

**Health Series**

**Number 14**

***Health Status  
of the ACT  
by  
statistical subdivisions***

**Measures of health status and health services in the  
subdivisions of the ACT**

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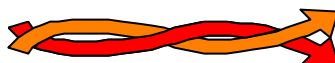
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Population Health Group  
ACT Department of Health and Community Care

April 1998

# ACKNOWLEDGEMENTS

This publication has drawn on the expertise and knowledge of several individuals and sections within the Department of Health and Community Care, Community Health Services, the Australian Bureau of Statistics, and the Australian Institute of Health.

The authors are particularly grateful to colleagues in the Department of Health and Community Care including Josie McConnell, Dr Bruce Shadbolt, Dr Doris Zonta, and the staff of the Epidemiology Unit for their support, advice and patience; the Information Management Section for providing data; Health Outcomes Policy and Planning Group for advice; and the Communications and Marketing Section for publishing assistance.



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ISSN 1325-1090

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Published by Publications and Public Communication for the ACT Department of Health and Community Care's Epidemiology and Population Health Section and printed by the Authority of the ACT Government Printer.

200 - 4/98 A4 (98/5269)

Suggested citation:, Kee C, Bodilsen G, (1998), *Health Status of the ACT by statistical subdivisions*, Epidemiology Unit, ACT Dept of Health and Community Care: Health Series No 14, ACT Government Printer, ACT

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## Health Status of the ACT by statistical subdivisions

### Summary

This publication details profiles of health and ill-health by town centres or subdivisions in the ACT. It aims to assist the ACT government and in particular, the ACT Department of Health and Community Care in its commitment to maximising 'both community and individual health and well-being' by providing an overview of the services provided within subdivisions, the current utilisation of those services, and future needs of the ACT's regional populations.

The statistical subdivisions of the ACT as defined by the Australian Bureau of Statistics (ABS) are North Canberra, Belconnen, Woden Valley, Weston Creek-Stromlo, Tuggeranong, South Canberra, Gungahlin-Hall and the ACT Balance (consisting of the bulk of the ACT's non-urban land mass).

In 1996, the largest subdivision was Tuggeranong (89,954 persons), followed by Belconnen (85,580), North Canberra (38,831), Woden Valley (33,028), Weston Creek (24,864), South Canberra (22,726) and Gungahlin-Hall (12,709)

The age sex distributions of the ACT statistical subdivisions vary. Although the proportions of people aged 25 to 65 years were relatively constant between subdivisions in 1996, there was substantial variation in the younger and older age groups. Tuggeranong, Gungahlin-Hall and the ACT Balance had relatively high proportions of residents aged 0 to 14 years, while South Canberra, North Canberra and Woden Valley had higher proportions of residents aged 65 years and over.

Of the 2,898 Indigenous people living in the ACT, 32% lived in Tuggeranong and 12% lived in South Canberra.

The more recently established subdivisions of the ACT had higher proportions of younger people and relatively few older people. South Canberra, North Canberra and Woden Valley had comparatively higher proportions of older people, and relatively few people aged 0 to 14 years. Woden Valley had the highest median age (36 years), followed by South Canberra, Weston Creek and North Canberra in 1995. Tuggeranong and Gungahlin-Hall had the lowest median ages, below 30 years for both sexes.

Of the 4,388 births in the ACT in 1996, Tuggeranong (particularly the suburbs of Kambah, Gordon and Calwell) had the highest proportion, followed by Belconnen (particularly Florey and Kaleen). All subdivisions, with the exception of Tuggeranong (2.16 per woman) had fertility rates below that of Australia (1.8).

With regard socio-economic factors such as living conditions, income etc, there were marked differences between suburbs, but not subdivisions in the ACT (1996 Census). Woden had the highest proportion of residents born overseas (Tuggeranong the lowest), Gungahlin-Hall the highest personal weekly income (North Canberra the lowest) and proportion of people buying their own home (South Canberra the lowest), Weston Creek the highest number of home owners (Gungahlin the lowest), North Canberra the highest proportion of people renting accommodation (Tuggeranong the lowest), and the highest proportion of people unemployed (Tuggeranong the lowest) and the highest proportion of

people not in the workforce (Tuggeranong the lowest). The age composition of the subdivisions will have had a large influence on these proportions.

There were an estimated 350 general practitioners (GPs) working in the ACT in 1996. They were not evenly spread throughout the Territory. Subdivisions with high concentrations of elderly residents had the highest numbers of GP's.

Hospital separations data provide a measure of acute morbidity. In the older subdivisions, the highest proportions of separations were due to digestive disorders. In Tuggeranong and Gungahlin, however, complications of pregnancy were the most common cause of separations, followed by digestive disorders. Overall, the older subdivisions of South and North Canberra, Woden Valley and Weston Creek had the highest rates of separations for all causes and age-related causes with Woden Valley having the highest total separation rate of all subdivisions.

A comparison of public and private hospital separations for each subdivision reveals that greater proportions of separations for Woden Valley and Weston Creek came from the private hospitals (John James and Calvary Private). Rates for both public and private hospitalisation varied considerably between the subdivisions. In 1996-97, South Canberra had the highest rate for public hospital separations. Woden had the highest rate for private hospital separations.

The subdivisions of North Canberra, South Canberra, Woden Valley and Weston Creek-Stromlo, accounted from 9 to 15 per cent of separations for external causes of injury and poisoning, while only 3.8 per cent of these admissions were from Gungahlin-Hall. These patterns are largely consistent with the relative sizes of the populations of these subdivisions.

An examination of selected causes of injury as a percentage of all external causes shows that, in 1996-97, the subdivisions had similar proportions of injury for those causes. One exception was Gungahlin-Hall, in which road vehicle accidents accounted for 17.9 per cent of all external causes of injury and poisoning, which was substantially greater than the percentages for the other subdivisions.

The average length of stay of separations gives an indication of the acuity of those separations. South Canberra and North Canberra had the highest average length of stay for all separations for any cause. This may be a reflection of the older populations of these subdivisions, since one would expect older people to recover more slowly from illnesses and medical procedures. Older people are more likely to suffer serious, chronic diseases which tend to require longer periods of hospitalisation.

With regard specific causes for hospitalisation, the highest mean lengths of stay were for South Canberra for the age related conditions of neoplasms, circulatory diseases, digestive disorders, injury and poisoning and mental disorders (mainly dementias) and Weston Creek-Stromlo for complications of pregnancy, childbirth and puerperium. It is interesting to note that the greatest proportion of people discharged to nursing homes came from South Canberra, confirming the reasoning about age-related lengths of stay. Tuggeranong had the highest percentage of people discharged home, North Canberra had the lowest.

There were 1,300 deaths in the ACT in 1996. Subdivisions where high proportions of deaths occurred were those with high proportions of elderly residents such as North and South Canberra.

The major causes of death in all subdivisions were from circulatory diseases followed by malignant neoplasms (cancer).

From 1994 to 1996 the mean age at death for Gungahlin-Hall was consistently substantially below those for the other subdivisions. Since Gungahlin-Hall has only been recently settled its age structure is quite young. (It only had 264 people over 65 years in 1996). Other subdivisions had a mean age at death of between 78.3 years (Tuggeranong) and 71.2 years (Woden Valley).





## 1. Introduction

The Epidemiology Unit of the ACT Government produces a series of publications on the health status of ACT residents. These publications examine a wide range of health status indicators for particular diseases or population groups (such as Aborigines and Torres Strait Islanders). Biennially, the Unit produces a publication on health indicators in general for the ACT, the most recent of which was released in January 1998 (Health Series No. 13). This report is based on the general framework of that general work, but develops a more extensive profile of health status within town centres or subdivisions in the ACT. It is expected that the findings will assist the ACT government and in particular, the ACT Department of Health and Community Care in its commitment to maximising 'both community and individual health and well-being' by developing an overview of health status and the services provided within subdivisions. The terms 'regions' and 'statistical subdivisions' have the same meaning for the purposes of this report.

This report relies to a great extent, on data analysed in the *ACT's Health and Health Indicators of the ACT* publications produced in 1995 and 1998 respectively by the ACT Department of Health and Community Care (Health Series No. 1 and 13) and those largely derived from national collections, and the ACT Hospital Morbidity Data Collection. Readers should note that data are prone to substantial fluctuations from year to year because of small numbers in subdivisions of the ACT. Where possible, time series are used to show overall trends

### *Developing a profile of health status*

Any attempt to measure the health status of a community presents a number of problems. For example, many people do not seek the assistance of health care practitioners for many of their ailments. Hospital data therefore are not necessarily accurate records of the overall morbidity occurring within the community, and have been found to be poorly correlated with the prevalence of many health problems. For example, one study found a close correlation between disease prevalence in only 2 of 7 disease groups or procedures investigated.<sup>1</sup> Hospital data only reflects acute illness in the community. Using hospital data in conjunction with other data collections, such as surveys of medical practitioners or national health surveys, provides a more comprehensive picture of a community's health status (includes less acute episodes). This report does utilise some of the results of the National Health Survey of 1995-96 to develop profiles of regional health status. A number of service providers were contacted during the preparation of this document, and some of these organisations and individuals provided information on the type of service they offered, their client mix, and the catchment areas they service. Where possible, this information has been incorporated into this document. This information is not however, a comprehensive account of the services provided within the Territory, nor does a service's omission from this document reflect the ACT Government's perception of the value of that service.

The health status of a community is dependent upon more than the physical and mental well-being of its individual members. Many of the causes of ill health are outside the domain of medical intervention. Social, environmental and economic factors all impact on an individual's health and the health profile of the wider community.

## **1.1 History of the development of the statistical subdivisions**

Canberra began as a rural community. In 1911 a competition was held to design the national capital on this site. Walter Burley Griffin won the competition and the national capital was established. The Central Canberra area, which is now divided into *North and South Canberra* subdivisions developed quickly. The Civic shopping centre was opened in 1927.<sup>2</sup>

It was not until 1962 that the first satellite city of *Woden* was developed, with Hughes being the first suburb (1963). Woden derives its name from the Norse God of War who was also the patron of learning. Dr James Murray named his property 'Woden' in 1837.

The second city to be built was *Belconnen* in 1966, with the first residents moving into Aranda in 1967. Its name comes from Aboriginal origins. One version of its origin is that an Aborigine was sent to find a stockman near Connen Creek, and when he couldn't find him he said 'bail connen', 'bail' being a negative word. Belconnen was also the name given to a huge property in South Australia owned and named by Captain Charles Sturt in 1837.

Work commenced on developing *Weston Creek* in 1968 and the first residents moved into Waramanga in 1969. The subdivision is named after Captain Edward Weston, Superintendent of the Hyde Park Convict Barracks in Sydney who was granted land in the area in 1841.

Planning of *Tuggeranong* began in 1969, but the first residents did not move into Kambah until 1974. The name Tuggeranong has Aboriginal origins. 'Togranon' means cold plains.

In the early 1990s work began on developing the subdivision of *Gungahlin*, which was envisaged to be as big as Belconnen (up to 100,000 people). The first residents moved into Palmerston in 1992. The name 'Gungahlin' also has Aboriginal origins. Two meanings attributed to 'Goongarline' or 'Gungahlin' as it is now called, are 'wonderful or beautiful' and 'white man's house'.

Also in the 1990s, the ACT Government approved urban in-filling and dual occupancy which altered the population composition of the inner north and inner south suburbs.



## **2. A demographic profile of the ACT**

### **2.1 Environment**

The ACT covers an area of approximately 2,400 km<sup>2</sup> and is surrounded on all sides by New South Wales.<sup>3</sup> Consequently, the ACT provides some services to the surrounding NSW South East Subdivision as well as to its own residents.

Almost all ACT residents live in the metropolitan areas although about 85 per cent of the Territory's land mass is devoted to national parks, nature reserves, pine plantations and rural properties. This is shown quite clearly in Figure 1 which shows the statistical divisions and subdivisions of the ACT, as designated by the Australian Bureau of Statistics (ABS). The area around the ACT is mainly mountainous. The ACT has no heavy industries. The Territory's population enjoys the benefits of good air and water quality.

**Figure 1: Statistical subdivisions, ACT, 1996**

The statistical subdivisions of the ACT as defined by the ABS are North Canberra, Belconnen, Woden Valley, Weston Creek-Stromlo, Tuggeranong, South Canberra, Gungahlin-Hall and the ACT Balance (consisting of the bulk of the ACT's non-urban land mass). Although it is recognised that rural and urban populations may have different morbidity and mortality patterns, the small number of hospital admissions from the ACT balance makes analysis difficult and prone to substantial fluctuation from year to year. Therefore, although basic demographic details for the population of the ACT balance are considered, residents of the ACT balance are grouped with the major subdivisions in the analysis of hospital morbidity in this document. Jervis Bay on the south coast of NSW is also part of the ACT, but this subdivision is not covered in this publication other than in the section on Aborigines and Torres Strait Islanders.

## 2.2 ACT population

There are slightly more males than females in the ACT. The ACT has a younger population than Australia generally with a median age of 31.3 years at June 30 1996, compared to 34.0 years for the Australian population.<sup>4</sup> This is reflected by the population composition. The ACT has 22.0 per cent of its population aged 0-14 years (Australia has 21%)<sup>5</sup> and only 7.3 per cent aged 65 years and over (Australia has 12%). The populations of the ACT and Australia are ageing quite rapidly. Table 1 shows the small, constant growth in the ACT population over the past 10 years. Population growth in the ACT has slowed down in the last few years as a result of out migration.

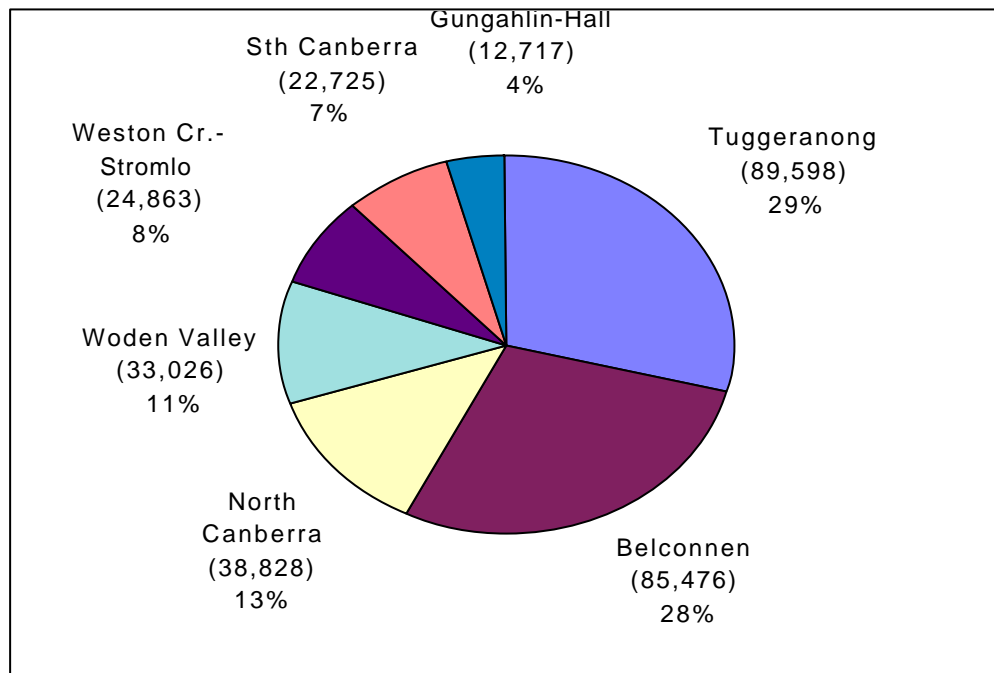
**Table 1: Estimated population, by sex , ACT, 1988-96**

| Sex     | 1988    | 1989    | 1990    | 1991    | 1992    | 1993    | 1994    | 1995    | 1996    |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Males   | 137 321 | 140 223 | 143 875 | 148 484 | 147 404 | 150 120 | 151 269 | 153 198 | 155 198 |
| Females | 136 213 | 138 482 | 141 202 | 145 047 | 146 755 | 148 771 | 149 598 | 150 866 | 152 313 |
| Persons | 273 534 | 278 705 | 285 077 | 293 531 | 294 159 | 298 891 | 300 867 | 304 064 | 307 511 |

Source: *Estimated Resident Population by Sex and Age States and Territories of Australia June 1988 to June 1996*, ABS Catalogue No. 3201.0

The most highly populated subdivision in 1996 was Tuggeranong.

**Figure 2: Population distribution, ACT subdivisions, 1996**



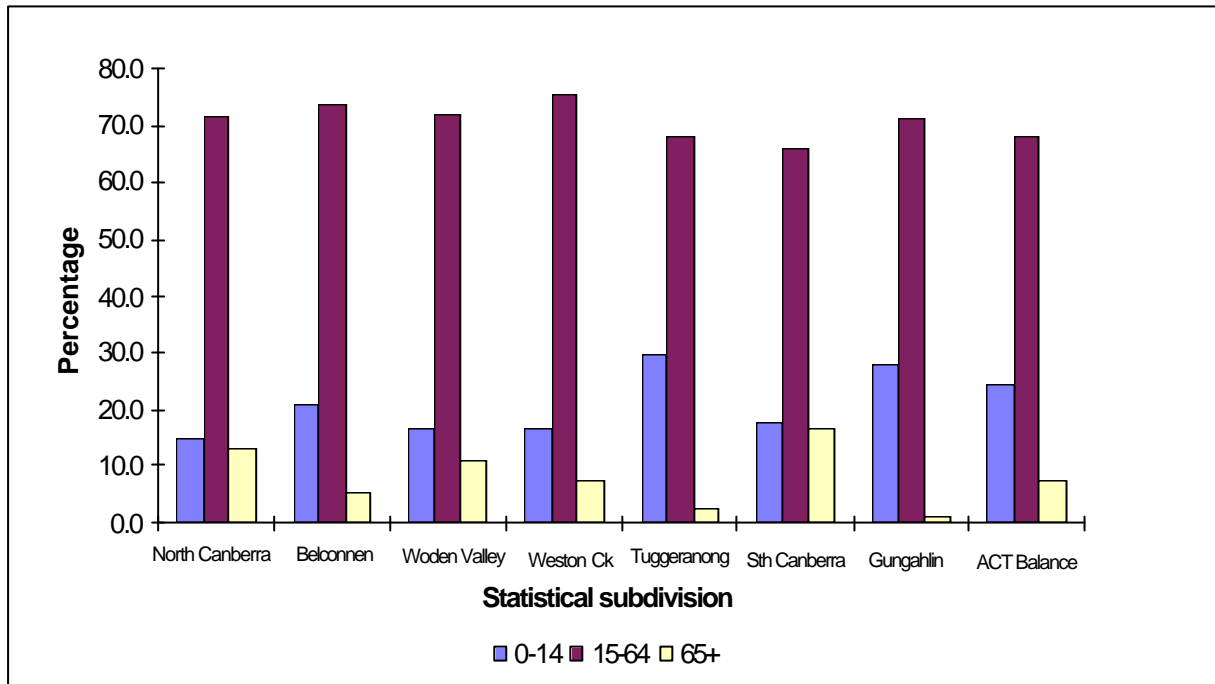
Source: ABS *ACT in Focus 1997*, Catalogue No 1307.8

Over the 5 years 1991-96, the strongest growth has been in Tuggeranong (an increase of 15,186 people or 20.4%), Gungahlin-Hall (up 10,411 people or 451.5%) and South Canberra (up 354 people or 1.6%). This has been offset by a decrease in Belconnen (down 4,043 people or 4.5%), Weston Creek-Stromlo (down 2,291 people or 8.4%), North Canberra (down 1,421 people or 3.5%) and Woden Valley (down 895 people or 2.6%).<sup>6</sup> The recent trend towards medium to high density townhouse/apartment development, especially in areas in or near the Central Business District will impact on these trends.

Weston Creek-Stromlo, Tuggeranong and Belconnen had the highest urban population densities of 1,577, 1,397 and 1,360 people per square kilometre respectively.

The age distributions of the ACT statistical subdivisions vary considerably (refer Figure 3). Although the proportions of people aged 25 to 65 years were relatively constant between subdivisions, there was substantial variation in the younger and older age groups. Tuggeranong, Gungahlin-Hall and the ACT Balance have relatively high proportions of residents aged 0 to 14 years, while South Canberra, North Canberra and Woden Valley have higher proportions of residents aged 65 years and over.

**Figure 3: Age distributions of populations, by subdivision, ACT, 1996**



Source: Regional Statistics, Australian Capital Territory, 1997. ABS Catalogue No. 1313.8

An examination of Table 2 shows that Woden Valley has the highest median age, followed by South Canberra, Weston Creek and North Canberra in 1995. Tuggeranong and Gungahlin-Hall have the lowest median ages, below 30 years for both sexes. The fact that median ages in North Canberra were lower than those in Weston Creek and Woden Valley may be a reflection of an influx of young adults into recently developed medium density housing in Braddon and Ainslie.

**Table 2: Median ages for subdivisions, by sex, ACT, 1995**

| Sex     | North Canberra | Belconnen | Woden Valley | Weston Ck | Tuggeranong | South Canberra | Gungahlin-Hall | ACT Balance |
|---------|----------------|-----------|--------------|-----------|-------------|----------------|----------------|-------------|
| Males   | 31.7           | 29.7      | 34.9         | 33.0      | 27.7        | 34.9           | 26.9           | 30.1        |
| Females | 32.4           | 31.1      | 37.1         | 36.7      | 27.5        | 35.0           | 27.1           | 31.2        |
| Persons | 32.0           | 30.4      | 36.0         | 34.8      | 27.6        | 35.0           | 27.0           | 30.6        |

Source: Regional Statistics, Australian Capital Territory, 1997. ABS Catalogue No. 1313.8

The 1996 Census confirmed similar median ages with the exception of for 'ACT balance':

**Table 3: Median ages for subdivisions, ACT, August 1996**

|         | North Canberra | Belconnen | Woden Valley | Weston Ck | Tuggeranong | South Canberra | Gungahlin-Hall | ACT Balance |
|---------|----------------|-----------|--------------|-----------|-------------|----------------|----------------|-------------|
| Persons | 31             | 30        | 36           | 35        | 28          | 35             | 27             | 25          |

Source: ABS Social & housing characteristics for SLA's, ACT 1996, Catalogue No. 2015.8

In summary, the ACT population is a comparatively young population compared to the Australian population, though it is ageing at a relatively rapid rate. The more recently established subdivisions of the ACT have higher proportions of younger people and a smaller proportion of older people. South Canberra, North Canberra and Woden Valley have higher proportions of older people, and relatively few people aged 0 to 14 years. A more comprehensive breakdown of age groups by subdivisions is tabled at Appendix 1.

### 2.3 Births

The ABS recorded that there were 4,388 births (males and females) in the ACT in 1996, spread fairly evenly over the twelve month period.<sup>7</sup> Table 4 presents a summary of births by statistical subdivision for the ACT in 1996.

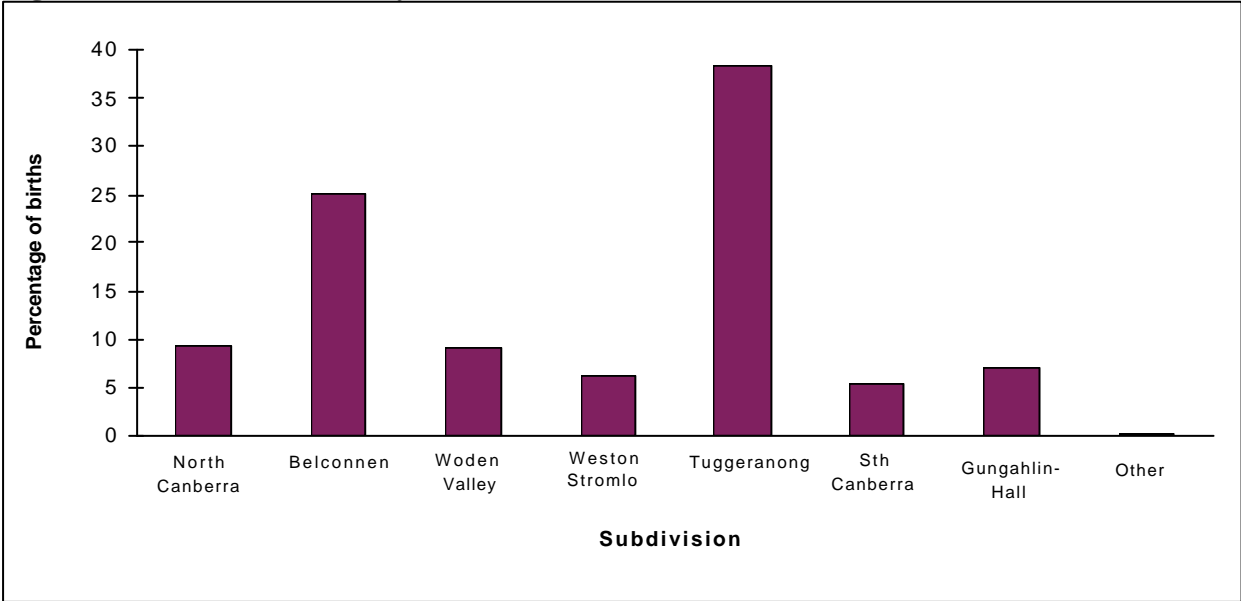
**Table 4: Births, by subdivision, ACT, 1996**

| North Canberra |     | Belconnen |      | Woden Valley |     | Weston Creek |     | Tuggeranong |      | South Canberra |     | Gungahlin-Hall |     | ACT balance |     | ACT total |
|----------------|-----|-----------|------|--------------|-----|--------------|-----|-------------|------|----------------|-----|----------------|-----|-------------|-----|-----------|
| No.            | %   | No.       | %    | No.          | %   | No.          | %   | No.         | %    | No.            | %   | No.            | %   | No.         | %   | No.       |
| 403            | 9.2 | 1100      | 25.1 | 394          | 9.0 | 264          | 6.0 | 1680        | 38.3 | 232            | 5.3 | 310            | 7.1 | 5           | 0.1 | 4388      |

Source: ABS, *Demography ACT 1996*, Catalogue No. 3311.8

It can be seen from Figure 4 that Tuggeranong (particularly the suburbs of Kambah, Gordon and Calwell) had the highest proportion of births, followed by Belconnen (particularly Florey and Kaleen).

**Figure 4: Births, % of total, by subdivisions, ACT, 1996**



Source: ABS, *Demography ACT 1996*, Catalogue No. 3311.8

## 2.4 Fertility rates

The total ACT fertility rate (refer Section 5 for definition) is the lowest of all states and territories (national rate of 1.8) in 1996. Tuggeranong was the only subdivision of the ACT which reached and in fact overtook, the national rate.

**Table 5: Fertility rates, by subdivision, ACT, 1996**

| North | Belconnen | Woden | Weston | Tuggeranong | South | Gungahlin | ACT  | Total |
|-------|-----------|-------|--------|-------------|-------|-----------|------|-------|
| 1.23  | 1.58      | 1.54  | 1.54   | 2.16        | 1.42  | 1.44      | 1.82 | 1.69  |

Source: ABS, *Demography ACT 1996*, Catalogue No. 3311.8

## 2.5 Socioeconomic factors

The 1996 Census results showed marked differences between suburbs, but not markedly between subdivisions in the ACT, with regard socioeconomic factors such as living conditions, income etc.

**Table 6: Birthplace, spoken language, housing status, by subdivisions, ACT, August 1996**

|                         | North<br>Canberra | Belconnen | Woden<br>Valley | Weston<br>Creek | Tuggeranong | South<br>Canberra | Gungahlin | ACT<br>balance |
|-------------------------|-------------------|-----------|-----------------|-----------------|-------------|-------------------|-----------|----------------|
| Australian born (%)     | 70.5              | 74.7      | 69.1            | 74.7            | 78.4        | 71.1              | 74.3      | 81.8           |
| UK,Ireland,NZ born      | 7.9               | 7.2       | 9.4             | 8.7             | 6.8         | 8.5               | 5.4       | 5.6            |
| Other born (%)          | 16.1              | 15.4      | 18.0            | 13.1            | 12.3        | 14.9              | 17.7      | 7.8            |
| Indigenous origin (%)   | 1.0               | 0.8       | 0.9             | 0.9             | 1.1         | 1.5               | 0.5       | 0.8            |
| Other language at home  | 13.3              | 13.8      | 14.8            | 10.2            | 10.9        | 11.7              | 18.7      | 10.4           |
| Median personal weekly  | 336               | 404       | 460             | 448             | 460         | 481               | 503       | 294            |
| Owns dwelling (%)       | 28.6              | 32.4      | 36.4            | 38.2            | 22.6        | 32.6              | 15.0      | 15.2           |
| Buying dwelling (%)     | 19.3              | 34.4      | 23.5            | 32.4            | 49.4        | 18.1              | 56.9      | 8.9            |
| Renting dwelling (%)    | 48.1              | 30.4      | 36.6            | 26.1            | 25.4        | 44.3              | 25.7      | 70.5           |
| Total private dwellings | 14,460            | 28,553    | 12,789          | 8,759           | 28,499      | 8,945             | 4,569     | 112            |
| Median weekly rent (\$) | 126               | 150       | 150             | 150             | 150         | 150               | 155       | 70             |

Note: 1. In accordance with ABS Census procedures, calculations of proportions include 'not stated' in the denominator.

2. 'Private dwelling' includes Government housing.

Source: ABS, *Social & housing characteristics for SLAs, ACT, 1996*, Catalogue No. 2015.8

Percentage differences will in part, be due to age structure differences between subdivisions.

In summary, (refer Table 6) the proportion of people born overseas ranged from 19.1 per cent in Tuggeranong to 27.4 per cent in Woden Valley. Suburbs with the highest proportion included O'Malley (37%), Turner (33%), Hughes (32%), Lyons (30%), Acton (30%), Belconnen Town Centre (30%) and Garran (29%). Suburbs with high concentrations of people who speak a language other than English at home include those with many overseas student residents such as Turner (22%), Belconnen Town Centre (22%) and Acton (21%), and other areas such as O'Malley (39%), McKellar (28%), Palmerston (26%) and Florey (23%).

South Canberra and Tuggeranong had the highest proportions of Indigenous residents with the suburbs of Narrabundah (2.6%) and Kambah (1.6%) having the highest percentages.

With regard to income, Gungahlin-Hall recorded the highest medium weekly income (\$503). Suburbs where high incomes were recorded include City (\$762), Forrest (\$683), Kingston (\$593), Phillip (\$568), Barton (\$559), Griffith (\$544), Greenway (\$549) and Fadden (\$533). Areas recording low incomes include those with high concentrations of students such as Turner (\$279), Belconnen Town



Centre (\$275), Braddon (\$272) as well as Oaks Estate (\$252) and O'Connor, Ainslie, Charnwood and Narrabundah (all being in the low \$300's).

Areas with high proportions of home ownership include most of Woden Valley, especially O'Malley (61%), Isaacs (45%); most of Western Creek-Stromlo and of Belconnen; most of Hall; and some of South Canberra, especially Symonston (60%), Forrest (51%), Deakin (45%) and Red Hill (41%). The areas with high proportions of rented dwellings were mainly located near town centres and Parliament House, although in Tuggeranong, only Greenway had a high proportion (65%).<sup>8</sup>

With regard to educational and employment status, Table 7 details subdivisional information. Since there is a marked difference in the populations of each subdivision, it is inappropriate to compare numbers between subdivisions. Belconnen (28% of total ACT population) and Tuggeranong (29%) for instance make up over half the total ACT population, so it would be expected that they would have proportionally higher numbers in the various categories. When expressed as percentages of total unemployment (seeking full or part-time work), North Canberra and Belconnen have slightly higher proportions and Tuggeranong a slightly lower proportion than would be expected, given their population proportions. This is mainly due to the older population in North Canberra and Belconnen and the younger one in Tuggeranong. Nevertheless, the situation should be monitored. Other subdivisions have roughly the same proportion of unemployment as their populations would indicate. Youth unemployment (16-18 years) as a proportion of total unemployment, varies little across the subdivisions.

Similarly, for the proportions of people not in the workforce (ie not in nor seeking employment), North Canberra has a higher than expected proportion and Tuggeranong a lower than expected proportion of people. Again, the concentration of older and younger populations in these subdivisions would account for these differences.

All subdivisions have proportions of employed people (i.e. employees or employers) which are consistent with their population sizes. Clearly, there are differences between suburbs within each subdivision, but the differences even out for the total subdivision.

**Table 7: Labour force status, by age, by subdivisions, ACT, August 1996**

|                              | North<br>Canberra | Belconnen | Woden<br>Valley | Weston<br>Creek | Tuggeranon<br>g | South<br>Canberra | Gungahlin | ACT<br>balance |
|------------------------------|-------------------|-----------|-----------------|-----------------|-----------------|-------------------|-----------|----------------|
| <i>Still at school</i>       |                   |           |                 |                 |                 |                   |           |                |
| Employee                     | 300               | 1354      | 335             | 426             | 1327            | 193               | 132       | 3              |
| Employer                     | 0                 | 6         | 3               | 0               | 9               | 0                 | 0         | 0              |
| Unemployed, seeking<br>FT    | 3                 | 14        | 6               | 4               | 15              | 3                 | 0         | 0              |
| Unemployed, seeking<br>PT    | 58                | 192       | 60              | 63              | 216             | 41                | 20        | 6              |
| Not in labour force          | 747               | 2728      | 834             | 746             | 2570            | 734               | 242       | 11             |
| <i>Never attended school</i> |                   |           |                 |                 |                 |                   |           |                |
| Employee                     | 11                | 47        | 12              | 13              | 39              | 12                | 12        | 0              |
| Employer                     | 0                 | 0         | 0               | 0               | 3               | 0                 | 0         | 0              |
| Unemployed, seeking<br>FT    | 4                 | 16        | 3               | 3               | 12              | 0                 | 0         | 0              |
| Unemployed, seeking<br>PT    | 6                 | 4         | 0               | 0               | 0               | 3                 | 0         | 0              |
| Not in labour force          | 86                | 158       | 74              | 26              | 123             | 42                | 28        | 0              |
| <i>16 years &amp; under</i>  |                   |           |                 |                 |                 |                   |           |                |
| Employee                     | 4166              | 13149     | 4299            | 3894            | 15157           | 2583              | 2065      | 57             |
| Employer                     | 87                | 271       | 123             | 86              | 272             | 73                | 31        | 0              |
| Unemployed, seeking<br>FT    | 537               | 1086      | 329             | 247             | 1030            | 260               | 109       | 6              |
| Unemployed, seeking<br>PT    | 125               | 260       | 80              | 68              | 232             | 69                | 22        | 0              |
| Not in labour force          | 5255              | 7568      | 3869            | 2413            | 6312            | 2998              | 664       | 37             |
| <i>17 years</i>              |                   |           |                 |                 |                 |                   |           |                |
| Employee                     | 6313              | 11168     | 4795            | 3567            | 10806           | 3651              | 1866      | 42             |
| Employer                     | 66                | 117       | 70              | 53              | 129             | 95                | 24        | 0              |
| Unemployed, seeking<br>FT    | 286               | 570       | 202             | 129             | 416             | 147               | 76        | 0              |
| Unemployed, seeking<br>PT    | 202               | 252       | 60              | 40              | 131             | 55                | 31        | 0              |
| Not in labour force          | 2147              | 2534      | 1384            | 792             | 1842            | 1029              | 265       | 3              |
| <i>18 years</i>              |                   |           |                 |                 |                 |                   |           |                |
| Employee                     | 5466              | 10988     | 4380            | 3112            | 10382           | 2879              | 2099      | 41             |
| Employer                     | 62                | 123       | 55              | 36              | 126             | 82                | 22        | 3              |
| Unemployed, seeking<br>FT    | 319               | 601       | 227             | 137             | 450             | 127               | 72        | 0              |
| Unemployed, seeking<br>PT    | 238               | 284       | 80              | 40              | 156             | 60                | 26        | 3              |
| Not in labour force          | 1947              | 2552      | 1145            | 625             | 1616            | 772               | 258       | 7              |
| <i>19 years &amp; over</i>   |                   |           |                 |                 |                 |                   |           |                |
| Employee                     | 855               | 2046      | 806             | 561             | 2204            | 461               | 466       | 0              |
| Employer                     | 18                | 31        | 12              | 3               | 34              | 24                | 5         | 0              |
| Unemployed, seeking<br>FT    | 111               | 192       | 85              | 47              | 141             | 39                | 26        | 0              |
| Unemployed, seeking<br>PT    | 36                | 76        | 16              | 14              | 36              | 14                | 5         | 0              |
| Not in labour force          | 597               | 829       | 395             | 202             | 520             | 233               | 105       | 0              |

Note: Cells in the table have been randomly adjusted to avoid release of confidential data

Source: ABS, *Census population & Housing 1996*, unpublished data

## 2.6 Aboriginal and Torres Strait Islander population

The health status of Aboriginals and Torres Strait Islanders is of particular concern, given the high morbidity and mortality reflected nationally by this group. An examination of regional differences in the health status of Aboriginals and Torres Strait Islanders is complicated by several factors: small population size, high mobility and underenumeration of this group in data sets.

As for national proportions, the 1996 Census data indicated that only a very small proportion of the ACT population (0.97%) identified as Aboriginal or Torres Strait Islanders. Of the 2,898 people identifying, 1,452 were male and 1,447 were female.<sup>9</sup> There has been a substantial increase in self-identification (79.3%) since the 1991 Census. This is probably due to an increase in willingness to self-identify rather than an influx of Indigenous people, although it is estimated that there has been some interstate migration to the ACT.

**Table 8: Aboriginal and Torres Strait Islander population , ACT, 1986-96**

|                              |          | 1986  | 1991  | 1996  |
|------------------------------|----------|-------|-------|-------|
| Population                   | (number) | 1,384 | 1,616 | 2,898 |
| Proportion of ACT population | (%)      | 0.55  | 0.58  | 0.97  |

Note: Excludes Jervis Bay

Source: ABS, *ACT in Focus 1997*, Catalogue No. 1307.8

Due to the small numbers, the values for most of the health indicators will be very low when considering Indigenous people by subdivision. A high concentration of Indigenous people within the ACT is in Jervis Bay, where about 14 per cent of the total Aboriginal population of the ACT lives.<sup>10</sup> However the proportion of Aboriginal people living in this area is decreasing relative to the proportions who live in the urban area of the ACT.<sup>11</sup> One problem presented by the geographical distribution of the Indigenous population of the ACT is that those living in Jervis Bay are less likely to be admitted to hospitals in the ACT, so that indicators of health status which rely upon hospital data will inevitably underestimate the true morbidity of this group.

The Indigenous population within the ACT is extremely mobile, although most of this movement is between local subdivisions rather than interstate<sup>12</sup>. Therefore, estimates of regional differences in the health profiles of Indigenous people will be blurred, with a substantial proportion of people in this group living in subdivisions other than those recorded at the time they contact health services. Nevertheless, data collected at the 1996 Census is tabled for interest.

**Table 9: Indigenous population in the ACT, number, by subdivisions, August 1996**

| Sex     | North<br>Canberra | Belconnen | Woden<br>Valley | Weston<br>Ck | Tuggeranong | South<br>Canberra | Gungahlin | ACT<br>Balance |
|---------|-------------------|-----------|-----------------|--------------|-------------|-------------------|-----------|----------------|
| Males   | 211               | 326       | 135             | 98           | 468         | 178               | 34        | 3              |
| Females | 197               | 323       | 149             | 116          | 469         | 162               | 29        | 0              |
| Persons | 408               | 649       | 284             | 214          | 937         | 340               | 63        | 3              |

Note: does not include Jervis Bay

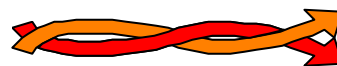
Source: ABS Census 1996, *Basic Community Profiles*, unpublished

It is thought that hospital data sets in the ACT tend to underenumerate separations for Aboriginal and Torres Strait Islanders. Admission forms for the major ACT hospitals include a question asking whether the person is an Aboriginal. For non-emergency admissions, where the person being admitted fills out this form at home, this question may be answered if that person so wishes. For admissions through the Emergency Department however, admission forms are often filled out by hospital personnel who have tended not to ask this question because it has been suggested that people in the past have found it offensive. If the question is not answered, the system by default, records that the patient is non-Indigenous.

## **2.7 Regions surrounding the ACT**

Since the ACT acts as a service centre for many of the surrounding towns and properties, any consideration of health service development should include an understanding of the population in the lower South Coast, the Snowy Mountains and the Southern Tablelands. Major towns in this area include Bombala, Boorowa, Cooma, Crookwell, Goulburn, Gunning, Harden, Queanbeyan, Yass and Young.<sup>13</sup> The area has an estimated 178,740 residents with varying proportions of aged persons. The places with the largest concentration of people 65 years and over are Eurobodalla (20.8% of its population), Bega Valley (15.5%), and Shires such as Tallaganda (16.1%), Crookwell (15.7%), Harden (14.8%) and Boorowa (14.5%). Queanbeyan (7.0%) and Snowy River (7.2%) have low proportions of people aged 65 and over.

The ACT and Queanbeyan provide 69.5 per cent of employment for the ACT and its surrounding regions. Unemployment rates were highest in Eurobodalla (14.1%), Bega Valley (10.2%), the ACT (7.2%), Bombala (7.1%), Young (6.8%) and Queanbeyan (6.7%).

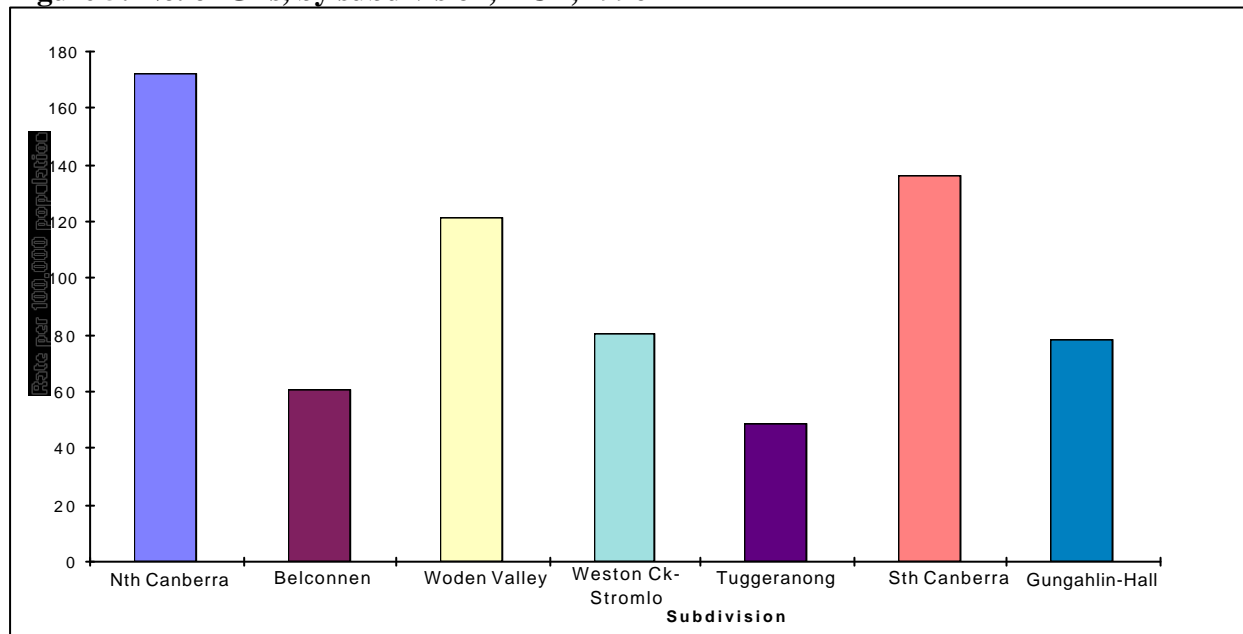


### 3. Morbidity

#### 3.1 General Practitioner services

There were an estimated 350 general practitioners (GPs) working in the ACT in 1996. As can be seen from Figure 5, they were not evenly spread throughout the Territory. Subdivisions with high concentrations of elderly residents had the highest numbers of GP's. Since records on the number of GP's in each subdivision are incomplete, and the number of hours which individual GP clinics are open for cannot be ascertained, it is not possible to speculate on the degree to which subdivisions may differ in the ease with which residents may access a local GP.

**Figure 5: No. of GPs, by subdivision, ACT, 1996**



Source: ACT Division of General Practice & Telephone Directory

#### 3.2 Hospital separations

Hospital separations data provide a measure of acute morbidity. A summary of activity in ACT hospitals by ACT subdivisions is given at Appendix 2. In the older subdivisions, the highest proportions of separations were due to digestive disorders. In Tuggeranong and Gungahlin, however, complications of pregnancy were the most common cause, followed by digestive disorders. Table 10 summarises the most common reasons for hospitalisation by subdivision.

**Table 10: Hospital separations, by major causes, by subdivision, ACT, 1996-97**

| Principal diagnosis     | North Canberra | Belconnen | Woden Valley | Weston Ck-Stromlo | South Canberra | Tuggeranong | Gungahlin-Hall | Total ACT |
|-------------------------|----------------|-----------|--------------|-------------------|----------------|-------------|----------------|-----------|
| Digestive disorders     | 1              | 1         | 1            | 1                 | 1              | 2           | 2              | 1         |
| Pregnancy complications | 3              | 2         | 2            | 3                 | 4              | 1           | 1              | 2         |
| Circulatory disorders   | 2              | 5         | 4            | 5                 | 2              | 10          | 7              | 5         |
| Neoplasms               | 5              | 6         | 3            | 2                 | 3              | 7           | 8              | 3         |
| Injury & poisoning      | 4              | 4         | 6            | 6                 | 5              | 5           | 3              | 6         |
| Genitourinary disorders | 6              | 3         | 5            | 4                 | 6              | 3           | 5              | 4         |

Note: other major cause respiratory musculo 7 musculo 7 musculo 7 respiratory 7 respiratory 4 perinatal 4  
 Note: 'musculo' refers to 'musculoskeletal disorders,; 'perinatal' refers to 'conditions originating in the perinatal period'.

Note: numbers denote order of incidence in a subdivision (eg 1 denotes 1st major cause, 2 denotes 2nd major cause).

Source: ACT Hospital Morbidity Data Collection 1996-97

As one would expect, since complications of pregnancy, childbirth & puerperium account for a large number of separations, females outnumber males for numbers of total separations. If you exclude maternity related separations, the difference becomes marginal, with females still outnumbering males, but only by a few separations (females account for an average of 52% excluding maternity related). This may, in part, be accounted for by the fact that the majority of elderly people, who are more likely to be hospitalised, are women.

Tables at Appendix 2 identify day patients and inpatients separately. The total of these exceed the total number of persons, indicating that some people have more than one separation in the year. Causes where separations far outweigh the number of people are disorders of blood and bloodforming organs (includes anaemias, haemophilia) and supplementary classifications (includes such procedures as dialysis and chemotherapy). These causes are the highest of all repeat separations for all subdivisions.

A comparison of public and private hospital separations for each subdivision reveals that greater proportions of separations for Woden Valley and Weston Creek went to the private hospitals (John James and Calvary Private). Rates for both public and private hospitalisation varied considerably between the subdivisions. In 1996-97, South Canberra had the highest rate for public hospital separations. Woden had the highest rate for private hospital separations. Overall, Woden Valley had the highest total separation rate of all subdivisions.

**Table 11: Hospital separations, public & private hospitals, no., % & rate, by subdivision, ACT residents, 1996-97**

| Subdivision      | Public       |             |                | Private      |             |               | Total        |                |
|------------------|--------------|-------------|----------------|--------------|-------------|---------------|--------------|----------------|
|                  | No.          | %           | Rate (a)       | No.          | %           | Rate(a)       | No.          | Rate(a)        |
| North Canberra   | 6436         | 85.2        | 16579.9        | 1118         | 14.8        | 2880.1        | 7554         | 19460.0        |
| Belconnen        | 11827        | 78.9        | 13807.1        | 3158         | 21.1        | 3686.7        | 14985        | 17493.8        |
| Woden Valley     | 5458         | 75.3        | 16517.9        | 1794         | 24.7        | 5429.3        | 7252         | 21947.2        |
| Weston Creek     | 3439         | 76.0        | 13822.9        | 1085         | 24.0        | 4361.1        | 4524         | 18184.0        |
| Tuggeranong      | 12247        | 80.6        | 13592.1        | 2953         | 19.4        | 3277.3        | 15200        | 16869.4        |
| South Canberra   | 3856         | 80.0        | 16964.4        | 963          | 20.0        | 4236.7        | 4819         | 21201.1        |
| Gungahlin-Hall   | 1946         | 85.4        | 15342.2        | 333          | 14.6        | 2625.4        | 2279         | 17967.5        |
| <b>Total ACT</b> | <b>45209</b> | <b>79.9</b> | <b>14666.3</b> | <b>11404</b> | <b>20.1</b> | <b>3699.6</b> | <b>56613</b> | <b>18365.9</b> |

(a) Rate per 100,000 population

Note: % refers to percentage within a subdivision

rate is the no. of separations within a subdivision divided by the corresponding population (X 100,000)

Source: ACT Hospital Morbidity Data Collection

### 3.2.1 Major causes

Examination of the most frequent major diagnostic groups reveal similar patterns between most statistical divisions (refer Table 12).

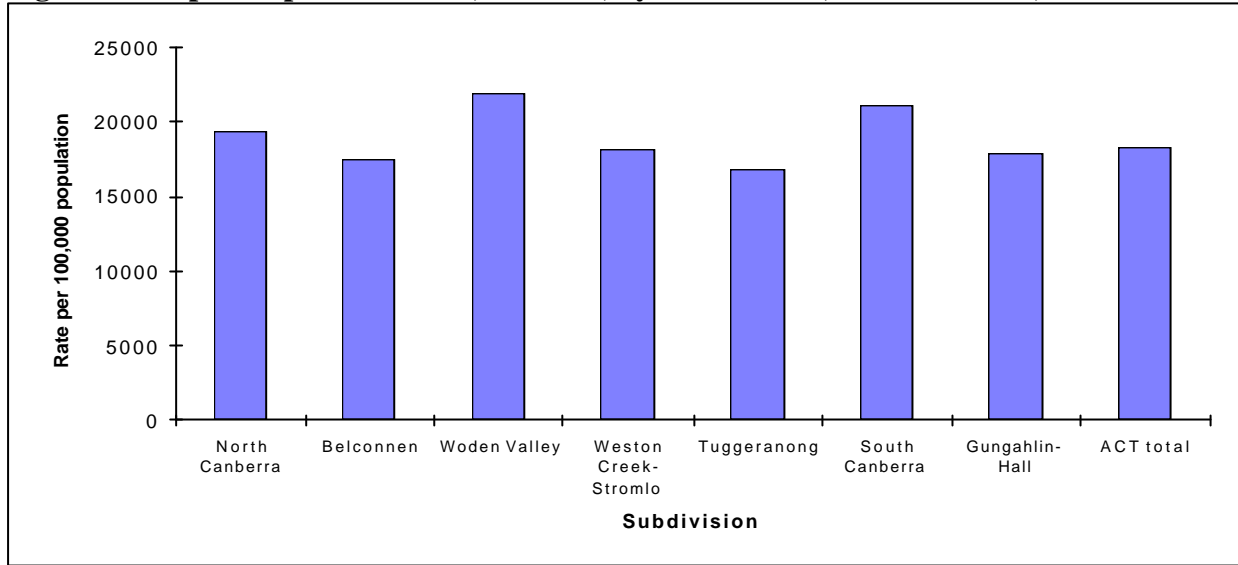
**Table 12: Most frequent major diagnostic groups, %, by sex, by subdivisions, ACT, 1996-97**

| ACT subdivision     | Sex | Most frequent major diagnostic groups  |
|---------------------|-----|--|
| North Canberra      | M&F | Digestive disorders (11%), Circulatory disorders (9%), Injury & poisoning (7%) ,<br>Neoplasms (6%), Genitourinary disorders (5%) |
|                     | M   | Digestive disorders (12%), Circulatory disorders (10%), Injury & poisoning (7%)  |
|                     | F   | Complications of pregnancy (13%), Digestive disorders (10%), Circulatory disorders (7%)  |
| Belconnen           | M&F | Digestive disorders (12%), Neoplasms (6.6%), Circulatory disorders (6%),   |
|                     | M   | Digestive disorders (13%), Circulatory disorders (8%), Injury & Poisoning (7%),  |
|                     | F   | Complications of pregnancy etc (17%), Digestive disorders (11%), Genitourinary disorders (9%)                                    |
| Woden Valley        | M&F | Digestive disorders (11%), Neoplasms (8%), Circulatory disorders (7%),   |
|                     | M   | Digestive disorders (11%), Circulatory disorders (8%), Neoplasms (7%)  |
|                     | F   | Complications of pregnancy etc (14%), Digestive disorders (10%), Genitourinary disorders (8%)                                    |
| Weston Ck & Stromlo | M&F | Digestive disorders (13%), Neoplasms (9%), Circulatory disorders (8%)  |
|                     | M   | Digestive disorders (15%), Circulatory disorders (9%), Neoplasms (8%)  |
|                     | F   | Complications of pregnancy etc (13%), Neoplasms (10%), Digestive disorders (9%)  |
| Tuggeranong         | M&F | Digestive disorders (11%), Injury & poisoning (5%), Neoplasms (5%)   |
|                     | M   | Digestive disorders (13%), Injury & Poisoning (8%), Respiratory disorders (8%),  |
|                     | F   | Complications of pregnancy etc (22%), Genitourinary disorders (10%), Digestive disorders (9%)                                    |
| South Canberra      | M&F | Digestive disorders (11%), Circulatory disorders (8%), Neoplasms (8%)  |
|                     | M   | Digestive disorders (11%), Circulatory disorders (10%), Neoplasms (9%)   |
|                     | F   | Complications of pregnancy (13%), Digestive disorders (10%), Genitourinary disorders (8%)  |
| Gungahlin-Hall      | M&F | Digestive disorders (11%), Injury & poisoning (6%), Genitourinary disorders (6%)   |
|                     | M   | Digestive disorders (11%), Injury & poisoning (9%), Conditions originating<br>in the perinatal period (8%),                      |
|                     | F   | Complications of pregnancy etc (34%), Digestive disorders (11%), Genitourinary disorders (9%)                                    |
| ACT total           | M&F | Digestive disorders (11%), Neoplasms (7%), Circulatory disorders (6%),<br>Injury & poisoning (6%)                                |
|                     | M   | Digestive disorders (13%), Circulatory disorders (8%), Injury & poisoning (7%),<br>Neoplasms (7%)                                |
|                     | F   | Complications of pregnancy etc (18%), Digestive disorders (10%),<br>Genitourinary disorders (9%), Neoplasms (6%)                 |

Source: *Hospital Morbidity Data Collection, 1996-97*

Figures 6-11 illustrate the difference in rates of separations by major causes between subdivisions. It can be seen that the older subdivisions of South and North Canberra, Woden Valley and Weston Creek have the highest rates of separations for all causes and age-related causes.

**Figure 6: Hospital separation rates, all cause, by subdivisions, ACT residents, 1996-97**

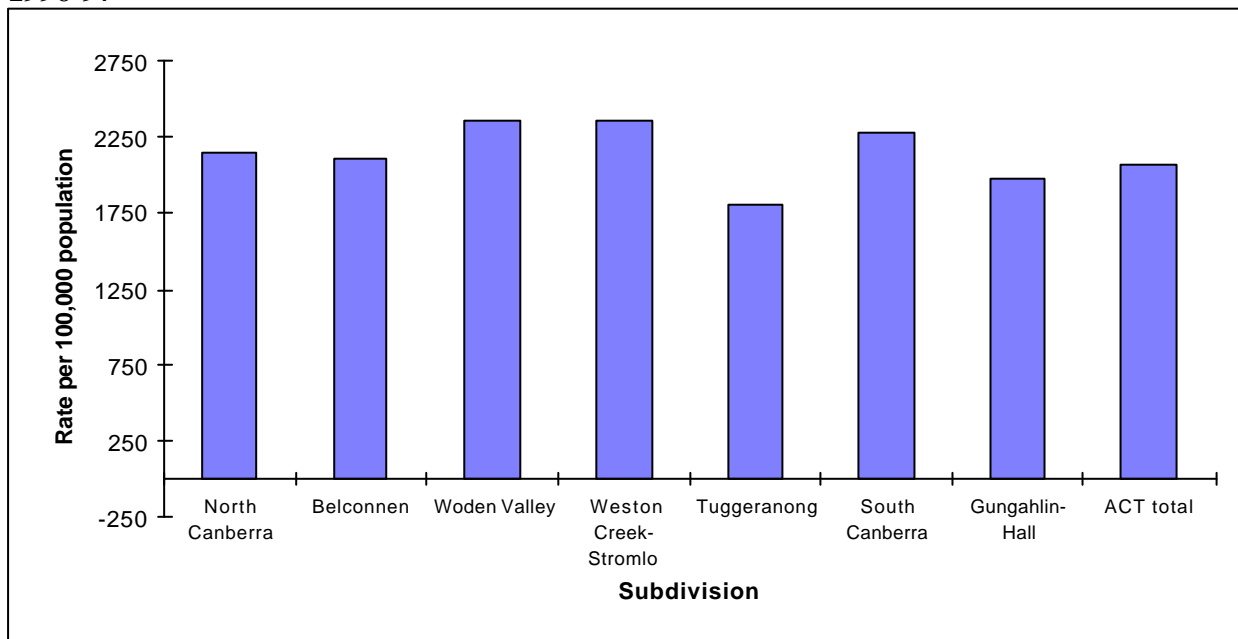


Note: Rate per 100,000 population  
Collection 1996-97

Source: ACT Hospital Morbidity Data

Separation rates for digestive disorders (Figure 7) were relatively uniform throughout the subdivisions, reflecting the fact that these diseases are among the leading causes of hospitalisation for Australian children (aged 0 to 14 years) as well as for older people (65 years and over)<sup>14</sup>.

**Figure 7: Hospital separation rates, digestive disorders, by subdivisions, ACT residents, 1996-97**



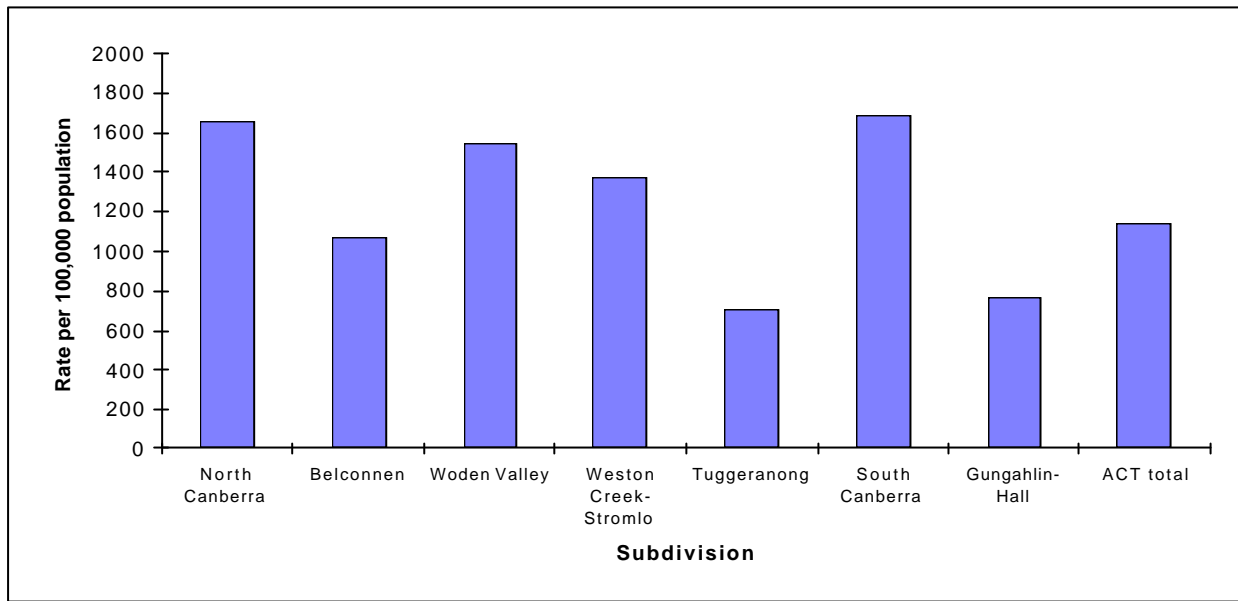
Note: Rate per 100,000 population

Source: ACT Hospital Morbidity Data Collection 1996-97

Figure 8 shows that there is greater variation in separation rates for circulatory disorders than for digestive system disorders. Tuggeranong and Gungahlin-Hall have the lowest separation rates for these disorders, South and North Canberra have the highest.



**Figure 8: Hospital separation rates, circulatory disorders, by subdivisions, ACT residents, 1996-97**

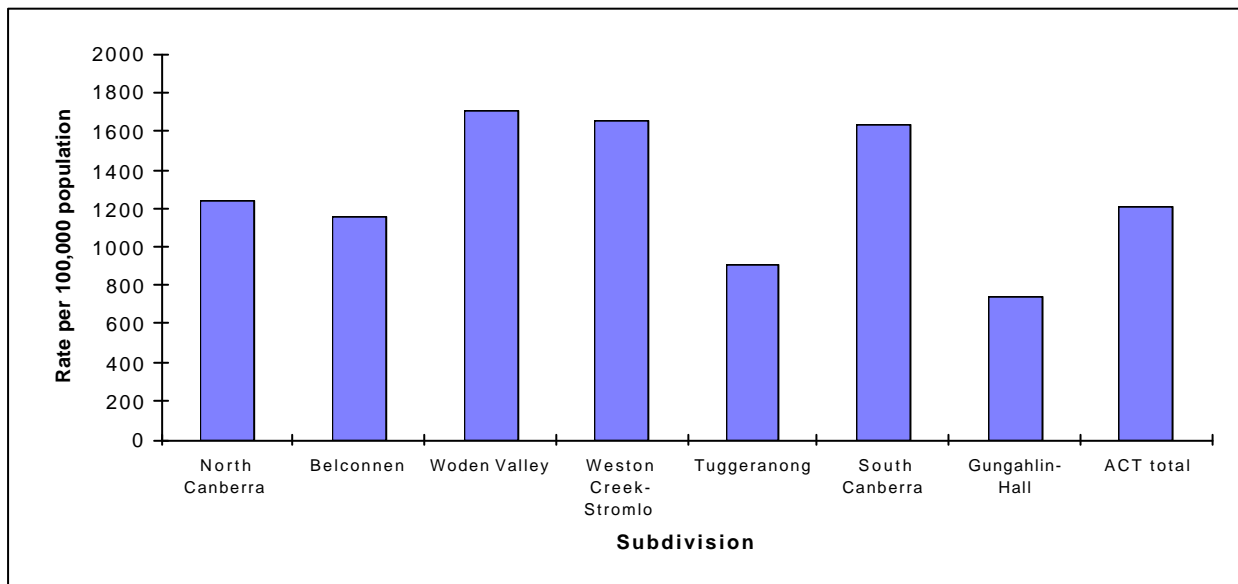


Note: Rate per 100,000 population

Source: ACT Hospital Morbidity Data Collection 1996-97

Separation rates for neoplasms follow a similar pattern to those for circulatory disorders. Gungahlin-Hall and Tuggeranong had the lowest separation rates, Woden Valley and Weston Creek's separation rates for these disorders were slightly higher than those for South Canberra.

**Figure 9: Hospital separation rates, neoplasms, by subdivisions, ACT residents, 1996-97**

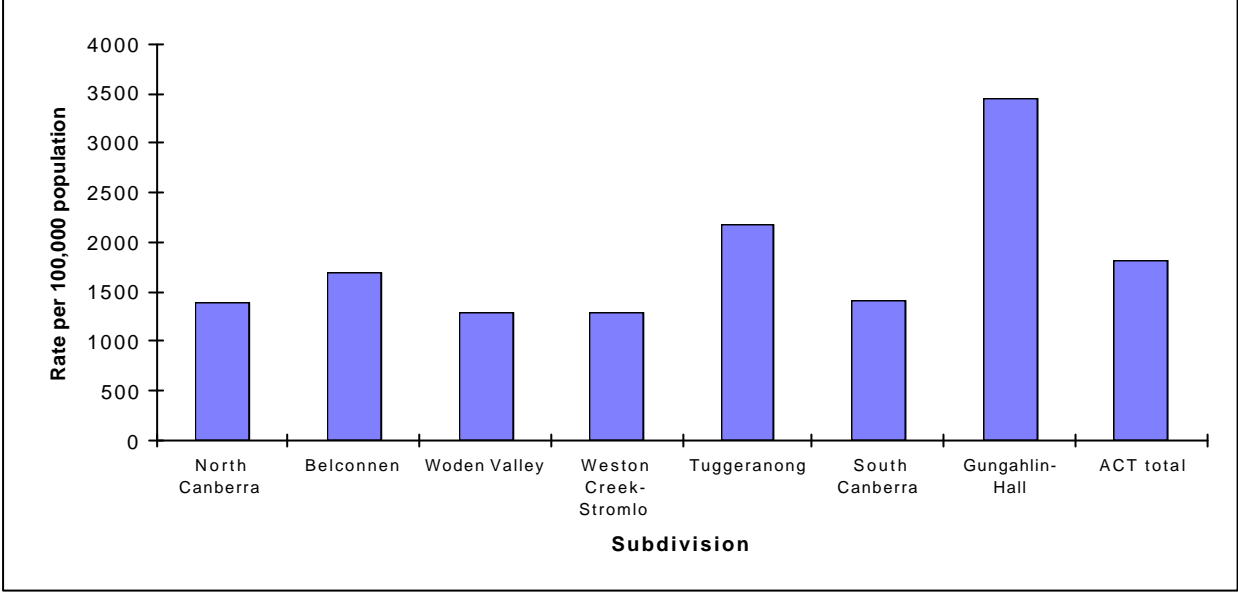


Note: Rate per 100,000 population

Source: ACT Hospital Morbidity Data Collection 1996-97

Separation rates for complications of pregnancy, childbirth and puerperium (basically the first 6 weeks after a women gives birth) showed a very different pattern to those of other diagnostic groups, with Gungahlin-Hall having substantially higher rates than the other subdivisions.

**Figure 10: Hospital separation rates, complications of pregnancy, childbirth & puerperium, by subdivisions, ACT residents, 1996-97**



Note: Rate per 100,000 population  
 Source: ACT Hospital Morbidity Data Collection 1996-97

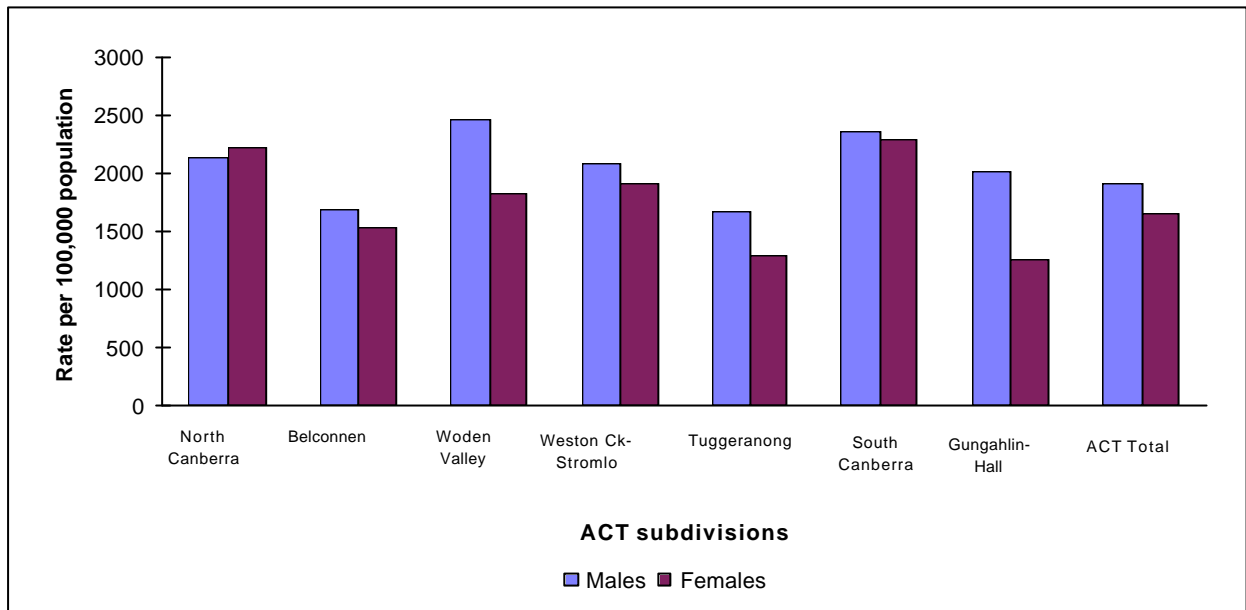
In summary, separation rates for diseases tended to vary with population structure of the suburbs, with older suburbs having higher rates for chronic diseases, and the younger suburbs having higher rates for separations associated with pregnancy, childbirth and puerperium. When rates are standardised, to take into account differences in age structures between subdivisions, all subdivisions have similar rates for all conditions.

*Injury and poisoning*

In 1996-97, ACT hospitals had 5,500 separations for external causes of injury and poisoning involving ACT residents. Of these, 54.9 per cent were males and 45.1 per cent were females. Males had considerably more interventions for motor vehicle accidents, homicide and purposely inflicted injury, injuries involving machinery, tools and implements and injuries involving exertion (eg sport related). Females had a higher incidence of attempted suicide and marginally higher incidences of accidental falls (mainly in older age groups), and adverse effects in therapeutic use of drugs, medicinal and biological substances.

Figure 11 shows the rate per 100,000 population for separations with a principle diagnosis of injury and poisoning by subdivision. It can be seen that, with the exception of North Canberra, male rates are higher than those of females. In North Canberra females had substantially more separations than males for fractures of lower limbs, poisoning by drugs, medicinal & biological substances and complications of surgical and medical care. With regard to North Canberra’s separations for fractured lower limbs, 47 per cent of female separations involved women aged greater than 65 years with a principal diagnosis of fractured neck of femur (compared to 29 per cent for males).

**Figure 11: Hospital separation rate for injury & poisoning, by sex, by subdivision, ACT, 1996-97**

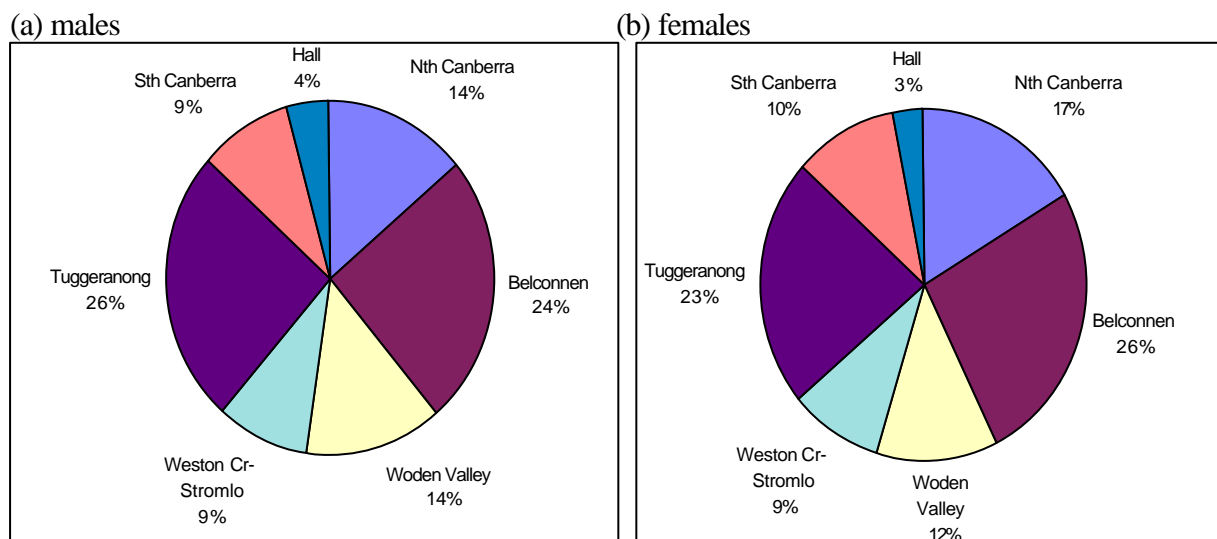


Source: *Hospital Morbidity Data Collection, 1995-96*  
*Population by statistical local areas, ACT, 30 June 1996. ABS catalogue No.3235.8*

Examination of the proportions of separations for external causes of injury and poisoning attributable to each subdivision reveals similar patterns for both sexes (refer Figure 12). For males, Tuggeranong accounted for the greatest proportion of these separations, closely followed by Belconnen. For females, Belconnen accounted for the greatest proportion closely followed by Tuggeranong.

For both sexes the subdivisions of North Canberra, South Canberra, Woden Valley and Weston Creek-Stromlo, accounted from 9 to 15 per cent of separations for external causes of injury and poisoning, while only 3.8 per cent of these admissions were from Gungahlin-Hall. These patterns are largely consistent with the relative sizes of the populations of these subdivisions.

**Figure 12: Proportion of hospital separations for external causes of injury & poisoning, by subdivision, by sex, 1996-97**



Source: *Hospital Morbidity Data Collection, 1996-97*

An examination of selected causes of injury as a percentage of all external causes shows that, in 1996-97, the subdivisions had similar proportions of injury for those causes (refer Table 13). One exception was Gungahlin-Hall, in which road vehicle accidents accounted for 17.9 per cent of all external causes of injury and poisoning, which was substantially greater than the percentages for the other subdivisions.

**Table 13: Selected external causes of injury as percentage of all separations for external causes, by subdivision, ACT residents, 1996-97**

| Selected injury groups   | North Canberra |      | Belconnen   |      | Woden Valley |      | Weston Ck-Stromlo |      | Tuggeranong |      | South Canberra |      | Gungahlin-Hall |      |
|--|----------------|------|-------------|------|--------------|------|-------------------|------|-------------|------|----------------|------|----------------|------|
|  | No.            | %    | No.         | %    | No.          | %    | No.               | %    | No.         | %    | No.            | %    | No.            | %    |
| Surgical and medical procedures causing abnormal reaction or complication, without | 290            | 34.2 | 445         | 32.3 | 205          | 29.0 | 156               | 31.4 | 432         | 32.4 | 157            | 29.6 | 51             | 24.6 |
| Accidental falls   | 180            | 21.3 | 265         | 19.2 | 189          | 26.7 | 101               | 20.3 | 214         | 16.0 | 129            | 24.3 | 35             | 16.9 |
| Drugs, medicinal and biological substances, adverse effects in therapy             | 60             | 7.1  | 116         | 8.4  | 66           | 9.3  | 45                | 9.1  | 91          | 6.8  | 50             | 9.4  | 11             | 5.3  |
| Suicide and self inflicted injury  | 75             | 8.9  | 104         | 7.6  | 40           | 5.7  | 26                | 5.2  | 57          | 4.3  | 21             | 4.0  | 13             | 6.3  |
| Road vehicle accidents   | 52             | 6.1  | 95          | 6.9  | 45           | 6.4  | 30                | 6.0  | 90          | 6.7  | 49             | 9.2  | 37             | 17.9 |
| <b>Total all external causes</b>   | <b>847</b>     |      | <b>1377</b> |      | <b>707</b>   |      | <b>497</b>        |      | <b>1335</b> |      | <b>530</b>     |      | <b>207</b>     |      |

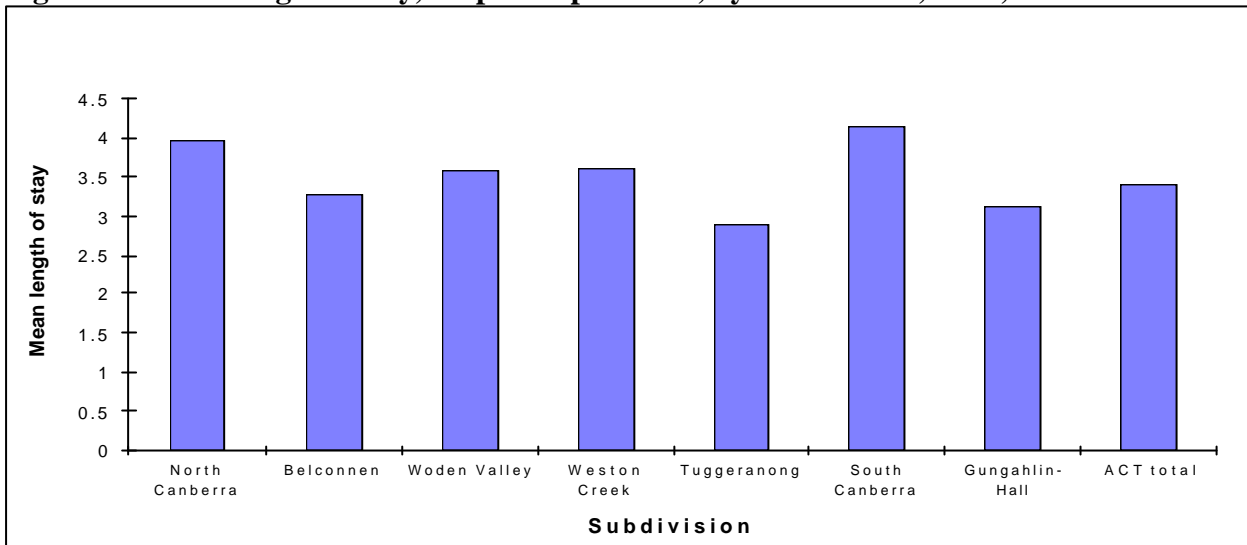
Source: ACT Morbidity Data Collection 1996-97

Further information regarding separation rates for particular types of injury may be found at Appendix 2.

### 3.2.2 Mean length of stay

The average length of stay of separations gives an indication of the acuity of those separations. This measure may also provide an indication of the degree to which particular groups of people may require follow up care such as rehabilitation services, community nursing, and the assistance of family and friends after discharge. As Figure 13 shows, South Canberra and North Canberra had the highest average length of stay for all separations for any cause. This may be a reflection of the older populations of these subdivisions, since one would expect older people to recover more slowly from illnesses and medical procedures. Older people are more likely to suffer serious, chronic diseases which tend to require longer periods of hospitalisation.

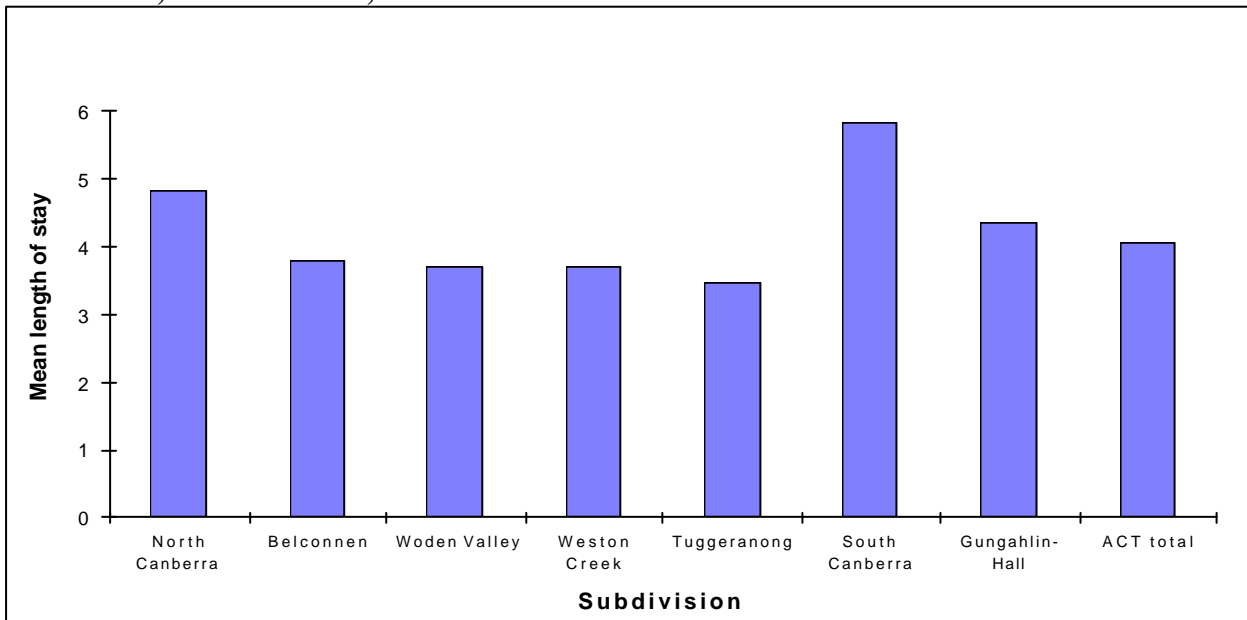
**Figure 13: Mean length of stay, hospital separations, by subdivisions, ACT, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97

An examination of mean length of stay for various principal diagnosis groups may indicate special areas of need for different subdivisions. As Figure 14 shows, the mean length of stay for neoplasms was substantially higher for residents of South Canberra, while residents of Tuggeranong had the lowest mean length of stay for this cause.

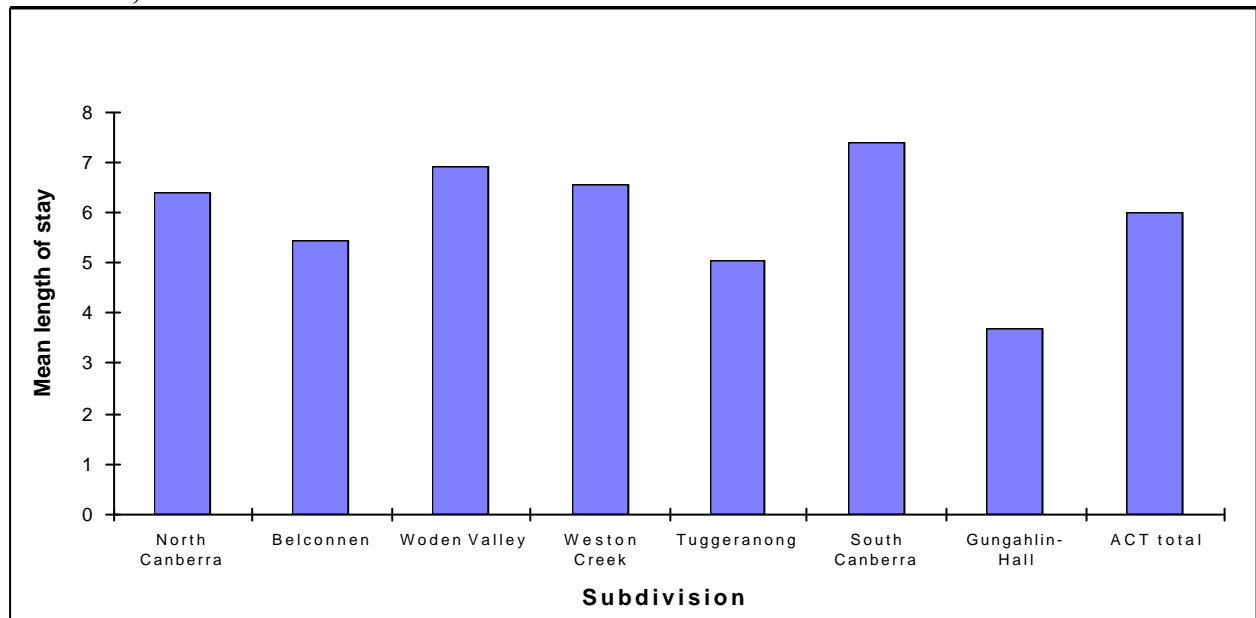
**Figure 14: Mean length of stay for separations with a principal diagnosis of neoplasms, by subdivision, ACT residents, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97

As Figure 15 shows separations for circulatory disorders for people coming from the older populations of the longer established subdivisions are longer than the average for ACT residents, while the mean lengths of stay for residents of the newer Tuggeranong and Gungahlin-Hall are relatively short.

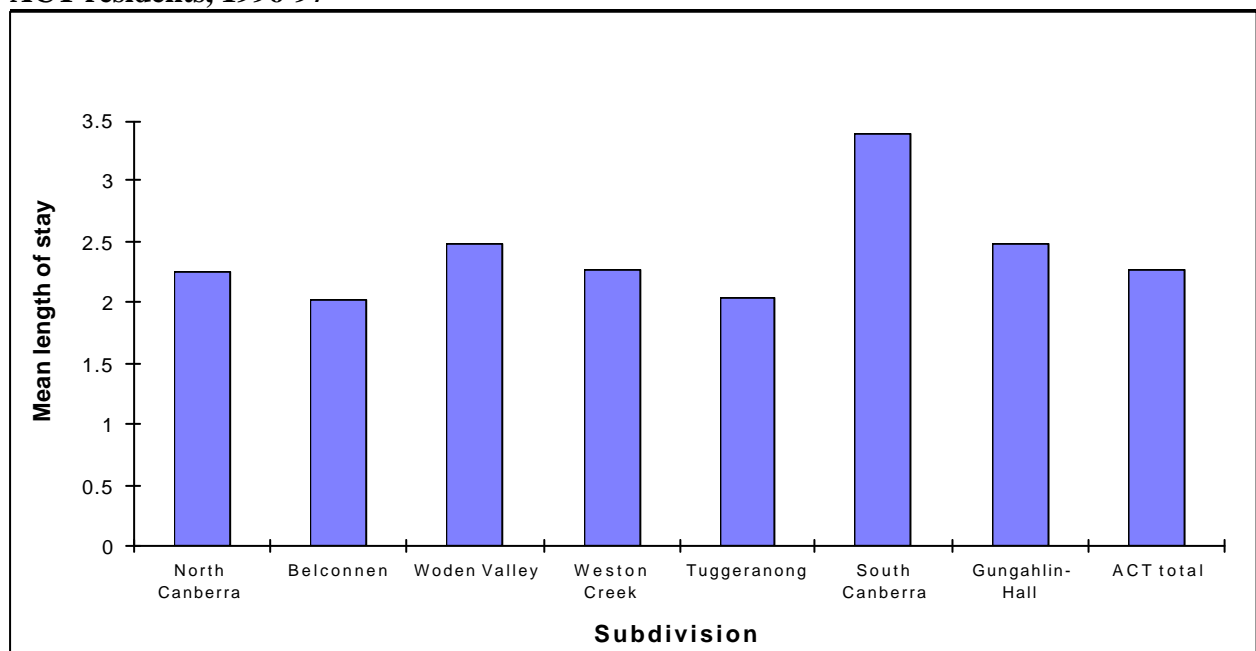
**Figure 15: Mean length of stay, separations for circulatory disorders, by subdivision, ACT residents, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97

For digestive disorders, residents of South Canberra had a substantially longer mean length of stay than residents of other subdivisions (refer Figure 16).

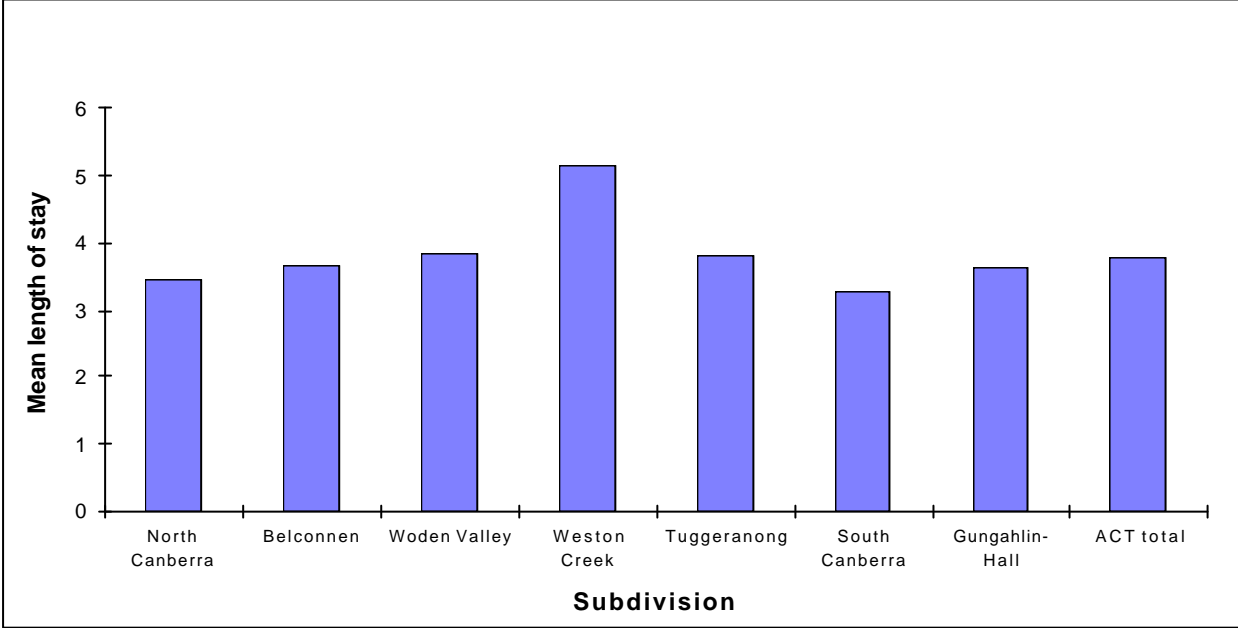
**Figure 16: Mean length of stay for separations due to digestive disorders, by subdivision, ACT residents, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97

In 1996-97, South Canberra had the shortest mean length of stay for separations related to pregnancy, childbirth and the puerperium (refer Figure 17). Residents of Woden Valley had the highest mean length of stay for these causes in 1996-97. This diagnosis group includes separations for miscarriages, normal deliveries, and complicated deliveries.

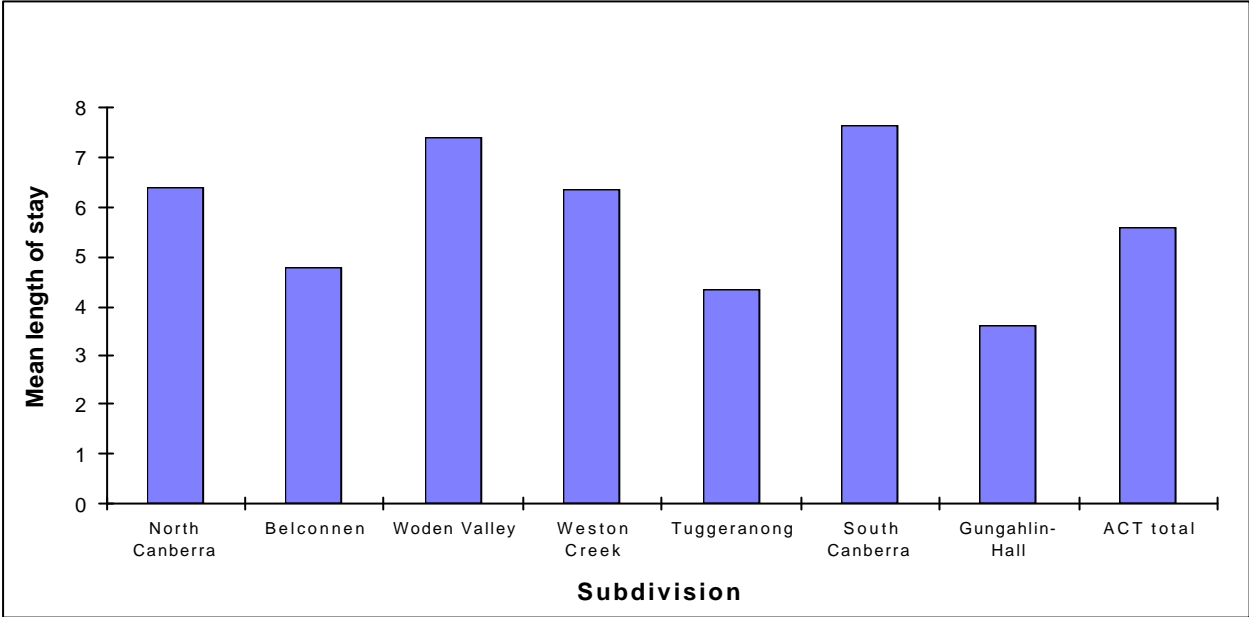
**Figure 17: Mean length of stay, separations due to complications of pregnancy, childbirth and puerperium, by subdivision, ACT residents, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97

As Figure 18 shows, the mean length of stay for separations due to injury and poisoning was, like most of the diagnosis groups examined, longest in the older subdivisions, especially South Canberra. With mean lengths of stay exceeding 7 days for these causes, high proportions of the separations for South Canberra and Woden Valley were, apparently, for quite ill people. This may indicate an increased need in these areas for rehabilitation services and home care after discharge.

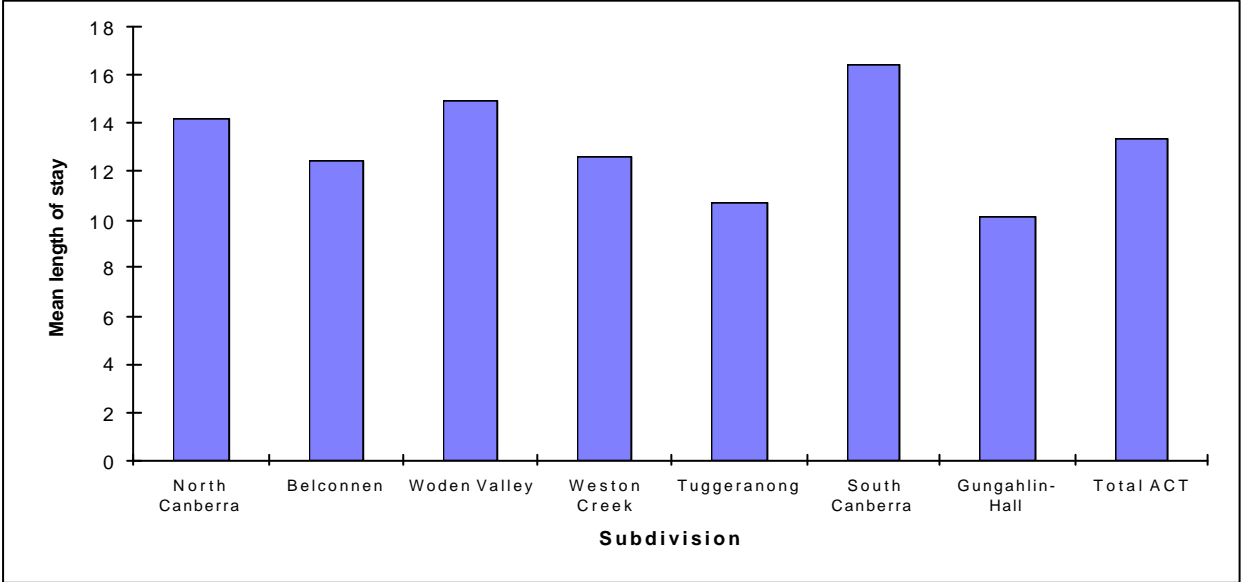
**Figure 18: Mean length of stay, separations due to injury and poisoning, by subdivision, ACT residents, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97

Figure 19 details mean length of stay for mental disorders.

**Figure 19: Mean length of stay for hospital separations due to mental disorders, by subdivision, ACT residents, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97



Mental disorders accounted for only 2 per cent of ACT hospital separations, but had the longest mean stay of all diagnosis groups. South Canberra had the highest mean length of stay for separations due to mental disorders in 1996-97. This may be due to the fact that South Canberra has a high proportion of older people, some of whom may have been admitted for dementias. People admitted to hospital for dementias often remain for considerable periods before being transferred to nursing home type accommodation.

### 3.2.3 Destination on discharge

Destination on discharge gives an indication of the long term health implications of a particular disorder. For example, those people discharged to nursing homes are often in need of assistance to perform even the most basic activities of daily life, and probably require care for chronic health problems for the remainder of their lives. Those discharged home are probably able to live independently, though of course there are substantial numbers of people who, while living at home, require the care of family members and community health care providers. As can be seen in Table 14, a greater percentage of South Canberra residents were discharged to nursing homes compared to the residents of other subdivisions. Tuggeranong had the highest percentage of people discharged home, North Canberra had the lowest.

**Table 14: Destination on discharge from hospital, ACT residents, by subdivision, ACT 1996-97**

| Subdivision       | Destination    |     |              |     |                        |     |       |      |      |     |       |     | Total<br>No. |
|-------------------|----------------|-----|--------------|-----|------------------------|-----|-------|------|------|-----|-------|-----|--------------|
|                   | Acute hospital |     | Nursing home |     | Other medical facility |     | Home  |      | Died |     | Other |     |              |
|                   | No             | %   | No           | %   | No                     | %   | No    | %    | No   | %   | No    | %   |              |
| North Canberra    | 184            | 2.4 | 124          | 1.6 | 28                     | 0.4 | 7079  | 93.7 | 88   | 1.2 | 51    | 0.7 | 7554         |
| Belconnen         | 444            | 3.0 | 137          | 0.9 | 17                     | 0.1 | 14183 | 94.6 | 131  | 0.9 | 73    | 0.5 | 14985        |
| Woden Valley      | 64             | 0.9 | 83           | 1.1 | 12                     | 0.2 | 6984  | 96.3 | 65   | 0.9 | 44    | 0.6 | 7252         |
| Weston Ck-Stromlo | 53             | 1.2 | 69           | 1.5 | 9                      | 0.2 | 4328  | 95.7 | 47   | 1.0 | 18    | 0.4 | 4524         |
| Tuggeranong       | 136            | 0.9 | 61           | 0.4 | 5                      | 0.0 | 14880 | 97.9 | 77   | 0.5 | 41    | 0.3 | 15200        |
| South Canberra    | 75             | 1.6 | 110          | 2.3 | 15                     | 0.3 | 4518  | 93.8 | 64   | 1.3 | 37    | 0.8 | 4819         |
| Gungahlin-Hall    | 67             | 2.9 | 7            | 0.3 | 0                      | 0.0 | 2187  | 96.0 | 11   | 0.5 | 7     | 0.3 | 2279         |
| ACT total         | 1023           | 1.8 | 591          | 1.0 | 86                     | 0.2 | 54159 | 95.7 | 483  | 0.9 | 271   | 0.5 | 56613        |

Source: ACT Hospital Morbidity Data Collection, 1996-97

Examination of destination on discharge for separations due to mental disorders reveals that South Canberra had a relatively high proportion of people discharged to nursing homes and other medical facilities (refer Table 15). This is consistent with South Canberra's older population, a higher percentage of whom are likely to suffer from dementias. Note that the proportion of persons who were discharged home after treatment of mental disorders was substantially lower than that for all hospital separations, reflecting the chronic and debilitating nature of some mental disorders.

**Table 15: Destination on discharge from hospital, separations with principal diagnosis of mental disorder, ACT residents, 1996-97**

| Subdivision       | Destination       |     |                 |     |                           |     |      |      |      |     |       |     | Total<br>No. |
|-------------------|-------------------|-----|-----------------|-----|---------------------------|-----|------|------|------|-----|-------|-----|--------------|
|                   | Acute<br>hospital |     | Nursing<br>home |     | Other<br>medical facility |     | Home |      | Died |     | Other |     |              |
|                   | No                | %   | No              | %   | No                        | %   | No   | %    | No   | %   | No    | %   |              |
| North Canberra    | 8                 | 2.6 | 13              | 4.2 | 6                         | 1.9 | 271  | 87.7 | 0    | 0.0 | 11    | 3.6 | 309          |
| Belconnen         | 21                | 6.5 | 7               | 2.2 | 2                         | 0.6 | 281  | 86.7 | 0    | 0.0 | 13    | 4.0 | 324          |
| Woden Valley      | 9                 | 4.1 | 7               | 3.2 | 4                         | 1.8 | 195  | 87.8 | 0    | 0.0 | 7     | 3.2 | 222          |
| Weston Ck-Stromlo | 3                 | 3.4 | 2               | 2.2 | 2                         | 2.2 | 78   | 87.6 | 0    | 0.0 | 4     | 4.5 | 89           |
| Tuggeranong       | 9                 | 3.9 | 5               | 2.1 | 1                         | 0.4 | 211  | 90.6 | 0    | 0.0 | 7     | 3.0 | 233          |
| South Canberra    | 2                 | 1.6 | 8               | 6.5 | 5                         | 4.0 | 103  | 83.1 | 1    | 0.8 | 5     | 4.0 | 124          |
| Gungahlin-Hall    | 0                 | 0.0 | 0               | 0.0 | 0                         | 0.0 | 23   | 92.0 | 0    | 0.0 | 2     | 8.0 | 25           |
| ACT total         | 52                | 3.9 | 42              | 3.2 | 20                        | 1.5 | 1162 | 87.6 | 1    | 0.1 | 49    | 3.7 | 1326         |

Source: ACT Hospital Morbidity Data Collection, 1996-97

### 3.3 ACT Community Care

In 1995 ACT Community Health services conducted community needs analyses of the Woden/Weston and Central areas of the ACT. These studies have provided information on the particular needs of ACT regional populations.

Several major themes emerged from these ongoing investigations. In general, the analyses indicated that the needs of the general population do seem to be met by established services. However, some problems were identified, including a lack of continuity of care for people moving from hospital to community care services, as well as for people moving between community health care services.<sup>15</sup>

Access problems for certain groups of people, and attending to the special needs of people suffering physical and intellectual disabilities, the frail aged, those with mental disorders, and people from linguistically and culturally diverse backgrounds were identified. Long waiting times for physiotherapy, podiatry and dental services were also identified as problems. Some suburbs were identified as having a particular lack of medical services (such as GP's), or access to public transport health services. A need for an expansion of supported accommodation and personal support within the community for those suffering mental illness was identified.<sup>16</sup> The reports also called for special attention to health promotion and education.

Consultations with area populations have continued in the form of catchment community meetings that are held on a regularly basis in North and South Canberra by the Department of Health and Community Care.

In 1996 government reforms (including the separation of purchaser and provider roles in the delivery of health services in the ACT) led to the establishment of ACT Community Care as a statutory authority and major public community based provider of health and community services in the ACT.

ACT Community Care administers six programs: Dental Health Program, Community Health Care, Child Family & Youth Health Program, Women's Health Program, Alcohol and Drug Program and Disability Program. Within each Program a range of different disciplines, level of specialisation and intervention are grouped together around a common target group/problem or client need. These Programs provide a wide range of services for well adults, children and youth and for people with acute, post acute, chronic and terminal illness, those with health problems associated with disability and ageing and people with disabilities.

Services provided include: counselling/social work; screening, health checks and monitoring, e.g. breast screening clinic, school health screening, cervical screening; specialised clinics including wound clinic; nutrition clinics; youth health clinics; well women's clinics; post natal assessments and home visits; aged care assessments; outreach nursing and allied health services; audiometry; domiciliary nursing services; accommodation support and centre based respite services for people with disabilities; childhood immunisation; detoxification programs; physiotherapy and occupational therapy services; podiatry; intake, initial assessments, information and referral services; child health clinic services; lactation and extended stay services for new mothers; aged day care; palliative care; health promotion programs; parenting education and advice; dental services including the child and youth oral health service; methadone program.

These services are offered at a variety of sites including: community health centres ( Phillip, Tuggeranong, Belconnen, Dickson, City, Narrabundah ); child health clinics, dental clinics, family care centres ( Conder, Monash, Kippax, Gunghalin) at client's homes, housing estates, youth centres, Calvary and The Canberra Hospital ( discharge planning, post acute services), child care centres, preschools and schools. Post natal residential services are also provided and managed by the Canberra Mothercraft Society at the QE11 Family Centre in Curtin.

Services offered in the subdivisions depend on the particular needs of those areas. Increased resources of the Child Family and Youth Health Program for instance are allocated in the two subdivisions of Tuggeranong and Belconnen. The Tuggeranong program has a comprehensive program of activities because of the large numbers of infants and young children living there. The northern subdivisions' resources are targeted to the Gungahlin subdivision for similar reasons. Similarly, youth health outreach is primarily offered in and around Belconnen and Woden. Access is improved through a variety of service delivery modes such as home visiting, specialised outreach services and mobile immunisation services.



## 4. Mortality

There were 1,300 deaths in the ACT in 1996. Subdivisions where high proportions of deaths occurred were those with high proportions of elderly residents such as South and North Canberra.

**Table 16: Deaths, by subdivisions, ACT, 1996**

| Sex     | North Canberra |      | Belconnen |      | Woden Valley |      | Weston Creek |     | Tuggeranong |      | South Canberra |      | Gungahlin-Hall |      | Other areas |     | Total No. |
|---------|----------------|------|-----------|------|--------------|------|--------------|-----|-------------|------|----------------|------|----------------|------|-------------|-----|-----------|
|         | No.            | %    | No.       | %    | No.          | %    | No.          | %   | No.         | %    | No.            | %    | No.            | %    | No.         | %   |           |
| Males   | 137            | 19.6 | 164       | 23.5 | 102          | 14.6 | 60           | 8.6 | 107         | 15.3 | 112            | 16.0 | 10             | 1.43 | 6           | 0.9 | 698       |
| Females | 115            | 19.1 | 142       | 23.6 | 72           | 12.0 | 55           | 9.1 | 62          | 10.3 | 149            | 24.8 | 6              | 1.00 | 1           | 0.2 | 602       |
| Persons | 252            | 19.4 | 306       | 23.5 | 174          | 13.4 | 115          | 8.8 | 169         | 13.0 | 261            | 20.1 | 16             | 1.23 | 7           | 0.5 | 1300      |

Note: % represents percentage of total ACT deaths

Source: ABS, *Causes of Death 1996*, unpublished data

It appears that Belconnen has a high percentage of deaths, but if you remove the age proportion variable by standardising the death rates, the following data are calculated:

**Table 17: Indirect standardised death rates, by subdivision, ACT, 1996**

| North Canberra | Belconnen | Woden Valley | Weston Ck-Stromlo | Tuggeranong | South Canberra | Gungahlin-Hall | Total ACT |
|----------------|-----------|--------------|-------------------|-------------|----------------|----------------|-----------|
| 6.2            | 5.6       | 4.9          | 5.6               | 4.7         | 7.7            | 3.5            | 5.8       |

Note: Indirect standardised rates are averaged over the 3 years 1994 to 1996, and are per 1,000 people.

Source: ABS, *Demography ACT 1996*, Catalogue No. 3311.8

It can be seen that Belconnen's death rate is below that of the ACT as a whole.

### 4.1 Causes of death

The major causes of death in all subdivisions were from circulatory diseases followed by malignant neoplasms (cancer).

**Table 18: Major causes of death, by ranking, by subdivision, ACT, 1996**

|             | North Canberra | Belconnen | Woden Valley | Weston Ck-Stromlo | South Canberra | Tuggeranong | Gungahlin-Hall | Total ACT   |
|-------------|----------------|-----------|--------------|-------------------|----------------|-------------|----------------|-------------|
| Circulatory | 1              | 1         | 1            | 1                 | 1              | 1           | 1              | 1           |
| Neoplasms   | 2              | 2         | 2            | 2                 | 2              | 2           | 2              | 2           |
| Injury      | 4              | 4         | 3            | 3                 | 5              |             | 3              | 3           |
| Respiratory | 3              | 3         | 4            | 4                 | 3              |             |                | 4           |
|             |                |           |              |                   | 4 (Mental)     |             |                | 5           |
|             |                |           |              |                   |                |             |                | (digestive) |

Source: ABS, *Causes of death ACT 1996*. (unpublished data)

## 4.2 Mean age at death

From 1994 to 1996 the mean age at death for Gungahlin-Hall was consistently substantially below those for the other subdivisions (refer Table 19). Since Gungahlin-Hall has only been recently settled its age structure is quite young (had only 264 people over 65 years in 1996). This area is therefore, likely to experience relatively higher numbers of deaths in younger age groups, and a lower mean age at death. Although there were only a few deaths in this subdivision, there may have been a greater social and economic cost related to these deaths, because they involved younger people, who would have had many years of potentially productive life ahead of them. Years of potential life lost were not calculated because of the difficulty in obtaining population estimates for the subdivisions over the years considered.

**Table 19: Mean age at death by subdivision, ACT, 1994-96**

|         | North<br>Canberra | Belconnen | Woden<br>Valley | Weston Ck-<br>Stromlo | South<br>Canberra | Tuggeranon<br>g | Gungahlin-<br>Hall | Total<br>population |
|---------|-------------------|-----------|-----------------|-----------------------|-------------------|-----------------|--------------------|---------------------|
| 1994    | 76.1              | 71.9      | 70.9            | 78.1                  | 70.1              | 75.9            | 46.0               | 74.0                |
| 1995    | 72.5              | 71.2      | 70.0            | 69.4                  | 73.8              | 78.0            | 52.7               | 72.5                |
| 1996    | 72.7              | 70.9      | 72.8            | 72.1                  | 78.2              | 80.8            | 67.3               | 74.8                |
| 1994-96 | 73.7              | 71.3      | 71.2            | 73.2                  | 74.0              | 78.3            | 55.0               | 73.7                |

Source: *Causes of death ACT 1994-96*. ABS unpublished data.



## 5. Glossary

### 5.1 National Health Surveys

The Australian Bureau of Statistics (ABS) conducts a five yearly National Health Survey which collects data from approximately 54,000 people living throughout Australia. It is designed to obtain national benchmark information on a range of health-related issues and to enable the monitoring of trends in health, over time. The sample is designed so that the states and territories can be separately analysed. Refer Appendix 4 for data limitations.

It should be noted that the Survey utilises a self-reporting format.

The most recent Survey was conducted in the twelve months from January 1995 to January 1996.

Some 2,156 dwellings (or one in fifty dwellings) in the ACT were surveyed. This is an increase on the previous Survey (1989-90) and will allow for more relevant analysis. It should be noted however, that some sections of the survey were only administered to half of the sample. This includes sections on women's health, alcohol consumption and general health and well-being.

### 5.2 Short Form 36 (SF-36)

The SF-36 was developed in 1988 by the RAND Corporation as part of its Medical Outcomes Study carried out in the USA. The SF-36 was 'constructed to yield a profile of scores that would be useful in understanding population differences in physical and mental health status, the burden of chronic disease, other medical conditions and the effect of treatments on general health status'.<sup>17</sup> Additionally, the SF-36 was designed '... to achieve minimum standards of precision necessary for group comparisons across eight conceptual areas'. The subscales most sensitive to measuring physical health are;

- Physical function (PF)
- The impact of physical health on role performance (RP)
- Bodily pain (BP)
- General health perceptions (GH)

The subscales most sensitive to measuring mental health are;

- General mental health (MH)
- The impact of emotional health on role performance (RE)
- Social functioning (SF)
- Vitality (VT)

The subscales of PF, RP, BP, SF, and RE range from 0-100 with a score of 100 indicating better health status or absence of limitation or disabilities. The subscales of GH, VT, and MH are bipolar in nature with a range of 0 to 100. A score of 100 indicates when '... respondents report positive states and evaluate their health favourably'. For more detailed information, refer Health Series No. 9, *Health Related Quality of Life in the ACT: 1994-95*.

### 5.3 Definitions

*Age-sex standardisation* - demographic technique for adjusting for the effects of age and sex between populations which allows comparisons between populations (ABS definition).

*Age-sex standardised death rate* - the overall death rate that would have prevailed in a standard population (eg the 1991 Australian population) if it had experienced at each stage the death rates of the population being studied (ABS definition).

*Age-sex standardised ratio* - The expected number of events is given by calculating the number of events which would have occurred if the rates for each age/sex group in a given population (the standard) were applied to the population of interest.<sup>18</sup>

*Age-specific birth rates* - the number of births per thousand women of a specific age group in the population (ABS definition).

*Cardiovascular diseases (CVD)* can be described as diseases relating to the heart and blood vessels. They are diseases of the circulatory system.

*Crude birth rate* is the number of live births per 1,000 population in a given year (ABS definition).

*Crude death rate* is the number of deaths per 1,000 population (unless otherwise stipulated) in a given year (ABS definition).

*Dementia* is a syndrome caused by brain disease in which the person experiences confused thought and behaviour, most prevalent in people of old age.<sup>19</sup>

*Fertility rate* refers to the number of children one woman would expect to bear if the age-specific rates of the year shown continued during her child-bearing lifetime (ABS definition).

*ICD-9* refers to the International Classification of Diseases, ninth revision as developed by the World Health Organisation. Details of disease classifications are at Appendix C.

*Incidence* refers to the number of instances of illness commencing, or of persons falling ill, during a given period in a specified population.<sup>20</sup>

*Ischaemic heart disease* is coronary heart disease.

*Labour force* in employment refers to those persons employed and those unemployed seeking employment.

*Median* is a measure of central tendency. It refers to the point between the upper and lower halves of the set of measurements.

*Mortality* is the relative number of deaths, or death rate, as in a district or community.

*Morbidity* is the proportion of sickness in a locality.

*Neoplasm* is a diverse group of diseases characterised by the proliferation and spread of abnormal cells. They may be malignant or benign. Malignant neoplasms are called cancers.

*Pertussis* (whooping cough) is a childhood communicable disease.

*Potential Years of Life Lost (PYLL)* is a measure of the relative impact of various diseases and lethal forces on society. PYLL highlights the loss to society as a result of youthful or early deaths. The figure for PYLL due to a particular cause is the sum, over all persons dying from that cause, of the years that these persons would have lived had they experienced normal life expectation.

*Prevalence* refers to the number of instances of a given disease or other condition in a given population at a designated time.

*Schizophrenia* is a psychotic disorder characterised by distortions of thinking, speech and perception, which is usually accompanied by inappropriate or "blunted" emotions.<sup>21</sup>

*Separation* (from hospital) refers to when a patient is discharged from hospital, transferred to another hospital or other health care accommodation, or dies in hospital following formal admission (ABS definition).

*Sex differentials* are the differences in rates between males and females.

*Socioeconomic disadvantage score* summarises information available from a number of variables related to education, occupation, family structure, ethnicity, housing conditions and costs, and economic resources (ABS definition). If interpreted carefully, it can assist in interpreting trends and predicting health risks in a population.

*Standardised death rate* is the overall death rate that would have prevailed in a standard population, in this case the 1991 Australian population, if it had experienced at each stage the death rates of the population being studied (ABS definition).

*Statistically significant* infers that it can be concluded on the basis of statistical analysis that it is highly probable.





## APPENDIX 1: Statistical sub-divisions of the ACT, population, 1996

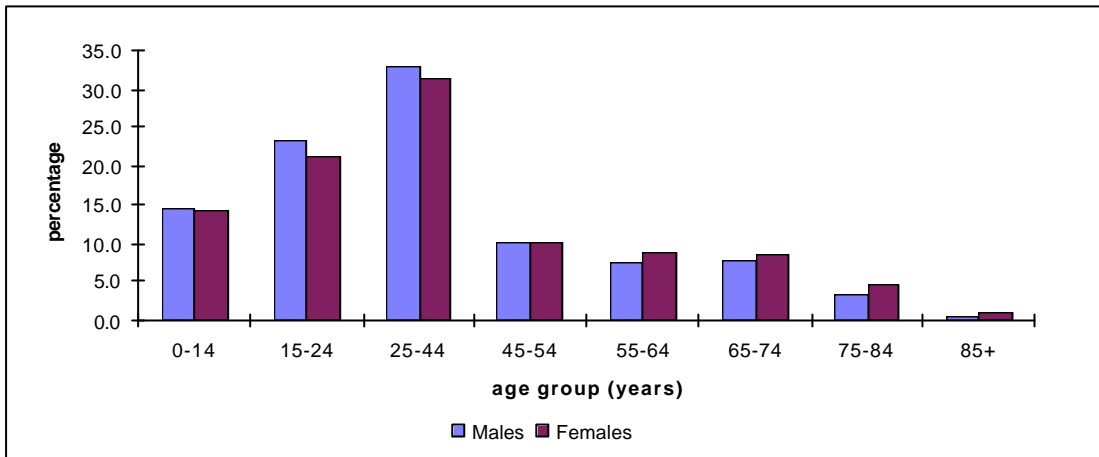
**Table 20: Population, by statistical sub-divisions by suburb, ACT, 1996**

| Statistical subdivision | Estimated mid-year population | Statistical subdivision | Estimated mid-year population |
|-------------------------|-------------------------------|-------------------------|-------------------------------|
| <b>North Canberra</b>   |                               | <b>Woden Valley</b>     |                               |
| Acton                   | 1467                          | Chifley                 | 2363                          |
| Ainslie                 | 4692                          | Curtin                  | 5334                          |
| Braddon                 | 2510                          | Farrer                  | 3586                          |
| Campbell                | 3277                          | Garran                  | 2891                          |
| City                    | 152                           | Hughes                  | 3093                          |
| Dickson                 | 1968                          | Isaacs                  | 2720                          |
| Downer                  | 3397                          | Lyons                   | 2795                          |
| Duntroon                | 1954                          | Mawson                  | 2826                          |
| Hackett                 | 3098                          | O'Malley                | 772                           |
| Kowen                   | 16                            | Pearce                  | 2609                          |
| Lyneham                 | 4155                          | Phillip                 | 1728                          |
| Majura                  | 357                           | Torrens                 | 2311                          |
| O'Connor                | 4837                          | <i>Total</i>            | 33028                         |
| Reid                    | 1636                          |                         |                               |
| Turner                  | 1977                          |                         |                               |
| Watson                  | 3338                          |                         |                               |
| <i>Total</i>            | 38831                         |                         |                               |
| <b>Belconnen</b>        |                               | <b>Tuggeranong</b>      |                               |
| Aranda                  | 2,664                         | Banks                   | 3,433                         |
| Belconnen town Centre   | 2,740                         | Bonython                | 3,522                         |
| Bruce                   | 2,368                         | Calwell                 | 6,244                         |
| Charnwood               | 3,432                         | Chisholm                | 6,009                         |
| Cook                    | 3,021                         | Conder                  | 3,432                         |
| Dunlop                  | 726                           | Fadden                  | 3,589                         |
| Evatt                   | 6,254                         | Gilmore                 | 3,223                         |
| Florey                  | 5,709                         | Gordon                  | 6,711                         |
| Flynn                   | 3,905                         | Gowrie                  | 3,632                         |
| Fraser                  | 2,386                         | Greenway                | 986                           |
| Giralang                | 3,863                         | Isabella Plains         | 4,514                         |
| Hawker                  | 3,074                         | Kambah                  | 17,812                        |
| Higgins                 | 3,410                         | Macarthur               | 1,784                         |
| Holt                    | 4,586                         | Monash                  | 5,978                         |
| Kaleen                  | 8,577                         | Oxley                   | 1,959                         |
| Latham                  | 4,075                         | Richardson              | 3,713                         |
| McKellar                | 3,086                         | Theodore                | 4,232                         |
| Macgregor               | 3,965                         | Wanniassa               | 9,117                         |
| Macquarie               | 2,530                         | Tuggeranong balance     | 64                            |
| Melba                   | 3,565                         | <i>Total</i>            | 89,954                        |
| Page                    | 2,691                         |                         |                               |
| Scullin                 | 3,078                         |                         |                               |
| Spence                  | 3,022                         |                         |                               |
| Weetangera              | 2,800                         |                         |                               |
| Belconnen balance       | 53                            |                         |                               |
| <i>Total</i>            | 85,580                        |                         |                               |

| Statistical subdivision<br>(continued) | Estimated<br>mid-year<br>population | Statistical subdivision | Estimated<br>mid-year<br>population |
|--|-------------------------------------|-------------------------|-------------------------------------|
| <b>South Canberra</b>                  |                                     | <b>Weston Creek</b>     |                                     |
| Barton                                 | 617                                 | Chapman                 | 3,049                               |
| Deakin                                 | 2,641                               | Duffy                   | 3,499                               |
| Forrest                                | 1,219                               | Fisher                  | 3,197                               |
| Fyshwick                               | 83                                  | Holder                  | 2,920                               |
| Griffith                               | 3,684                               | Rivett                  | 3,486                               |
| Harman                                 | 189                                 | Stirling                | 2,276                               |
| Hume                                   | 10                                  | Stromlo                 | 90                                  |
| Jerrabomberra                          | 25                                  | Waramanga               | 2,778                               |
| Kingston                               | 1,614                               | Weston                  | 3,543                               |
| Narrabundah                            | 5,419                               | W. Ck/Stromlo Balance   | 26                                  |
| Oaks Estate                            | 330                                 | <i>Total</i>            | 24,864                              |
| Parkes                                 | 13                                  |                         |                                     |
| Pialligo                               | 112                                 |                         |                                     |
| Red Hill                               | 3,290                               |                         |                                     |
| Symonston                              | 456                                 |                         |                                     |
| Yarralumla                             | 3,024                               |                         |                                     |
| <i>Total</i>                           | 22,726                              |                         |                                     |
| <b>Gungahlin-Hall</b>                  |                                     |                         |                                     |
| Amaroo                                 | 610                                 |                         |                                     |
| Hall                                   | 385                                 |                         |                                     |
| Mitchell                               | 8                                   |                         |                                     |
| Ngunnawal                              | 4,528                               |                         |                                     |
| Nicholls                               | 1,832                               |                         |                                     |
| Palmerston                             | 5,299                               |                         |                                     |
| Gungahlin Balance                      | 47                                  |                         |                                     |
| <i>Total</i>                           | 12,709                              |                         |                                     |
| <b>Remainder ACT</b>                   | 333                                 |                         |                                     |
| <b><i>Total ACT</i></b>                | <b>308,025</b>                      |                         |                                     |

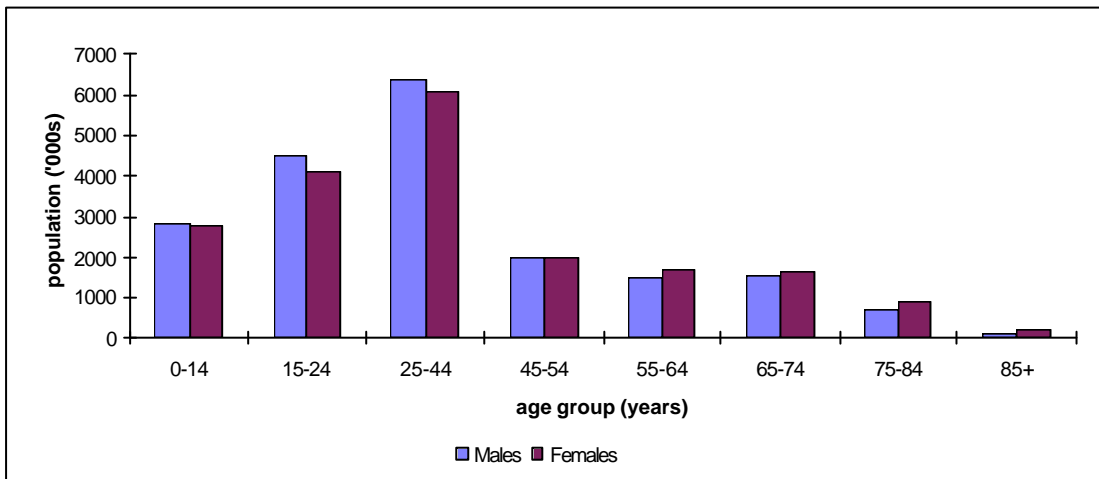
Source: *Regional statistics, Australian Capital Territory, 1997*, ABS Catalogue No. 1313.8

**Figure 20: Percentage age-sex distribution, North Canberra, June 1996**



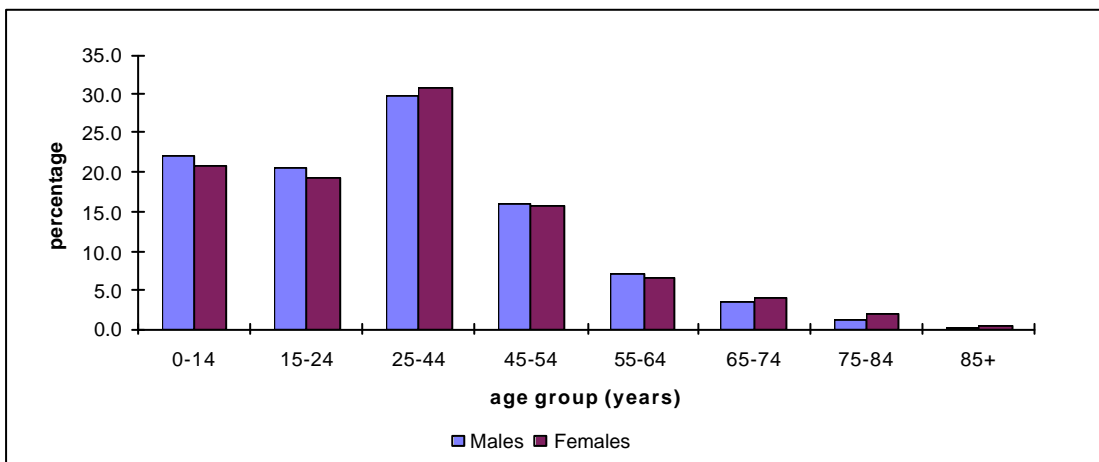
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 21: Number age-sex distribution, North Canberra, June 1996**



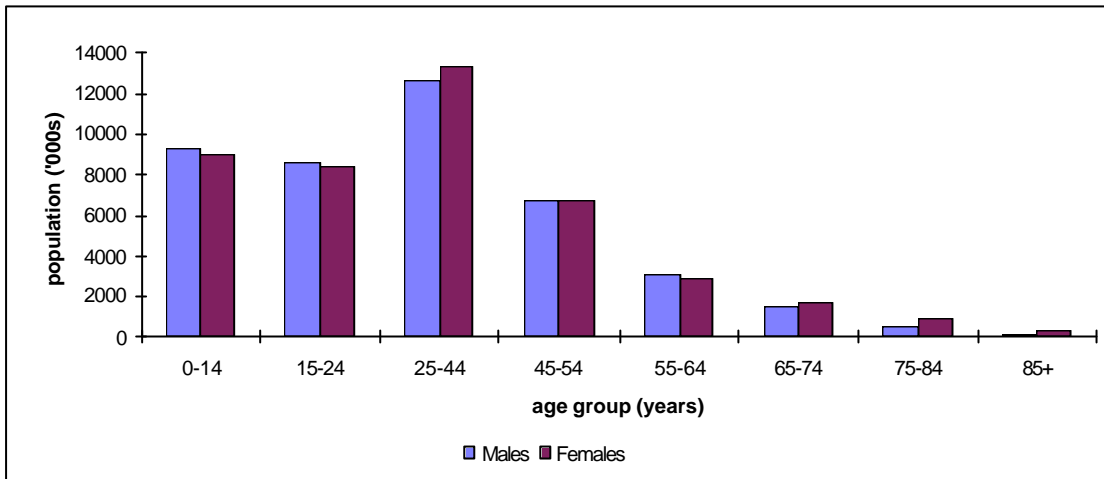
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 22: Percentage age-sex distribution, Belconnen, June 1996**



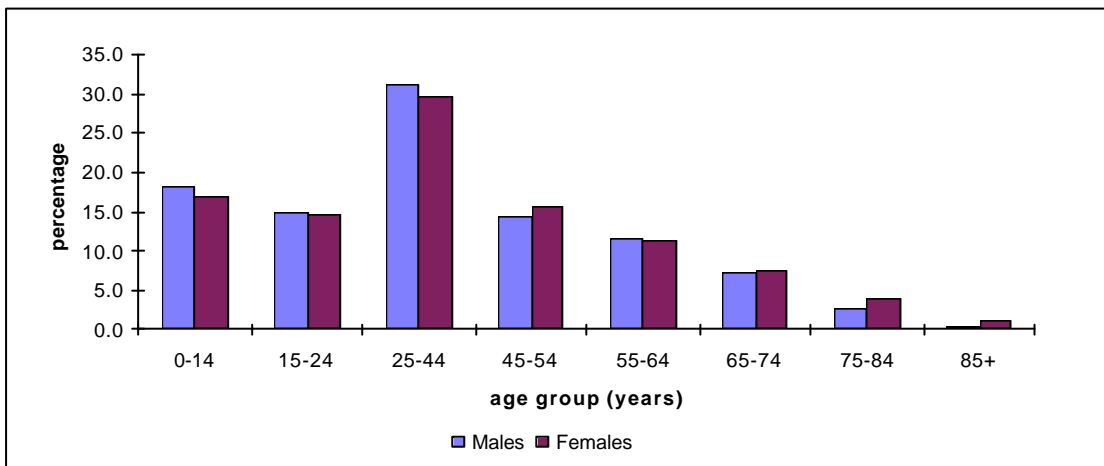
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 23: Number age-sex distribution, Belconnen, June 1996**



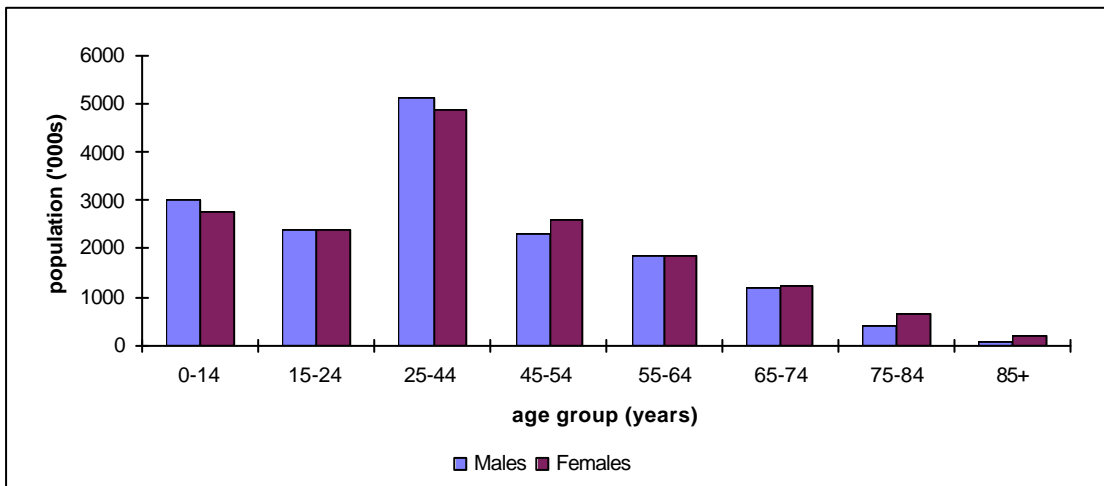
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 24: Percentage age-sex distribution, Woden Valley, June 1996**



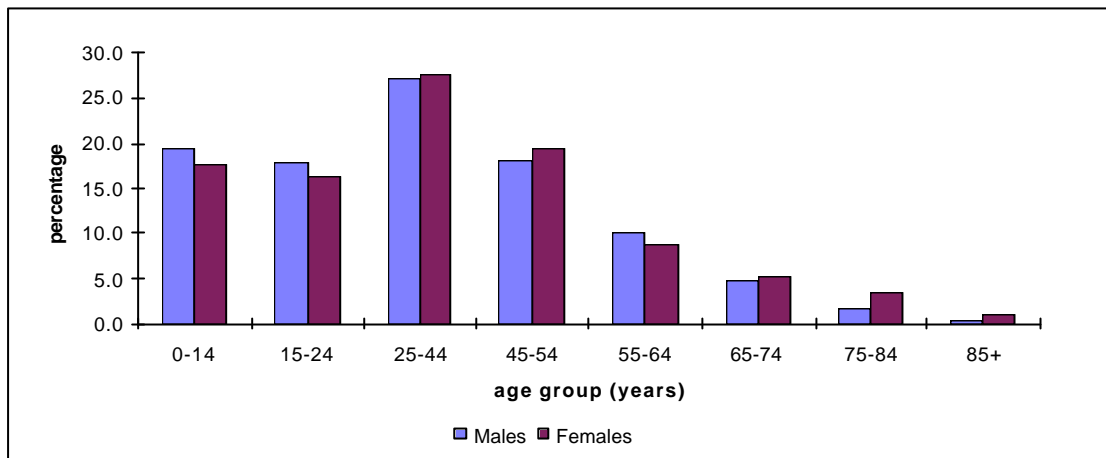
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 25: Number age-sex distribution, Woden Valley, June 1996**



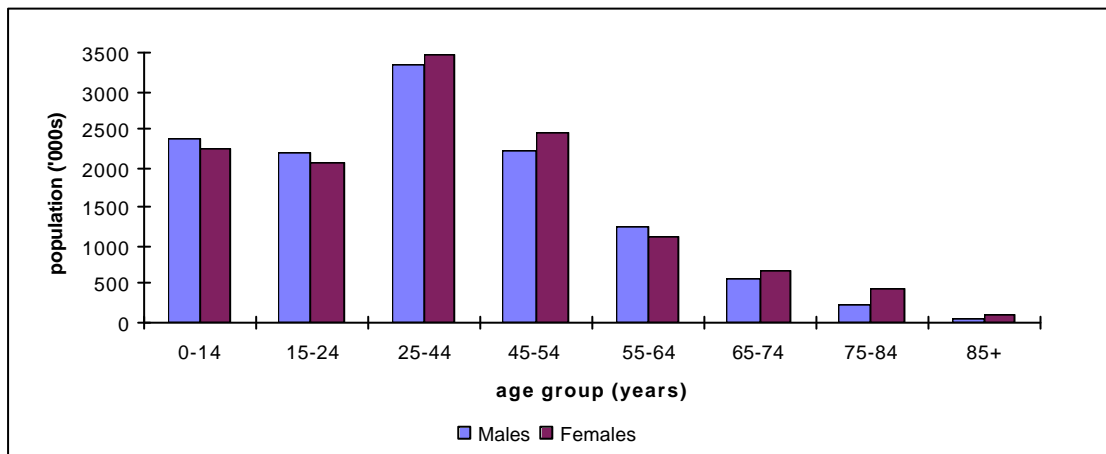
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 26: Percentage age-sex distribution, Weston Creek-Stromlo, June 1996**



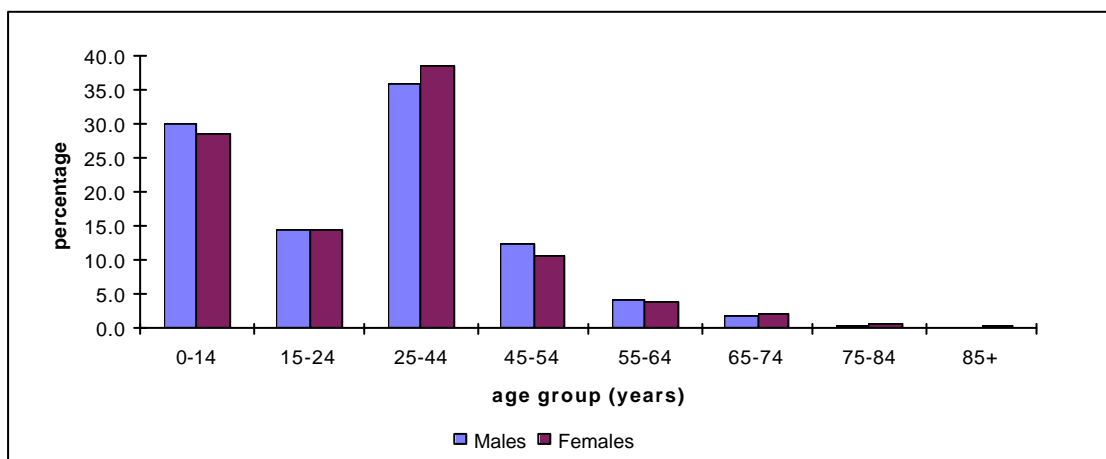
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 27: Number age-sex distribution, Weston Creek-Stromlo, June 1996**



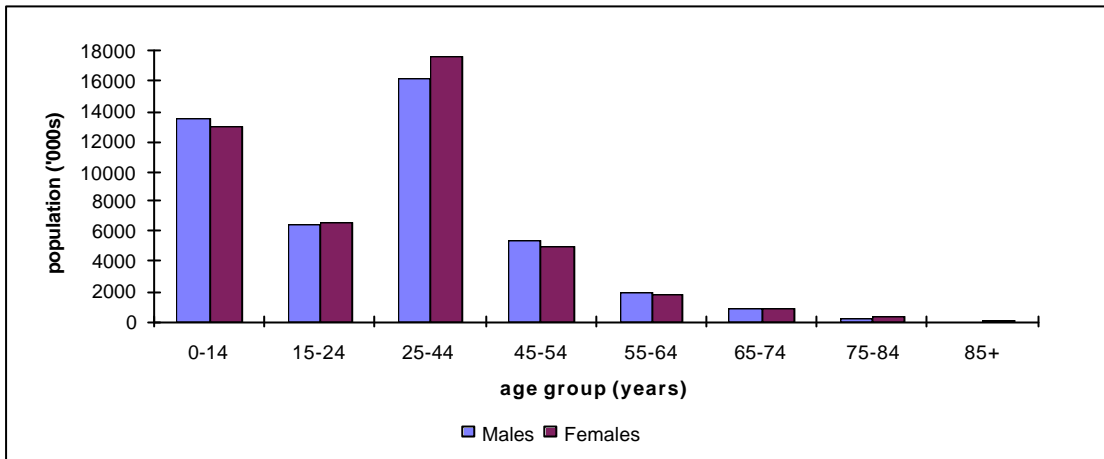
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 28: Percentage age-sex distribution, Tuggeranong, June 1996**



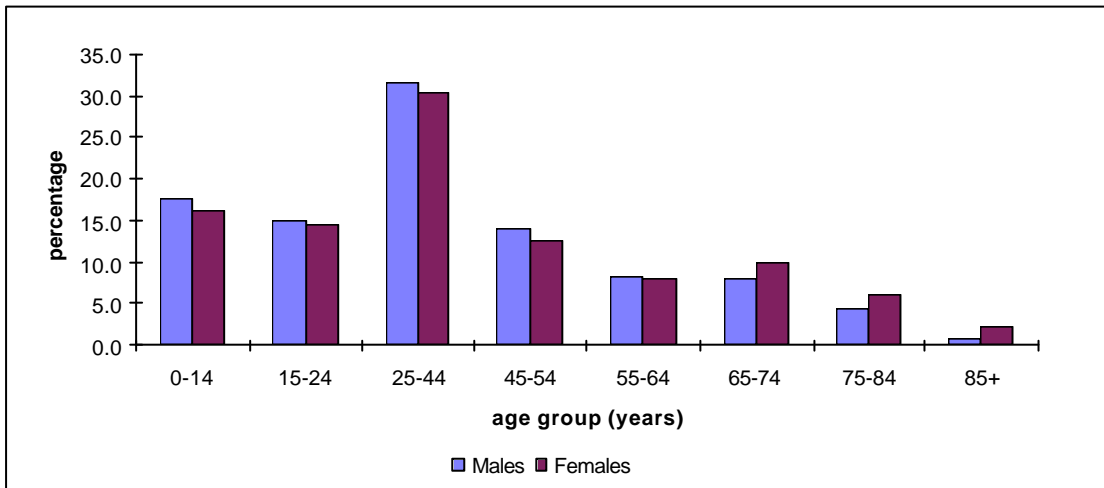
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 29: Number age-sex distribution, Tuggeranong, June 1996**



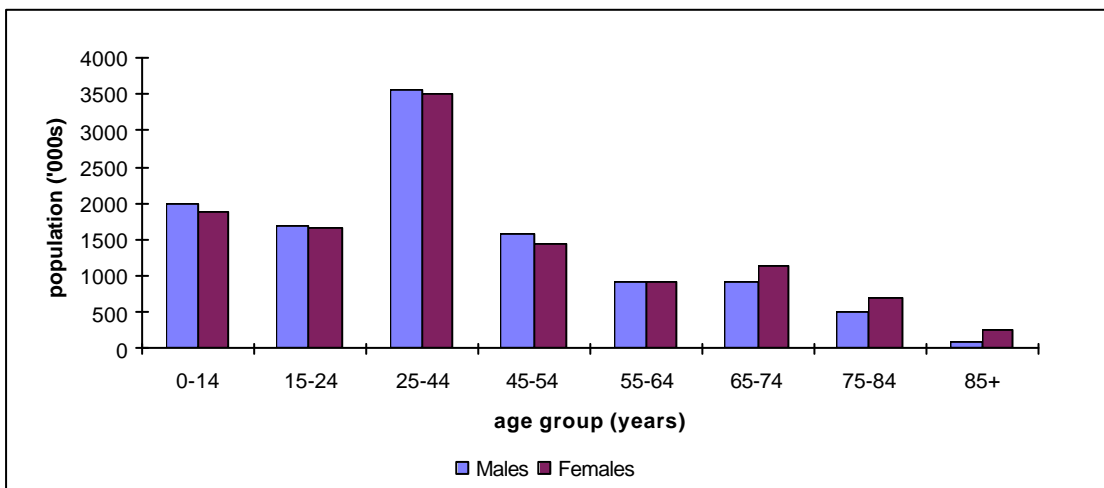
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 30: Percentage age-sex distribution, South Canberra, June 1996**



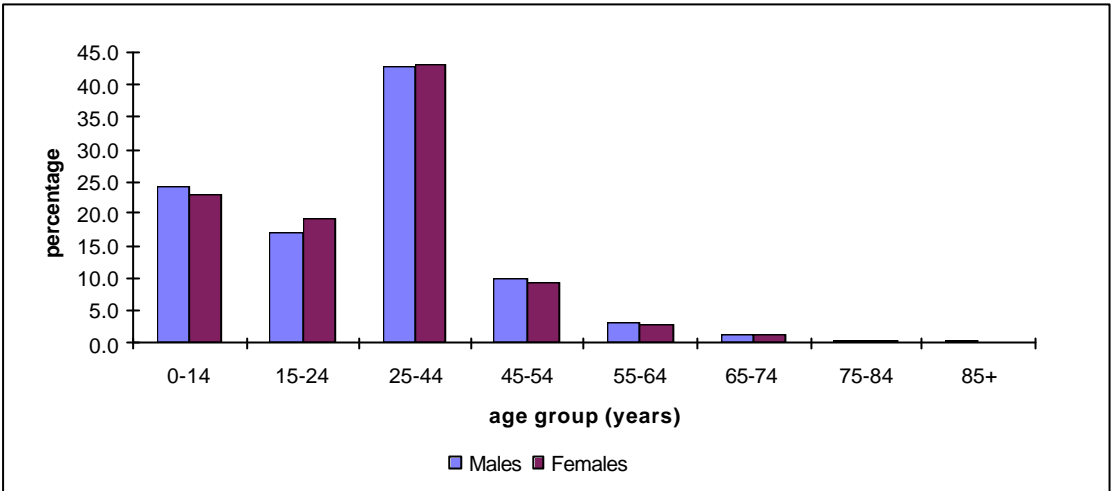
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 31: Number age-sex distribution, South Canberra, June 1996**



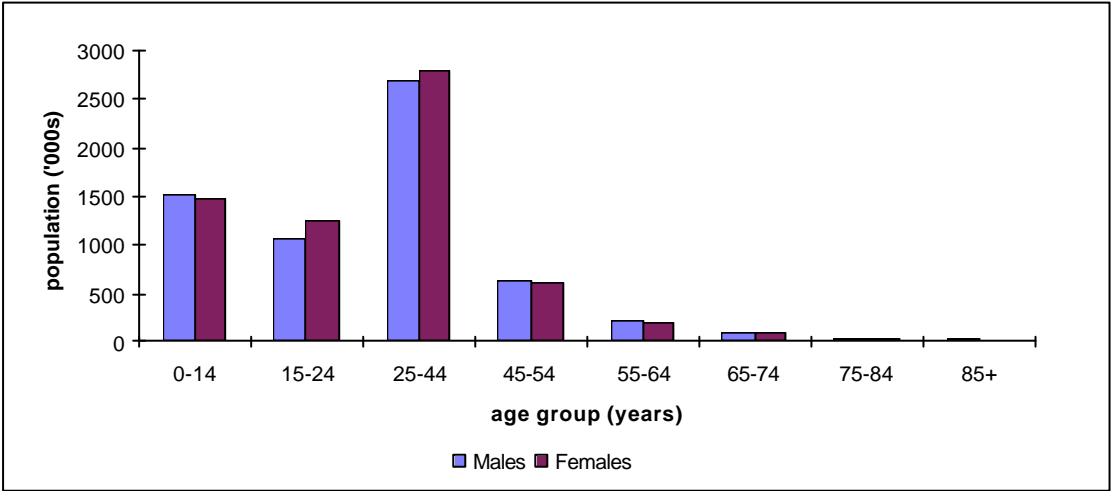
Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 32: Percentage age-sex distribution, Gungahlin-Hall, June 1996**



Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8

**Figure 33: Number age-sex distribution, Gungahlin-Hall, June 1996**



Source: *Population by age and sex, Australian Capital Territory June 1996*. ABS Catalogue No. 3235.8



## APPENDIX 2: ACT hospitals, summary of activity, by sub-divisions, 1996-97

**Table 20: ACT hospitals: summary of activity for North Canberra residents, 1996-97**

|  | Persons     | Daypatients | Overnight   | Total<br>LOS | Mean<br>LOS | Median<br>LOS |
|--|-------------|-------------|-------------|--------------|-------------|---------------|
| Males  | 2125        | 1682        | 1857        | 12750        | 3.6         | 1             |
| Females  | 2610        | 1692        | 2323        | 17053        | 4.2         | 1             |
| Persons  | 4735        | 3374        | 4180        | 29803        | 3.9         | 1             |
| <b>Principal diagnosis</b>                             |             |             |             |              |             |               |
| Infectious & parasitic diseases                        | 93          | 11          | 105         | 728          | 6.3         | 3             |
| Neoplasms  | 339         | 204         | 280         | 2339         | 4.8         | 1             |
| Endocrine & immunity disorders                         | 37          | 48          | 41          | 405          | 4.6         | 0             |
| Disorders of blood & bloodforming organs               | 40          | 66          | 49          | 252          | 2.2         | 0             |
| Mental disorders                                       | 190         | 17          | 292         | 4388         | 14.2        | 7             |
| Nervous system/sensory disorders                       | 198         | 111         | 136         | 1078         | 4.4         | 1             |
| Disorders of the circulatory system                    | 491         | 148         | 496         | 4123         | 6.4         | 3             |
| Disorders of the respiratory system                    | 287         | 26          | 341         | 2170         | 5.9         | 0             |
| Digestive disorders                                    | 706         | 447         | 387         | 1883         | 2.3         | 1             |
| Genitourinary disorders                                | 330         | 187         | 200         | 1029         | 2.7         | 3             |
| Complications of pregnancy etc                         | 457         | 73          | 466         | 1858         | 3.4         | 1             |
| Disorders of the skin & subcutaneous tissue            | 96          | 50          | 65          | 557          | 4.8         | 2             |
| Musculoskeletal disorders                              | 276         | 96          | 227         | 1437         | 4.4         | 2             |
| Congenital anomalies                                   | 33          | 16          | 21          | 85           | 2.3         | 2             |
| Conditions originating in the perinatal period         | 132         | 12          | 125         | 775          | 5.7         | 4             |
| Signs, symptoms & ill-defined conditions               | 220         | 88          | 176         | 711          | 2.7         | 1             |
| Injury/poisoning                                       | 405         | 69          | 450         | 3317         | 6.4         | 3             |
| Supplementary classifications                          | 405         | 1705        | 323         | 2668         | 1.3         | 0             |
| <b>Total</b>   | <b>4735</b> | <b>3374</b> | <b>4180</b> | <b>29803</b> | <b>3.9</b>  | <b>1</b>      |
| <b>Separations by principal medical procedure</b>      |             |             |             |              |             |               |
| operations on the nervous system                       | 64          | 31          | 47          | 576          | 7.4         | 1             |
| operations on the endocrine system                     | 4           |             | 6           | 93           | 15.5        | 17            |
| operations on the eye                                  | 96          | 57          | 49          | 69           | 0.7         | 0             |
| operations on the ear                                  | 52          | 44          | 15          | 23           | 0.4         | 0             |
| operations on the nose, mouth & pharynx                | 242         | 161         | 90          | 158          | 0.6         | 0             |
| operations on the respiratory system                   | 58          | 23          | 48          | 717          | 10.1        | 3             |
| operations on the cardiovascular system                | 189         | 1201        | 120         | 938          | 0.7         | 0             |
| operations on the haemic & lymphatic systems           | 38          | 23          | 26          | 266          | 5.4         | 2             |
| operations on the digestive system                     | 830         | 549         | 401         | 2862         | 3.0         | 0             |
| operations on the urinary system                       | 81          | 27          | 72          | 418          | 4.2         | 2             |
| operations on the male genital organs                  | 102         | 47          | 68          | 401          | 3.5         | 1             |
| operations on the female genital organs                | 258         | 178         | 101         | 462          | 1.7         | 0             |
| obstetrical procedures                                 | 290         | 6           | 288         | 1381         | 4.7         | 4             |
| operations on the musculoskeletal system               | 464         | 116         | 408         | 2913         | 5.6         | 2             |
| operations on the integumentary system                 | 199         | 85          | 103         | 754          | 4.0         | 0             |
| miscellaneous diagnostic & therapeutic procedures      | 529         | 637         | 643         | 8462         | 6.6         | 1             |
| <b>Total</b>   | <b>3496</b> | <b>3185</b> | <b>2485</b> | <b>20493</b> | <b>3.6</b>  | <b>0</b>      |
| <b>Total external causes of injury &amp; poisoning</b> | <b>739</b>  | <b>94</b>   | <b>752</b>  | <b>8100</b>  | <b>9.6</b>  | <b>4</b>      |

Source: ACT Hospital Morbidity Data Collection, 1996-97



**Table 21: ACT hospitals: summary of activity for Belconnen residents, 1996-97**

|  | Persons      | Daypatients | Overnight   | Total<br>LOS | Mean<br>LOS | Media<br>n<br>LOS |
|--|--------------|-------------|-------------|--------------|-------------|-------------------|
| Males  | 4373         | 2988        | 3482        | 20915        | 3.2         | 1                 |
| Females  | 5866         | 3651        | 4864        | 28212        | 3.3         | 1                 |
| Persons  | 10239        | 6639        | 8346        | 49127        | 3.3         | 1                 |
| <b>Principal diagnosis</b>                             |              |             |             |              |             |                   |
| Infectious & parasitic diseases                        | 215          | 39          | 217         | 968          | 3.8         | 2                 |
| Neoplasms  | 709          | 478         | 514         | 3766         | 3.8         | 1                 |
| Endocrine & immunity disorders                         | 73           | 30          | 90          | 637          | 5.3         | 3                 |
| Disorders of blood & bloodforming organs               | 67           | 65          | 66          | 317          | 2.4         | 1                 |
| Mental disorders                                       | 210          | 34          | 290         | 4028         | 12.4        | 8                 |
| Nervous system/sensory disorders                       | 489          | 317         | 268         | 1064         | 1.8         | 0                 |
| Disorders of the circulatory system                    | 716          | 225         | 692         | 4981         | 5.4         | 3                 |
| Disorders of the respiratory system                    | 585          | 59          | 644         | 2721         | 3.9         | 2                 |
| Digestive disorders                                    | 1558         | 1034        | 771         | 3650         | 2.0         | 0                 |
| Genitourinary disorders                                | 884          | 554         | 472         | 2098         | 2.0         | 0                 |
| Complications of pregnancy etc                         | 1188         | 150         | 1312        | 5349         | 3.7         | 3                 |
| Disorders of the skin & subcutaneous tissue            | 168          | 93          | 104         | 611          | 3.1         | 1                 |
| Musculoskeletal disorders                              | 663          | 231         | 506         | 2581         | 3.5         | 1                 |
| Congenital anomalies                                   | 106          | 41          | 80          | 444          | 3.7         | 2                 |
| Conditions originating in the perinatal period         | 447          | 46          | 429         | 3021         | 6.4         | 4                 |
| Signs, symptoms & ill-defined conditions               | 430          | 172         | 380         | 1385         | 2.5         | 1                 |
| Injury/poisoning                                       | 719          | 143         | 705         | 4036         | 4.8         | 2                 |
| Supplementary classifications                          | 1012         | 2928        | 806         | 7470         | 2.0         | 0                 |
| <b>Total</b>   | <b>10239</b> | <b>6639</b> | <b>8346</b> | <b>49127</b> | <b>3.3</b>  | <b>1</b>          |
| <b>Separations by principal medical procedure</b>      |              |             |             |              |             |                   |
| operations on the nervous system                       | 172          | 82          | 129         | 1328         | 6.3         | 1                 |
| operations on the endocrine system                     | 15           | 3           | 14          | 162          | 9.5         | 4                 |
| operations on the eye                                  | 159          | 104         | 70          | 98           | 0.6         | 0                 |
| operations on the ear                                  | 203          | 170         | 47          | 78           | 0.4         | 0                 |
| operations on the nose, mouth & pharynx                | 673          | 427         | 286         | 1039         | 1.5         | 0                 |
| operations on the respiratory system                   | 75           | 34          | 65          | 862          | 8.7         | 3                 |
| operations on the cardiovascular system                | 280          | 1952        | 144         | 986          | 0.5         | 0                 |
| operations on the haemic & lymphatic systems           | 61           | 48          | 44          | 345          | 3.8         | 0                 |
| operations on the digestive system                     | 1644         | 1132        | 756         | 4596         | 2.4         | 0                 |
| operations on the urinary system                       | 182          | 83          | 139         | 812          | 3.7         | 1                 |
| operations on the male genital organs                  | 222          | 100         | 145         | 720          | 2.9         | 1                 |
| operations on the female genital organs                | 746          | 512         | 337         | 1502         | 1.8         | 0                 |
| obstetrical procedures                                 | 814          | 7           | 830         | 3944         | 4.7         | 4                 |
| operations on the musculoskeletal system               | 1004         | 312         | 782         | 3761         | 3.4         | 1                 |
| operations on the integumentary system                 | 424          | 309         | 169         | 883          | 1.8         | 0                 |
| miscellaneous diagnostic & therapeutic procedures      | 870          | 1011        | 971         | 9208         | 4.6         | 0                 |
| <b>Total</b>   | <b>7544</b>  | <b>6286</b> | <b>4928</b> | <b>30324</b> | <b>2.7</b>  | <b>0</b>          |
| <b>Total external causes of injury &amp; poisoning</b> | <b>1269</b>  | <b>195</b>  | <b>1182</b> | <b>9981</b>  | <b>7.2</b>  | <b>3</b>          |

Source: ACT Hospital Morbidity Data Collection, 1996-97

**Table 22: ACT hospitals: summary of activity for Woden Valley residents, 1996-97**

|  | Persons | Daypatients | Overnight | Total<br>LOS | Mean<br>LOS | Median<br>LOS |
|--|---------|-------------|-----------|--------------|-------------|---------------|
| Males  | 1942    | 1865        | 1704      | 12008        | 3.4         | 0             |
| Females  | 2453    | 1661        | 2022      | 14110        | 3.8         | 1             |
| Persons  | 4395    | 3526        | 3726      | 26118        | 3.6         | 1             |
| <b>Principal diagnosis</b>                             |         |             |           |              |             |               |
| Infectious & parasitic diseases                        | 90      | 14          | 97        | 526          | 4.7         | 2             |
| Neoplasms  | 412     | 307         | 257       | 2078         | 3.7         | 0             |
| Endocrine & immunity disorders                         | 22      | 14          | 23        | 100          | 2.7         | 1             |
| Disorders of blood & bloodforming organs               | 30      | 124         | 43        | 434          | 2.6         | 0             |
| Mental disorders                                       | 126     | 20          | 202       | 3313         | 14.9        | 8             |
| Nervous system/sensory disorders                       | 190     | 108         | 139       | 394          | 1.6         | 1             |
| Disorders of the circulatory system                    | 368     | 111         | 398       | 3510         | 6.9         | 3             |
| Disorders of the respiratory system                    | 260     | 24          | 310       | 1804         | 5.4         | 2             |
| Digestive disorders                                    | 654     | 408         | 374       | 1936         | 2.5         | 0             |
| Genitourinary disorders                                | 357     | 204         | 220       | 1231         | 2.9         | 1             |
| Complications of pregnancy etc                         | 450     | 78          | 437       | 1988         | 3.9         | 3             |
| Disorders of the skin & subcutaneous tissue            | 96      | 66          | 42        | 319          | 3.0         | 0             |
| Musculoskeletal disorders                              | 312     | 110         | 243       | 1906         | 5.4         | 2             |
| Congenital anomalies                                   | 20      | 20          | 43        | 233          | 3.7         | 3             |
| Conditions originating in the perinatal period         | 148     | 5           | 149       | 1206         | 7.8         | 6             |
| Signs, symptoms & ill-defined conditions               | 149     | 67          | 137       | 516          | 2.5         | 1             |
| Injury/poisoning                                       | 319     | 56          | 340       | 2934         | 7.4         | 3             |
| Supplementary classifications                          | 358     | 1790        | 272       | 1690         | 0.8         | 0             |
| Total  | 4361    | 3526        | 3726      | 26118        | 3.6         | 1             |
| <b>Separations by principal medical procedure</b>      |         |             |           |              |             |               |
| operations on the nervous system                       | 65      | 17          | 61        | 618          | 7.9         | 2.5           |
| operations on the endocrine system                     | 11      | 6           | 5         | 41           | 3.7         | 3             |
| operations on the eye                                  | 86      | 45          | 58        | 99           | 1.0         | 1             |
| operations on the ear                                  | 66      | 54          | 17        | 25           | 0.4         | 0             |
| operations on the nose, mouth & pharynx                | 312     | 196         | 133       | 254          | 0.8         | 0             |
| operations on the respiratory system                   | 40      | 15          | 37        | 338          | 6.5         | 4             |
| operations on the cardiovascular system                | 172     | 1243        | 134       | 982          | 0.7         | 0             |
| operations on the haemic & lymphatic systems           | 29      | 27          | 15        | 174          | 4.1         | 0             |
| operations on the digestive system                     | 664     | 429         | 371       | 2601         | 3.3         | 0             |
| operations on the urinary system                       | 92      | 43          | 80        | 393          | 3.2         | 2             |
| operations on the male genital organs                  | 99      | 42          | 63        | 385          | 3.7         | 1             |
| operations on the female genital organs                | 291     | 185         | 137       | 816          | 2.5         | 0             |
| obstetrical procedures                                 | 316     | 9           | 309       | 1602         | 5.0         | 5             |
| operations on the musculoskeletal system               | 463     | 140         | 376       | 3280         | 6.4         | 2             |
| operations on the integumentary system                 | 265     | 228         | 90        | 692          | 2.2         | 0             |
| miscellaneous diagnostic & therapeutic procedures      | 576     | 698         | 723       | 8371         | 5.9         | 1             |
| Total  | 3547    | 3377        | 2609      | 20671        | 3.5         | 0             |
| <b>Total external causes of injury &amp; poisoning</b> | 623     | 86          | 621       | 6688         | 9.5         | 4             |

Source: ACT Hospital Morbidity Data Collection, 1996-97

**Table 23: ACT hospitals: summary of activity for Tuggeranong residents, 1996-97**

|  | Persons      | Daypatients | Overnight   | Total<br>LOS | Mean<br>LOS | Median<br>LOS |
|--|--------------|-------------|-------------|--------------|-------------|---------------|
| Males  | 4268         | 2719        | 3497        | 16745        | 2.7         | 1             |
| Females  | 6324         | 3721        | 5263        | 27266        | 3.0         | 1             |
| Persons  | 10592        | 6440        | 8760        | 44011        | 2.9         | 1             |
| <b>Principal diagnosis</b>                             |              |             |             |              |             |               |
| Infectious & parasitic diseases                        | 237          | 21          | 267         | 794          | 2.8         | 2             |
| Neoplasms  | 558          | 443         | 368         | 2808         | 3.5         | 0             |
| Endocrine & immunity disorders                         | 52           | 42          | 56          | 352          | 3.6         | 2             |
| Disorders of blood & bloodforming organs               | 56           | 88          | 68          | 341          | 2.2         | 0             |
| Mental disorders                                       | 158          | 15          | 218         | 2502         | 10.7        | 6             |
| Nervous system/sensory disorders                       | 488          | 404         | 222         | 933          | 1.5         | 0             |
| Disorders of the circulatory system                    | 472          | 161         | 467         | 3170         | 5.0         | 2             |
| Disorders of the respiratory system                    | 718          | 87          | 797         | 2895         | 3.3         | 2             |
| Digestive disorders                                    | 1353         | 863         | 760         | 3334         | 2.1         | 0             |
| Genitourinary disorders                                | 975          | 603         | 550         | 2662         | 2.3         | 0             |
| Complications of pregnancy etc                         | 1664         | 236         | 1736        | 7548         | 3.8         | 3             |
| Disorders of the skin & subcutaneous tissue            | 229          | 124         | 144         | 767          | 2.9         | 1             |
| Musculoskeletal disorders                              | 599          | 264         | 414         | 2009         | 3.0         | 1             |
| Congenital anomalies                                   | 168          | 63          | 129         | 591          | 3.1         | 2             |
| Conditions originating in the perinatal period         | 526          | 15          | 535         | 4196         | 7.6         | 5             |
| Signs, symptoms & ill-defined conditions               | 344          | 142         | 319         | 992          | 2.2         | 1             |
| Injury/poisoning                                       | 679          | 151         | 661         | 3511         | 4.3         | 2             |
| Supplementary classifications                          | 1316         | 2718        | 1049        | 4606         | 1.2         | 0             |
| <b>Total</b>   | <b>10592</b> | <b>6440</b> | <b>8760</b> | <b>44011</b> | <b>2.9</b>  | <b>1</b>      |
| <b>Separations by principal medical procedure</b>      |              |             |             |              |             |               |
| operations on the nervous system                       | 173          | 82          | 139         | 969          | 4.4         | 1             |
| operations on the endocrine system                     | 12           | 4           | 12          | 50           | 3.1         | 3             |
| operations on the eye                                  | 114          | 76          | 47          | 107          | 0.9         | 0             |
| operations on the ear                                  | 269          | 243         | 46          | 87           | 0.3         | 0             |
| operations on the nose, mouth & pharynx                | 737          | 417         | 362         | 579          | 0.7         | 0             |
| operations on the respiratory system                   | 61           | 29          | 54          | 708          | 8.5         | 5             |
| operations on the cardiovascular system                | 284          | 1827        | 211         | 1431         | 0.7         | 0             |
| operations on the haemic & lymphatic systems           | 59           | 50          | 46          | 558          | 5.8         | 0             |
| operations on the digestive system                     | 1407         | 935         | 733         | 3985         | 2.4         | 0             |
| operations on the urinary system                       | 157          | 63          | 135         | 799          | 4.0         | 2             |
| operations on the male genital organs                  | 184          | 90          | 106         | 506          | 2.6         | 1             |
| operations on the female genital organs                | 859          | 606         | 386         | 1941         | 2.0         | 0             |
| obstetrical procedures                                 | 1137         | 13          | 1152        | 5894         | 5.1         | 4             |
| operations on the musculoskeletal system               | 966          | 355         | 713         | 3451         | 3.2         | 1             |
| operations on the integumentary system                 | 475          | 364         | 165         | 569          | 1.1         | 0             |
| miscellaneous diagnostic & therapeutic procedures      | 1026         | 897         | 1186        | 10433        | 5.0         | 2             |
| <b>Total</b>   | <b>7920</b>  | <b>6051</b> | <b>5493</b> | <b>32067</b> | <b>2.8</b>  | <b>0</b>      |
| <b>Total external causes of injury &amp; poisoning</b> | <b>1227</b>  | <b>227</b>  | <b>1108</b> | <b>7290</b>  | <b>5.5</b>  | <b>2</b>      |

Source: ACT Hospital Morbidity Data Collection, 1996-97

**Table 24: ACT hospitals: summary of activity for South Canberra residents, 1996-97**

|  | Persons     | Daypatients | Overnight   | Total<br>LOS | Mean<br>LOS | Median<br>LOS |
|--|-------------|-------------|-------------|--------------|-------------|---------------|
| Males  | 1303        | 1092        | 1193        | 8197         | 3.6         | 1             |
| Females  | 1642        | 1044        | 1490        | 11734        | 4.6         | 1             |
| Persons  | 2945        | 2136        | 2683        | 19931        | 4.1         | 1             |
| <b>Principal diagnosis</b>                             |             |             |             |              |             |               |
| Infectious & parasitic diseases                        | 48          | 5           | 59          | 290          | 4.5         | 2             |
| Neoplasms  | 263         | 164         | 207         | 2163         | 5.8         | 1             |
| Endocrine & immunity disorders                         | 33          | 30          | 30          | 274          | 4.6         | 2.5           |
| Disorders of blood & bloodforming organs               | 39          | 37          | 50          | 271          | 3.1         | 1             |
| Mental disorders                                       | 77          | 4           | 120         | 2039         | 16.4        | 8             |
| Nervous system/sensory disorders                       | 144         | 77          | 102         | 397          | 2.2         | 1             |
| Disorders of the circulatory system                    | 289         | 64          | 319         | 2822         | 7.4         | 4             |
| Disorders of the respiratory system                    | 186         | 7           | 247         | 1699         | 6.7         | 4             |
| Digestive disorders                                    | 432         | 242         | 275         | 1754         | 3.4         | 1             |
| Genitourinary disorders                                | 233         | 130         | 165         | 928          | 3.1         | 1             |
| Complications of pregnancy etc                         | 262         | 55          | 265         | 1042         | 3.3         | 2             |
| Disorders of the skin & subcutaneous tissue            | 70          | 38          | 44          | 425          | 5.2         | 1             |
| Musculoskeletal disorders                              | 172         | 46          | 152         | 942          | 4.8         | 2             |
| Congenital anomalies                                   | 27          | 11          | 21          | 96           | 3.0         | 2             |
| Conditions originating in the perinatal period         | 74          |             | 77          | 539          | 7.0         | 6             |
| Signs, symptoms & ill-defined conditions               | 107         | 47          | 116         | 597          | 3.7         | 2             |
| Injury/poisoning                                       | 260         | 34          | 272         | 2351         | 7.7         | 3             |
| Supplementary classifications                          | 229         | 1145        | 162         | 1302         | 1.0         | 0             |
| <b>Total</b>   | <b>2945</b> | <b>2136</b> | <b>2683</b> | <b>19931</b> | <b>4.1</b>  | <b>1</b>      |
| <b>Separations by principal medical procedure</b>      |             |             |             |              |             |               |
| operations on the nervous system                       | 43          | 17          | 39          | 532          | 9.5         | 2             |
| operations on the endocrine system                     | 5           |             | 5           | 21           | 4.2         | 4             |
| operations on the eye                                  | 83          | 38          | 53          | 170          | 1.9         | 1             |
| operations on the ear                                  | 32          | 29          | 8           | 14           | 0.4         | 0             |
| operations on the nose, mouth & pharynx                | 174         | 104         | 76          | 136          | 0.8         | 0             |
| operations on the respiratory system                   | 30          | 10          | 27          | 295          | 8.0         | 6             |
| operations on the cardiovascular system                | 137         | 821         | 108         | 716          | 0.8         | 0             |
| operations on the haemic & lymphatic systems           | 24          | 18          | 17          | 157          | 4.5         | 0             |
| operations on the digestive system                     | 451         | 293         | 248         | 2452         | 4.5         | 0             |
| operations on the urinary system                       | 61          | 20          | 64          | 525          | 6.3         | 2             |
| operations on the male genital organs                  | 58          | 18          | 54          | 373          | 5.2         | 4             |
| operations on the female genital organs                | 190         | 122         | 97          | 575          | 2.6         | 0             |
| obstetrical procedures                                 | 165         | 1           | 170         | 818          | 4.8         | 4             |
| operations on the musculoskeletal system               | 278         | 64          | 248         | 2203         | 7.1         | 2             |
| operations on the integumentary system                 | 160         | 132         | 60          | 507          | 2.6         | 0             |
| miscellaneous diagnostic & therapeutic procedures      | 464         | 359         | 608         | 6610         | 6.8         | 3             |
| <b>Total</b>   | <b>2355</b> | <b>2046</b> | <b>1882</b> | <b>16104</b> | <b>4.1</b>  | <b>1</b>      |
| <b>Total external causes of injury &amp; poisoning</b> | <b>489</b>  | <b>51</b>   | <b>479</b>  | <b>5838</b>  | <b>11.0</b> | <b>5</b>      |

Source: ACT Hospital Morbidity Data Collection, 1996-97

**Table 25: ACT hospitals: summary of activity for Weston Creek-Stromlo residents, 1996-97**

|  | Persons | Daypatients | Overnight | Total<br>LOS | Mean<br>LOS | Median<br>LOS |
|--|---------|-------------|-----------|--------------|-------------|---------------|
| Males  | 1302    | 889         | 1102      | 6028         | 3.0         | 1             |
| Females  | 1721    | 1095        | 1438      | 10319        | 4.1         | 1             |
| Persons  | 3023    | 1984        | 2540      | 16347        | 3.6         | 1             |
| <b>Principal diagnosis</b>                             |         |             |           |              |             |               |
| Infectious & parasitic diseases                        | 37      | 17          | 40        | 196          | 3.4         | 2             |
| Neoplasms  | 285     | 228         | 185       | 1522         | 3.7         | 0             |
| Endocrine & immunity disorders                         | 19      | 24          | 24        | 219          | 4.6         | 1             |
| Disorders of blood & bloodforming organs               | 21      | 63          | 29        | 177          | 1.9         | 0             |
| Mental disorders                                       | 59      | 4           | 85        | 1120         | 12.6        | 9             |
| Nervous system/sensory disorders                       | 137     | 90          | 84        | 471          | 2.7         | 0             |
| Disorders of the circulatory system                    | 245     | 87          | 254       | 2243         | 6.6         | 3             |
| Disorders of the respiratory system                    | 186     | 13          | 217       | 991          | 4.3         | 2             |
| Digestive disorders                                    | 489     | 296         | 290       | 1337         | 2.3         | 0             |
| Genitourinary disorders                                | 272     | 165         | 161       | 776          | 2.4         | 0             |
| Complications of pregnancy etc                         | 280     | 37          | 284       | 1647         | 5.1         | 4             |
| Disorders of the skin & subcutaneous tissue            | 56      | 34          | 43        | 526          | 6.8         | 1             |
| Musculoskeletal disorders                              | 230     | 123         | 186       | 1234         | 4.0         | 1             |
| Congenital anomalies                                   | 31      | 8           | 33        | 146          | 3.6         | 4             |
| Conditions originating in the perinatal period         | 70      | 5           | 71        | 510          | 6.7         | 6             |
| Signs, symptoms & ill-defined conditions               | 106     | 36          | 122       | 514          | 3.3         | 2             |
| Injury/poisoning                                       | 235     | 43          | 238       | 1789         | 6.4         | 2             |
| Supplementary classifications                          | 265     | 711         | 194       | 929          | 1.0         | 0             |
| Total  | 3023    | 1984        | 2540      | 16347        | 3.6         | 1             |
| <b>Separations by principal medical procedure</b>      |         |             |           |              |             |               |
| operations on the nervous system                       | 55      | 71          | 44        | 450          | 3.9         | 0             |
| operations on the endocrine system                     | 6       | 1           | 6         | 48           | 6.9         | 5             |
| operations on the eye                                  | 45      | 31          | 25        | 37           | 0.7         | 0             |
| operations on the ear                                  | 51      | 43          | 11        | 25           | 0.5         | 0             |
| operations on the nose, mouth & pharynx                | 253     | 172         | 89        | 154          | 0.6         | 0             |
| operations on the respiratory system                   | 37      | 16          | 29        | 355          | 7.9         | 5             |
| operations on the cardiovascular system                | 124     | 306         | 100       | 661          | 1.6         | 0             |
| operations on the haemic & lymphatic systems           | 15      | 11          | 16        | 118          | 4.4         | 2             |
| operations on the digestive system                     | 474     | 281         | 273       | 1503         | 2.7         | 0             |
| operations on the urinary system                       | 56      | 32          | 43        | 287          | 3.8         | 1             |
| operations on the male genital organs                  | 66      | 30          | 45        | 242          | 3.2         | 1             |
| operations on the female genital organs                | 230     | 145         | 114       | 579          | 2.2         | 0             |
| obstetrical procedures                                 | 190     | 1           | 196       | 1376         | 7.0         | 5             |
| operations on the musculoskeletal system               | 346     | 107         | 282       | 1859         | 4.8         | 1             |
| operations on the integumentary system                 | 170     | 132         | 69        | 300          | 1.5         | 0             |
| miscellaneous diagnostic & therapeutic procedures      | 349     | 508         | 444       | 4839         | 5.1         | 0             |
| Total  | 2467    | 1887        | 1786      | 12833        | 3.5         | 0             |
| <b>Total external causes of injury &amp; poisoning</b> | 465     | 69          | 428       | 3711         | 7.5         | 3             |

Source: ACT Hospital Morbidity Data Collection, 1996-97

**Table 26: ACT hospitals: summary of activity for Gungahlin-Hall residents, 1996-97**

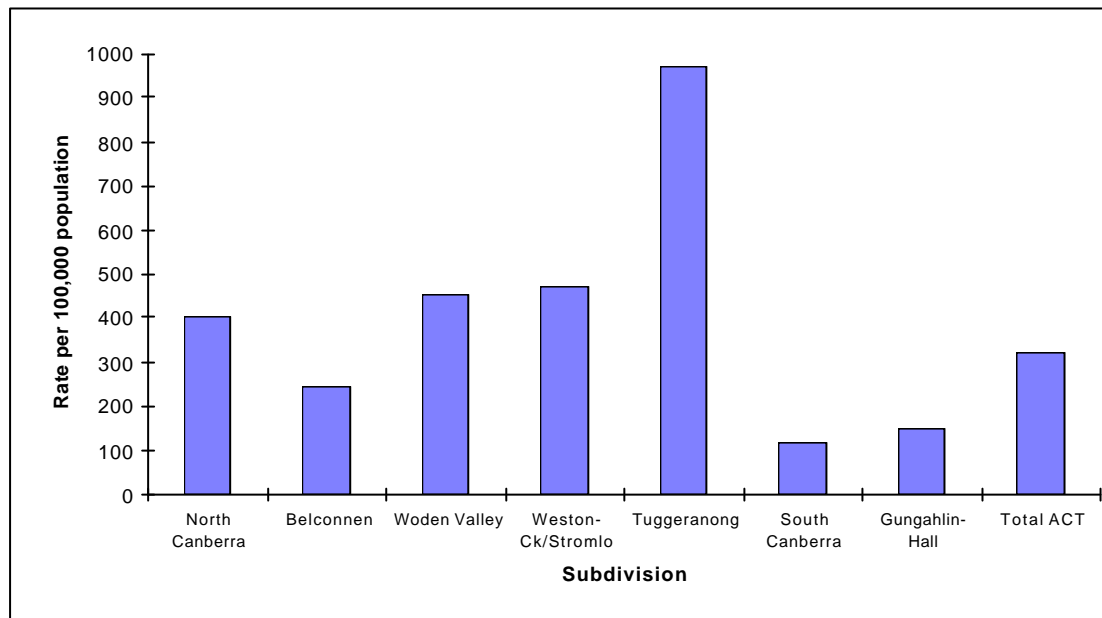
|  | Persons     | Daypatients | Overnight   | Total<br>LOS | Mean<br>LOS | Median<br>LOS |
|--|-------------|-------------|-------------|--------------|-------------|---------------|
| Males  | 678         | 382         | 585         | 3008         | 3.1         | 1             |
| Females  | 1097        | 344         | 968         | 4112         | 3.1         | 2             |
| Persons  | 1775        | 726         | 1553        | 7120         | 3.1         | 2             |
| <b>Principal diagnosis</b>                             |             |             |             |              |             |               |
| Infectious & parasitic diseases                        | 45          | 5           | 44          | 114          | 2.3         | 2             |
| Neoplasms  | 78          | 48          | 47          | 414          | 4.4         | 0             |
| Endocrine & immunity disorders                         | 15          | 8           | 15          | 121          | 5.3         | 2             |
| Disorders of blood & bloodforming organs               | 3           | 9           | 4           | 16           | 1.2         | 0             |
| Mental disorders                                       | 16          |             | 25          | 253          | 10.1        | 8             |
| Nervous system/sensory disorders                       | 53          | 36          | 35          | 249          | 3.5         | 0             |
| Disorders of the circulatory system                    | 80          | 26          | 71          | 358          | 3.7         | 2             |
| Disorders of the respiratory system                    | 87          | 10          | 97          | 330          | 3.1         | 2             |
| Digestive disorders                                    | 216         | 132         | 119         | 625          | 2.5         | 0             |
| Genitourinary disorders                                | 117         | 73          | 63          | 278          | 2.0         | 0             |
| Complications of pregnancy etc                         | 369         | 36          | 404         | 1593         | 3.6         | 3             |
| Disorders of the skin & subcutaneous tissue            | 22          | 11          | 17          | 60           | 2.1         | 1             |
| Musculoskeletal disorders                              | 63          | 21          | 51          | 227          | 3.2         | 2             |
| Congenital anomalies                                   | 31          | 6           | 28          | 126          | 3.7         | 2             |
| Conditions originating in the perinatal period         | 118         | 8           | 119         | 851          | 6.7         | 4             |
| Signs, symptoms & ill-defined conditions               | 79          | 36          | 56          | 159          | 1.7         | 1             |
| Injury/poisoning                                       | 128         | 13          | 128         | 508          | 3.6         | 2             |
| Supplementary classifications                          | 255         | 248         | 230         | 838          | 1.8         | 0             |
| <b>Total</b>   | <b>1775</b> | <b>726</b>  | <b>1553</b> | <b>7120</b>  | <b>3.1</b>  | <b>2</b>      |
| <b>Separations by principal medical procedure</b>      |             |             |             |              |             |               |
| operations on the nervous system                       | 22          | 5           | 19          | 248          | 10.3        | 3             |
| operations on the endocrine system                     | 2           |             | 3           | 38           | 12.7        | 8             |
| operations on the eye                                  | 13          | 6           | 8           | 14           | 1.0         | 1             |
| operations on the ear                                  | 22          | 21          | 3           | 5            | 0.2         | 0             |
| operations on the nose, mouth & pharynx                | 95          | 57          | 43          | 68           | 0.7         | 0             |
| operations on the respiratory system                   | 12          | 8           | 6           | 56           | 4.0         | 0             |
| operations on the cardiovascular system                | 29          | 124         | 15          | 67           | 0.5         | 0             |
| operations on the haemic & lymphatic systems           | 11          | 7           | 7           | 77           | 5.5         | 0.5           |
| operations on the digestive system                     | 256         | 153         | 129         | 754          | 2.7         | 0             |
| operations on the urinary system                       | 16          | 7           | 12          | 70           | 3.7         | 2             |
| operations on the male genital organs                  | 22          | 4           | 18          | 76           | 3.5         | 3             |
| operations on the female genital organs                | 111         | 72          | 59          | 197          | 1.5         | 0             |
| obstetrical procedures                                 | 269         | 1           | 273         | 1273         | 4.6         | 4             |
| operations on the musculoskeletal system               | 140         | 39          | 120         | 571          | 3.6         | 2             |
| operations on the integumentary system                 | 57          | 39          | 27          | 67           | 1.0         | 0             |
| miscellaneous diagnostic & therapeutic procedures      | 139         | 118         | 154         | 1218         | 4.5         | 1             |
| <b>Total</b>   | <b>1216</b> | <b>661</b>  | <b>896</b>  | <b>4799</b>  | <b>3.1</b>  | <b>1</b>      |
| <b>Total external causes of injury &amp; poisoning</b> | <b>194</b>  | <b>21</b>   | <b>186</b>  | <b>1437</b>  | <b>6.9</b>  | <b>2</b>      |

Source: ACT Hospital Morbidity Data Collection, 1996-97



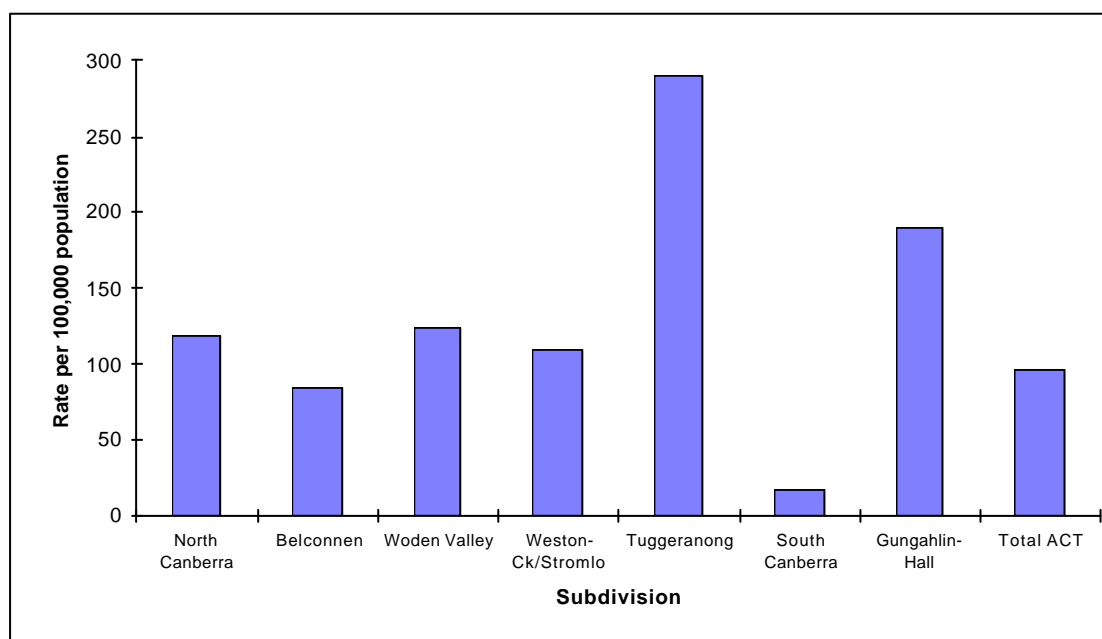
## APPENDIX 3: Hospital separations from external injury and poisoning

**Figure 34: Hospital separation rate for accidents occurring in the home, by subdivision, ACT residents, 1996-97**



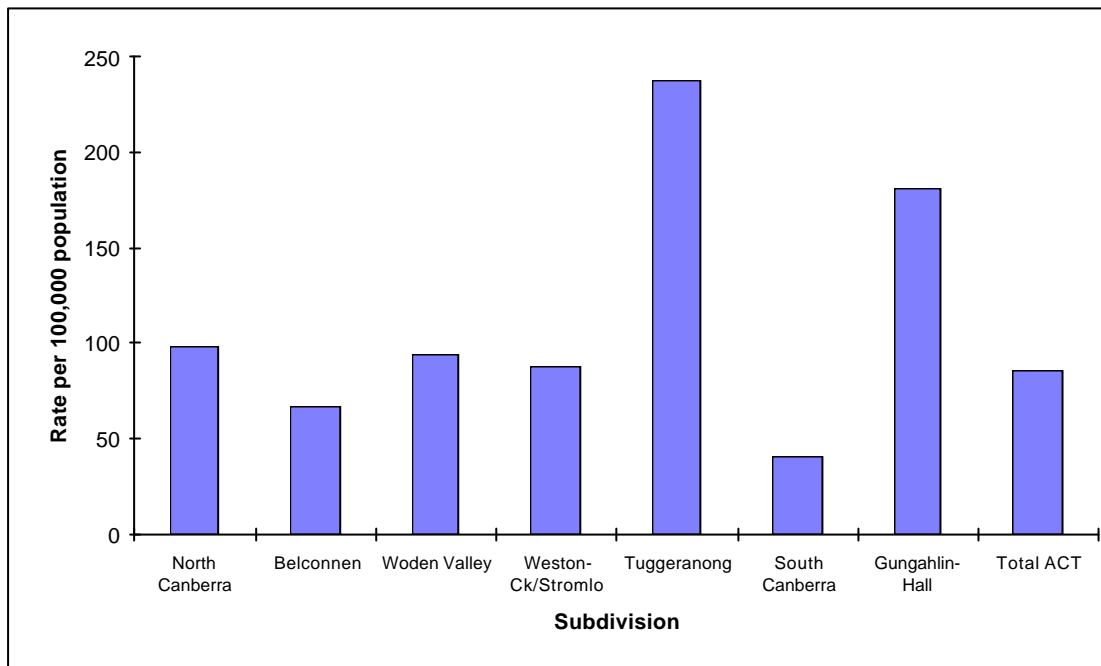
Source: ACT Hospital Morbidity Data Collection, 1996-97  
*Population by age and sex, ACT, June 1996, ABS Catalogue No. 3235.8*

**Figure 35: Hospital separation rate for accidents occurring on streets/highways, by subdivision, ACT residents, 1996-97**



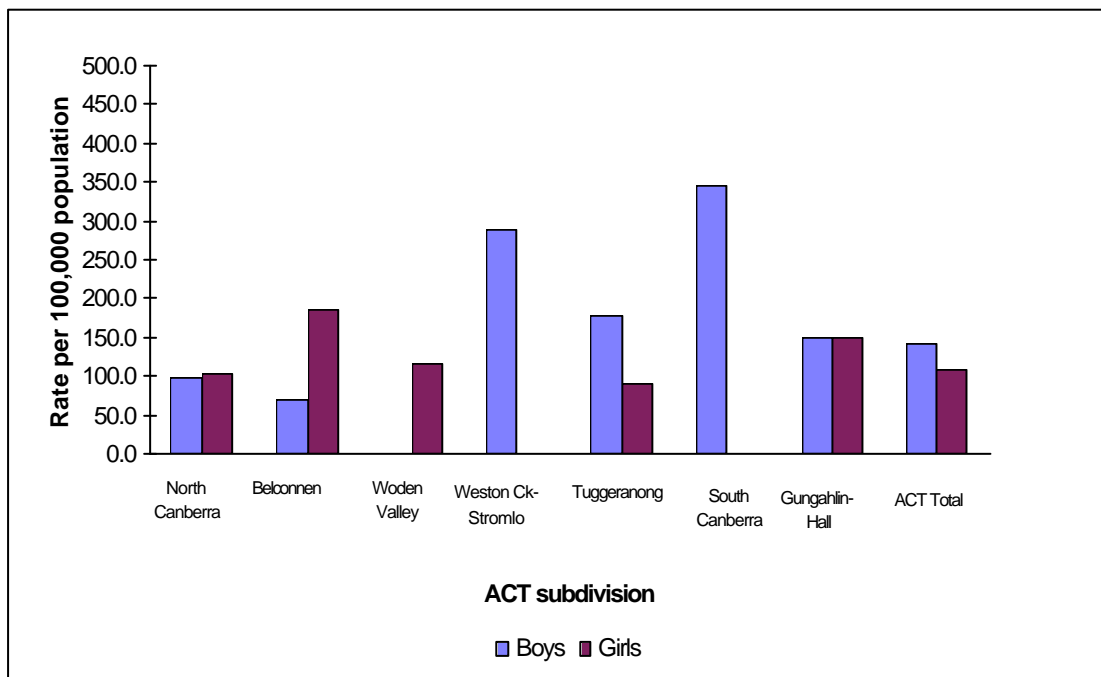
Source: ACT Hospital Morbidity Data Collection, 1996-97  
*Population by age and sex, ACT, June 1996, ABS Catalogue No. 3235.8*

**Figure 36: Hospital separation rate for accidents occurring in recreational/sports places, by subdivision, ACT residents, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97  
 Population by age and sex, ACT, June 1996, ABS Catalogue No. 3235.8

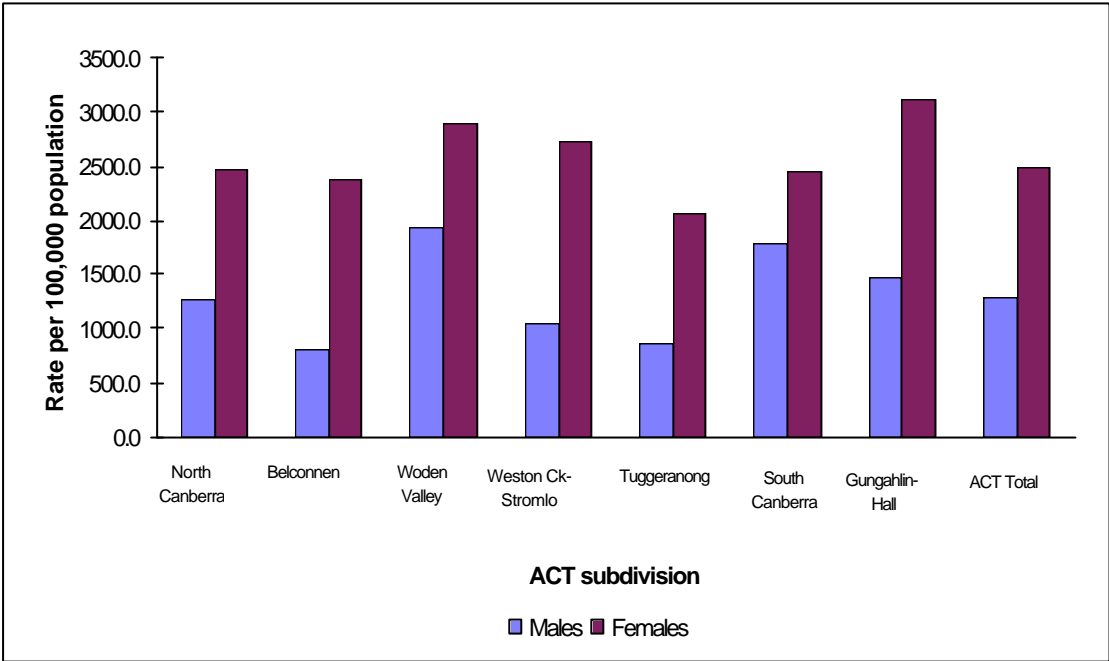
**Figure 37: Estimated hospital separation rate for accidental poisoning, by sex, by subdivision, aged 0-4 yrs, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97  
 Population by age and sex, ACT, June 1996, ABS Catalogue No. 3235.8

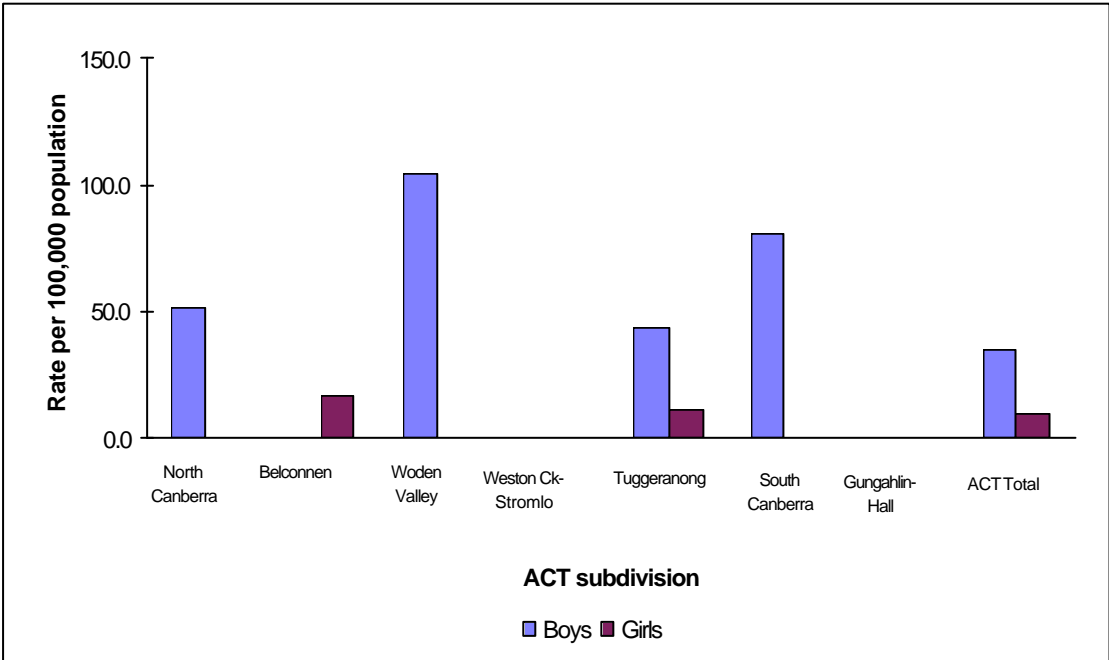


**Figure 38: Estimated hospital separation rate for falls, by sex, age over 65 yrs, by subdivision, ACT, 1996-97**



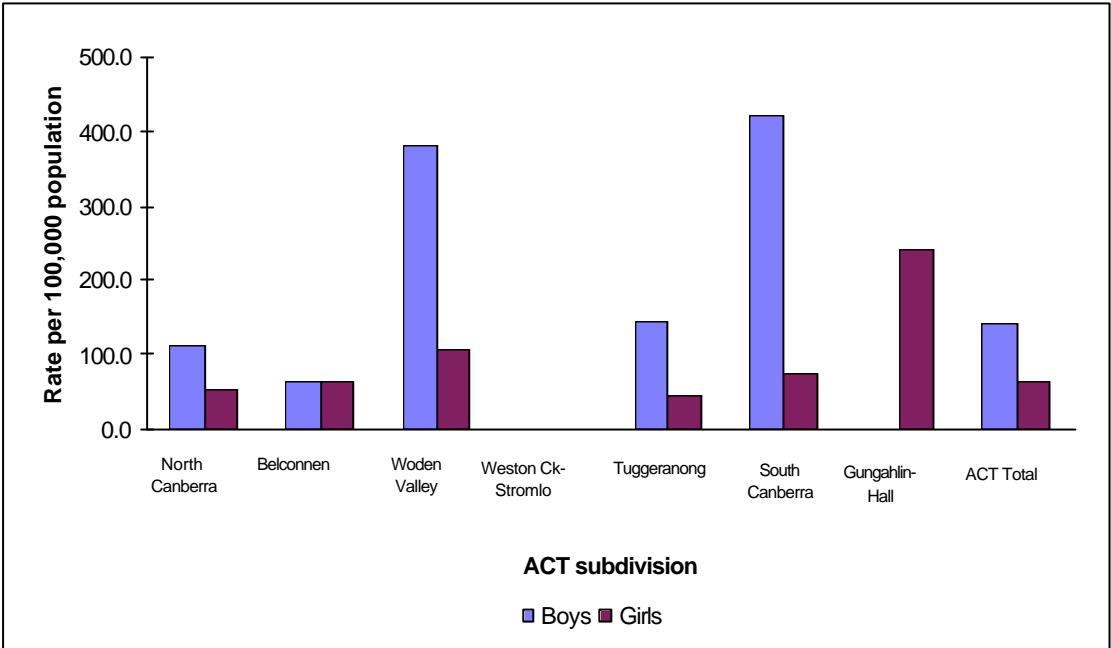
Source: ACT Hospital Morbidity Data Collection, 1996-97  
*Population by age and sex, ACT, June 1996, ABS Catalogue No. 3235.8*

**Figure 39: Estimated hospital separation rate for burns & scalds, age 0-9 yrs, by sex, by subdivision, ACT, 1996-97**



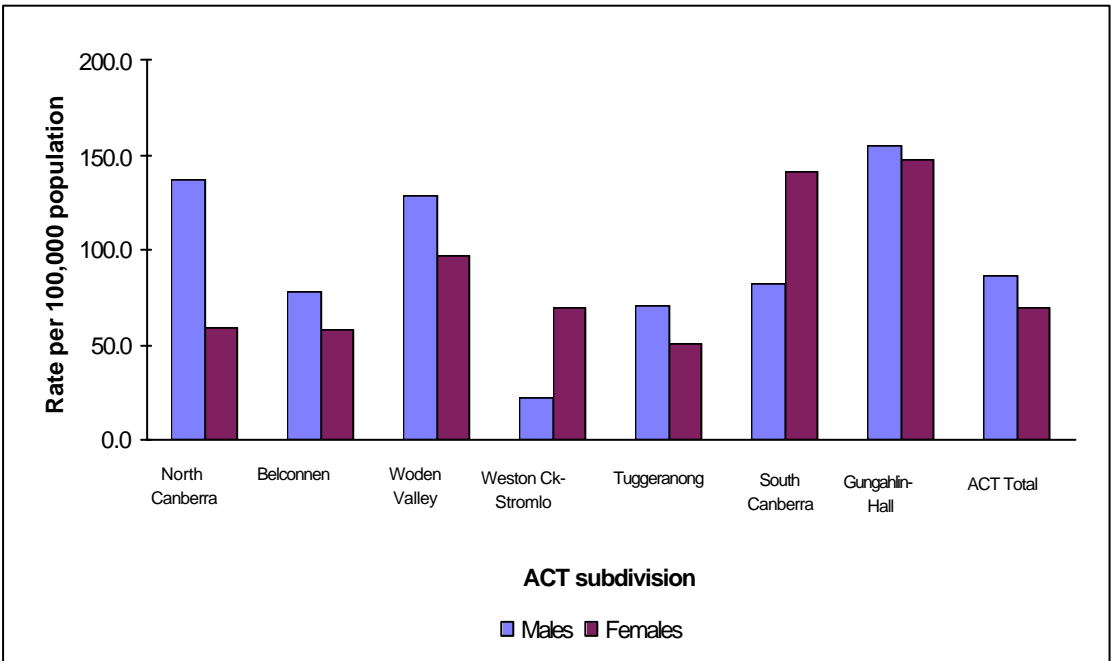
Source: ACT Hospital Morbidity Data Collection, 1996-97  
*Population by age and sex, ACT, June 1996, ABS Catalogue No. 3235.8*

**Figure 40: Estimated hospital separation rate for pedal cycle accidents, age 5-14 yrs, by sex, by subdivision, ACT, 1996-97**



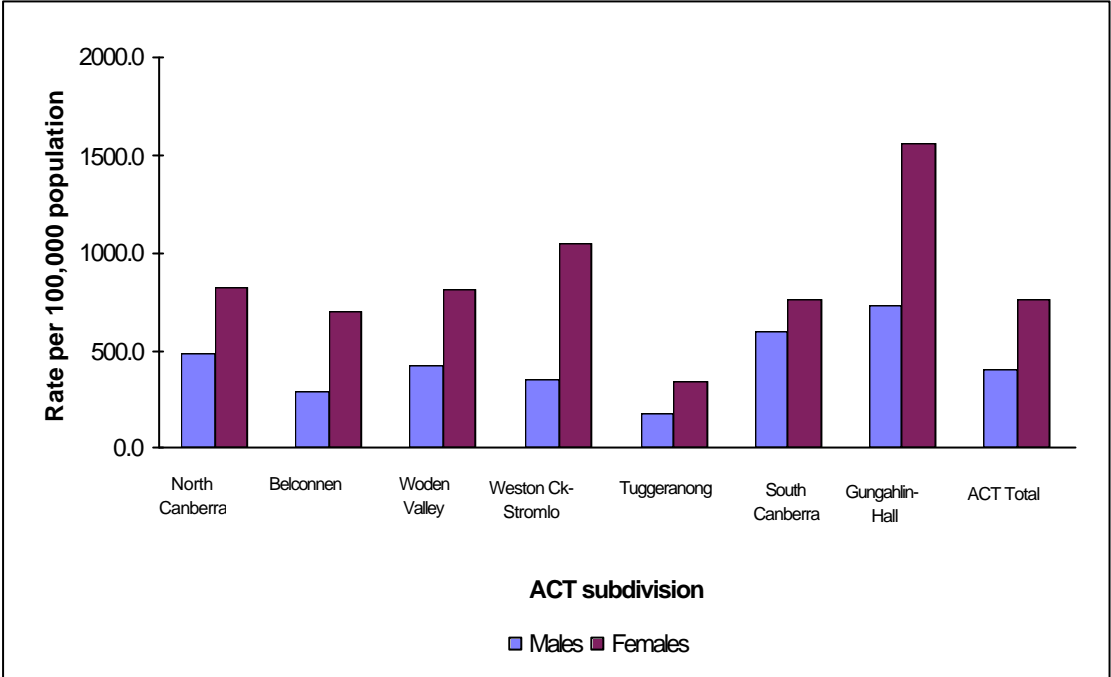
Source: ACT Hospital Morbidity Data Collection, 1996-97  
 Population by age and sex, ACT, June 1996, ABS Catalogue No. 3235.8

**Figure 41: Estimated hospital separation rate for intracranial injuries, age 0-2 yrs, by sex, by subdivision, ACT, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97  
 Population by age and sex, ACT, June 1996, ABS Catalogue No. 3235.8

**Figure 42: Estimated hospital separation rate for fractured neck of femur, age 65+ yrs, by sex, by subdivision, ACT, 1996-97**



Source: ACT Hospital Morbidity Data Collection, 1996-97  
 Population by age and sex, ACT, June 1996, ABS Catalogue No. 3235.8



## APPENDIX 4: Methodology

### Rates

Unless otherwise stated, rates per 100,000 are calculated as follows:

Rate =  $N/P \cdot 100,000$  (where N = number of events and P= population at risk of experiencing the event).

### Three year moving averages

The three year moving averages were calculated by taking the rate over three years.

$$\text{Rate } Y_2 = \frac{(N_1+N_2+N_3)}{(P_1+P_2+P_3)}$$

where  $N_i$  = number of events year i

where  $Y_i$  = year i

and  $P_i$  = population at risk year i

For end years the average of 2, rather than 3, years was taken.

### Years of potential life lost - ABS definition

Estimates of years of potential life lost (YPLL) were calculated for deaths of persons aged 1 to 75 years based on the assumption that deaths occurring between ages 0 and 76 years are considered untimely.

$$YPLL = \sum_x (D_x (76 - A_x))$$

$A_x$  = Adjusted age at death. As age at death is only available in completed years the midpoint of the reported age was chosen (eg. age at death 34 years was adjusted to 34.5)

$D_x$  = Registered number of deaths at age  $x$  due to a particular cause of death

YPLL was standardised for age using the following formula:

$$YPLL_s = \sum_x (D_x (76 - C_x))$$

where the correction factor  $C_x$  is defined for age  $x$  as:

$$C_x = \frac{N_{xS}}{N_S} \cdot \frac{1}{N_x} \cdot N$$

$N$  = Number of persons aged 1-75 years in the study population

$N_x$  = Number of persons aged  $x$  years in the study population

$N_{xS}$  = Number of persons aged  $x$  years in the standard population

$N_S$  = Number of persons aged 1-75 years in the standard population

The Australian population at 30 June 1991 was chosen as the standard population.

Estimates of YPLL by cause of death, as presented in Table 17 indicate the number of years lost due to specific causes on the assumption that up to exact age 76 years the decedent would not have died from any other cause. YPLL therefore should not be used as a measure of gains in years of life expectancy should a cause of death be eliminated or reduced.



## APPENDIX 5: Data Limitations

### *Overall data*

- Generally, data sets contain small numbers of occurrences of particular events. The smaller the numbers, the more likely there is to be inexplicable fluctuations in results. One extra death may alter mortality and morbidity statistics dramatically in a small area like the ACT, and more so for the smaller statistical sub-divisions. Where changes in pattern from year to year are noted, time series and moving averages are utilised to ensure a more reliable analysis. Unfortunately, this data is not readily available for the sub-divisions;
- There is no supplementary morbidity collection for diseases that can be treated outside the hospital system (eg by a GP, specialist, outpatient clinic or Emergency Department). Therefore there is a heavy reliance on survey data;
- Relying on available survey data means that some information is updated only after a number of years. Disease profiles may not be static with an everchanging ACT population and important information may be lost during the period where data is not collected.

### *Mortality data*

- There are inconsistencies in recording of cause of death (eg. a person may be recorded as dying from suicide rather than from the severe mental illness which caused the suicide). The ABS is currently reviewing recording practices to include contributing , multiple causes of death;
- When looking at disease-specific rates over time it was not possible to age and sex standardise for some prior years. Therefore, crude rates were used and extrapolated to 1996-97 findings.

### *Hospital separations data*

- There are inconsistencies in coding hospital admissions (eg. a person may be coded as attempting suicide as the principal diagnosis, but that condition could have been caused by mental illness - a different coder may have coded principal diagnosis as "mental illness" with the suicide attempt as the secondary diagnosis);
- Hospital separations data only focus on acute or chronic conditions which require patients to be admitted to hospital;
- As there is quite a high proportion of non-ACT residents ( $\approx 20\%$ ) separated from ACT hospitals and vice-versa it is difficult to look at hospital separations rates, as the ACT population cannot be used to calculate rates.
- Inpatients and re-admissions can only be identified within a hospital, not between hospitals.
- ACT hospital data includes newborns in its separations data.

## *National Health Surveys*

The Australian Bureau of Statistics (ABS) conducts a five yearly National Health Survey (Refer Glossary)

- Until the 1995-96 survey, the sample size of respondents was very small in the ACT. This resulted in fluctuations in results and reduced reliability of findings.
- When responses were broken down into sub-groups (eg people aged under 18), the sample became even smaller resulting in more inaccuracies.
- It should be noted that the Survey utilises a self-reporting format. Results represent respondents' perceptions, not necessarily health professionals' findings. It also depends in part, on the literacy of the respondents and their ability to understand English.

Although the sample size for the ACT has been expanded, it should be noted that some sections of the survey were only administered to half of the sample. This includes sections on women's health, alcohol consumption and general health and well-being.



## APPENDIX 6: ICD9-CM Codes

ICD-9 refers to the International Classification of Diseases, ninth revision, as developed by the World Health Organisation. It is a nationally and internationally accepted form of classification and is used in this publication. A summary of major codes of interest follows.

|   |                             |
|---|-----------------------------|
| <b>CARDIOVASCULAR DISEASES</b>  | <b>ICD 9 code 390-459</b>   |
| Coronary heart disease (ischaemic heart disease)                                | ICD 9 code 410-414          |
| Cerebrovascular disease (stroke)  | ICD 9 code 430-438          |
| Rheumatic heart disease   | ICD 9 code 390-398          |
| Hypertensive disease  | ICD 9 code 401-405          |
| Peripheral vascular disease   | ICD 9 code 441-444          |
| <b>DIABETES MELLITUS</b>  | <b>ICD 9 code 250</b>       |
| <b>DISEASES OF THE RESPIRATORY SYSTEM</b>                                       | <b>ICD 9 code 460-519</b>   |
| Asthma  | ICD 9 code 493              |
| <b>INFECTIOUS &amp; PARASITIC DISEASES (Communicable)</b>                       | <b>ICD 9 code 001-139</b>   |
| <b>INJURY (Accidents, poisoning &amp; violence).</b>                            | <b>ICD 9 code E800-E999</b> |
| Motor vehicle traffic accidents   | ICD 9 code E810-E819        |
| Accidental falls  | ICD 9 code E880-E888        |
| Suicide   | ICD 9 code E950-E959        |
| <b>MALIGNANT NEOPLASMS (Cancer)</b>   | <b>ICD 9 code 140-208</b>   |
| Respiratory & intrathoracic organs  | ICD 9 code 160-165          |
| Breast  | ICD 9 code 174-175          |
| Genitourinary organs  | ICD 9 code 179-189          |
| <b>MENTAL DISORDERS</b>   | <b>ICD 9 code 290-319</b>   |
| Psychoses   | ICD 9 code 290-299          |
| Organic psychotic conditions  | ICD 9 code 290-294          |
| Senile and Pre-senile organic psychotic conditions (dementia)                   | ICD 9 code 290              |
| Other psychoses   | ICD 9 code 295-299          |
| Schizophrenia   | ICD 9 code 295              |
| Affective psychoses (includes manic, major depressive & bipolar disorders)      | ICD 9 code 296              |
| Neurotic disorders, personality disorders & other nonpsychotic mental disorders | ICD 9 code 300-316          |
| Neurotic disorders (includes anxiety states)                                    | ICD 9 code 300              |
| Mental retardation  | ICD 9 code 317-319          |





## Health Series Publications

The Epidemiology Unit of the Department of Health and Community Care has developed an on-going health series of publications to inform health professionals, policy developers and the community on health status in the Territory. Information contained therein will assist in the development of appropriate policy and service delivery models, the evaluation of programs, and an understanding of how the ACT compares with Australia as a whole with regard health status.

- Number 1: *ACT's Health: A report on the health status of ACT residents*  
Carol Gilbert, Ursula White, October 1995
- Number 2: *The Epidemiology of Injury in the ACT*  
Carol Gilbert, Chris Gordon, February 1996
- Number 3: *Cancer in the Australian Capital Territory 1983-1992*  
Norma Briscoe, April 1996
- Number 4: *The Epidemiology of Asthma in the ACT*  
Carol Gilbert, April 1996
- Number 5: *The Epidemiology of Diabetes Mellitus in the ACT*  
Carol Gilbert, Chris Gordon, July 1996
- Number 6: *Developing a Strategic Plan for Cancer Services in the ACT*  
Kate Burns, June 1996
- Number 7: *The First Year of The Care Continuum and Health Outcomes Project*  
Bruce Shadbolt, June 1996
- Number 8: *The Epidemiology of Cardiovascular Disease in the ACT*  
Carol Gilbert, Ursula White, January 1997
- Number 9: *Health Related Quality of Life in the ACT: 1994-95*  
Darren Gannon, Chris Gordon, Brian Egloff, Bruce Shadbolt, February 1997
- Number 10: *Disability and Ageing in the ACT: An Epidemiological Review*  
Carol Gilbert, April 1997
- Number 11: *Mental Health in the ACT*  
Ursula White, Carol Gilbert, May 1997
- Number 12: *Aboriginal and Torres Strait Islander Health in the ACT*  
Norma Briscoe, Josie McConnell, Michelle Petersen, July 1997
- Number 13: *Health Indicators in the ACT: Measures of health status and health services in the ACT*  
Carol Kee (Gilbert), George Johansen, Ursula White, Josie McConnell  
January 1998
- Number 14: *Health status of the ACT by statistical sub-divisions*  
Carol Kee, George Bodilsen (Johansen), April 1998



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- <sup>4</sup> ABS, *Australian Capital Territory in focus 1997*, Catalogue No. 1307.8
- <sup>5</sup> ABS *Australian Demographic Trends 1997*, Catalogue No. 3102.0
- <sup>6</sup> ABS, *Australian Capital Territory in focus 1997*, Catalogue No. 1307.8
- <sup>7</sup> ABS, *Demography ACT, 1996*, Catalogue No. 3311.8
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- <sup>12</sup> ABS, *Australian Social trends 1994*, Catalogue No. 4102.0
- <sup>13</sup> ABS, *Australian Capital Territory in focus 1997*, Catalogue No. 1307.8
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