of service provided during the 04/05 financial year. The success of this tool is dependent upon the assumption that HACC services will continue to be funded in line with current levels and that current service levels and mix are meeting the needs of the population. Current service levels and mix can be very different in different areas and, particularly in smaller areas, can be significantly affected by a particular HACC program or service.

The use of Statewide data for projections would be recommended in order to balance out differences resulting from individual HACC programs. However this does not give a reasonable expectation of growth when compared to current service levels in an area due to the existing differences between local and statewide service delivery levels. Therefore local data should be used as the basis for estimating real growth while the results should be compared with estimates using State-wide service delivery levels as a basis for evaluating the current and future mix of local services.

References

HACC data Source: HACC Minimum Data Set Collection 2004-05 Extract 1 Official Data (Jul 2004 - Jun 2005)

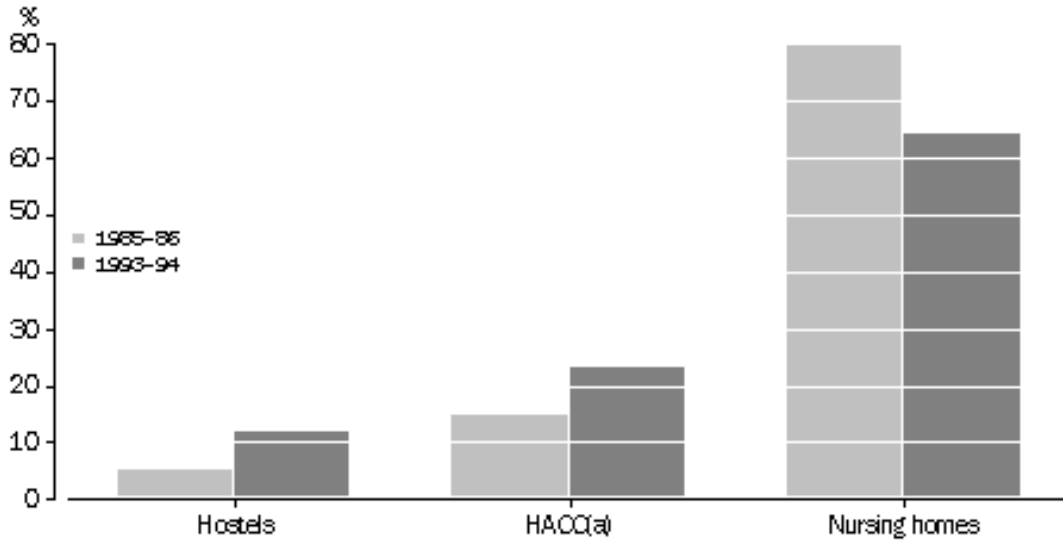
Trends

Government policy since the mid-1980s has increasingly emphasised the need to support older people and people with a disability to live in the community with some degree of independence, receiving help when needed from family, friends, neighbours, and formal service providers (government, private non-profit, and commercial) (Australian Social Trends 2003). Since its inception in 1985, the Home and Community Care Program has provided a range of services to people who might otherwise have required institutional care. Between 1987 and 1995, the level of dependency (that is, the level of personal care required, as assessed by the Department of Health and Family Services) for people entering nursing homes and hostels increased (Australian Social Trends 1996). The indications are that less dependent people, who would in the past have been admitted to nursing homes and hostels, are now being cared for in the community (AIHW 1993).

While overall funding for aged care and the proportion spent on community care have increased, the proportion spent on nursing home care has decreased indicating a trend towards community care. Expenditure on the Home and Community Care program (HACC) as a proportion of total government aged care expenditure increased from 15% in 1985-86 to 20% in 1989-90, and to 23% in 1993-94.

Table 11 below, provides an overview of the change in relative government expenditure on residential and community care between 1985/86 and 1993/94 (Australian Social Trends 1996)

Table11: Relative Proportion of total government aged care expenditure



These moves towards community based care have also been reflected in the development of community based options within the Australian Government Aged Care System (see Section 8) that are expected to continue to increase.

The last 10 years has also seen a substantial growth in the private aged care industry. More people are expected to retire with more money. Coupled with a greater propensity to reverse mortgage and use one's savings, this may continue to support growth in user pays services which may proportionately reduce demand on HACC services.

References

Australian Bureau of Statistics, 4102.0 - Australian Social Trends, 1996

Australian Bureau of Statistics, 4102.0 - Australian Social Trends, 2003

Australian Institute of Health and Welfare (1993) Australia's Welfare 1993: Services and Assistance.

11. Australian Government Aged Care Services

Introduction

The Australian Government Provide a suite of services for the older community. These include but are not limited to:

- High level care, providing ongoing 24 hour nursing care, as well as meals, laundry, cleaning and personal care within an aged care facility. Secure areas for people with dementia are provided by some high level care facilities. High level care facilities were formerly known as nursing homes.
- Low level care, allowing residents to live independently within an aged care facility, but obtain help with meals, laundry and personal care such as dressing and bathing. Some low level care facilities allow residents to remain while receiving a higher level of care as their dependency increases. This is known as 'ageing in place'. Secure areas for people with dementia are provided by some low level care facilities. Low level care facilities were formerly known as hostels.
- Community Aged Care Packages: offer an integrated and individually tailored package of services for frail aged people who have more complex (low level) care needs, or need a range of services like help with bathing, meals, shopping and getting around.
- Extended Aged Care at Home (EACH) program: is presently a small, limited capacity program which enables frail aged people to remain in their homes, supported by high level care through an approved service provider.
- Day Therapy Centres (DTCs): vary in size and in the range of therapy services that they provide. They may provide physiotherapy, occupational therapy, speech therapy, podiatry and other allied health services to frail aged people who are living in the community or who are residents of Commonwealth funded aged care homes. The aim of the program is to assist people to either maintain or recover a level of independence, which will allow them to remain either in the community or in low level residential care.
- The National Respite for Carers Program (NRCP): The Program provides information and support for carers; and assistance to help carers take a break from caring (respite).

Process for Developing a Planning Tool

The Australian Government Uses a planning framework to achieve an equitable distribution of aged care places to all Aged Care Planning Regions. In 2004 this provision ratio was increased from 100 to 108 operational aged care places for every 1000 people aged 70 years or over comprising 88 residential (40 high care and 48 low care), and 20 community aged care places.

The planning framework provided by the Australian Government can be directly applied to any projected population to estimate the number of aged care places appropriate to that population. The framework however does not apply to NRCP or Day Therapy funding.

Projections

Table 12 provides estimates of the number and type of aged care places required for the Southern Fleurieu Peninsula at 5 year intervals between 2005 and 2020. These projections indicate that the demand for Australian Government Aged Care Services will increase by more than 50% over the next 14 years. This increased demand is in the order of 245 residential and 56 community care places.

Table 12: Projected total Aged Care Places - Southern Fleurieu 2005 - 2020

Based on ABS Population Projections from 2001 Census.

	2005	2010	2015	2020
High Care Places	201	232	265	312
High Care Respite Days	734	848	969	1142
Low Care Places	241	278	318	375
Low Care Respite Days	881	1017	1163	1370
Community Care Places	100	116	132	156

Disclaimers and Explanatory Notes

While the Australian Government planning ratios are an important indicator they should not be regarded as the single factor in determining the number of places to be allocated to a Region. This is because:

- services may be provided from neighboring regions,
- the provision of (or lack of) other community services (for example HACC) may impact on the level of need in a given area
- places are allocated first on a state and then a regional basis, oversupply of places in one area within the state will result in lower supply levels in other areas of the state.

The Australian Governments planning tool for Aged Care Services has been criticized for being unresponsive to a range of variables that are believed to impact on demand for aged services. These can include:

- The real users of aged care are generally 80 years and over rather than 70 years and over.
- Some cultural groups are more or less likely to access different types of aged services.
- Some socioeconomic or cultural groups may age 'prematurely' and hence are not adequately catered to by the use of 70+ populations in the planning formula.

An Aged Care Advisory Committee consults with communities and advises the Australian Government on allocation of places annually in each state.

References

Retrieved from www.health.gov.au

Trends

The cornerstone of the Australian Governments planning framework from 1985 to 2004 was the provision ratio of 100 residential aged care places and Community Aged Care Places for every 1000 people aged 70 years and over. This provision ratio comprised 90 residential (40 high care and 50 low care) and 10 community aged care places. By 2001, the Government recognised the planning arrangements were no longer keeping pace with the increasing demand for aged care services and therefore increased the overall level of provision to 108 operational places, including 18 (later 20) community care packages, for every 1000 people aged at least 70 by 2006.

The Hogan Review (2004) suggested that this expanded provision is sufficient to meet overall demand for aged care services in the medium term. It was however recommended that the allocation mixes between residential care and community care, and between high care and low care, need to be adjusted to accommodate the increasing significance of community care provision and like programs. In the short term Professor Hogan (2004) suggested it may be sufficient to increase the number of places allocated within the current planning arrangements and adjust the mix to ensure that community care provision is expanded as a proportion of total allocated places.

Hogan (2004) also advises of the need for allocation of places to compensate for the impact of ageing in place. Since 1997, low care residents have been able to move to high-level care subsidy rates as their care needs increase without moving to a new service (as they would have under the old hostel/nursing home arrangement). As a result around 25% of the capacity of low-level residential care services are occupied by people receiving high-level care subsidies. Hogan (2004) believes it is important to maintain conditions of approval on low-level residential care places to ensure access for people needing these services, and to take current usage into account in planning the future release of places.

In summary, the Hogan Review (2004) indicates a continued trend towards community care, potential further changes in the planning ratio's to reflect this trend and the likely

approval of a greater proportion of low care places (within the formula of 88 beds per 1000) to compensate for the impact of ageing in place on access to services. However Hogan believes that the current planning framework and associated needs-based planning arrangements will lead to inefficiency and a stifling of innovation in service delivery and suggests that, after 2008, the Government should undertake a review of needs based planning arrangements to give serious consideration to replacing them with more market based solutions – a concept which could spell major (and as yet unclear) changes to supply of aged care services.

Day Therapy Centres remain an ambiguous Australian Government Policy area having been deemed a ‘no growth’ policy area for some years. Existing funding has recently been assured for a further 3 years with no growth, while some individual centres received only 12 months. South Australia has historically received more than its share of the Day Therapy Centre funding on a per capita basis and is not expected to see any increase in funding.

While the National Respite for Carers Program is a growing area of funding there is currently no planning basis for this growth.

References

Hogan, W.P. (2004) Review of Pricing Arrangements in Residential Aged Care - Summary of the Report, Commonwealth of Australia, Publications Production Unit Australian Government Department of Health and Ageing

12. Carers

Process for Developing a Planning Tool

The Survey of Disability, Ageing and Carers (SDAC) was conducted by the Australian Bureau of Statistics (ABS) throughout Australia, from June to November 2003. The primary objective of the survey was to collect information about three population groups:

- people with a disability
- older people (i.e. those aged 60 years and over)
- people who provide assistance to older people and people with disabilities.

Table 27 of the survey results for South Australia gives Carer status by age for all persons living in households. Converting these figures to a percentage of the total survey sample provides a basis for estimating the number of Carers in each age cohort for any notional population.

Projections

Table (13) shows 5 yearly projected numbers of primary and non primary carers by age cohort for the Southern Fleurieu from 2005 to 2020 based on the tool outlined above. The table shows an expected decline in the number of carers in most of the younger age cohorts (under 24 yrs, 35-44 & 45-54) and an increase in the number of carers in those aged 25-34 years and all those 55 years and over with a total increase of around 14% over the 15 year period.

Table 13: Projected number of Carers by age cohort – Southern Fleurieu 2005 - 2020

ADAPTED FROM: Australian Bureau of Statistics									
cat. no. 4430.0 Disability, Ageing and Carers									
Table 27. ALL PERSONS, LIVING IN HOUSEHOLDS, Carer status by age - South Australia - 2003									
	Less than 18 years	18–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75 years and over	Total
2005									
Primary carer(a)	11.6	12.4	49.1	112.8	127.2	188.9	75.3	139.8	647.0
Not a primary carer	222.5	94.4	278.3	467.6	625.8	640.7	678.9	498.3	3223.3
Total carers	234.2	106.1	327.4	580.5	749.5	829.5	757.6	639.1	3870.3
2010									
Primary carer(a)	10.6	12.2	49.6	110.0	139.5	232.1	83.9	188.3	703.7
Not a primary carer	209.4	87.9	283.9	446.8	682.9	784.3	757.8	620.8	3482.0
Total carers	220.0	99.5	333.5	556.8	818.6	1016.3	845.4	809.6	4185.7
2015									
Primary carer(a)	10.1	12.7	51.5	106.9	136.4	251.5	100.1	215.6	741.0
Not a primary carer	200.0	91.4	293.7	437.4	667.1	850.2	903.8	714.0	3665.5
Total carers	210.2	103.4	345.2	544.3	799.7	1101.8	1008.3	930.3	4406.6
2020									
Primary carer(a)	9.9	11.9	51.8	105.6	131.0	267.1	115.8	246.6	774.6
Not a primary carer	194.0	85.5	295.3	433.2	639.5	903.7	1044.8	815.5	3830.3
Total carers	203.9	96.8	347.1	538.8	767.0	1170.8	1165.7	1062.8	4604.9

Disclaimers and Explanatory Notes

2003 Survey of Disability, Ageing and Carers (SDAC)

- As estimates were rounded, discrepancies may occur between sums of the component items and totals.
- The survey was conducted throughout Australia during the period June to November 2003.
- The survey covered people in both urban and rural areas in all states and territories, except for those living in remote and sparsely settled parts of Australia.
- The survey included over 40 000 people and weightings were applied to adjust results from a sample survey to infer results for the total population.
- The estimates relate to individuals in both private and non-private dwellings, including people in cared-accommodation establishments (nursing homes, hospitals etc).
- Data was dependent on a respondent's perception of their ability to perform a range of activities associated with daily life and hence will be affected by a number of differences in the way individuals will report.
- In some cases information was provided by another person, some answers may differ from those the selected person would have provided. In particular, interpretation of the concepts of 'need' and 'difficulty' may be affected by the proxy-interview method.
- The estimates provided were subject to sampling and non-sampling error.
- A number of people may not have reported certain conditions because of the sensitive or episodic nature of the condition or a lack of awareness or understanding of the condition. As such data collected from the survey may have underestimated the number of people with one or more disabilities.

References

Australian Bureau of Statistics, 2003, Disability, Ageing and Carers cat. no. 4430.0, Commonwealth of Australia 2004

Trends

With women having children later and people living longer, individuals will increasingly find themselves caring for parents and/or grandparents while also raising their own children and bringing in a wage. According to Prue Goward (*The Work Life Balance*, 2005), what is more of a concern is that it is not clear whether current and future generations of women will be willing or able to continue this level of care. Smaller and less conventional families may provide fewer options for a member of the family taking on the Caring role. An ageing population is increasing the burden. The key question as the population ages will be who will provide the care? By 2031 the number of Carers is expected to rise by 60%, but the need for Carers will jump 160%.

As the population ages the question of who will provide care is a critical one for all of us. Sharing the care more equitably among men and women will be a necessary part of the response to this challenge. At present this conundrum appears to be full of questions and possibilities with little prediction as to how it will actually 'pan out'.

A report by the Australian Institute of Health and Welfare (2000) looking at population patterns in disability and ageing identified a number of ways in which population growth, population ageing and changing social

structures are likely to affect the future availability of informal care. Some of these effects were countervailing.

- As the age group 45–64 is projected to be substantially larger than the 65-plus age group over the next decade, there could be an increase in the number of potential carers for older people with a disability. In 1998, 43.2% of primary carers were aged 45 to 64 years, compared with 35.0% aged 15 to 44 years and 21.0% aged 65 years and over.
- Life expectancies are increasing at a faster rate for males than for females. Married couples may therefore survive longer together, and the proportion of people being cared for by a spouse may increase. However, it is also possible that both husband and wife may require care simultaneously. In 1998, there were 192,100 spouse primary carers, accounting for 42.9% of primary carers aged 15 years and over.
- The ageing of carers is likely to continue to be of concern. In 1998, 96,700 primary carers were aged 65 years and over, of whom 60,400 were females. Of those primary carers aged 65 years and over and living with the care recipient, 8,900 were parents and 72,400 were spouses.
- Changes in patterns of family formation, living arrangements and labour force participation could potentially diminish the pool of family carers and the commitment within families to provide care.
- Family formation patterns and family support structures are now markedly different from those of the 1950s and 1960s. Declines in marriage rates and increases in divorce rates reduce the potential for spouse care.
- The geographic location of family members also affects carer availability. In particular, the movement of young people away from country towns impacts on informal assistance networks for older people in country areas.

References

Disability and ageing - Australian population patterns and implications (2000), Australian Institute of Health and Welfare, Canberra, AIHW cat. no. DIS 19

Goward, P 2005, "The Work Life Balance" Proceedings of the Focus on Carers Conference, Family Carers – The Next Generation Conference, Carers SA

13. Palliative Care

Process for developing planning tool

In 2003, The Council of Palliative Care Australia published a national consensus document, *Palliative Care Service Provision in Australia: A Planning Guide 2nd Edition*. This document was developed in consultation with the members of PCA, key stakeholders, and other organisations. The Guide predicts the number of deaths per 100,000 population from progressive predictable life limiting illness. It then recommends the proportion of this population that would benefit from assessment, ongoing consultancy services and direct care from a specialist palliative care service. Minimum professional staffing needs (per 100,000 population) to meet the needs of this population are then proposed, however the validity of these staffing formulae is currently being re-considered by Palliative Care Australia and they are therefore not being used in this tool.

The number of appropriate referrals for professional services (assessment, ongoing consultancy and direct care) were identified by Palliative Care Australia as a proportion of 187 ‘deaths from cancer’ and a proportion of 187 ‘other deaths from progressive predictable life limiting illness’, for a population of 100,000.

Due to the unusual age demographics of the Southern Fleurieu Peninsula, planning tools looking at average populations (100,000) are particularly inaccurate. The assumptions and variables used by Palliative Care Australia in determining the figure of 374 (187 Cancer and 187 Other) deaths per 100,000 population were unable to be re-created in order to determine an ‘eligible’ population for Palliative Care services. Instead a study by McNamara and Rosenwax (2004), identifying palliative care constituencies (those who would benefit from Palliative Care) was used.

In 2004, the National Health and Medical Research Council funded a study to identify population based data that will allow equitable healthcare decision making regarding the provision of palliative care services. The project was based upon the movement in the palliative care industry to extend a holistic, team-based and family-centred approach to people with life-limiting conditions other than just cancer. According to McNamara and Rosenwax (2004), there has been a paucity of population-based data on which to base equitable healthcare decision-making regarding the extension of palliative care to people suffering from a range of life-limiting, complex and painful conditions. The study provides such data for Western Australia which might be used as a benchmark for predicting the demand on palliative care services in the Southern Fleurieu Peninsula.

The study was a longitudinal, population-based, retrospective cohort study of 26,882 people who died in Western Australia between 1 July 2000 and 31 December 2002. A secondary analysis was conducted of data from the Silver Chain Nursing Association and two administrative health databases of the Western Australian Data Linkage System: the Mortality Register and the Hospital Morbidity Data System.

McNamara and Rosenwax (2004) proposed three possible palliative care constituencies (that is, groups of people who would benefit from palliative care) in order to model three scenarios of service provision: a minimal constituency, mid range constituency and maximal constituency. For the purposes of this exercise we have used the more conservative minimal constituency. That is, a

disease-based potential palliative care constituency composed of people who died of any of the following 10 conditions: cancer, heart failure, chronic obstructive pulmonary disease, renal failure, Alzheimer's disease, liver failure, Parkinson's disease, motor neurone disease, HIV/AIDS, and Huntington's disease.

The minimal constituency represented 50% of all deaths during the 2.5-year study period, 54% of which were attributed on the death certificate to cancer. Four out of five people in the minimal constituency were aged over 65 years; one in 50 was Aboriginal; half were married and a third were widowed; seven out of 10 lived in a major city; and a third were socioeconomically disadvantaged.

The 'minimal constituency' identified by McNamara and Rosenwax (2004) was used in place of attempts to recreate the assumptions and variables used by Palliative Care Australia in determining the figure of 374 (187 Cancer and 187 Other) deaths per 100,000 population. In doing so all deaths in SA by age cohort were used. The minimal constituency was determined as 50% of these deaths. This figure was then divided into "cancer" and "other" deaths using the proportions of 54% and 46% of minimal constituency deaths respectively.

The Palliative Care Australia Guidelines indicates that:

- Current referrals for assessment make up 50-90% of cancer deaths and 9-16% of 'other deaths from progressive predictable life limiting illness'.
- Recommended referrals for assessment are 90% of cancer deaths and 50% of 'other deaths from progressive predictable life limiting illness'.
- Ongoing consultancy is recommended for 70% of cancer deaths and 30% of 'other deaths from progressive predictable life limiting illness'.
- Direct care is predicted to be appropriate for 20% of cancer deaths and 10% of 'other deaths from progressive predictable life limiting illness'.
- In a population of 100,000 (we use a population of 374 deaths), 295 will require an average of 7 days inpatient palliative care each year. Based on 85% occupancy, a minimum of 6.7 designated palliative care beds are recommended.

These figures were then applied to predicted 'minimal constituency' deaths derived from McNamara and Rosenwax formulae to estimate the demand for Palliative Care services.

Projections

Table 14 shows projections for the number of deaths across the Southern Fleurieu Peninsula indicating an increase of almost 50% between 2005 and 2020. Table 15 indicates that as a result of policy directions that will see more individuals with non malignant diseases benefiting from Palliative Care, it is expected that the palliative care constituency (those expected to benefit from palliative care) should be 177 in 2005 and grow to around 266 in 2020. During this time referrals to palliative care services will increase by up to 128 per annum, ongoing consultancy by up to 45 per annum and direct care provision by 14 per annum (Table 16). Although the region currently has no designated palliative care beds, Table 17 indicates that the recommended number of beds for the region will increase from 3 to 5 during the same period.

Table 14: Projected Deaths due to non cancer, non injury and cancer deaths by age cohort – Southern Fleurieu 2005 – 2020

Age	2005			2010			2015			2020		
	Not Cancer	Cancer	total	Not Cancer	Cancer	total	Not Cancer	Cancer	total	Not Cancer	Cancer	total
0-4	1	0	1	1	0	1	1	0	1	1	0	1
5-14	0	0	0	0	0	0	0	0	0	0	0	0
15-24	1	0	1	1	0	1	1	0	1	1	0	1
25-34	2	0	2	2	0	2	2	0	2	2	0	2
35-44	3	1	4	3	1	4	3	1	4	3	1	4
45-54	5	4	8	6	4	10	6	4	10	6	4	10
55-64	14	13	27	16	15	31	18	16	34	19	17	36
65-74	42	29	71	47	32	80	56	39	95	65	45	110
75+	189	49	239	222	58	280	255	66	321	292	76	367
Total	259	96	355	300	111	411	343	127	470	389	143	532

Table 15: Projected Palliative Care Constituency Deaths by age cohort – Southern Fleurieu 2005-2020

Age	Projected Death counts 2005			Projected Death counts 2010			Projected Death counts 2015			Projected Death counts 2020		
	Minimal Constituency Deaths	Cancer deaths	Other Deaths	Minimal Constituency Deaths	Cancer deaths	Other Deaths	Minimal Constituency Deaths	Cancer deaths	Other Deaths	Minimal Constituency Deaths	Cancer deaths	Other Deaths
0-4	1	0	0	1	0	0	1	0	0	1	0	0
5-14	0	0	0	0	0	0	0	0	0	0	0	0
15-24	1	0	0	1	0	0	1	0	0	1	0	0
25-34	1	1	1	1	1	1	1	1	1	1	1	1
35-44	2	1	1	2	1	1	2	1	1	2	1	1
45-54	4	2	2	5	3	2	5	3	2	5	3	2
55-64	14	7	6	16	8	7	17	9	8	18	10	8
65-74	36	19	16	40	21	18	47	26	22	55	30	25
75+	119	64	55	140	76	64	161	87	74	184	99	84
Total	177	96	82	205	111	95	235	127	108	266	144	122

Table 16: Projected Palliative Care Referrals – Southern Fleurieu 2005 - 2020

Palliative Care Service Provision in Australia: A Planning Guide 2nd Edition
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	Projected Minimal Constituency Deaths	Referrals based on Current Referrals	Recommended referrals for assessment	Ongoing consultancy	Direct Care
2005	177	55 to 99	127	92	27
2010	205	64 to 115	147	106	32
2015	235	73 to 131	168	121	36
2020	266	83 to 149	190	137	41

Table 17: Projected Designated Palliative Care Beds Recommended – Southern Fleurieu 2005 - 2020

Based On: Palliative Care Service Provision in Australia: A Planning Guide 2nd Edition
 ISBN: 0 9578342 9 2 © Palliative Care Australia September 2003

	2005	2010	2015	2020
Designated beds:				
#	3	4	4	5

Disclaimers and Explanatory Notes

The Study by McNamara and Rosenwax (2004) identified that the present rate of use of specialist palliative care services by people dying of malignancies (68%) was much higher than the rate for people dying of non-malignant conditions (8%). In addition, people were less likely to receive specialist palliative care services if they were aged 84 years or over; female; Aboriginal; living in a remote area; or socio-economically disadvantaged. The planning formula used predicts an environment in which people dying of non-malignant conditions have much higher access to services and access to services is not affected by age, cultural or socio-economic disadvantage.

While projections of the number of deaths are based on age cohort specific data, the projections for the proportion of deaths that would benefit from Palliative Care are not. Thus projections are based on a premise that the proportion of deaths that would benefit from Palliative Care does not change with the age of the dying person.

The proportion of palliative care referrals, ongoing consultancies and direct care provision differs for deaths resulting from 'cancer' and those resulting from 'other' circumstances. The formula by which the number of deaths are divided into those resulting from Cancer and 'other' deaths did not account for the variable of age.

References

McNamara, B and Rosenwax L (2004) Who Receives Specialist Palliative Care in Western Australia – and who misses out. University of Western Australia

Palliative Care Service Provision in Australia: A Planning Guide 2nd Edition, Palliative Care Australia September 2003

Trends

Trends in palliative care can be divided into influences on demand and supply. In terms of demand, trends in the incidence of life limiting illnesses will have significant impact on the demand for palliative care services. These are discussed in section 1 of this document. Supply is likely to be affected by two key policy / industry directions being:

- The provision of greater palliative care support to individuals with life limiting illness which are not the result of malignancies.
- Improving primary health capacity to support palliative care in the community, with the role of palliative care services becoming increasingly consultative in nature and providing less direct care.

Both of these influences have been reflected by Palliative Care Australia in the formula used to develop the projection tool provided.

References

McNamara, B and Rosenwax L (2004) Who Receives Specialist Palliative Care in Western Australia – and who misses out. University of Western Australia

14. Libraries

Process for Developing Planning Tool

City of Victor Harbor Library provided data on:

- The number of registered borrowers as at 15.08.06 by age and residential area.
- The number of loans made over financial year 05/06 by age

This data was divided by the Victor Harbor population in each age cohort to determine a 'per capita' rate of membership and loans.

These 'per capita' rates could then be multiplied by any population or projected population to estimate the demand that population would put on library services based on the current level of services at the City of Victor Harbor Library.

Projections

Table 18 estimates total library memberships for the Southern Fleurieu Peninsula, based on data from the City of Victor Harbor Library, at 21742 for 2005. People aged 60-69 account for the greatest number of memberships. However 'Per Capita' membership at the City of Victor Harbor Library is highest for the age groups 30-39 years, 20-29 years and 5-19 years and lowest for the 80+ years, 0-4 years and 70-79 years age cohorts.

Total memberships across the Southern Fleurieu Peninsula, according to current membership rates at the City of Victor Harbor Library and population projections are estimated to increase by around 11% in the next 15 years to 24079. This is a fairly small growth in comparison to other service growth estimated in this document that may be explained by an expected population decline in the age cohorts which show a high 'Per Capita' membership and most population growth in 2 of the 3 low 'Per Capita' membership age cohorts.

For this reason and others explained in the disclaimers section 'library loans' may be a better indicator of future demand on Library services.

Table 19 estimates total library loans per annum for the Southern Fleurieu Peninsula (based on data from the City of Victor Harbor Library) at 275895 in 2005. People aged 60-69 account for the greatest number of loans at 65855 or 24% of loans followed by those aged 70-79 at 58566 or 21% and those aged 50-59 at 39402 or 11%. In total those 50 years and over account for 68% of all loans but just 50% of the population of the Southern Fleurieu. This is due to much higher numbers of loans 'Per Capita' in the older age groups. Estimates indicate that in 2005 an average of 17.89 loans were made for every individual aged 70-79 in the Southern Fleurieu Peninsula compared with 3.74 loans for every individual aged 20-29.

Total library loans per annum for the Southern Fleurieu Peninsula are expected to increase to 356164 by 2020, an increase of 80269 or 29%.

Table 18: Projected Library Memberships – Southern Fleurieu 2005 - 2020

	Age Unknown	0-4	5-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	TOTAL
Memberships 2005	2347	354	4327	2081	3288	3088	3359	3443	1527	275	21742
2010	2494	338	4254	2151	3262	2981	3684	4045	1614	368	22696
2015	2626	338	4020	2190	3287	2817	3927	4686	1831	425	23521
2020	2744	341	3859	2145	3371	2733	3881	5064	2197	487	24079

Table 19: Projected Library Loans – Southern Fleurieu 2005 – 2020

	Age Unknown	0-4	5-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	TOTAL
Loans PA 2005	14639	994	12184	7254	25156	27620	39402	65855	58566	24225	275895
2010	15555	951	11979	7497	24951	26661	43213	77367	61894	32364	302432
2015	16375	950	11319	7635	25146	25195	46060	89628	70247	37363	329920
2020	17111	959	10866	7478	25791	24443	45524	96858	84290	42845	356164

Disclaimers and Explanatory Notes

The data used to provide these estimates comes from the database of the City of Victor Harbor Library.

- Significant differences may exist in the level of utilization of library resources between council areas. As such the use of this data in predicting library usage in other areas may be limited and the limited resilience of this data in the light of changes (such as moving the site of the library) must be acknowledged.
- Library Membership was at 15.08.06 and includes individuals who may or may not have used the library recently. As such the number of memberships may have limited influence on the actual demands on the library service.
- Of those members whose residential area was known, only 74.1% were from within the Victor Harbor Council area. It is assumed that some of those members who live outside of the area are visitors (either short term or regular). 30% of members that did not live in the Victor Harbor area, did not live in neighboring council areas either. It is expected that these members would have a lower usage of library services, again indicating that the number of memberships may have limited influence on the actual demands on the library service.
- Despite 25.9% of members (with a known residential area) not living in the Victor Harbor Council area, memberships and loans were determined as a proportion of the population of Victor Harbor only, in order to estimate future memberships and loans. This results in limitations of the resulting data.
- Age was not recorded for 8.7% of memberships
- Residential area was not known for 60.7% of memberships

References

City of Victor Harbor Library, Sue Leonard August 2006

Trends

The City of Victor Harbor Library is located in small facilities in the town centre. In 2007 the Library will move to a new, much larger facility. This facility will be farther from the Town Centre but located close to the High School, 2 large Retirement Villages and the Police Station. The new site will also be co-located with the Council Chambers.

This move is likely to have significant impact on the size and nature of the Library membership. The move will improve access for some groups and reduce access for others. It will enable the Library to provide a broader range of programs and services which may attract a different type of membership. The new, larger and more modern premises may also change the profile of the Library in the community.

Ryde Library Services undertook a move to new premises in late 2005 and reported significant growth in the following year. Analysis of statistics for Ryde Library Services in the first quarter of 2006 showed 151% increase in loans, a small increase in membership, 107% increase in visitors, 209% increase in enquiries, 292% increase in PC bookings and 280% increase in storytime attendance over the same quarter in 2005 (Ryde Library Services 2006).

References

City of Victor Harbor Library, Sue Leonard August 2006

Ryde Library Services, Cath Bright Information Services & Technology Co-ordinator, August 2006

15. Ambulance Services

South Coast Ambulance is a Career staff station where as Yankalilla and Goolwa are Volunteer. It is anticipated that response times from Victor Harbor (South Coast) are a lot quicker as the station is manned all the time. Yankalilla and Goolwa potentially have to respond from their home or place of work to the station and then despatch to the case hence category 1 and 2 cases that are closer to Yankalilla and Goolwa may have the South Coast team despatched to minimise response time but all these decisions are at Communications ('000' Call Centre) discretion depending on availability.

There are responses to Yankalilla and Goolwa made by the South Coast that are included in this data. South Coast responded to Goolwa cases as the 'Scene Suburb' 615 times in 2005 and 92 times to Yankalilla. Again this is at Communications discretion and it depends if the other Ambulances in the area are busy and in some cases 2 Ambulances may respond from different towns because of the number of patients (occurs often in vehicle accidents).

Thus while responses by Yankalilla and Goolwa stations will be relatively appropriate as an indication of the needs of these populations, responses by South Coast reflect a the needs of the whole of the Southern Fleurieu population.

Process for Developing Planning Tool

The planning tool was developed by using information provided by SA Ambulance Services. For Yankalilla and Goolwa stations, the number of responses for each age cohort of each Statistical Area was determined as a percentage of that age population.

An assumption was made that responses to Yankalilla and Goolwa areas made by the South Coast Station were distributed across age groups in the same way as responses made by the local stations. The 615 responses made by South Coast to Goolwa and 92 responses made by South Coast to Yankalilla were then divided accordingly between the age groups. These figures were then separated from the South Coast statistics. The total responses across the Fleurieu were thus provided in 5 categories

- Goolwa responses made by the local station
- Yankalilla responses made by the local station
- Goolwa responses made by South Coast
- Yankalilla responses made by South Coast
- Remainder (assumed Victor Harbor responses) made by South Coast

The number of responses, expressed as a percentage of each age cohort for each of these categories could then be multiplied by future populations to estimate the potential demand of such populations on ambulance services.

Information on kilometers travelled was also provided by SAAS. However this data is not reliable enough for use as a planning tool.

Historically the South Australian Ambulance Services have resourced most Country Regional Centres with a population greater than 10,000 and over 1,000 dispatches per annum with emergency and transfer services provided by paid on-station (24 hour roster) workforce comprising Paramedics and Intensive Care Paramedics. Significant Country Towns with population between 5,000 to 10,000 and between 500 to 1,000 dispatches per annum have emergency and transfer services provided by mix of paid on-station and on-call Paramedics and/or on-call volunteers. Projections may be viewed in relation to these arrangements.

Projections

Table 20 shows actual 2005 ambulance carries for Goolwa station, Yankalilla station and South Coast station (including carries for Goolwa and Yankalilla undertaken by South Coast) and projections at 5 year intervals to 2020. Ambulance carries are projected to increase 46% over the next 15 years for Goolwa, 41% for Yankalilla and 43% for South Coast. In total it 1411 additional carries will be expected per annum by 2020, an increase of 43%.

In 2005 the total carries for Goolwa (By Goolwa and South Coast stations) were 1450 and the population of the area was 10497. Historical resourcing of SA Ambulance Services indicates that a paid on-station 24 hour service may be appropriate for the Alexandrina Coastal area. By 2020, the total carries for Goolwa (by Goolwa and South Coast stations) are estimated at 2126 carries per annum. This is slightly higher than the total South Coast carries for 2005, suggesting that by 2020 the Goolwa station will cater to a demand equivalent to that seen by South Coast today.

Table 20: Projected Ambulance Carries per annum – Southern Fleurieu 2005 - 2020

	2005	2010	2015	2020
Goolwa Carries	835	970	1084	1224
Yankalilla Carries	346	401	450	490
South Coast Carries	1356	1562	1727	1909
South Coast (For Goolwa) Carries	615	714	799	902
South Coast (For Yankalilla) Carries	92	107	120	130
Total South Coast Carries	2063	2383	2645	2941
TOTAL	3244	3755	4180	4655

Disclaimers and Explanatory Notes

Data provided by SA Ambulance service is categorised according to where the case has occurred rather than where the patient lives. As such:

- Carries reported include those relating to visitors to the area. The Southern Fleurieu Peninsula is a significant tourist destination and experiences a high visiting population. This should be considered in relation to the use of this tool, particularly for predicting use by populations other than the Southern Fleurieu.
- Transfers to and from South Coast Hospital are recorded against Victor Harbor, while the population using this service may be from Yankalilla or Goolwa areas. Therefore growth in the populations of Yankalilla or Goolwa would be expected to influence Victor Harbor carries. This variable however is not included in the tool provided.

Aldinga Station will, on occasion, respond to cases in Yankalilla and surrounding areas. This data has not been considered in the development of this tool. As such it is expected that Yankalilla carries are underestimated.

References

Manager Corporate Analysis & Risk, SA Ambulance Service, Adelaide South Australia

16. Emergency Presentations

Process for Developing Planning Tool

Data on Emergency Presentations for the 05/06 Calendar Year were obtained from Medical Records at South Coast District Hospital in August 2006. The data provided emergency presentations by residence (statistical local area) of patient and age cohort. The data also showed how many presentations in each age cohort were seen in Emergency by the Nurse only (did not require a medical officer).

Presentations for each statistical local area were then determined as a proportion of the particular population for each age cohort.

Individuals residing in an area other than Yankalilla, Victor Harbor or Alexandrina Coastal SLA were determined as a proportion of these local presentations.

Presentations seen by a nurse only were determined as a proportion of total presentations.

These proportions could then be multiplied any notional future population to identify the impact of the population on emergency presentations.

Projections

Data showing emergency presentations at South Coast District Hospital for 05/06 showed that 54% of presentations were individuals living within the Victor Harbor area, 22% were from Alexandrina Coastal area, 1% were from the Yankalilla area and 23% were from outside of the Southern Fleurieu.

Victor Harbor had twice as many presentations per head of population compared with Alexandrina Coastal and fifteen times as many presentations compared with the Yankalilla area.

Projections (see table 21) indicate that emergency presentations will increase by 1128 per annum or 17% by 2020.

In 2005, 1377 individuals or 20% of all presentations were seen in the Accident and Emergency by a Nurse only and did not require attention from a medical officer. This figure is projected to increase by 17% in the next 15 years to 1613 presentations per annum.

Table 21: 2005 actual and projected Emergency Presentations per annum at SCDH 2010 to 2020

Age Cohort	2005 (Actual)	2010	2015	2020
0-4	694	674	675	682
5-9	390	374	358	353
10-14	335	315	300	287
15-19	459	488	457	436
20-24	398	396	410	382
25-29	283	304	305	310

30-34	309	315	337	336
35-39	331	339	332	355
40-44	267	233	235	222
45-49	282	290	261	263
50-54	444	492	506	465
55-59	300	329	359	373
60-64	289	358	389	423
65-69	299	326	404	435
70-74	359	401	447	555
75-79	378	372	422	474
80-84	314	387	382	443
85+	374	545	729	830
TOTAL	6505	6945	7318	7633

Table 22: 2005 actual and projected Emergency Presentations seen by a nurse only (not requiring attention of a medical officer) at SCDH 2010 to 2020

Age Cohort	2005	2010	2015	2020
0-4	107	104	104	105
5-9	46	44	42	42
10-14	60	56	54	51
15-19	85	90	85	81
20-24	94	94	97	90
25-29	70	75	76	77
30-34	67	68	73	73
35-39	66	68	66	71
40-44	46	40	41	38
45-49	44	45	41	41
50-54	211	234	241	221
55-59	76	83	91	95
60-64	46	57	62	67
65-69	69	75	93	101
70-74	78	87	97	121
75-79	90	89	101	113
80-84	56	69	68	79
85+	66	96	129	147
TOTAL	1377	1477	1560	1613

Disclaimers and Explanatory Notes

The data provided relates only to emergency presentations at South Coast District Hospital. As local data this data is highly influenced by the nature of the local services, environment and population.

- Presentations from Yankalilla and Alexandrina are significantly lower per head of population presentations than those at Victor Harbor. This may reflect the

accessibility of South Coast Hospital for these communities. Presentations at Noarlunga and Flinders Medical Centres are likely to be higher for these communities.

- Residents of the Southern Fleurieu has access to limited after hours medical services other than Accident and Emergency service at South Coast District Hospital. This would have significant influence on the number of presentations. As such the ability to apply this tool to project emergency presentations in other hospitals is very limited.

References

Emergency Presentations Data 2005/06, Medical Records South Coast District Hospital August 2006

Trends

A number of factors are likely to influence Emergency Presentations over the next 15 years. Many of these have been outlined in preceding chapters and include trends in the incidence and prevalence of chronic disease and disability.

Changes to the range and nature of community based health services may also influence emergency presentations. These changes may include:

- longer hours of operation for local general practice
- increased human resources in local general practice
- expanded range of 'drop in' services in local general practice
- potential roles for practice nurses and nurse practitioners
- continued expansion of roles for residential aged care facilities in managing higher care needs within the facility
- continued expansion of hospital avoidance services
- continued expansion of home based care options the management of individuals with a life limiting illness
- expansion of home nursing options
- expansion of community based aged care as a proportion of total aged care.

These changes may have different effects on different types of emergency presentations such as after hours emergency presentations or those seen by a nurse only & not requiring attendance by a medical officer.

Expansion in the capacity of the emergency service or the range of services offered by South Coast District Hospital will also influence the number of emergency carries to metropolitan hospitals and hence the number of presentations locally.

17. Appendix 1: MDS Categories and measures

Measures

- **Time** is used to record amount of assistance for the following assistance types:
 - Domestic assistance
 - Social support
 - Nursing care received at home
 - Nursing care received at centre/other
 - Allied health care received at home
 - Allied health care received at centre/other
 - Personal care
 - Assessment
 - Centre-based day care
 - Other food services
 - Respite care
 - Home maintenance
 - Client care coordination
 - Counselling/support, information and advocacy (care recipient)
 - Counselling/support, information and advocacy (carer).
- **Quantity** is used to record amount of assistance for the following assistance types:
 - Meals received at home
 - Meals received at centre/other
 - Formal linen services
 - Transport
 - Goods and equipment (self-care aids, support and mobility aids, communication aids, aids for reading, medical care aids, car modifications, other goods/equipment).
- **Cost** is used to record the amount of assistance for: Home modification.

Assistance Type Definitions

Allied Health Care (User Guide pg 66, pg 180 – 181)

Allied Health consists of a wide range of specialist services, including podiatry, occupational therapy, physiotherapy, social work etc.

Physiotherapy, occupational therapy or other allied health assistance provided by an agency to an individual client at a day centre, should be recorded separately to the allied health received at home

Allied health assistance (not part of a Centre-based care program) provided to a group of clients at a venue other than a centre or person's home, should be recorded as Allied health at other setting.

If an allied health agency provides a session of stretching exercises or occupational therapy to a group of clients attending a centre-based program, this will be recorded as part of the centre-based day centre program of activities.

Assessment (User Guide pg 66, pg 183)

Assessment refers to assessment and re-assessment activities that are directly attributable to individual care recipients.

While most agencies will undertake some form of assessments, the extent and nature of assessment activities will vary from agency to agency, and across different agency types.

Assessment includes activities associated with intake procedures and the determination of eligibility for service provision. It also includes more comprehensive assessments of a person's need for assistance and is not merely the initial registration and associated administrative procedures.

Subsequent assessments and reassessments undertaken by the agency are also considered a critical opportunity for agencies to assess the currency of the information they have recorded about the client and to update this where necessary. Any time assessment activity is undertaken on behalf of the client, the Date of last update should be changed to reflect this work

Case Management (User Guide pg 68, pg 184)

Case Management comprises active assistance received by a client from a formally identified agency worker (case manager or care coordinator) who coordinates the planning and delivery of a suite of services to the individual client. (Where service delivery involves more than one agency, only the activities of the agreed case manager should be recorded against this type of assistance.)

Case Management is generally targeted on clients with complex needs. It may be short term or ongoing

Centre-based Day Care (User Guide pg 67, pg 181 – 182)

Centre-based day care refers to assistance provided to the client to attend/participate in group activities and is conducted in a centre-based setting. It includes group excursions/activities conducted by centre staff but held away from the centre.

Centre-based Day Care includes the social support provided in a group environment and also light refreshments, excursions, excursion-associated transport and personal assistance (e.g. help with toileting) involved in attendance at the centre.

Social support assistance provided to a Client through structured activities in a group environment (but not including Counselling/Support, Information and Advocacy services) is to be recorded as Centre-Based Day Care when it is provided at a fixed-base facility.

Social support assistance delivered individually to the Client at a Centre will be recorded as Social Support.

The Agency which provides these centre-based services will record them as hours and minutes for the client. This time is counted from when the client arrives at the centre until their departure

If an Agency provides transport to/from a Centre they will record the transport assistance separately to the centre-based day care assistance.

Any transport provided as part of an excursion or activity within the centre's program will not be counted as a separate transport service

Client care coordination (formerly Case Planning/Review and Coordination; User Guide pg 68, pg 183 – 184)

Client care coordination and case management are distinct activities on the same continuum of service delivery. Client care coordination is a less intensive form of case management.

Client care coordination focuses on coordination activities undertaken to facilitate access to HACC services for clients who need help to gain access to more than one service, for example, HACC special needs group clients. The assistance to access services is often short term.

Client care coordination involves the following activities: implementing the care plan; liaison with service providers in the same or another agency dealing with the same client; advocacy to ensure that the client has access to the range of services required; and monitoring and reviewing the care plan or service plan.

Care coordination is an activity carried out by identified agency staff. Not all service providers will undertake it.

It is an activity directly attributable to individual clients and is unlikely to be provided to every client on every occasion of service.

Client care coordination service activity does not include administrative work (e.g. drawing up rosters, processing accounts, or completing time sheets), personnel management, or attendance at staff meetings or training programs.

Counselling/support, information and advocacy (User Guide pg 69, pg 186)

Counselling/Support, Information and Advocacy covers a number of supportive services to help clients and carers deal with their situation. It includes dementia support and counselling and Carer support and counselling, normally provided on a one-to-one basis.

The service types are typically provided as one-on-one counselling, advice, and information but can be provided in a group setting. Record a counselling/support/information/advocacy type of assistance for a client whether it was conducted one-on-one, or in a group setting, for the benefit of a single named client.

Use Counselling/Support, Information and Advocacy (care recipient) if provided primarily for the person requiring care services and Counselling/support, information and advocacy (carer) if the carer is the main recipient of the assistance.

Counselling/Support, Information and Advocacy (Care Recipient) refers to assistance with understanding and managing situations, behaviours and relationships associated with the person's need for care, including advocacy and the provision of advice, information and training

Counselling/Support, Information and Advocacy (Carer) refers to assistance with understanding and managing situations, behaviours and relationships associated with the caring role, including advocacy and the provision of advice, information and training.

It also includes professional support to Carers in accessing and using general community services (advocacy) and one-to-one training or advice given to the Carer to assist them as well as the provision of information.

This type of assistance does not include:

group activities conducted by a HACC agency where individual client records are not routinely kept;

education, information or training provided by a HACC agency to another organisation, group or agency (HACC or non-HACC);

advice or information provided by telephone advice or referral services on an ad hoc basis to members of the community; or

advocacy undertaken on behalf of groups (e.g. advocating for the rights of younger people with disabilities) which is not directly associated with the needs and situation of an individual client

Domestic Assistance (User Guide pg 65, pg 179)

Domestic assistance is normally provided in the home, and includes services such as dishwashing, house cleaning, clothes washing, shopping (unaccompanied) and bill paying

Formal Linen Service (User Guide pg 71, pg 185)

A Formal Linen service means that both the linen and the laundry services are provided to the client, and the cleaning of the linen is done elsewhere. Washing of clothes and other household linen may be undertaken as part of Domestic Assistance. Formal Linen Service should only be recorded when linen is both provided and laundered

Home maintenance (User Guide pg 69, pg 184 – 185)

Home Maintenance refers to assistance with the maintenance and repair of the person's home, garden or yard to keep their home in a safe and habitable condition.

Home maintenance includes minor dwelling repairs and maintenance, such as changing light bulbs, carpentry and painting, or replacing tap washers as well as some more major dwelling repairs such as installing a new roof, replacing guttering or roof retiling. Home maintenance also includes garden maintenance, such as lawn mowing and the removal of rubbish.

If the work is undertaken by a contractor on a fee-for-service basis then record an estimate of the time spent

Home modification (User Guide pg 73, pg 185)

Home Modification refers to structural changes to the client's home so they can continue to live and move safely about the house. It will often include the fitting of rails, ramps, alarms or other safety and mobility aids.

Home modification does not include repairs to the house but does include explicit changes to improve safety or accessibility for the client.

If a client receives any home modification assistance it is reported as a cost. This is home modification work which is paid for from your Agency's HACC funds. These costs may include both the labour costs and the materials cost or only some part of this.

Meals (User Guide pg 71, 182)

Refers to those meals which are prepared and delivered to the client. It does not include meals prepared in the client's home.

It is important to count separately the meals provided to a client at home, and the meals provided at a Centre (or other setting). Separate totals must be reported for each case

Nursing Care (User Guide pg 65, pg 180)

Nursing care is defined as health care provided to a client by a registered or enrolled nurse.

Nursing care can be delivered in the client's home or in a centre or other location.

If a nurse attends a client to provide nursing care, and also provides some other help (e.g. social support, respite for the carer, or personal care) then the Agency records this as primarily Nursing Care. If a nurse attends a client to provide a service which is not nursing care (e.g. social support or to act as a substitute carer) but incidentally provides some nursing care, then the Agency records this as primarily Social Support or Respite Care

Other food services (User Guide pg 67, pg 182)

Other Food Services means any assistance provided during preparation/cooking of a meal at the client's home. It also includes advice on nutrition, food storage or preparation. It does not cover the delivery of a meal prepared elsewhere.

Record the provision of any services which fit the definition of Other Food Services using hours and minutes (or fraction of hour) as the unit of measure

Personal Care (User Guide pg 66, pg 181)

Personal Care is normally provided in the home, and includes helping the client with daily self-care tasks (e.g. eating, bathing, grooming etc.). It may include medication monitoring.

In special situations personal care assistance may be delivered at a Centre because it is not feasible to deliver the service in the client's home. This may be because the client is homeless, itinerant or living in a temporary shelter and the Centre is able to provide the shower and washing facilities required for client care

Provision of Goods and Equipment (User Guide pg 74 – 75, pg 185 – 186)

Each time an item of equipment or goods is provided to the client, it should be recorded in one of the categories listed below.

It does not matter if the Agency lends or purchases the item for the client, it will still be recorded using these categories.

Do not report equipment purchased for home modifications under this item.

Where the agency has provided no assistance of a given category to the client within the reporting period, the amount of assistance should be reported as 0

Self-Care Aids	<ul style="list-style-type: none"> • These aids assist the client in their day-to-day routines of cooking/eating and personal hygiene. Examples include special crockery/cutlery, bath rails/shower rails, buttonhooks, bowel and urinary appliances etc.
Support and Mobility Aids	<ul style="list-style-type: none"> • These aids assist the client with ease of mobility as well as supportive mechanisms while at rest. Support aids include callipers, splints, special beds, cushions/pillows etc, while mobility aids include belts, braces, crutches, wheelchairs (manual and motorised) etc.
Communication Aids	<ul style="list-style-type: none"> • These aids help the client with their inter-personal interaction and are inclusive of telephone attachments, writing aids, speaking aids (electrolarynx), intercom etc.
Aids for Reading	<ul style="list-style-type: none"> • These are reading-specific aids provided to clients and comprise of items like magnifying/reading glasses, braille books, reading frames etc.
Medical Care Aids	<ul style="list-style-type: none"> • Aids in this category assist clients with specific medical conditions. Included are breathing pumps, pacemakers, Ostomy/stoma appliances etc.

Respite Care (User Guide pg 68, pg 182 – 183)

Respite Care is assistance provided to Carers so they may have relief from their caring role and pursue other activities or interests.

Respite Care should only be recorded if there is a carer reported on the MDS record. If the care recipient has no carer then the service type is not respite but normally would be Social Support.

Social Support (User Guide pg 65, pg 179 – 180)

Social Support refers to assistance provided by a companion (paid worker or volunteer), either within the home environment or while accessing community services, which is primarily directed towards meeting the person's need for social contact and/or accompaniment in order to participate in community life. Social support includes friendly visiting.

A staff member providing Social Support may sometimes provide some other help while attending the client

Any other service which is provided to the client will have social support benefits. However, it is only the assistance times which are specifically aimed at delivering social support which should be recorded this way

Any Social Support provided to the client in a group-based environment at or from a fixed base facility away from their residence is recorded as Centre-based Day Care.

Transport (User Guide pg 72, pg 185 – 186)

Transport refers to assistance with transportation either directly (e.g. a ride in a vehicle provided or driven by an agency worker or volunteer) or indirectly (e.g. taxi vouchers or subsidies).

A single trip should be recorded for each HACC client whether they are transported individually or in a group

18. Appendix 1 Health & Disease

Variable selection

Table (1) – South Australian years of healthy life lost to disability (YLDs) due to chronic conditions for individuals 65+

Category	YLD	Key conditions	YDL
Disease of nervous system and sensory organs	15107	Dementia and Alzheimers disease	5670
		Adult onset hearing loss	2571
		Age related hearing disorders	2178
		Other nervous system disorders	2147
		Parkinsons disease	1770
Cardiovascular disease	5987	Stroke	2570
		Ischaemic heart disease	1933
Malignant neoplasms	4211	Prostate Cancer	770
		Colorectal cancer	758
		Breast cancer	559
		Lung cancer	447
Musculoskeletal disease	2214	Osteoarthritis	1871
Chronic respiratory disease	1303	Chronic obstructive pulmonary disease	987
Genitourinary disease	1144	Benign prostatic hypertrophy	531

The South Australian Burden of Disease Study (2005)

Table (2) – South Australian Years of healthy life lost to disability (YLDs) due to risk factors for individuals 65+

Risk Factor	YLD
Smoking	2564
Hypertension	1919
Physical inactivity	1470
Obesity	1141

Prevalence

Table (3): SAMSS Number of people interviewed

	2 to 15 years	16 years and over	2 years and over
Southern Fleurieu Peninsula	38	262	300
South Australia	3702	16025	19727

Source: South Australian Monitoring and Surveillance System, Department of Health January 2003 – November 2005

Chronic conditions

Definitions:

- Diabetes, arthritis and osteoporosis were defined as self-reported doctor diagnosis.
- Current asthma was defined as a doctor diagnosis and experience of symptoms and/or treatment in past 12 months.
- Cardiovascular disease was defined as doctor diagnosis of heart attack, angina, heart disease or stroke.
- Overweight or obesity defined as body mass index ≥ 25 kg/m², derived from self-reported height and weight.
- Current mental health condition derived from self-reported mental health problem diagnosed in the last 12 months (anxiety, depression, stress-related problems or any other mental health problem) and/or currently receiving treatment for anxiety, depression, stress-related problems or any other mental health problem.
- Psychological distress was defined as a score of 22 or greater on the Kessler 10 Psychological Distress Scale.

Table 4: Prevalence of chronic conditions by age groups

	Southern Fleurieu Peninsula		South Australia	
	n	% (95% CI)	n	% (95% CI)
Diabetes				
0 to 15 years	-	-	-	-
16 to 35 years	-	-	86	1.5 (1.2 - 1.8) *
35 to 54 years	1	-	307	4.5 (4.1 - 5.1) *
55 to 64 years	5	-	240	9.9 (8.8 - 11.2) *
65 years and over	17	17.6 (11.3 - 26.3) *	528	15.5 (14.3 - 16.7) *
Overall	23	8.7 (5.9 - 12.8)	1160	6.3 (6.0 - 6.7)
Current asthma				
2 to 15 years	8	21.0 (11.0 - 36.2)	681	18.4 (17.2 - 19.7) *
16 to 35 years	6	11.1 (5.2 - 22.1)	945	18.6 (17.6 - 19.7) *
35 to 54 years	7	10.2 (4.9 - 19.8)	713	12.2 (11.3 - 13.0) *
55 to 64 years	4	-	252	11.9 (10.6 - 13.4) *
65 years and over	14	14.3 (8.7 - 22.7)	344	11.6 (10.5 - 12.8) *
Overall	39	13.0 (9.6 - 17.2)	2934	14.9 (14.4 - 15.4)
Cardiovascular disease				
0 to 15 years	-	-	-	-
16 to 35 years	3	-	32	0.6 (0.5 - 0.9) *
35 to 54 years	2	-	152	2.6 (2.2 - 3.0) *
55 to 64 years	7	14.9 (7.2 - 28.1)	245	11.6 (10.3 - 13.0) *
65 years and over	30	31.5 (23.1 - 41.3) *	827	27.8 (26.2 - 29.4) *
Overall	41	15.8 (11.9 - 20.7)	1256	7.8 (7.4 - 8.3)
Arthritis				
0 to 15 years	-	-	-	-
16 to 35 years	6	10.5 (4.8 - 21.3) *	173	3.4 (2.9 - 3.9) *
35 to 54 years	9	14.3 (7.8 - 24.7) *	920	15.7 (14.8 - 16.7) *
55 to 64 years	20	44.1 (30.6 - 58.7)	801	37.9 (35.8 - 39.9) *
65 years and over	50	51.5 (41.7 - 61.2) *	1510	50.8 (49.0 - 52.6) *
Overall	85	32.3 (26.9 - 38.2)	3404	21.2 (20.6 - 21.9)
Osteoporosis				
0 to 15 years	-	-	-	-
16 to 35 years	1	-	14	.3 (.2 - .5) *
35 to 54 years	1	-	114	1.9 (1.6 - 2.3) *
55 to 64 years	2	-	130	6.1 (5.2 - 7.2) *
65 years and over	10	10.5 (5.8 - 18.2) *	422	14.2 (13.0 - 15.5) *
Overall	14	5.3 (3.2 - 8.8)	679	4.2 (3.9 - 4.6)
Current mental health condition				
0 to 15 years	-	-	-	-
16 to 35 years	8	13.8 (7.1 - 25.3)	671	13.2 (12.3 - 14.2) *

35 to 54 years	9	14.3 (7.8 - 24.7)	954	16.3 (15.4 - 17.2) *
55 to 64 years	13	29.1 (17.8 - 43.7)	361	17.1 (15.5 - 18.7) *
65 years and over	14	14.4 (8.8 - 22.7)	303	10.2 (9.1 - 11.3) *
Overall	44	16.7 (12.7 - 21.7)	2288	14.3 (13.7 - 14.8)
Psychological distress (K10)				
0 to 15 years	-	-	-	-
16 to 35 years	7	11.8 (5.7 - 23.0)	596	11.8 (10.9 - 12.7) *
35 to 54 years	7	10.5 (5.2 - 20.2)	606	10.3 (9.6 - 11.1)
55 to 64 years	5	12.0 (5.4 - 24.8)	213	10.1 (8.9 - 11.4)
65 years and over	13	13.4 (8.0 - 21.6)	219	7.4 (6.5 - 8.4) *
Overall	32	12.1 (8.7 - 16.6)	1634	10.2 (9.7 - 10.7)

Note: The weighting of data can result in rounding discrepancies or totals not adding.

* Statistically significantly higher or lower other age groups in the region or state (p<0.05).

Source: South Australian Monitoring and Surveillance System, Department of Health January 2003 – November 2005

Health related risk factors

Definitions:

- Cholesterol derived from self-reported current high cholesterol and/or on medication for cholesterol.
- Hypertension derived from self-reported current high blood pressure and/or on medication for hypertension.
- Obesity defined as body mass index $\geq 30 \text{ kg/m}^2$, derived from self-reported height and weight.
- Sufficient physical activity
 - Definition 1: 150 minutes total of walking, moderate or vigorous physical activity with vigorous activity weighted by a factor of two to account for its greater intensity.
 - Definition 2: 150 minutes total of walking, moderate or vigorous physical activity with vigorous activity weighted by a factor of two, over at least five separate sessions a week.
- Risky to high risk of harm from alcohol consumption (NH&MRC guidelines). 29 or more standard drinks of alcohol per week for males and 15 or more standard drinks of alcohol per week for females.

Table 5: Prevalence of health related risk factors by age groups

	Southern Fleurieu Peninsula		South Australia	
	n	% (95% CI)	n	% (95% CI)
Smoking				
16 to 35 years	12	21.1 (12.4 - 33.6) *	1255	24.7 (23.6 - 25.9) *
35 to 54 years	11	16.0 (9.1 - 26.7)	1343	22.9 (21.9 - 24.0) *
55 to 64 years	6	12.7 (5.8 - 25.6)	295	13.9 (12.5 - 15.5) *
65 years and over	5	5.3 (2.3 - 11.7) *	222	7.5 (6.6 - 8.5) *
Overall	33	12.6 (9.1 - 17.1)	3115	19.4 (18.8 - 20.1)
Hypertension				
16 to 35 years	-	-	61	1.4 (1.1 - 1.8) *
35 to 54 years	9	15.0 (8.1 - 26.1) *	499	10.1 (9.3 - 11.0) *
55 to 64 years	13	33.8 (21.0 - 49.5)	568	31.4 (29.3 - 33.6) *
65 years and over	40	45.4 (35.4 - 55.8) *	1289	51.1 (49.1 - 53.0) *
Overall	62	26.5 (21.2 - 32.5)	2417	17.8 (17.2 - 18.5)
Cholesterol				
16 to 35 years	-	-	73	1.7 (1.4 - 2.1) *
35 to 54 years	4	-	480	9.7 (8.9 - 10.6) *
55 to 64 years	12	31.4 (19.0 - 47.1)	482	26.7 (24.7 - 28.8) *
65 years and over	32	36.5 (27.2 - 47.0) *	837	33.2 (31.4 - 35.0) *
Overall	48	20.8 (16.1 - 26.5)	1873	13.8 (13.2 - 14.4)
Insufficient physical activity (definition 1)				
16 to 35 years	19	41.5 (28.4 - 55.9)	1571	36.8 (35.4 - 38.3) *
35 to 54 years	36	60.4 (47.8 - 71.8)	2538	51.6 (50.2 - 53.0) *
55 to 64 years	21	54.2 (38.9 - 68.8)	981	54.5 (52.2 - 56.8) *
65 years and over	52	60.3 (49.7 - 70.0)	1601	63.8 (61.9 - 65.7) *
Overall	128	55.6 (49.1 - 61.9)	6690	49.6 (48.8 - 50.5)
Insufficient physical activity (definition 2)				
16 to 35 years	29	63.3 (48.8 - 75.8)	2128	50.0 (48.5 - 51.5) *
35 to 54 years	41	68.1 (55.5 - 78.6)	3083	62.8 (61.4 - 64.1) *
55 to 64 years	24	61.5 (45.8 - 75.1)	1150	64.0 (61.7 - 66.2) *
65 years and over	59	68.4 (57.9 - 77.3)	1792	71.4 (69.6 - 73.2) *
Overall	152	66.2 (59.8 - 72.0)	8153	60.5 (59.7 - 61.4)
Obesity				
16 to 35 years	14	50.0 (32.9 - 67.2)	2392	64.8 (63.3 - 66.3) *
35 to 54 years	23	46.0 (32.9 - 59.6)	2224	51.3 (49.8 - 52.8) *
55 to 64 years	12	40.0 (24.8 - 57.4)	684	44.2 (41.7 - 46.7) *
65 years and over	43	53.7 (42.8 - 64.2)	1236	54.1 (52.0 - 56.1)
Overall	93	48.8 (41.8 - 55.9)	6536	55.1 (54.2 - 56.0)

	Southern Fleurieu Peninsula		South Australia	
	n	% (95% CI)	n	% (95% CI)
Risky to high risk of harm from alcohol consumption				
16 to 35 years	3	-	225	4.4 (3.9 - 5.0) *
35 to 54 years	6	-	245	4.2 (3.7 - 4.7)
55 to 64 years	1	-	82	3.9 (3.2 - 4.8)
65 years and over	4	-	71	2.4 (1.9 - 3.0) *
Overall	14	5.5 (3.3 - 9.0)	623	3.9 (3.6 - 4.2)

Note: The weighting of data can result in rounding discrepancies or totals not adding.

* Statistically significantly higher or lower than other age groups in the region or state (p<0.05).

Source: South Australian Monitoring and Surveillance System, Department of Health January 2003 – November 2005

Incidence

Table 6: State Level Estimates of Incident (Morbidity) Cases, Rates per 100,000 population by age cohort and selected disease categories (Department of Health 2005)

Code	Disease category	Incidence Rates per 100,000								
		All persons 0-4	All persons 5 to	All persons 15 to	All persons 25 to	All persons 35 to	All persons 45 to	All persons 55 to	All persons 65 to	All persons 75+
I. Communicable diseases, maternal and neonatal conditions										
B. Acute respiratory infections										
1.	Pneumonia	2445	370	266	602	831	568	1232	3022	6078
2.	Other lower respiratory tract infections ^(d)	11213	6851	8524	12531	9996	8030	9539	8374	8282
II. Non-communicable diseases										
F. Malignant neoplasms										
4.	Colorectal cancer	0	0	1	3	13	51	138	272	440
8.	Lung cancer	0	0	0	1	5	22	87	204	269
12.	Breast cancer	0	0	0	7	46	120	165	158	184
16.	Prostate cancer	0	0	0	0	0	21	141	331	408
H. Diabetes mellitus										
2.	Type 2 diabetes	0	0	9	15	104	391	377	799	743
J. Mental disorders										
a.	Alcohol dependence and harmful use	0	0	2988	1156	982	548	347	181	121
a.	Depression	220	1323	3052	2561	2608	2200	2049	1093	44
b.	Bipolar affective disorder	0	0	8	87	47	14	24	9	0
4.	Anxiety disorders	0	2279	1072	473	662	428	223	159	96
a.	Panic disorder	0	0	78	116	60	48	16	13	0
b.	Agoraphobia	0	0	63	32	33	35	23	14	0
c.	Social phobia	0	0	426	126	101	91	32	28	26
d.	Generalised anxiety disorder	0	0	122	112	269	142	104	87	46

e. Obsessive-compulsive disorder	0	0	47	34	42	42	17	17	25
f. Post-traumatic stress disorder	0	59	336	53	157	71	32	0	0
K. Nervous system and sense organ disorders									
1. Dementia & Alzheimer's disease	0	0	0	0	0	10	86	300	2027
3. Parkinson's disease	0	0	0	0	0	0	60	100	607
c. Age-related vision disorders ^(k)	0	0	0	0	0	17	21	80	1567
d. Adult-onset hearing loss ^(l)	0	17	37	47	41	264	2173	3846	6290
9. Other nervous system disorders									
L. Cardiovascular disease									
2. Ischaemic heart disease ^(m)	0	0	2	30	98	450	951	1623	2525
3. Stroke	2	2	7	13	32	81	203	534	1654
M. Chronic respiratory disease									
1. Chronic obstructive pulmonary disease ^(o)	0	0	0	40	80	123	259	340	450
2. Asthma	1418	1020	239	138	95	78	116	181	209
3. Other chronic respiratory diseases	342	35	35	7	8	30	70	106	142
O. Genitourinary diseases^(q)									
2. Benign prostatic hypertrophy	0	0	0	0	1	19	182	454	544
Q. Musculoskeletal diseases									
1. Rheumatoid arthritis	18	9	7	12	18	24	36	46	65
2. Osteoarthritis	0	0	1	25	105	263	627	1103	993
T. Unintentional injury									
4. Falls	2276	3788	2220	1279	872	1044	1072	1746	4789

19. Appendix 2 General Practitioners

Table 1: Number of actual Category 1 professional attendances (General Practitioner) per 100,000 population by age cohort for South Australia and Australia processed from July 2004 to June 2005

Services per 100,000 population		
Age Range	SA	Australia (Ave)
0-4yrs	658,921	646,776
5-14yrs	282,326	288,372
15-24yrs	409,952	390,182
25-34yrs	462,551	446,199
35-44yrs	494,803	483,829
45-54yrs	602,686	602,749
55-64yrs	785,607	791,636
65-74yrs	1,125,007	1,119,294
75-84yrs	1,221,627	1,190,547
>=85yrs	1,156,793	986,324
Average	613,336	586,134

(Commonwealth of Australia 2005, www.medicareaustralia.gov.au).

Qualification and Disclaimers

These figures include only those services that are performed by a registered provider, for services that qualify for Medicare Benefit and for which a claim has been processed by Medicare Australia. They do not include services provided by hospital doctors to public patients in public hospitals or services that qualify for a benefit under the Department of Veterans' Affairs National Treatment Account.

- Services/benefit per capita (ie. per 100,000 population) is calculated by dividing the number of services/benefit processed in a month by the number of people enrolled in Medicare at the end of that month.
- State/Territory is determined according to the address (at the time of claiming) of the patient to whom the service was rendered.
- Month is determined by the date the service was processed by Medicare Australia, not the date the service was provided.
- Monthly figures may vary due to the varying number of processing days in a month, which depends on the number of days in the month, public holidays, overtime worked etc.
- A financial year is 1 July to 30 June.
- Medicare Australia has taken every care to ensure the data supplied is accurate but does not warrant that the data is error free and does not accept any liability for errors or omissions in the data.

20. Appendix 3 - Disability

Table 1: Severity of disability (%) by age and living arrangement

Australian Bureau of Statistics cat. no. 4430.0 Disability, Ageing and Carers ADAPTED FROM Table 6. ALL PERSONS, Disability status by age and living arrangements - South Australia - 2003								
% population by severity/type of disability, age and living arrangement.								
Living arrangements		Profound or severe core-activity limitation(a) %	Moderate or mild core-activity limitation(a) %	Schooling or employment restriction %	All with specific limitations or restrictions(b) %	All with reported disability(c) %	No reported disability %	Total %
0-59 YEARS								
Lives in a private dwelling	Alone	0.6%	1.1%	2.1%	2.2%	2.5%	5.0%	7.5%
	With others	3.5%	5.2%	9.5%	11.3%	13.9%	78.0%	91.9%
	Total	4.2%	6.2%	11.6%	13.6%	16.4%	83.0%	99.4%
Lives in a non-private dwelling		0.1%*	-	-	0.1%*	0.1%*	0.4%*	0.6%
Total % population		4.3%	6.2%	11.6%	13.7%	16.5%	83.5%	100.0%
60 YEARS AND OVER								
Lives in a private dwelling	Alone	2.8%	9.6%	1.3%*	12.6%	14.1%	12.1%	26.1%
	With others	9.1%	17.7%	5.0%	28.1%	31.0%	30.6%	61.6%
	Total	11.9%	27.3%	6.3%	40.7%	45.1%	42.6%	87.7%
Lives in a non-private dwelling		5.0%	1.0%*	0.1%**	6.0%	6.3%	0.5%*	6.9%

Total		16.9%	28.3%	6.5%	46.7%	51.4%	43.2%	94.6%
Lives in accommodation for the retired or aged(d)		1.4%*	2.4%*	np	3.8%	4.1%	1.3%*	5.4%
PERSONS								
Lives in a private dwelling								
	Alone	1.1%	2.8%	1.9%	4.3%	4.8%	6.4%	11.2%
	With others	4.7%	7.7%	8.6%	14.7%	17.3%	68.2%	85.5%
	Total	5.7%	10.5%	10.5%	19.0%	22.1%	74.6%	96.8%
Lives in a non-private dwelling		1.1%	0.2%*	0.0%**	1.3%	1.4%	0.5%	1.8%
Total		6.8%	10.7%	10.6%	20.3%	23.5%	75.1%	98.6%
Lives in accommodation for the retired or aged(d)		0.3%*	0.5%*	np	0.8%	0.9%	0.5%	1.4%

* estimate has a relative standard error of 25% to 50% and should be used with caution

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

- nil or rounded to zero (including null cells)

np not available for publication but included in totals where applicable, unless otherwise indicated

(a) Core activities comprise communication, mobility and self care.

(b) Total may be less than the sum of the components as persons may have both a core-activity limitation and a schooling or employment restriction.

(c) Includes those who do not have a specific limitation or restriction.

(d) Retirement villages can include private and non-private dwellings (including cared accommodation).

21. Appendix 4 - Support Needs

Table 1 - % People with a disability needing assistance by age cohort

Australian Bureau of Statistics cat. no. 4430.0 Disability, Ageing and Carers					
Adapted From - Table 21. Persons aged 60 and over, Need for assistance by age - South Australia - 2003 and Table 14: Persons with a disability living in households: Disability status by activities for which assistance needed and assistance received, and extent to which need for assistance met.					
% People with a disability needing assistance by age cohort					
	% 0-59 Years	% 60-64 years	% 65-74 years	%75-84 years	% 85+ years
Activities for which assistance needed					
Self care	0.8%	5.0%	11.9%	12.7%	16.1%
Mobility	2.2%	3.7%	15.4%	23.0%	21.4%
Communication	0.4%	1.3%	2.6%	6.3%	8.5%
Cognition or emotion	3.3%	5.3%	9.4%	14.1%	13.5%
Health care	1.6%	8.8%	26.0%	35.8%	24.9%
Paperwork	0.5%	1.7%	5.9%	15.4%	16.4%
Transport	2.4%	6.8%	16.1%	24.0%	15.0%
Housework	2.9%	9.6%	20.9%	22.6%	13.4%
Property maintenance	3.2%	19.0%	41.6%	47.3%	16.5%
Meal preparation	1.1%	2.0%	6.6%	6.2%	6.0%
All persons needing assistance with at least one activity(d)	6.6%	27.8%	56.7%	64.7%	31.9%