General practice activity in the states and territories of Australia 1998–2003

GP Statistics and Classification Unit

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Bettering the Evaluation and Care of Health

General practice activity in the states and territories of Australia 1998–2003

Helena Britt, Graeme C Miller, Stephanie Knox, Janice Charles, Lisa Valenti, Clare Bayram, Julie O'Halloran, Joan Henderson, Ying Pan, Christopher Harrison

October 2004

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Foreword

The BEACH survey of general practice activity, which has been conducted since 1998, provides uniquely informative insights into general practice.

The series of reports 'General Practice Activity in Australia' provide a comprehensive picture of the characteristics of general practitioners and their patients, of problems managed, medications prescribed or advised, other (non-pharmacological) management of problems, referrals and so on. These annual reports concentrate on Australia as a whole, and the amount of sub-national data has been small, owing to the limited sample size from the states and territories for individual years.

General Practice Activity in the States and Territories of Australia 1998–2003 provides, for the first time, comprehensive comparative analyses of general practice activity in the eight states and territories, based on BEACH data for survey years 1998 through 2003 combined. The report is based on data gathered from one segment of the health care system, but in the light of the very large proportion of the population that have contact with general practitioners (especially over the combined five-year period), the information presented here can also provide valuable insights into the health conditions that affect the Australian population.

From the data presented here, the reader can discern both common themes and unique features of the general practitioners, patients and encounters in the various states and territories. For some dimensions of clinical practice and especially for the largest states, it is evident that the experience of a state can mirror closely the nation-wide experience, so policy makers and analysts can rely on national patterns as a guide to state experience and practice. For other dimensions and for the smaller states and territories, the pattern of, say, problems encountered and management undertaken can differ appreciably from the nation-wide patterns. For example, general practitioners in Queensland manage skin problems (particularly solar keratosis and malignant skin neoplasms) and those in Tasmania manage musculoskeletal problems (particularly back complaints) significantly more often than the national average.

This report is a valuable addition to the information base available to health policy makers and administrators in the states and territories—and to investigators with an interest in general practice or, more broadly, in the patterns of health problems and medical practice.

Interesting as this report is in its own right, it brings to light many significant variations in problems presented to general practitioners, and in clinical practice that can prompt more detailed analyses of the very rich BEACH database for the individual states and territories of Australia.

Richard Madden
Director
Australian Institute of Health and Welfare

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Ethics approval for this study was obtained from the Human Ethics Committee of the University of Sydney and the Ethics Committee of the Australian Institute of Health and Welfare.

Summary

Background

Previous reports from the BEACH program have described, and measured changes in, general practice activity on a national basis using each year's national random sample of general practice (GP) activity. This report provides the first picture of the activities of general practice in each state and territory of Australia. It uses a combination of 5 years of BEACH data to provide sufficient sample size for independent study of each state and territory and compares their activities with the national average for the same period.

Method

A random sample of GPs who have claimed at least 375 general practice Medicare items of service in the previous 3 months is regularly drawn from the Health Insurance Commission (HIC) data by the General Practice Branch of the Australian Department of Health and Ageing (DoHA). GPs are approached by letter and followed up by telephone recruitment. Participating GPs complete details about 100 consecutive patient encounters on structured paper encounter forms and provide information about themselves and their practice.

This analysis is based on the BEACH data period April 1998 – March 2003 in which 5,021 GPs participated in the program, providing details regarding 502,100 GP–patient encounters. Results for each state and territory are reported in independent chapters and are described in terms of GP and patient characteristics, patient reasons for encounter, problems managed and management techniques used. Questions about selected patient health risk factors were asked of a subsample of patients, and the results are included in this publication.

Comparisons are made between each state and territory and the national average for the total 5 years. Significance of differences is identified by non-overlapping confidence intervals (adjusted for the study cluster design). The data were then age-standardised to the population of Australia in 2001 and the comparisons repeated to test the extent to which identified differences were due to the age distribution in the state or territory of interest, compared with the Australian population. Differences that remain after age-standardisation can be said to be independent of differences in population age distribution.

Sample size by state or territory

The majority of participating GPs were practising in the eastern states of Australia: 37.7% in New South Wales, 22.7% in Victoria, and 18.6% in Queensland. Smaller proportions were in Western Australia (8.2%), South Australia (7.6%), Tasmania (2.6%) and in the Territories (Australian Capital Territory 1.6% and the Northern Territory 1.0%), and this distribution reflected that of the total GP sample frame.

The following analysis is based on 189,200 encounters with 1,892 GPs in New South Wales, 114,000 encounters with 1,140 GPs in Victoria, 93,300 encounters with 933 GPs in Queensland, 41,200 encounters with 412 GPs in Western Australia, 38,100 encounters with 381 GPs in South Australia, 13,300 encounters with 133 GPs in Tasmania, 7,800 encounters with 78 GPs in the Australian Capital Territory and 5,200 encounters with 52 GPs in the Northern Territory.

Australia

In 2001, the population of Australia was 19,413,240 people and there were 21,338 general practitioners (GPs) and other medical practitioners (OMPs) who provided at least one general practice Medicare item of service, equating to 16,824.3 full-time workload equivalent (FWE) GPs/OMPs. Therefore, there was one FWE GP or OMP per 1,153.9 people. One-quarter of the FWE GPs/OMPs were female, while 22% were aged more than 55 years. Medicare-claimed GP attendances averaged 4.9 per head of population in that year.

New South Wales

In 2001 in New South Wales 7,247 GPs/OMPs provided at least one general practice Medicare item of service and made up 5,894.3 FWEs, or one FWE GP per 1,115.5 people. Medicare-claimed GP attendances averaged 5.2 per head of population in that year, slightly higher than the Australian population as a whole (4.9).

The 1,892 BEACH GP participants from New South Wales were a little older than average, more likely to work in solo practice, and were less often in practices of 5 or more GPs, less likely to have graduated in Australia, more likely to have graduated in Asia, and less often Fellows of the Royal Australian College of General Practitioners (FRACGP). The patients they encountered were similar to all patients encountered in Australia except that a lower proportion held a Commonwealth Concession Card and a greater proportion were from a non-English-speaking background. They described more reasons for encounter (RFEs) related to the respiratory, circulatory, digestive, blood/blood-forming organ systems, and fewer related to the skin when compared with the national average.

Problems managed more often at encounters with New South Wales GPs included hypertension, lipid disorders and oesophageal disease and only the last of these was explained by the age distribution of the population.

GPs in New South Wales prescribed and advised over-the-counter purchase of medications at a significantly higher rate than average. Higher prescribing rates were apparent for medications acting on the central nervous system, and on the cardiovascular, musculoskeletal and digestive systems and those applied to the skin. They prescribed fewer psychological medications and contraceptives. Some of these differences were influenced by the age distribution of the population but all remained (some becoming marginal) after age-standardisation. They provided fewer procedural treatments, particularly excision/removal of tissue, but did not differ in their use of clinical treatments. They ordered significantly fewer pathology tests per 100 problems managed but the average number per 100 encounters. There were fewer orders for thyroid function tests than average.

The patients seen by GPs in New South Wales did not differ from the national average in terms of the proportion who were overweight or obese. However, significantly fewer patients reported daily smoking, more reported being non-drinkers of alcohol and a smaller proportion reported at-risk levels of alcohol consumption.

Victoria

In 2001 in Victoria 5,349 GPs/OMPs provided at least one Medicare item of service, equating with 4,149.5 FWE GPs, one FWE GP per 1,157.9 people. Residents of Victoria attended GPs 5.0 times per head of population, a similar rate to the average for Australia (4.9).

The 1,140 BEACH GPs practising in Victoria were younger than average, and more likely to be FRACGP, to be Australian graduates, and to practise in larger practices. They were less likely to provide their own or cooperative after-hours services and residential aged care visits were also less common than average. Young people (<5 years) and Indigenous people

made up a smaller proportion of the patients they encountered. Patients presented with fewer problems related to the blood and blood-forming organs, but higher presentation rates of circulatory and skin problems were explained by the population age distribution.

The pattern of problems managed at encounters with Victorian GPs differed in few respects from the national average. However, they did involve higher management rates of psychological problems (anxiety in particular), acute bronchitis and circulatory problems but this last difference disappeared after age-standardisation. They managed solar keratosis less frequently than average.

Victorian GPs did not differ from the Australian average in terms of their rate of medication provision, total prescriptions, clinical treatments, therapeutic treatments, in their referral rate or their pathology and imaging order rates. However, after age-standardisation they were found to order fewer imaging tests. Their pattern of pathology test orders differed from the average in that they ordered more electrolyte, urea and creatine tests, liver function and glucose tolerance tests, but ordered fewer multi-biochemical analyses.

These GPs had higher prescribing rates of anti-anxiety agents (particularly diazepam), drugs acting on the urogenital system (particularly diuretics), and topical steroids, and lower prescribing rates of topical ear and nose medications. A higher prescribing rate of total psychological medications was explained by the age distribution of the population, though the higher management rate of psychological problems was not.

The subsample studies of patients at encounters with Victorian GPs demonstrated they did not differ from the Australian average in the proportions who were current smokers, past smokers, or overweight or obese. However, they were less likely to report at-risk alcohol consumption levels and more likely to be responsible drinkers.

Queensland

There were 3,946 GPs/OMPs working in Queensland during the last 3 months of 2001, equivalent to 3,283.1 FWEs, or one FWE GP per 1,105.3 people. This was the highest GP–population ratio in Australia. However, the GP attendance rate of 4.8 per person per year was similar to the national average (4.9).

When compared with the national average, a greater proportion of the GP participants in Queensland were female and a smaller proportion worked in the capital city (Brisbane). A greater proportion of the patients they encountered were children (<15 years) or aged 65–74 years. The patients were less likely to hold a Repatriation Health Card and were less likely to be from a non-English-speaking background than the average for all of Australia. A lower proportion of these encounters were home visits and these encounters involved the lowest proportion of work-related problems and workers compensation paid consultations in the country.

Patients presented at encounters with Queensland GPs with fewer RFEs than average, but the number of problems managed at encounter did not differ from the average. Skin problems were managed significantly more often, particularly solar keratosis and malignant skin neoplasms. In contrast, contact dermatitis was less frequently managed. Other morbidity groups managed less often by Queensland GPs were circulatory problems (hypertension in particular), endocrine and metabolic problems (particularly diabetes), digestive and respiratory problems and those related to the ear. Queensland GPs provided medications at a significantly lower rate than average and this was largely due to lower prescribing rates. They also undertook significantly more procedural treatments, particularly excision/biopsy, probably because of their high management rate of skin problems. However, they referred less often to both specialist (particularly dermatologists) and allied

health services. They did not differ from the average in the rates of clinical treatments provided, or the rates of pathology and imaging test orders.

The subsample studies of patient risk factors suggested that the children were less likely to be overweight or obese than average, though the proportion of obese/overweight adults did not differ from the average. Adults were more likely than average to report drinking at-risk levels of alcohol but did not differ in the proportion that reported daily smoking.

Western Australia

There were 2,014 GPs/OMP practising in Western Australia in 2001, equating with 1,441 FWE GPs, one GP per 1,319.2 people (compared with 1:1,153 nationally). Medicare-claimed attendances in that year averaged 4.4 per head of population, somewhat less than the national average (4.9).

Compared with all GP participants, a greater proportion of those practising in Western Australia were in the youngest age group, and a greater proportion practised in metropolitan areas. They were inclined to work fewer sessions per week than average and were more likely to have graduated overseas (particularly in the United Kingdom). When compared with patients at all encounters, the patients encountered in Western Australia were more likely to be Indigenous people (reflecting the higher proportion of Indigenous people in this state's population) and less likely to be from a non-English-speaking background. Fewer patients were non-drinkers and a greater proportion reported at-risk alcohol consumption levels. A larger proportion of these patients were ex-smokers than was average for the nation.

Compared with the national average, the patient encounters involved lower management rates of respiratory problems (particularly upper respiratory tract infection) and circulatory problems and a higher rate of endocrine/metabolic problems. A lower management rate of anxiety was found to be due to the age distribution of the population.

GPs in Western Australia prescribed significantly fewer medications than average, particularly antibiotics, anti-hypertensives, anti-anxiety medications and digestive, skin and respiratory medications. They ordered significantly more pathology tests than average but this was explained by the age distribution of the population.

South Australia

In 2001 1,859 GPs/OMPs provided at least one Medicare service in South Australia, equating to 1,358.8 (FWE) GPs or one FWE GP for every 1,112.6 people (about average for the country). Each South Australian attended general practice an average of 5.0 times in 2001.

Compared with all GP participants, a greater proportion of those in South Australia were male, reflecting the low proportion of female full-time workload equivalents in this state. They were more likely to be Australian graduates, to work in larger practices of 5 or more GPs, in capital cities or other remote locations, and less likely to be located in rural centres. A smaller proportion of their encounters were with babies (aged <1 year) and with people from a non-English-speaking background. A greater proportion of the patients encountered held a Commonwealth Concession Card than the national average.

The patients presented to general practice with fewer RFEs than average. However, South Australian GPs managed a similar number of problems to the national average. Patients presented less frequently with problems associated with the skin and for immunisation/vaccination and these problems were also less often managed at encounter. In turn this related to fewer procedures being undertaken and skin medications and vaccines being prescribed. These differences were not due to the age distribution of the population, as

they remained after standardisation. It is possible that the involvement of local councils and community centres in the South Australian immunisation program means that these patients are not required to visit their GP for immunisation.

South Australian GPs managed hypertension and pregnancy/family planning less often than average and this remained after age-standardisation. The lower rate of hypertension management was reflected in lower rates of prescription of medications acting on the cardiovascular system (particularly anti-hypertensives). A higher proportion of the patients encountered were obese compared with all patients at GP encounters, and advice and counselling regarding exercise was provided at a lower rate than average.

Tasmania

In 2001, there were 589 GPs/OMPs in Tasmania who provided at least one Medicare item of service, equating to 388.7 FWE GPs. There was one FWE GP per 1,213.8 people, compared with 1:1,153.9 persons nationally. The annual GP visit rate per head of population of 4.6 visits per year was similar to the national average. The population of Tasmania was older (median age 38.1) than the total Australian population (median age 36.1).

Compared with all GP participants, those in Tasmania were less often Australian graduates (almost a quarter graduated in the United Kingdom), they worked fewer sessions per week and worked in larger practices. The patients they encountered were somewhat older than their mainland counterparts, were more likely to hold a Commonwealth Concession Card or Repatriation Health Card, much less likely to be an Indigenous person or from a non-English-speaking background, and were more likely to be daily smokers. They presented to general practice less often than average with acute conditions such as cough, throat complaints, fever and diarrhoea. The low rate of fever and diarrhoea was found to be due to the age distribution of the population.

Compared with the national average, encounters in Tasmanian general practice involved higher management rates of musculoskeletal problems (particularly back complaints) and higher prescribing rates of narcotic analgesics and psychotropic drugs, which may be explained by the higher rate of back complaints. Their higher referral rates to physiotherapists may reflect the higher management rate of musculoskeletal problems. Problems managed less often than average by Tasmanian GPs included respiratory, digestive (9.1 compared with 10.0), endocrine and metabolic (8.9 compared with 9.9) and eye problems (2.1 compared with 2.7 per 100 encounters). A lower prescribing rate of respiratory medications and antibiotics may reflect the lower management rates of respiratory problems in Tasmanian general practice.

Australian Capital Territory

In the last 3 months of 2001, there were 366 GPs/OMPs in the Australian Capital Territory who provided at least one Medicare item of service (215.5 FWEs). There was one FWE GP per 1,481.8 people, somewhat fewer than in Australia as a whole (1:1,153.9 people). The annual GP visit rate per head of population was about 25% lower than the average and the lower attendance rate applies to people in all age groups. The population of the Australian Capital Territory was younger than the national average in 2001, with a median age of 33.8 years, some three years less than the national median.

When compared with all GP participants, the GPs in the Australian Capital Territory were far more likely to be female, more likely to be aged 45 years or more and more likely to be FRACGP. They were less likely to practise in larger practices, work 11 sessions or more per week or provide their own after-hours care. Almost all participants practised in the capital

city of Canberra and they recorded significantly fewer home, hospital and residential aged care visits than average. The patients encountered in general practice were younger than average, less likely to hold a Commonwealth Concession Card, and less often Indigenous people or from a non-English-speaking background. Among the subsample of patients asked about alcohol consumption fewer were non-drinkers and more were responsible drinkers than average. However, the proportion who reported at-risk levels of alcohol consumption, current daily smoking, or were overweight/obese did not differ from the average.

The number of problems managed by GPs in the Australian Capital Territory did not differ from the national average. Respiratory problems were managed significantly more often in this state, while problems less often managed included hypertension, diabetes, lipid disorders, anxiety and insomnia. However, all these differences were found to be due to the age distribution of the population. Only one problem demonstrated a significantly different management rate that could not be explained by the age distribution of the population: GPs managed skin problems less often than average.

GPs in the Australian Capital Territory provided fewer medications per 100 problems managed through both prescription and direct supply. The lower prescribing rate was reflected in lower rates of medications acting on the cardiovascular, central nervous, digestive and urogenital systems, and psychological medications, topical otic medications and oral or systemic contraceptives. They also undertook fewer procedures, particularly excisions/removal of tissue/biopsies.

Northern Territory

In 2001, there were 221 GPs/OMPs in the Northern Territory who provided at least one Medicare item of service (92.8 FWEs). There was one FWE GP per 2,131.1 people, the lowest GP:population ratio in the country. It also had the lowest GP attendance rate, at 2.6 visits per annum per person on average (about half the average for Australia). In 2001, the population of the Northern Territory was younger than average with a median age of 30.3 years, six years less than the national median.

When compared with all GP participants, those from the Northern Territory were a little older, less likely to work <6 sessions per week, less likely to work in practices of five or more GPs, more likely to hold FRACGP and to work in their capital city (Darwin) or in remote centres or other remote/offshore locations. The patients they encountered were younger than average, a greater proportion being 1–4 years and 25–44 years and a lesser proportion aged 65 years or more. A greater proportion were new to the practice, suggesting less continuity of care than in other areas. Fewer held a Commonwealth Concession Card (though this was partially explained by the age distribution of the population) and the proportion of Indigenous people was 8 times the average for Australia.

The pattern of encounters was similar to that for the nation, though GPs in the Territory provided significantly more services at 'no charge', fewer that were Medicare-claimed and fewer visits to aged care facilities (due only to the age distribution of the population).

Work-related problems were managed at twice the average rate but this was due to the age distribution of the Territory's population. These patients reported fewer circulatory problems and less immunisation/vaccinations as RFEs, and described more RFEs related to skin and ear problems, fever, ear pain and diarrhoea. With the exception of ear pain and diarrhoea these differences were explained by the age distribution of the population.

Problems more often managed at encounter included skin and ear problems, pregnancy & family planning and check-ups. Circulatory problems were less frequently managed. Immunisation/vaccination and osteoarthritis were also managed less frequently but this was

due to the population age distribution. Although the crude management rate of diabetes was not significantly higher than average, age-standardisation revealed a significantly higher rate of diabetes management in the Northern Territory. Among the new problems managed, otitis externa was more frequent than average.

The pattern of prescribed medications was similar to that for the nation. However, antibiotics (particularly penicillin) and topical ear medications were prescribed at significantly higher rates than average. Simple analgesics, anti-anxiety agents, and medications acting on the endocrine/nutrition/metabolic system were prescribed significantly less often but this was largely due to the age distribution of the population.

Overall, other treatments were provided at average rates. However, Northern Territory GPs provided advice and education about smoking at a significantly higher rate than average and was not explained by the age distribution of the sample. The overall referral rate was similar to the national average but there was a higher rate of referral to surgeons and low rates to gastroenterologists, urologists, and (due to the age of the population) ophthalmologists.

In the subsample studies there was no difference between the Northern Territory and the national average in the proportion of patients who were overweight (31.3%) or obese (19.3%). However, a significantly greater proportion were at-risk drinkers and the difference was large (39.9% compared with 25.0%). Patients in the Northern Territory were also significantly more likely to smoke daily (28.9%) than average (18.6%).

Discussion

This report has highlighted differences in the activities of general practice between individual states and territories and the national average. However, relatively few significant differences were identified and some of these were found to be due to the age distribution of the population, rather than differences in practise style. The results for each of the larger eastern states of New South Wales, Victoria and (to a lesser extent) Queensland were quite similar to the national average. This is not surprising as they represent the greatest proportion of the sample because they have more practising GPs than do other states and territories. Even though Western Australia and South Australia have a far smaller impact on the national average, the differences observed were fewer than might have been expected. However, Tasmania and the Australian Capital Territory showed marked differences that were only sometimes due to difference in their age distributions compared with the national population. The many differences identified in the Northern Territory are only partially explained by differences in the age distribution of its population and differences in the structure of primary health services.

Conclusion

General practice in Australia is remarkably consistent across the country. However, when compared with the national average there are differences identified in every state and territory that should be of interest to state and territory health care planners. More detailed analyses of specific aspects of care in each state and territory are available on request.

1 Introduction

The BEACH (Bettering the Evaluation and Care of Health) program is a continuous national study of general practice activity in Australia that began in April 1998. This publication is the first to report details of general practice activity in each state and territory of Australia. The study investigates similarities and differences between each of the states and territories and the national average in terms of: the characteristics of the practising general practitioners (GPs), the patients they see, the problems they manage and the treatments they provide. It uses details from 5,021 GPs about more than 500,000 GP–patient encounters conducted and reported between April 1998 and March 2003. This sample represents about 30% of the practising recognised general practitioner population and a one per 1,000 sample of all GP–patient encounters occurring during this 5-year period.

GPs perform a gatekeeper role for entry into the secondary and tertiary sectors of the Australian health care system. Most of the 19.7 million Australians (85%) attended a GP at least once during the year 2002 (personal communication, GP Branch, Australian Department of Health and Ageing). An individual is free to visit multiple general practitioners of their choice and it is a fee-for-service system. However, by far the majority of visits to GPs are funded through the Commonwealth Medicare Benefits Schedule (MBS) scheme on a fee-for-service basis, Medicare paying for 85% of the government recommended consultation fee.[1] Some patients are not charged the additional 15% of the fee, the GPs accepting the Medicare payment as total payment. Others are charged the difference between the Medicare payment and the government recommended fee, while still others may be asked to pay more for the service.

In 1998–99 there were about 17,000 recognised general practitioners claiming through Medicare, about 1,500 registrars enrolled in general practice vocational training programs and around 2,000 other (primary care) medical practitioners.[2] GPs provided by far the majority of the (approximately) 100 million non-specialist services to the population that were paid by Medicare,[2] at an average rate of 5.2 such services per person in 2000–01, decreasing to 4.9 per person in 2002–03.[3]

While information is readily available from the web site of the Health Insurance Commission (HIC),[4] on the number of Medicare-paid services per capita in each state, and the Australian Bureau of Statistics provides data on self-reported health through the National Health Survey,[5] to date there has been no state/territory based information published about the services provided by GPs, the problems managed or the management techniques utilised.

This report brings together some basic population statistics from the Census,[6] some general practice utilisation data (source) and workforce availability data from the HIC, to provide a background of each state and territory against which GP service activity for that state or territory is considered. There is a chapter devoted to each state or territory, in which comparisons are made between the results for the individual state/territory and the national average. All results are tabulated in the Appendices.

1.1 Aims

The BEACH program has three main aims:

- to provide a reliable and valid data collection process for general practice which is responsive to the ever-changing needs of information users
- to establish an ongoing database of GP–patient encounter information
- to assess patient risk factors and health states and the relationship these factors have with health service activity.

This report aims to:

- provide an overview of the activities of general practice in each state and territory
- identify areas in which the activities of general practice differ from the average for Australia as a whole
- investigate whether measured differences are due to the age distribution of the population in that state/territory or whether they represent independent variance in practice activities among these geographic areas
- describe the prevalence of some risk behaviours in patients attending general practice in each state/territory, including current smoking status, levels of alcohol consumption and body mass index (BMI).

2 Methods

The methods adopted in the BEACH program have been described in detail elsewhere.[7-9] In summary, each of approximately 1,000 recognised GPs per year records details about 100 doctor–patient encounters of all types. The information is recorded on structured encounter forms (on paper). It is a rolling sample, recruited about 3 weeks ahead. Approximately 20 GPs participate each week, 50 weeks a year. The BEACH program began in April 1998.

2.1 Sampling methods

The source population includes all GPs who claimed a minimum of 375 general practice A1 Medicare items in the most recently available 3-month Health Insurance Commission (HIC) data period. This equates with 1,500 Medicare claims a year and ensures inclusion of the majority of part-time GPs while excluding those who are not in private practice but claim for a few consultations a year. The General Practice Branch of the Australian Department of Health and Ageing (DoHA) draws a sample on a regular basis.

2.2 Recruitment methods

The randomly selected GPs are approached initially by letter, then by telephone follow-up. GPs who agree to participate are set an agreed recording date approximately 3 to 4 weeks ahead. A research pack is sent to each participant about 10 days before the planned recording date. A telephone reminder is made to each participating GP in the first days of the agreed recording period. Non-returns are followed up by regular telephone calls.

Participating GPs earn Clinical Audit points towards their quality assurance (QA) requirements. As part of this QA process, each receives an analysis of his or her results compared with those of nine other de-identified GPs who recorded at approximately the same time. Comparisons with the national average and with targets relating to the National Health Priority Areas are also made. In addition, GPs receive some educational material related to the identification and management of patients who smoke or consume alcohol at hazardous levels.

2.3 Data elements

BEACH includes three interrelated data collections: encounter data, GP characteristics, and patient health status. An example of the forms used to collect the encounter data and the data on patient health status is included as Appendix 1. The GP characteristics questionnaire is included as Appendix 2.

Encounter data include date of consultation, type of consultation (direct, indirect), Medicare/Department of Veterans' Affairs item number (where applicable) and specified other payment source (tick boxes).

Information about **the patient** includes date of birth, sex and postcode of residence. Tick boxes are provided for Commonwealth Concession Card holder, Repatriation Health Card holder, non-English-speaking background (NESB), an Aboriginal person (self-identification) and Torres Strait Islander (self-identification). Space is provided for up to three patient reasons for encounter (RFEs).

The **content of the encounter** is described in terms of the problems managed and the management techniques applied to each of these problems. Data elements include up to four diagnoses/problems. Tick boxes are provided to denote the status of each problem as new to the patient (if applicable).

Management data for each problem include medications prescribed, over-the-counter medications advised and other medications supplied by the GP. Details for each **medication** comprise brand name, form (where required), strength, regimen, status (if new medication for this problem for this patient) and number of repeats. **Other management** techniques used for each problem, including counselling, procedures, new referrals, pathology and imaging ordered, are recorded.

GP characteristics include age and sex, years in general practice, number of GP sessions worked per week, number of GPs working in the practice (to generate a measure of practice size), postcode of major practice address, country of graduation, vocational general practice training and Fellow of the Royal Australian College of General Practitioners (FRACGP) status, after-hours care arrangements, use of computers in the practice, whether the practice is accredited and whether it is a teaching practice, work undertaken by the GP in other clinical settings, hours worked in direct patient care and hours on call per week.

Patient risk factors—Supplementary Analysis of Nominated Data (SAND): A section on the bottom of each recording form investigates aspects of patient health or health care delivery in general practice not covered by the consultation-based data. The year-long data collection period is divided into 10 blocks, each of 5 weeks. Each block is designed to include data from 100 GPs. Each GP's recording pack is made up of 100 forms. Forty of these contain questions about patient height and weight (for calculation of body mass index), alcohol intake and smoking status. The remaining 60 forms in each pack are divided into two blocks of 30 forms. Different questions are asked of the patient in each block and these vary throughout the year. The results of topics in the SAND substudies for alcohol consumption, smoking status and BMI are included for each state and territory in this report. Abstracts of results for other substudies are available through the web site of the Family Medicine Research Centre (of which the General Practice Statistics and Classification Unit is a part) at <http://www.fmrc.org.au/beach-pubs.htm#6>.

Calculation of body mass index (BMI)

The BMI for an individual is calculated by dividing weight (kilograms) by height (metres) squared. A person with a BMI less than 20 is considered underweight, 20–24 is normal, 25–29 overweight, and more than 30 is considered to be obese.

The GPs were instructed to ask the patients (or their carer in the case of children):

- What is your height in centimetres?
- What is your weight in kilograms?

Metric conversion tables (feet and inches; stones and pounds) were provided to the GP.

The standard BMI calculation described above is not appropriate in the case of children. Cole et al. have developed a method which calculates the age–sex-specific BMI cut-off levels for overweight and obesity specific to children.[10] This method is based on international data from developed Western cultures and is therefore applicable within the Australian setting.

The BEACH data on BMI are presented separately for adults (aged 18 and over) and children. The standard BMI cut-offs have been applied for the adult population, and the method described by Cole et al. has been used for defining overweight and obesity in children (aged 2 to 17 years).[10] There are three categories defined for childhood BMI: underweight/normal, overweight and obese.

Current smoking status

The GPs were instructed to ask the patients (18+ years):

- What best describes your smoking status?
  - Smoke daily
  - Occasional smoker
  - Previous smoker
  - Never smoked

Respondents were limited to adults aged 18 years and over because there are ethical concerns about approaching this younger patient group to ask for information on smoking and alcohol consumption for survey purposes. In addition, the reliability of this information from patients aged 14–17 years may be compromised if a parent is present at the consultation.

Alcohol consumption

To measure alcohol consumption, BEACH uses three items from the WHO Alcohol Use Disorders Identification Test (AUDIT),[11] with scoring for an Australian setting.[12] Together, these three questions assess 'at-risk' alcohol consumption. The scores for each question range from zero to four. A total (sum of all three questions) score of five or more for males or four or more for females suggests that the person's drinking level is placing him or her at risk.[12]

GPs were instructed to ask the patient (18+ years):

- How often do you have a drink containing alcohol?
  - Never
  - Monthly or less
  - Once a week/fortnight
  - 2–3 times a week
  - 4+ times a week
- How many standard drinks do you have on a typical day when you are drinking? _____
- How often do you have 6 or more standard drinks on one occasion?
  - Never
  - Less than monthly
  - Monthly
  - Weekly
  - Daily or almost daily

A standard drinks chart was provided to each GP to help the patient identify the number of standard drinks consumed.

2.4 The BEACH relational database

The BEACH relational database is described diagrammatically in Figure 2.1. Note that all variables can be directly related to GP and patient characteristics and to the encounter. Reasons for encounter have only an indirect relationship with problems managed. All types of management are directly related to the problem being treated.

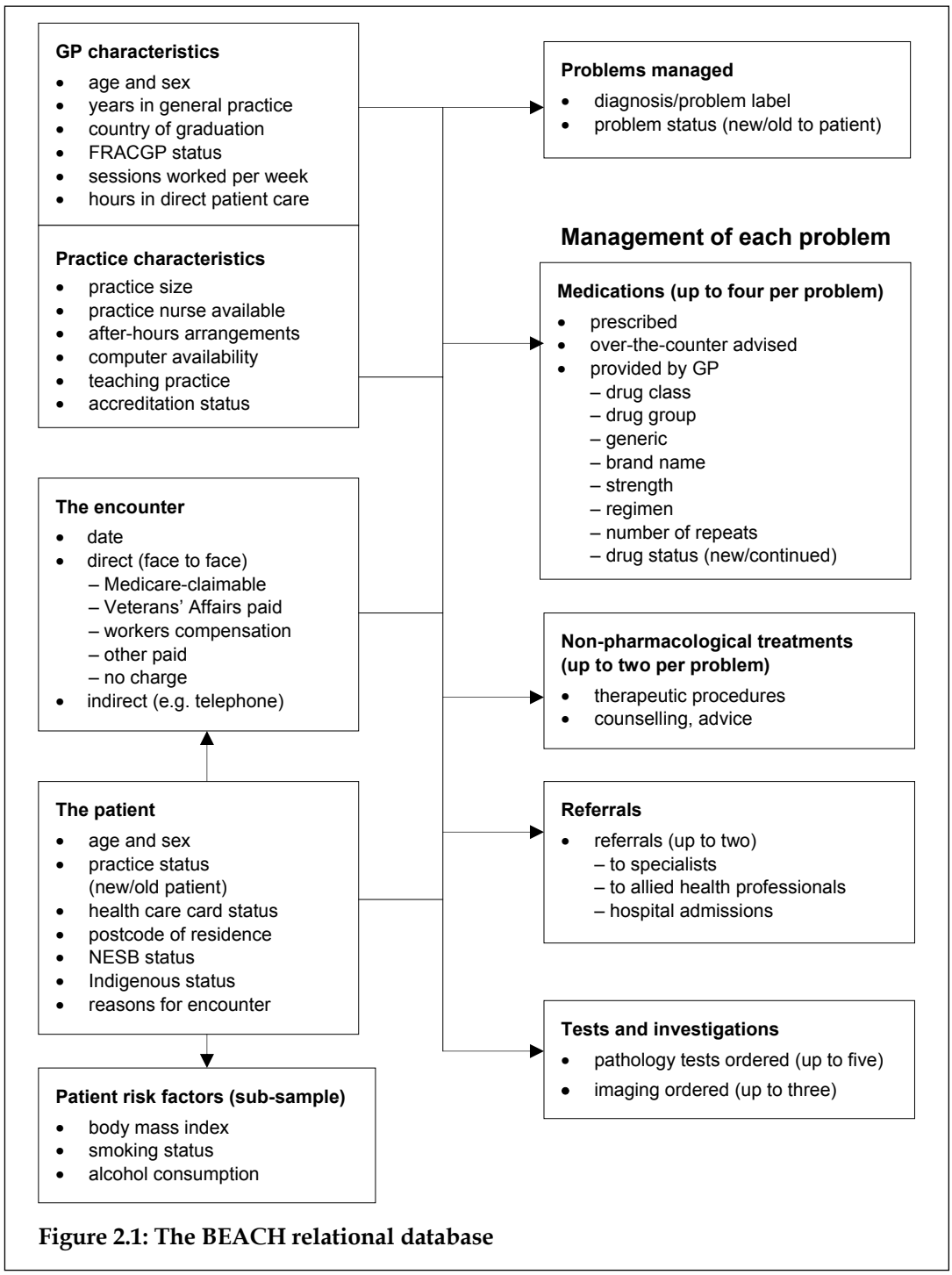

Figure 2.1: The BEACH relational database

2.5 Statistical methods

The analysis of the BEACH database was conducted with SAS version 8.2[13] and the encounter is the primary unit of inference. Proportions (%) are used only when describing the distribution of an event that can arise only once at an encounter (e.g. age, sex or item numbers) or to describe the distribution of events within a class of events (e.g. problem *A* as a percentage of total problems). Rates per 100 encounters are used when an event can occur more than once at the encounter (e.g. RFEs, problems managed or medications). Rates per 100 problems are also sometimes used when a management event can occur more than once per problem managed. In general, the following results present the number of observations *(n)*, rate per 100 encounters and the 95% confidence intervals.

The BEACH study is essentially a random sample of GPs, each providing data about a cluster of encounters. Cluster sampling study designs in general practice research violate the simple random sample (SRS) assumption because the probability of an encounter being included is a function of the probability of the GP being selected.[14]

There is also a secondary probability function of particular encounters being included in the GP's cluster (associated with the characteristics of the GP or the type and place of the practice) and this increases the likelihood of sampling bias. In addition, there will be inherent relationships between encounters from the same cluster and this creates a potential statistical bias. The probability of gaining a representative sample of encounters is therefore reduced by the potential sampling and statistical bias, decreasing the precision of national estimates.

When a study design other than SRS is used, analytical techniques that consider the study design should be employed. In this report the standard errors and 95% confidence intervals are adjusted for the design effect of the single stage cluster sample. This was achieved using procedures in SAS version 8.2 procedures that adjust the standard error for the intra-cluster correlation of the cluster sample.

In this report we compared results for each state and territory with the national average. The comparisons of crude rates describe the real differences in general practitioners, the patients they encounter and the clinical content of their encounters. Encounter data have then been age-standardised to the age distribution of the Australian population in 2001.[6] Differences in crude rates across states that remain after age-standardisation are differences not explained by the different age distribution of samples from each state or territory. Age-standardised differences are therefore considered to represent real differences in general practice activity in that geographic area, compared with activity on average across the country. Differences that disappear after age-standardisation are those that are explained by the age distribution of the patients encountered. Differences that are not apparent in the crude rate comparisons but appear after adjustment are those that were being hidden by the age distribution of the patients at encounters in that state or territory.

Statistical significance of differences is identified by non-overlapping 95% confidence intervals. Marginal differences (where the confidence intervals meet but do not overlap) are not noted here but can be identified in the tables in the Appendices. The confidence intervals (and hence the bounds for identifying differences between a given jurisdiction and the national average) tend to differ systematically with the size of the state or territory. Less populated states and territories generate a smaller sample of GPs and therefore of encounters, than those less populated. Confidence intervals in the smaller states/territories are therefore wider, reflecting lower precision of the estimate. This means that there will be a lesser chance of identifying real differences in these smaller states and territories.

The BEACH program as a data source is unique in Australia. Its strengths lie in the large size and representativeness of the sample, and the reliability of the research methods.[15] However, due to the large number of comparisons that have been made, it is expected that some of the sample differences identified using 95% confidence intervals may not represent true differences in the underlying populations.

2.6 Classification of data

The patient reasons for encounter, problems managed, procedures, other non-pharmacological treatments, referrals, pathology and imaging orders are coded using ICPC-2 PLUS.[16] This is an extended vocabulary of terms classified according to the International Classification of Primary Care—Version 2 (ICPC-2), a product of the World Organization of Family Doctors (Wonca).[17] The ICPC is used in more than 45 countries as the standard for data classification in primary care.

The ICPC has a bi-axial structure, with 17 chapters on one axis (each with an alphabetic code) and seven components on the other (numeric codes) (Figure 2.2). Chapters are based on body systems, with additional chapters for psychological and social problems. Component 1 includes symptoms and complaints. Component 7 covers diagnoses. These are independent in each chapter and both can be used for patient reasons for encounter or for problems managed.

Components 2 to 6 cover the process of care and are common throughout all chapters. The processes of care, including referrals, non-pharmacological treatments and orders for pathology and imaging, are classified in these process components of ICPC-2.

Component 2 (diagnostic screening and prevention) is also often applied in describing the problem managed (e.g. check-up, immunisation).

	Chapters																
Components	**A**	**B**	**D**	**F**	**H**	**K**	**L**	**N**	**P**	**R**	**S**	**T**	**U**	**W**	**X**	**Y**	**Z**
1. Symptoms, complaints																	
2. Diagnostic, screening, prevention																	
3. Treatment, procedures, medication																	
4. Test results																	
5. Administrative																	
6. Other																	
7. Diagnoses, disease																	

A	General	L	Musculoskeletal	U	Urinary
B	Blood, blood-forming	N	Neurological	W	Pregnancy, family planning
D	Digestive	P	Psychological	X	Female genital
F	Eye	R	Respiratory	Y	Male genital
H	Ear	S	Skin	Z	Social
K	Circulatory	T	Metabolic, endocrine, nutritional		

Figure 2.2: The structure of the International Classification of Primary Care—Version 2 (ICPC-2)

The ICPC-2 is an excellent epidemiological tool. The diagnostic and symptomatic rubrics have been selected for inclusion on the basis of their relative frequency in primary care settings or because of their relative importance in describing the health of the community. It has only about 1,370 rubrics and these are sufficient for meaningful analyses. However, reliability of data entry, using ICPC-2 alone, would require a thorough knowledge of the classification if correct classification of a concept were to be ensured. In 1995, recognising a need for a coding and classification system for general practice electronic health records, the Family Medicine Research Centre (then Unit) developed an extended vocabulary of terms classified according to the ICPC. These terms were derived from those recorded by GPs on more than half a million encounter forms. The terms have developed further over the past 8 years in response to the use of terminology by GPs participating in the BEACH program and in response to requests from GPs using ICPC-2 PLUS in their electronic clinical systems. This allows far greater specificity in data entry and ensures high inter-coder reliability between secondary coding staff. It also facilitates analyses of information about more specific problems when required.[16]

Classification of pharmaceuticals

Pharmaceuticals prescribed or provided and over-the-counter medications advised by the GP are coded and classified according to an in-house classification, the Coding Atlas for Pharmaceutical Substances (CAPS). This is a hierarchical structure that facilitates analysis of data at a variety of levels, such as medication class, medication group, generic composition and brand name. CAPS is mapped to the Anatomical Therapeutic Chemical classification (ATC)[18] which is the Australian standard for classifying medications at the generic level. Strength and regimen are independent fields which, when combined with the CAPS code, give an opportunity to derive prescribed daily dose for any medication or group of medications.

2.7 Quality assurance

All morbidity and therapeutic data elements are automatically coded and classified by computer as secondary coding staff enter key words or word fragments and select the required term or label from a pick list. A quality assurance program to ensure reliability of data entry includes ongoing development of computer-aided error checks ('locks') at the data entry stage and a physical check of samples of data entered versus those on the original recording form. Further logical data checks are conducted through SAS on a regular basis.

2.8 Validity and reliability

In the development of a database such as BEACH, data gathering moves through specific stages: GP sample selection, cluster sampling around each GP, GP data recording, and secondary coding and data entry. At each stage, the data can be invalidated by the application of inappropriate methods.

The methods adopted to ensure maximum reliability of coding and data entry and the statistical techniques adopted to ensure valid reporting of recorded data have been described above.

Previous work has demonstrated the extent to which a random sample of GPs recording information about a cluster of patients represents all GPs and all patients attending GPs.[19] Other studies have reported the degree to which GP-reported patient reasons for encounter and problems managed accurately reflect those recalled by the patient[20] and the reliability of secondary coding of RFEs[21] and problems managed.[22] The validity of ICPC as a tool with which to classify the data has also been investigated in earlier work.[23]

The expected age distribution of patients at the BEACH encounters in each state and territory was calculated from the age distribution of the population and the mean annual GP visits by age group. The observed age distribution of BEACH encounters in every state and territory did not differ from the expected age distribution (p=>0.9 for every state and territory). Therefore the sample of BEACH encounters for each state and territory was representative of its population in terms of age distribution and GP visit rates.

Limitations regarding the reliability and validity of practitioner-recorded morbidity have been discussed elsewhere and should always be borne in mind. However, these apply equally to data drawn from medical records (whether paper-based or electronic) and to active data collection methods.[24,25] There is as yet no more reliable method of gaining detailed data about morbidity and its management in general practice. Further, irrespective of the differences between individual GPs in their labelling of problems, morbidity data collected by GPs in active data collection methods have been shown to provide a reliable overview of the morbidity managed in general practice.[26]

3 Australia

3.1 Background

Figures relating to state and territory populations, the general practice workforce and services provided may be found in Appendix 3. In 2001, the population of Australia was 19,413,240 people. Males accounted for 49.6% of the population, while 50.4% of Australians were female. The median age of people in Australia was 36.1 years.

There were a total of 21,338 GPs and other medical practitioners (OMPs) who provided at least one Medicare service in the last 3 months of 2001. This equated to 16,824.3 full-time workload equivalent (FWE) GPs/OMPs practising in Australia. Therefore, there was one FWE GP or OMP per 1,153.9 people. One-quarter of the FWE GPs/OMPs were female, while 22% were aged more than 55 years (Table A3.1).

As shown in Figure 3.1, those aged between 25 and 44 years accounted for the greatest proportion of the Australian population in 2001 (30.0%), while 23.1% of the population were aged between 45 and 64 years. Only 5.7% of Australians were aged 75 years and over, and 6.6% were aged between 0 and 4 years.

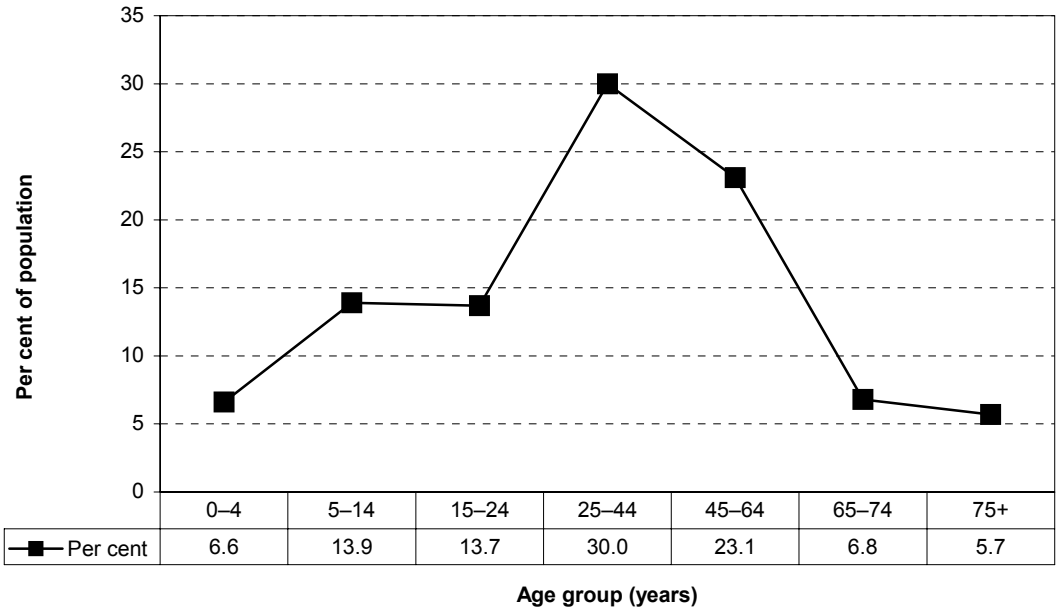

Figure 3.1: Age distribution of the Australian population, 2001

A total of 95,568,048 Medicare A1 and A2 items of service were processed by the Health Insurance Commission (HIC) throughout Australia between July 2002 and June 2003. On average, Australians attended general practice 4.9 times over that period. Those aged 75 years and over had the highest rates of Medicare-claimed general practice attendance, with an average of 10.0 attendances per person. Those aged between 65 and 74 years also attended at relatively high rates (8.6 attendances). Australians aged between 5 and 14 years attended general practice the least, with only 2.6 attendances per person, while those aged between 15 and 24 years also attended at relatively low rates (3.6 attendances per person) (Figure 3.2).

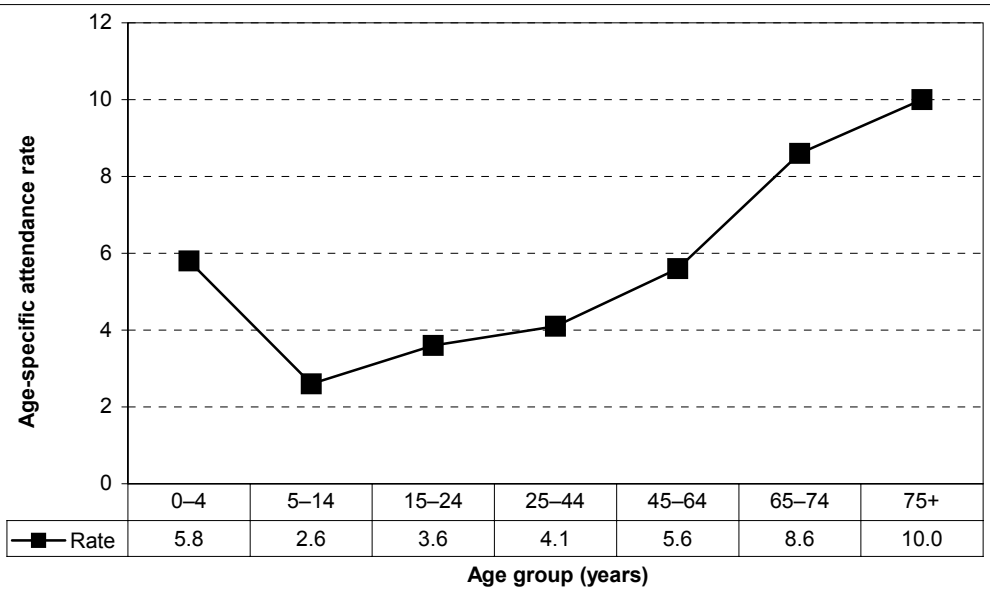

Figure 3.2: Age-specific Medicare-claimed general practice attendance rates for the population of Australia

3.2 The BEACH data set 1998–2003

During the BEACH data collection period April 1998 – March 2003, 5,021 GPs participated in the program, providing details regarding 502,100 GP–patient encounters. The majority of the GPs, and therefore their encounters, were located in the eastern states of Australia, 37.7% being in New South Wales, 22.7% in Victoria, and 18.6% in Queensland. Smaller proportions were in Western Australia (8.2%), South Australia (7.6%), Tasmania (2.6%) and in the Territories (Australian Capital Territory 1.6% and the Northern Territory 1.0%).

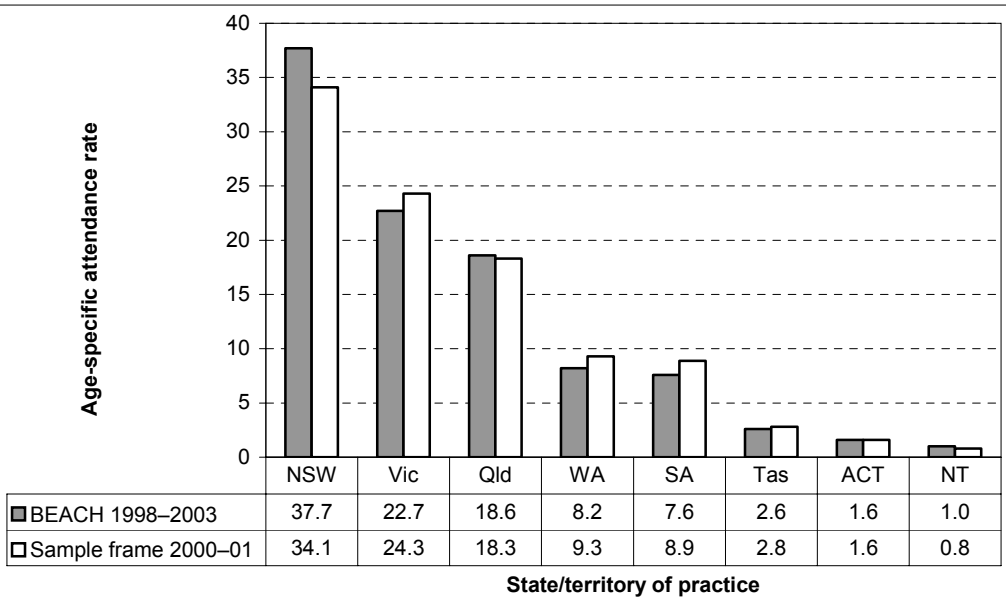

Figure 3.3: Distribution by state and territory of BEACH participating GPs, 1998–2003, and all GPs in the 2000–01 sample frame

This distribution of GP participants across the first 5 years of the BEACH program compares quite well with that of the total practising population in the middle year of the period (2000–01). Figure 3.3 provides the comparative geographic distribution of the BEACH GPs in 1998–2003 and all GPs in the 2000–01 sample frame.

As shown in Table A4.2, at the 502,100 encounters sampled over the 5 years, there were 753,925 patient reasons for encounter recorded, 743,625 problems managed, and 534,826 medications prescribed, advised for over-the-counter purchase or supplied directly by the GP. There were 255,617 clinical treatments or therapeutic procedures provided and 59,042 referrals made to specialists, allied health professionals, hospitals and emergency departments. The data pertaining to imaging and pathology orders by GPs are somewhat reduced due to methodological changes during the period. For imaging orders the results are based on all imaging test orders for 1999–2003 and number 40,386 in total. For pathology the results are based on 156,284 pathology test orders recorded in the three years 2000–03 period.

The results reported about patient body mass index (based on patient self-reported height and weight), self-reported alcohol consumption and smoking status are based on subsamples collected throughout the 5-year period. Data were available for 159,667 patients for BMI, 157,380 for alcohol consumption and 159,489 for current smoking status (Table A4.21).

In this report of GP activity in each state and territory, the national data are used as a measure of the national average against which each state/territory is compared. The national averages are presented in the far right-hand column of each table in Appendix 4.

To gain an overview of national general practice activity in Australia it is best to refer to the annual reports published from the BEACH study, the most recent of which is *General Practice Activity in Australia 2002–03*.[15] The next annual report, for 2003–04, will be published in December 2004. All reports are available from the Institute's web site <http://www.aihw.gov.au> and can be downloaded as pdf files, or they can be accessed through the Family Medicine Research Centre's web site <http://www.fmrc.org.au>.

4 New South Wales

4.1 Background

New South Wales is the largest state in Australia in terms of population. In 2001, there were 6,575,217 residents of New South Wales, accounting for 33.9% of the total Australian population. Males accounted for 49.6% of those living in New South Wales and 50.4% of the population were female. This paralleled the sex distribution of the total population of Australia.

There were 7,247 GPs/OMPs who provided at least one general practice Medicare item of service in the last 3 months of 2001, who together made up 5,894.3 full-time workload equivalents (FWEs). This equated with one FWE GP per 1,115.5 people in New South Wales. Female GPs accounted for one-quarter of the FWEs and this was average for Australia. However, 26% of the FWEs, that is, 26% of the workload, was being taken by clinicians who were more than 55 years old, suggesting a somewhat older profession when compared with the national average, where 22% of the workload was being carried by this older age group (Table A3.1).

The median age of the population was 36.4 years, in line with the national median of 36.1 years (Table A3.1). The age distribution of the New South Wales population in 2001 (Figure 4.1) was almost identical to that of the country as a whole. Those aged between 25 and 44 years accounted for the greatest proportion (30.1%) and over one-fifth were aged between 45 and 64 years (23.0%). Only 6.0% of people were aged 75 years and over, and 6.7% were aged between 0 and 4 years.

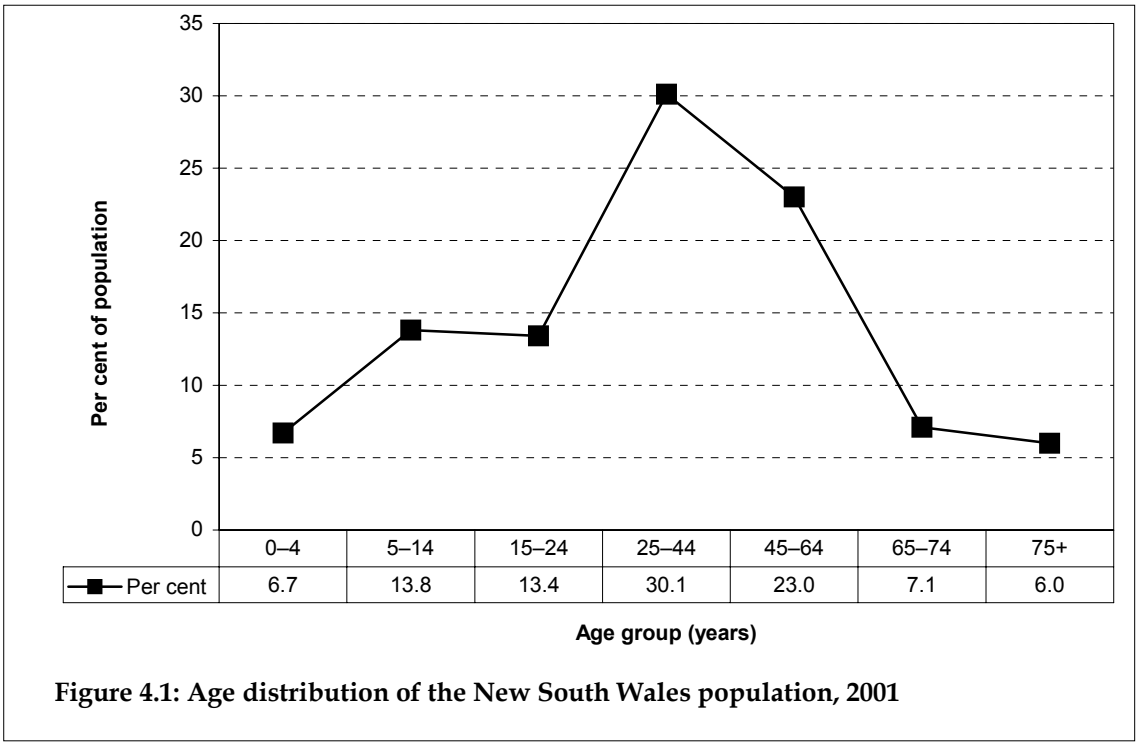

Figure 4.1: Age distribution of the New South Wales population, 2001

A total of 34,380,781 Medicare A1 and A2 items of service were processed by the Health Insurance Commission (HIC) for services provided to residents of New South Wales between July 2002 and June 2003. These accounted for 36.0% of total services processed throughout Australia over this period. On average, people living in New South Wales attended general practice 5.2 times in that year, a slightly higher rate than the population as a whole (4.9). This difference in attendance rates may appear small but actually represents an increase of 300 consultations per year per 1,000 persons, above the national average.

As shown in Figure 4.2, people aged 75 years or more had the highest rates of Medicare-claimed general practice attendance, with an average of 9.9 attendances per person. This was similar to the national average for this age group (10.0). Those aged between 65 and 74 years also attended at relatively high rates, at an average of 8.8 attendances. Children aged between 0 and 4 years attended general practice on average 6.4 times per year, while children aged between 5 and 14 years had the lowest rates, at an average of 2.8 attendances. In all age groups, except the elderly, these attendance rates were somewhat higher than the national average, ranging from +300 to +600 per 1,000 persons per year.

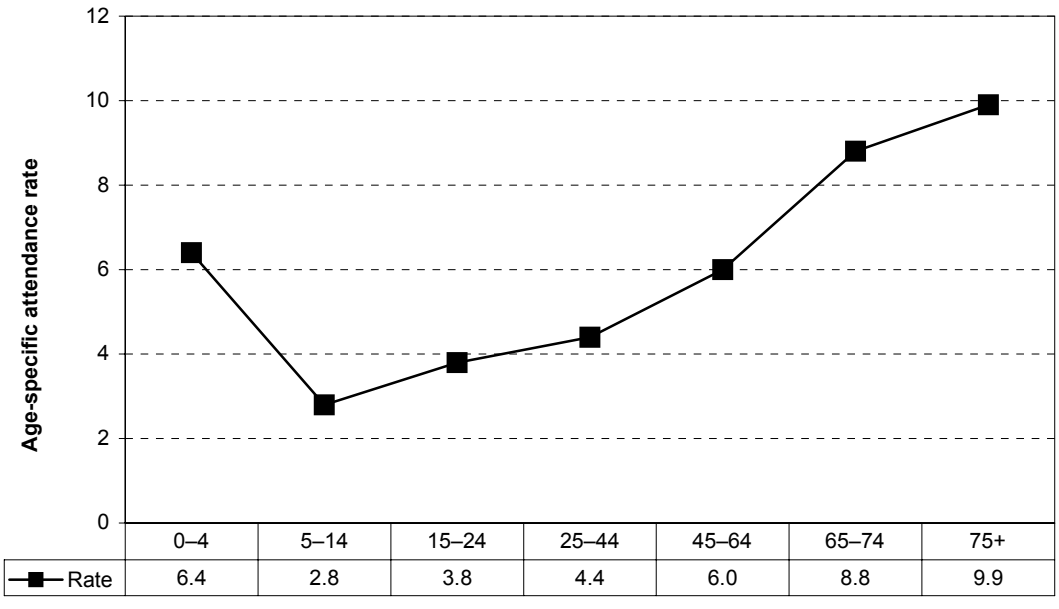

Figure 4.2: Age-specific Medicare-claimed general practice attendance rates for the population of New South Wales

4.2 Results

There were 1,892 GPs from New South Wales who participated in BEACH between April 1998 and March 2003. They accounted for 37.7% of the total 5-year sample and provided details about 189,200 encounters. The New South Wales state results are compared with those for all of Australia in Appendix 4. The differences highlighted below are those identified by non-overlapping 95% confidence intervals. Marginal differences (where the confidence intervals meet but do not overlap) are not noted here but can be identified in the tables in the Appendix.

The general practitioners

The participating New South Wales GPs did not differ from all participants in terms of their sex (31.5% female), the number of sessions they worked per week on average (15.9% less than 6 sessions per week and 17.9% more than 10 sessions per week) and in terms of their practice location (68.9% in capital cities).

However, they were a little older than average (67.5% being 45 years or more compared with 62.6% on average), and their years in general practice reflected this slight difference in age distribution. They were more likely to work as a solo practitioner (21.9%) than average (16.9%) and less likely to be in practices of 5 or more GPs (37.2% compared with 44.0%). A lesser proportion of these GPs had graduated in Australia (70.6% compared with 74.3%) and more had graduated in Asia (12.8% compared with 8.3%). They were also somewhat less likely than average to hold the FRACGP (27.4%) than average for Australia (32.2%) (Table A4.1).

The encounters

The raw figures showing the number of each variable available in the BEACH data set for Australia and for each state of Australia are provided in Table A4.2.

Content of the encounters

Table A4.3a provides an overview of the content of the encounters recorded by New South Wales GPs. At the 189,200 encounters reported by New South Wales GPs they recorded patient reasons for encounter at a rate of 153.0 per 100 encounters, a significantly higher rate than average for the country (150.2 per 100). However, the number of problems managed at encounters by New South Wales GPs (148.8 per 100 encounters) did not differ from the national average (148.1 per 100). New problems arose at a rate of 51.5 per 100 encounters, which equates with the national average of 51.2 per 100 and work-related problems were managed at exactly the same rate (3.4 per 100 encounters) as the national average.

Medications were prescribed, supplied or advised at a rate of 111.7 per 100 encounters, a significantly higher rate than average (106.5 per 100) and this was largely due to higher prescribing rates by the New South Wales GPs (94.6 prescriptions per 100 encounters compared with 89.4 per 100 average). They also advised over-the-counter purchase of medications significantly more often than average but the difference was not as large (10.0 compared with 9.0 per 100 encounters).

There was no significant difference between encounters with New South Wales GPs and the national average in terms of the number of other (non-pharmacological) treatments provided, clinical treatments being given at a rate of 37.2 per 100 encounters (compared with 37.1 average). However, they did slightly less procedural work, at a rate of 13.0 per 100 encounters compared with 13.8 per 100 on average.

While total referrals occurred at a rate of 12.4 per 100 encounters, only marginally higher than the national average (11.8 per 100), New South Wales GPs referred significantly more often to specialists, at a rate of 8.7 per 100 encounters (compared with 7.9 national average).

New South Wales GPs did not differ from average in terms of their referrals to hospitals (0.5 per 100 encounters) and emergency departments (0.1 per 100) or their ordering of pathology tests (31.9 tests per 100) and imaging (8.5 per 100).

Age-standardised results

After age-standardisation, all these significant differences remained and the total referral rate became significantly higher than average, though it had only been marginal in the descriptive results. No other new differences emerged (Table A4.3b).

Type of encounter

The types of encounters undertaken by GPs in New South Wales did not differ in any way from those conducted by all GPs in the national sample. At 97.0% of the 189,200 encounters recorded the patient was seen by the GP and for 92.7% a Medicare or Department of Veterans' Affairs item of service was claimable. Standard surgery consultations accounted for 75.6% of all encounters and a further 9.5% were long surgery consultations. While home visits accounted for only 2.0% of the total, hospital and aged care facility visits were even less common. Encounters claimable through workers compensation accounted for 2.0% and indirect consultations (where the patient was not seen) accounted for 3.0% of the total (Table A4.4a).

Age-standardised results

After age-standardisation, these results remained, no differences in distribution of GP services being identified between New South Wales and Australia (Table A4.4b).

Characteristics of the patients at encounter

The expected age distribution of patients at encounter in New South Wales was calculated from the age distribution of the New South Wales population (Figure 4.1) and mean annual GP visits by age group (Figure 4.2). The observed age distribution of BEACH encounters from New South Wales (Table A4.5a) did not differ from the expected age distribution (results not shown). Therefore, the New South Wales sample of BEACH encounters was representative of the New South Wales population in terms of age distribution and GP visit rates.

The patients at encounters with GPs in New South Wales were in most ways representative of the patients seen by all GPs in Australia. The majority were female (58.5% compared with 59.1% nationally) and the age distribution aligned with the national average—approximately 23% being young people of less than 25 years, and 26% being in each of the other age groups of 25–44 years, 45–64 years and 65 years and over.

The proportion of patients who were new to the practice (9.2%) and the proportion holding a Repatriation Health Card (3.5%) did not differ from the national average. However, a significantly lower proportion of patients at encounters with New South Wales GPs held a Commonwealth Concession Card (36.9% compared with 39.3%) and a greater proportion were from a non-English-speaking background (12.2% compared with 8.8%). The proportion of encounters with Indigenous patients (0.8%) did not differ statistically from the average (1.1%) (Table A4.5a).

Age-standardised results

After age-standardisation, the other characteristics of patients at encounter were compared (Table A4.5b). The differences already identified in the descriptive analysis remained after adjustment and no new differences were identified.

Patient reasons for encounter

The distribution of patient reasons for encounter (RFEs) described by patients attending GPs in New South Wales differed in some respects from those given by all patients at all encounters.

As shown in Table A4.6a, patients seeing GPs in New South Wales described relatively more respiratory problems (23.9 compared with 22.7 per 100 encounters), more circulatory problems (12.6 per 100 encounters) than in the national data set (11.4) and more problems related to the digestive system (10.9 compared with 10.4) and to the blood/blood-forming organs (1.8 compared with 1.6 per 100 encounters). Problems related to the skin were significantly less often described by patients as a RFE at these encounters (14.3 per 100) compared with the national average (15.0).

There were no significant differences in the rates at which patients described general and unspecific problems (31.4 per 100 encounters), problems related to the musculoskeletal system (17.2 per 100), to the female genital system (6.2 per 100), the endocrine/nutritional and metabolic system (6.1 per 100), the neurological system (5.7 per 100), the ear (4.0), pregnancy and family planning (3.6), the eye (2.8), the urinary system (2.6), the male genital system (1.0), nor those of a psychological (7.8 per 100 encounters), or social (1.0 per 100) nature.

Only two of the most common individual RFEs described by patients occurred at a more frequent rate in New South Wales than in the national data and these were cough (6.7 compared with 6.1 per 100 encounters) and throat complaints (3.8 compared with 3.5 per 100 encounters). In line with the total national data, the RFEs most frequently described were a request for check-up, either specific or general, (14.4 per 100 encounters) and requests for prescriptions (10.1 per 100 encounters) Requests for immunisation or vaccination (4.7 per 100), for test results (4.7 per 100) and back complaints (3.6 per 100) were other commonly described RFEs in both New South Wales and for the country as a whole (Table A4.7a).

Age-standardised results

After age-standardisation, all these significant differences remained and two new differences emerged. The presentation of both headaches and sneeze/nasal congestion were significantly more frequent as a patient RFE after standardisation (Tables A4.6b and A4.7b). These had been only marginally higher in the descriptive analysis.

Problems managed at encounter

Number of problems managed

As shown in Table A4.8a, the distribution of the number of problems managed at encounter did not differ for New South Wales when compared with the national average. At about two-thirds of encounters the GP managed only one problem and at 25% they managed two problems. Three problems (8.3%) and four problems (2.5%) were less often managed at a single encounter.

Types of problems managed

Table A4.9a shows that the distribution of the problems managed at encounters with GPs in New South Wales paralleled that of the national average, with three exceptions. Problems managed significantly more often were those associated with the circulatory (17.9 compared with 16.6 per 100 encounters) and digestive (10.5 compared with 10.0 per 100 encounters)

systems. Skin problems were managed less often than average (15.9 compared with 16.6 per 100 encounters).

As with the national average the most common problem managed in New South Wales was hypertension (9.7 per 100 encounters), followed by upper respiratory tract infection (URTI) (6.4 per 100 encounters), immunisation/vaccination (5.0 per 100), depression (3.5), lipid disorder (3.2), asthma (2.8), and diabetes (2.8 per 100). However, hypertension, lipid disorders and oesophageal disease were managed at a significantly higher rate in New South Wales than average (9.7 compared with 8.8 per 100 encounters; 3.2 compared with 2.8 per 100 encounters and 1.8 compared with 1.7 per 100 encounters respectively) (Table A4.10a).

There were no other significant differences in the rates of management of other common problems.

New problems managed at encounter

When compared with the national average there were no significant differences in the rates of management of the more common new problems. The most commonly managed new problems in general practice in New South Wales paralleled those most frequently managed nationally. URTI was the most frequently managed at a rate of 4.5 per 100 encounters, followed by immunisations/vaccinations (2.4 per 100), acute bronchitis (1.6), urinary tract infection (1.0), and unspecified viral diseases (1.0 per 100) (Table A4.11a).

Age-standardised results

No significant differences emerged after age-standardisation in terms of numbers of problems managed (Table A4.8b).

After age-standardisation, all bar one of the significant differences in the management rates of problems remained. The small difference in the management rate of oesophageal disease disappeared. No new differences emerged (Tables A4.9b, A4.10b and A4.11b).

Management rates

Earlier in this chapter we reported the rates of each management type provided per 100 encounters. In this section we view management in two other ways. First, we compare the rate of each management variable per 100 problems managed. This removes any bias introduced by differing number of problems managed between states. Second, we look at the likelihood of GPs providing at least one of each management action at the encounter. This provides a simple picture of the chance the patient has of receiving, for example, a prescribed medication or a referral when they attend the GP.

Management rates per 100 problems managed

Table A4.12a shows that GPs in New South Wales prescribed, supplied or advised significantly more medications per 100 problems managed (75.1) than the national average (71.9). This was due to significantly higher prescribing rates (63.6 compared with 60.4 per 100 problems managed) and more frequent advice for over-the-counter purchase of medications (6.7 compared with 6.1 per 100 problems). They did not differ from the average in terms of the number of supplied medications per 100 problems managed (4.8).

In terms of total problems managed, they provided fewer procedural treatments (8.7 compared with 9.3 per 100 problems managed) but did not differ from the average in use of clinical treatments such as advice and counselling (25.0 per 100).

Whereas the specialist referral rate per 100 encounters had been significantly higher than in the earlier analysis, when considered in terms of the number of problems being managed, there was no significant difference in specialist referrals. Total referral rates and those to other services also did not differ from the average. The pathology test order rate was significantly lower than the national average in terms of rate per 100 problems managed (20.0 compared with 21.0 per 100 problems managed).

Age-standardised results

After age-standardisation, the higher medication rate, higher prescribing rate, and more frequent advice to the patient for purchase of over-the-counter medications remained. However, the specialist referral rate became significantly higher and the pathology order rate no longer differed from the national average. The latter result suggests that the lower pathology test order rates by New South Wales GPs identified in the descriptive analysis is due to the age distribution of the New South Wales population, rather than to a difference in management style (Table A4.12b).

Encounters at which management was recorded

This section considers the relative likelihood of at least one management action of each type, at encounter. The results are presented in Table A4.13a as a percentage of total encounters at which each event occurred at least once.

Patients attending a GP in New South Wales were significantly more likely to receive at least one prescription, advice for purchase of an over-the-counter mediation, or a medication directly from the GP (68.4% of encounters) than average for Australia (66.5%). This was due to the higher proportion of encounters resulting in at least one prescription (59.5% compared with 57.3%) and the higher proportion resulting in advice to the patient to purchase an over-the-counter medication (8.7% compared with 8.0%). There was no difference in the chance the GP would supply some medication directly to the patient. There was also no significant difference in the proportion of encounters with New South Wales GPs that involved the provision of clinical treatment such as advice and counselling. However, they provided a therapeutic procedure at fewer encounters (11.8% of encounters) than average for all of Australia (12.6%) at encounter.

The patients were more likely to be referred to a specialist at encounters with New South Wales GPs (4.9% of encounters compared with 4.5%). However, there were no significant differences in the proportion of encounters generating at least one pathology test order or at least one imaging test order.

Age-standardised results

After age-standardisation, all these significant differences remained, although the higher overall referral rate and the higher rate of referrals to specialists became marginal. No new differences emerged (Table A4.13b).

Medications

As demonstrated in Table A4.14a, some medication groups were prescribed significantly more often in New South Wales than the average for the nation.

- Medications acting on the cardiovascular system were prescribed at a significantly higher rate in New South Wales (15.5 per 100 encounters) than in Australia as a whole (13.7) and this was reflected in higher prescribing rates of anti-hypertensives (8.4

compared with 7.4 per 100 encounters), 'other cardiovascular drugs' (2.9 compared with 2.5) and anti-angina medications (1.3 compared with 1.2).

- Medications acting on the central nervous system were prescribed at a significantly higher rate than average in New South Wales, at 11.4 prescriptions per 100 encounters compared with 10.7 per 100. The only subgroup in which this significant difference was reflected was for simple analgesics, which were prescribed at a rate of 4.8 per 100 encounters compared with 4.2 per 100 national average.
- Drugs acting on the musculoskeletal system were prescribed at a rate of 6.2 per 100 encounters in New South Wales, significantly higher than the average rate of 5.8 per 100.
- Respiratory medications were prescribed at a significantly higher rate than average, at 6.7 per 100 encounters (compared with 6.0 per 100 nationally).
- Medications for the skin were also prescribed more frequently in New South Wales (4.6 per 100 encounters) than average (4.3 per 100).
- Medications acting on the digestive system were prescribed at a rate of 4.6 per 100 encounters in New South Wales, significantly higher than average (4.0 per 100) and this was reflected in the prescribing of anti-ulcerants in particular (2.5 per 100 encounters in New South Wales compared with 2.3 nationally).

Two medication groups were prescribed significantly less often in New South Wales when compared with the national average. These were psychological medications (7.2 compared with 7.6 per 100 encounters) and the contraceptives (1.6 compared with 1.8 per 100 encounters).

There were no significant differences in the prescribing rates of the other drug groups, including antibiotics, topical ear/nose medications, drugs acting on the urogenital system, hormones, allergy and immune system drugs and eye medications.

Most commonly prescribed medications

Table A4.15a provides comparative results for the prescribing rates of each of the most commonly prescribed medications in the country as a whole. Only three significant differences appeared for New South Wales when compared with the national average: higher prescribing rate of paracetamol (4.0 compared with 3.4 per 100 encounters), cephalexin (2.2 compared with 1.9 per 100), and simvastatin (1.0 compared with 0.9 per 100 encounters).

Age-standardised results

After age-standardisation, the majority of these significant differences remained. However, differences in prescribing rates for psychological medications, contraceptives, drugs acting on the central nervous system and simvastatin were reduced to only marginal significance. No new differences emerged (Tables A4.14b and A4.15b).

Other (non-pharmacological) treatments

As previously stated in 'Content of the encounters' (Table A4.3a), New South Wales GPs provided clinical treatments at the same rate as the average for all of Australia. This was reflected more specifically in their provision of advice and counselling. However, they undertook significantly fewer procedural treatments than the national average.

Clinical treatments

There were no significant differences in the rate of provision of any of the most frequent individual types of clinical treatments when compared with the national average. The most common were general advice/education (5.0 per 100 encounters), advice and education about treatment of the problem (5.6 per 100), and counselling/advice about nutrition/weight (5.2). Psychological counselling was also commonly provided (3.1 per 100 encounters) (Table A4.16a).

Procedural treatments

The single significant difference in the use of individual procedures for New South Wales was a lower rate of excision/removal of tissues (including destruction, debridement or cauterisation), being recorded at a rate of 2.4 per 100 encounters compared with 2.8 per 100 nationally (Table A4.17a).

Age-standardised results

After age-standardisation, these results did not change (Tables A4.16b and A4.17b).

Referrals

As earlier stated (see 'Content of the encounters', Table A4.3a), the overall referral rate by New South Wales GPs was marginally higher than average, but the referral rate to specialists was significantly higher than average while referrals to hospitals, emergency departments and allied health services did not differ from the average.

Referrals to medical specialists

New South Wales GPs referred patients to a medical specialist at a higher rate of 8.7 per 100 encounters than at all encounters in Australia (7.9 per 100). This was reflected in higher referral rates to cardiologists (0.5 compared with 0.4 per 100 encounters) but not to any other specific type of specialist. As with the national results, referrals were most commonly made to surgeons (0.9 per 100 encounter), ophthalmologists (0.9) and orthopaedic surgeons (0.7 per 100 encounters) (Table A4.18a).

Referrals to allied health professionals

As shown in Table A4.18a, New South Wales GPs referred patients to allied health services at the same rate as the national average. The most common referrals were to physiotherapists (1.1 per 100 encounters), psychologists, dietitians/nutritionists, dentists and 'other' allied health professionals (each at a rate of 0.2 per 100 encounters).

Age-standardised results

After age-standardisation, the higher referral rate to specialists and specifically to cardiologists remained and no new differences emerged (Table A4.18b).

Pathology test orders

As earlier shown (see 'Content of the encounters', Table A4.3a), New South Wales GPs ordered pathology tests at a rate of 31.9 tests per 100 encounters, a rate which did not differ from the national average. This also applied to each of the ten groups of pathology tests, the rates for which are provided in Table A4.19a. As in the national results, pathology tests

classed as Chemistry were most the common type ordered at a rate of 16.7 per 100 encounters, followed by Haemotology (6.1) and Microbiology (4.8).

The order rate for thyroid function tests was significantly lower in New South Wales (1.5 per 100 encounters) than for Australia as a whole (1.8 per 100).

Age-standardised results

After age-standardisation, the order rates for each of the ten major groups of pathology tests remained representative of the national average. Further, the thyroid function test order rate remained lower than average. However, two new differences also emerged: New South Wales GPs ordered relatively fewer multi-biochemical analyses and full blood counts than average (Table A4.19b).

Imaging orders

As earlier stated in 'Contents of the encounters', New South Wales GPs ordered imaging at the same rate as the national average. Table A4.20a shows that this result applied across all the most commonly ordered tests. Chest x-rays were by far the most often ordered (1.1 per 100 encounters). The ultrasounds most often ordered by New South Wales GPs and nationally were pelvic ultrasounds (0.5 per 100 encounters).

Age-standardised results

These results remained the same after age-standardisation (Table A4.20b).

Patient risk factors

There have been three major ongoing subsample studies of selected patient risk factors: patient body mass index (BMI) calculated from patient self-reported height and weight, their self-reported alcohol consumption and their current smoking status. The methods applied to these subsample studies are described in Chapter 2—Methods.

Body mass index

Adults

There were 59,957 adult patients (aged 18 years and over) for whom BMI could be calculated. Their results reflected those found in the total national data, 33.4% being classed as overweight and a further 19.2% being classed as obese. Almost one in ten respondents (8.2%) were classed as underweight (Table A4.21).

Children

There were 7,164 children aged between 2 and 17 years for whom a BMI could be calculated. Of these, 32.0% were classified as either overweight (18.2%) or obese (13.8%). This estimate did not differ significantly from that for all of Australia (Table A4.21).

Alcohol consumption

Respondents to the questions on alcohol consumption numbered 59,079 adults (aged 18 years or more). A significantly greater proportion of these patients reported being non-drinkers (32.8%) than in the total national data (31.1%) and a significantly lower proportion

reported drinking alcohol at at-risk levels (23.8% compared with the national average of 25.0%) (Table A4.21).

Smoking status

Of the 59,796 responding adult patients (aged 18 years and over), 17.7% reported smoking daily and this was a significantly lower proportion than in the total national data set (18.6%). In parallel, a significantly greater proportion (51.0%) reported having never smoked than in the national sample overall (49.5%) (Table A4.21).

4.3 Discussion

These data fill a gap in information that has been available to date about the health of the population of New South Wales. Information has been available about hospital in-patient attendances,[27] mortality rates and cause of death,[28] but these statistics only reflect what happens to a minority of the population. The National Health Survey collects information about the health of the broader community but this survey is only conducted every four years and relies on self-reported problems.[5] About 85% of the population visit a GP at least once in any given year and it could be assumed that close to all residents would have visited at least once in the 5-year period of the BEACH study period here reported. The BEACH data therefore provide an additional view of the health of the New South Wales population.

There are some real strengths in the BEACH data in the way they reflect what happens at the more than 34 million GP–patient encounters conducted each year in New South Wales. BEACH draws on a very large sample of GPs, which is randomly selected from a reliable sample frame of GPs claiming Medicare payments for services provided; the reliability and validity of the methods have been demonstrated;[19-25] the age and sex distribution of patients seen in the final national sample of Medicare-paid encounters is very precise in its representation of the age–sex distribution of patients attending all Medicare-paid encounters. However, it must be remembered that some of the differences identified between general practice encounters in New South Wales and those across the country could represent Type 1 error due to the large number of comparisons that have been made. Relying on 95% confidence intervals for identification of differences means that 5% of identified differences may be false.

This chapter has shown that residents of New South Wales attend GPs somewhat more frequently than average for the total population, though the age and sex distribution of the population and the GP to population ratio were very similar to the national average. About one-quarter of the clinical Medicare-paid workload was being carried by GPs aged 55 years and over. However, the sample of general practitioners found in the first 5 years of the BEACH program did not differ from all participating GPs in terms of their age or sex distribution. These GPs were however more likely to work in solo practices and less likely to work in larger practices of 5 or more GPs. They were more likely to have graduated in Asia and were less likely to hold the Fellowship of the RACGP than average for all BEACH participating GPs.

The patients at encounters with New South Wales GPs differed from the national average in only two ways: they were less often holders of a Commonwealth Concession Card, and were more often from a non-English-speaking background. Their encounters were also similar to the national average in terms of the site and funding source for payment. However, patients in New South Wales described more reasons for their encounters than did patients as a

whole, though this did not affect the number of problems that were managed at the encounters, which was the same as the national average.

The higher presentation rates of reasons for encounter related to the respiratory system, particularly cough and throat complaints, and those related to the circulatory and digestive systems, and the lower management rate of problems related to the skin and the blood/blood-forming organs were not explained by the age distribution of the New South Wales population, as these differences remained after adjustment. In fact, there were also higher presentation rates of headache and sneeze/nasal congestion which were masked in the descriptive analysis but emerged after adjustment.

The problems more often managed in New South Wales general practice to some degree reflected these differences in patient presentations, there being higher management rates of cardiovascular problems, digestive problems and skin problems. More specifically, there were higher management rates of hypertension, lipid disorders and oesophageal disease. The medications prescribed at higher than average rates by New South Wales GPs in turn reflected these more frequently managed problems. The higher prescription rates for medications acting on the digestive system and the cardiovascular system, particularly anti-hypertensives and anti-angina agents, reflect the more frequent management of digestive and cardiovascular problems in this state. However, medications acting on the respiratory system were prescribed more often at New South Wales encounters, even though the management rate of respiratory problems did not differ from the national average. The higher prescribing rate of paracetamol did not disappear after adjustment. A higher prescribing rate of paracetamol by GPs has been shown to be associated with the Commonwealth Concession Card status of the patient,[29] for it is cheaper for a patient holding a Commonwealth Concession Card to purchase paracetamol on prescription than over-the-counter. However, the proportion of encounters in New South Wales that were with patients who held a Commonwealth Concession Card was lower than in the nation as a whole. This difference therefore remains unexplained. The higher prescribing rate of simvastatin reflects the higher management rate of lipid disorders but was also partially explained by the age distribution of the population, as the difference became marginal after adjustment. In contrast, the higher prescribing of medications acting on the central nervous system and on the musculoskeletal system and the lower rates of psychological medications and contraceptives could not easily be explained by the morbidity pattern managed at encounters in New South Wales, though most of these differences became marginal after adjustment so were partially due to the age distribution of the population.

GPs practising in New South Wales provided clinical treatments such as advice and counselling at a similar rate to the national average. However, they recorded significantly fewer procedural treatments, excisions/removal particularly. They also referred more often to specialists, to cardiologists in particular. While they ordered pathology tests at the average rate, they ordered fewer thyroid function tests than average. All these differences remained after adjustment and were therefore not explained by the age of the populations. More detailed investigation of these differences could highlight clearer relationships between morbidity patterns and procedures, referral and pathology test ordering behaviour.

The descriptive analysis demonstrated that, in general, patients attending GPs in New South Wales had slightly fewer risk factors than those attending all GPs on average. There were no more or less obese/overweight patients than average, fewer at-risk drinkers, and fewer daily smokers. After adjustment for the age distribution of the New South Wales population, there were fewer who were obese, no difference in the proportion classed as 'at-risk drinkers', a

lesser proportion who had been previous smokers and the higher proportion of non-smokers remained significant.

4.4 Conclusion

The clinical activities of GPs practising in New South Wales do not differ markedly from the average of all GPs across Australia. State authorities can feel comfortable relying on the national data reported regularly by the AIHW and the University of Sydney in such publications as *General Practice Activity in Australia 2002–03*[15] to gain a reliable assessment of the current practise style of GPs in this state. However, where differences have been demonstrated, state authorities should consider requesting more detailed analysis of the BEACH data to gain a greater understanding of the problems managed and treatments provided by GPs in this state. The New South Wales sample in BEACH is of a sufficient size and power to allow state based annual analysis and the measurement of changes over time.

5 Victoria

5.1 Background

In 2001, Victoria had a total population of 4,804,726 people, comprising 24.7% of the total Australian population. Within Victoria, 49.2% of the population were male, and 50.8% were female. The median age was 36.2 years, which was almost identical to the median age for the country (36.1 years).

There were a total of 5,349 GPs/OMPs who provided at least one Medicare-claimable service in the last 3 months of 2001, equating with 4,149.5 full-time workload equivalent (FWE) GPs. This meant that there was one FWE GP in Victoria for every 1,157.9 people, which was in line with the national average of one FWE GP per 1,153.9 people. One-fifth of the FWE GPs in Victoria were aged over 55 years, and 24% were female (Table A3.1).

People aged between 25 and 44 years accounted for the greatest proportion of the Victorian population in 2001 (30.5%). Those aged between 45 and 64 years also accounted for a large proportion (22.9%). Few people were aged 75 years and over (6.0%) or between 0 and 4 years (6.4%) (Figure 5.1). The age distribution of people in Victoria was quite similar to the national distribution across all age groups.

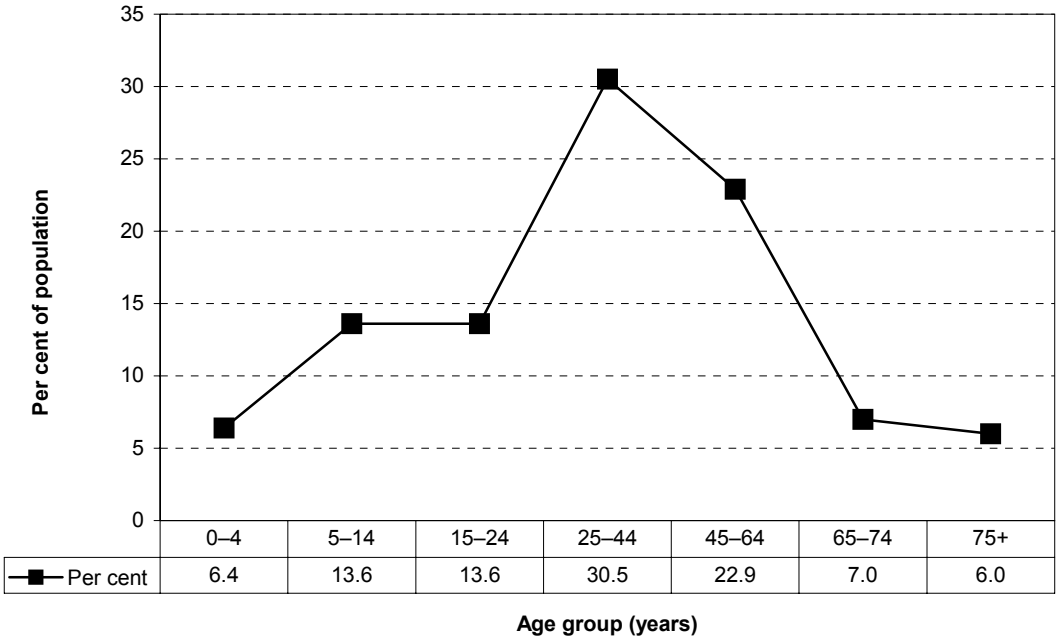

Figure 5.1: Age distribution of theVictorian population, 2001

Between July 2002 and June 2003, a total of 23,985,308 Medicare A1 and A2 items of service were processed by the HIC for residents of Victoria, accounting for 25.1% of processed services in Australia over this period. On average, Victorians attended general practice 5.0 times between July 2002 and June 2003. As shown in Figure 5.2, the older population had the highest rates of Medicare-claimed general practice attendance, with those aged 75 years or more attending on average 10.2 times, and those aged 65–74 years attending 8.4 times. The

younger age groups had the lowest rates of attendance. Those aged between 5 and 14 years attended only 2.8 times per year on average, followed by those aged between 15 and 24 years, with an average of 3.6 attendances.

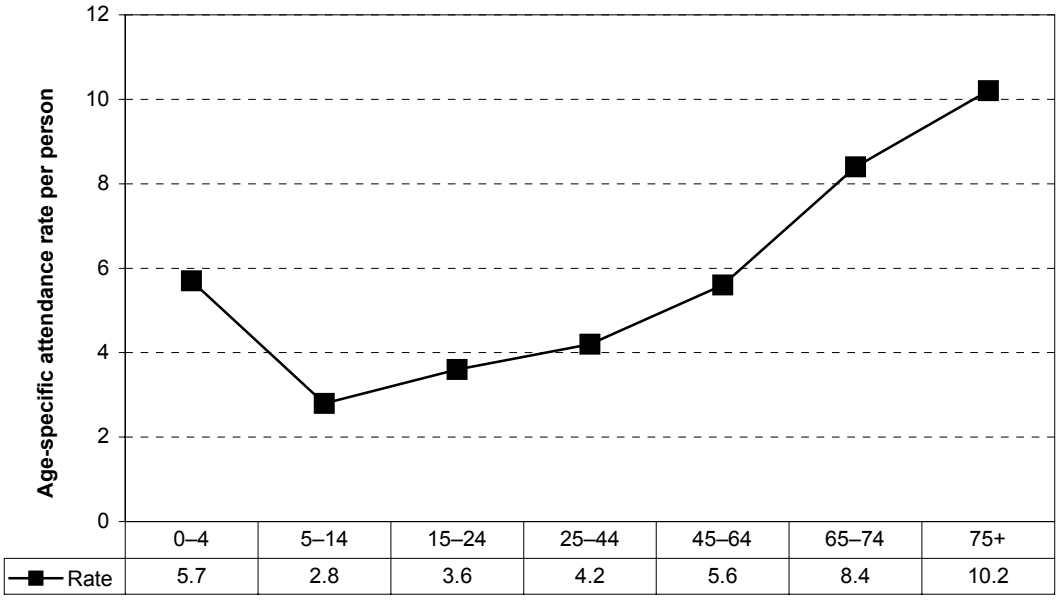

Figure 5.2: Age-specific Medicare-claimed general practice attendance rates for the population of Victoria

5.2 Results

There were 1,140 GPs from Victoria who participated in BEACH between April 1998 and March 2003. They accounted for 22.7% of the total 5-year sample and provided details about 114,000 encounters. The Victoria state results are compared with those for all of Australia in Appendix 4. The differences highlighted below are those identified by non-overlapping 95% confidence intervals. Marginal differences (where the confidence intervals meet but do not overlap) are not noted here but can be identified in the tables in the Appendix.

The general practitioners

The participating Victorian GPs did not differ from all participants in terms of their sex (32.8% female), the number of years they had worked in general practice (23.1% less than 10 years), the number of sessions they worked per week on average (14.9% less than 6 sessions per week, 15.9% more than 10 sessions per week), and their practice location (74.6% in capital and metropolitan areas).

However, there was a greater proportion of Victorian GPs aged less than 45 years (40.6%), compared with the national proportion (37.3%). They were more likely to work in practices of 5 or more GPs (50.9%) than average (44.0%). A greater proportion of these GPs had graduated in Australia (79.8% compared with national 74.3%), and fewer had graduated in Asia (4.7% compared with national 8.3%). A higher proportion of these GPs held FRACGP (35.0%) than the national average (32.2%). Victorian GPs were less likely to provide their

own or cooperative after-hours services for their patients (40.0%) than the average in Australia (43.4%) (Table A4.1).

The encounters

The raw figures showing the number of each variable available in the BEACH data set for Australia and for each state and territory of Australia are provided in Table A4.2.

Content of the encounters

Table A4.3a provides an overview of the content of the encounters recorded by Victorian GPs. At the 114,000 encounters reported by Victorian GPs they recorded patient reasons for encounter at a rate of 150.6 per 100 encounters, almost the same as the national average (150.2 per 100). The number of problems managed at encounters by Victorian GPs (149.8 per 100 encounters) did not differ from the national average (148.1 per 100). New problems arose at a rate of 51.0 per 100 encounters, which equates with the national average of 51.2 per 100. Work-related problems were managed at a similar rate (3.6 per 100 encounters) to the average (3.4 per 100 encounters).

Medications were prescribed, supplied or advised at a rate of 106.8 per 100 encounters, which did not vary from the national average (106.5 per 100).

There was no significant difference between encounters with Victorian GPs and the national average in terms of the number of other (non-pharmacological) treatments provided. Within this measure, clinical treatments were provided at a rate of 38.6 per 100 encounters (compared with 37.1 average) and procedural work at a rate of 13.0 per 100 encounters (compared with 13.8 average).

Victorian GPs did not differ from the average in rates of total referrals generally (11.5 per 100 encounters), or to specialists (7.6 per 100), allied health professionals (3.0 per 100), hospitals (0.6 per 100), emergency departments (0.1 per 100), or other referrals (0.2 per 100). Their ordering rate of pathology tests (34.0 per 100 encounters) and imaging (7.7 per 100) did not vary from the national average (33.8 and 8.2 per 100 respectively).

Age-standardised results

After age-standardisation, two new differences emerged. Victorian GPs did significantly less procedural work and ordered significantly fewer imaging tests than the national average (Table A4.3b).

Type of encounter

The types of encounters undertaken by GPs in Victoria did not differ in many ways from those conducted by all GPs in the national sample. At 97.3% of the 114,000 encounters, the patient was seen by the GP and for 93.1% a Medicare/Department of Veterans' Affairs item of service was claimable. Standard surgery consultations accounted for 74.7% of all encounters and a further 10.4% were long/prolonged surgery consultations. While home visits accounted for only 2.0% of the total, hospital and aged care facility visits were even less common. Fewer aged care facility visits were recorded in Victoria (0.7%) compared with the national average (1.0%). Encounters claimable through workers compensation accounted for 2.1% and indirect consultations (where the patient was not seen) accounted for 2.7% of the total (Table A4.4a).

Age-standardised results

After age-standardisation, the significant difference remained and no new significant results emerged (Table A4.4b).

Characteristics of the patients at encounter

The expected age distribution of patients at encounter in Victoria was calculated from the age distribution of the Victorian population (Figure 5.1) and mean annual GP visits by age group (Figure 5.2). The observed age distribution of BEACH encounters from Victoria (Table A4.5a) did not differ from the expected age distribution (results not shown). Therefore, the Victorian sample of BEACH encounters was representative of the Victorian population in terms of age distribution and GP visit rates.

A significantly greater proportion of encounters with Victorian GPs were with female patients (60.4% compared with 59.1% nationally). The age distribution slightly differed from the national average. The proportions of patients aged less than 1 year and 1–4 years were lower than the average (1.9% compared with 2.1%, 4.5% compared with 4.9% respectively). In each of the other age groups, no significant differences from the national average were found.

The proportion of encounters with patients holding a Repatriation Health Card (3.3%) or a Commonwealth Concession Card (40.3%) did not differ from the national average. There were no differences in the proportion of patients who were new to the practice (8.3%) and the proportion of patients from a non-English-speaking background (9.9%) compared with the average. However, a significantly lower proportion of encounters with Victorian GPs were with Indigenous patients (0.3%) than average (1.1%) (Table A4.5a).

Age-standardised results

After age-standardisation, the other characteristics of patients at encounter were compared, the significant difference identified in the descriptive analysis remained and no new differences emerged (Table A4.5b).

Patient reasons for encounter

The reasons for encounter (RFEs) described by patients attending GPs in Victoria differed in some respects from those given by patients at all encounters.

As shown in Table A4.6a, patients seeing Victorian GPs described relatively more circulatory problems (12.1 per 100 encounters) than in the national data set (11.4 per 100). Problems related to the skin (14.3 per 100 encounters) and the blood/blood-forming organs (1.3 per 100) were described significantly less often than the national average (15.0 and 1.6 respectively).

There was no significant difference in the rate at which they described general and unspecific problems (30.5 per 100 encounters), problems related to the respiratory system (23.3 per 100), the musculoskeletal system (16.6 per 100), the digestive system (10.4 per 100), the female genital system (6.6 per 100), the endocrine/nutritional and metabolic system (6.3 per 100), the neurological system (5.5 per 100), pregnancy and family planning (4.0), the ear (3.9), the eye (2.6), the urinary system (2.6), the male genital system (0.9), nor in the rate of RFEs of a psychological (8.7 per 100 encounters), or social (1.1) nature.

In terms of the most common individual RFEs described by patients at encounters in Victoria, as with the total national data, a request for check-up, either specific or general,

(15.5 per 100 encounters) and requests for prescriptions (9.4 per 100) were most frequent. They were followed by cough (6.1 per 100 encounters), requests for immunisation or vaccination (4.4 per 100), and requests for test results (4.4 per 100).

Skin complaint was the only RFE less frequently described in Victoria than in the national data (1.1 per 100 encounters compared with the average 1.4). There were no other significant differences among the most common individual RFEs (Table A4.7a).

Age-standardised results

After age-standardisation, the RFEs related to the blood/blood-forming organs and skin complaints remained significantly less common than average. However, two significant differences in circulatory and skin RFEs disappeared. No new differences emerged (Tables A4.6b and A4.7b).

Problems managed at encounter

Number of problems managed

As shown in Table A4.8a, the distribution of the number of problems managed at encounter did not differ for Victoria when compared with the national average. At approximately two-thirds of encounters the GP managed only one problem, and at 25.3% they managed two problems. Three problems (8.5%) and four problems (2.5%) were less often managed at a single encounter.

Types of problems managed

Table A4.9a shows that the distribution of the problems managed at encounters with GPs in Victoria paralleled that of the national average, with two exceptions. Circulatory problems (17.7 compared with 16.6 per 100 encounters) and psychological problems (12.4 compared with 11.3 per 100 encounters) were more frequently managed than in the national data set.

As with the national average, the most common problem managed in Victoria was hypertension (9.5 per 100 encounters), followed by upper respiratory tract infection (URTI) (6.2 per 100 encounters), immunisation/vaccination (4.7 per 100), depression (4.1), asthma (3.1), acute bronchitis (3.1), diabetes (3.0) and lipid disorder (2.8). However, acute bronchitis and anxiety were managed at a higher rate in Victoria than average (3.1 compared with 2.8 per 100 encounters and 2.0 compared with 1.7 per 100 encounters respectively). Less often managed than average were oesophageal disease (1.4 compared with 1.7 per 100 encounters) and solar keratosis (0.9 compared with 1.1 per 100 encounters) (Table A4.10a).

There were no other significant differences in the rate of management of other common problems.

Age-standardised results

No significant differences emerged after age-standardisation in terms of numbers of problems managed (Table A4.8b).

After age-standardisation, the significant difference in management of circulatory problems disappeared, but the management rate of psychological problems remained significantly higher in Victoria than average. No new differences emerged (Table A4.9b).

In terms of the most common problems managed, the higher management rate of anxiety disappeared. However, the management rate of acute bronchitis remained significantly

higher than average and the rates for oesophageal disease and solar keratosis remained significantly less frequently managed than national average (Table A4.10b).

New problems managed at encounter

When compared with the national average, there were no significant differences in the rate of management of new problems (Table A4.3a). The most commonly managed new problems in general practice in Victoria paralleled those most frequently managed nationally. URTI was the most frequently managed at a rate of 4.4 per 100 encounters, followed by immunisations/vaccinations (2.3 per 100), acute bronchitis (2.0), sprain/strain (1.0), urinary tract infection (1.0), and unspecified viral diseases (1.0 per 100) (Table A4.11a).

Age-standardised results

Age-standardisation did not change these results. There remained no significant differences between Victoria and the national average in the relative management rates of the most common new problems (Table A4.11b).

Management rates

Earlier in this chapter we reported the rates of each management type provided per 100 encounters. In this section we view management in two other ways. First, we compare the rate of each management variable per 100 problems managed. This removes any bias introduced by differing number of problems managed between states. Second, we look at the likelihood of GPs providing at least one of each management action at the encounter. This provides a simple picture of the chance the patient has of receiving, for example, a prescribed medication or a referral when they attend the GP.

Management rates per 100 problems managed

Table A4.12a shows that GPs in Victoria prescribed, supplied or advised a medication at a rate of 71.3 per 100 problems managed, a similar rate to the national average (71.9). This was reflected in the rates of prescribed medications (60.4 per 100 problems), medications advised for over-the-counter purchase (5.6 per 100), and those GP-supplied (5.4 per 100).

In terms of problems managed, they provided fewer procedural treatments (8.6 compared with 9.3 per 100 problems) but did not differ from the average in use of clinical treatments such as advice and counselling (25.7 compared with 25.1 per 100 problems).

Referral rates to specialists and other services did not differ from the average. The pathology test order rate was similar to the national average (22.7 compared with 22.8 per 100 problems). However, imaging tests were ordered at a significantly lower rate (5.1 per 100 problems) in Victoria than in Australia (5.5 per 100).

Age-standardised results

After age-standardisation, the significant differences identified in the descriptive analysis remained and no new differences emerged (Table A4.12b).

Encounters for which management was recorded

This section considers the relative likelihood of at least one management action of each type at encounter and the results are presented in Table A4.13a.

The likelihood of prescribing, advising or supplying at least one medication by Victorian GPs was similar to the national average (83.4% compared with 83.0%).

There was also no difference in the proportion of encounters with Victorian GPs that involved at least one other treatment at the encounter (39.5% compared with 39.0% nationally). The proportion of encounters involving at least one referral, at least one pathology test, or at least one imaging test did not differ from the average.

Age-standardised results

After age-standardisation, the proportion of encounters resulting in at least one investigation became significantly lower than the national average. This was due to a lesser likelihood of Victorian GPs ordering at least one imaging test at the encounter, a difference that was previously being masked by the age distribution of the population. No other new differences emerged (Table A4.13b).

Medications

As demonstrated in Table A4.14a, there were some significant differences in the prescribing of medication groups and subgroups by Victorian GPs compared with all GP participants.

- Psychological medications were prescribed at a significantly higher rate in Victoria (8.3 per 100 encounters) than in Australia (7.6), mainly due to higher prescribing rates of anti-anxiety agents (2.4 compared with 2.0 per 100 encounters).
- Medications acting on the urogenital system were also prescribed at a significantly higher rate in Victoria, at 2.4 prescriptions per 100 encounters compared with the average (2.1). The only subgroup in which this significant difference was reflected was for diuretics, which were prescribed at a rate of 1.8 per 100 encounters compared with 1.5 per 100 national average.
- Topical ear/nose medications (1.8 per 100 encounters) were prescribed significantly less often by Victorian GPs than all GPs (2.1 per 100). This was reflected in the significantly lower rate of prescribed topical otic medications (0.8 compared with 0.9 per 100).
- While the prescribing rate for hormones generally was not significantly different from the national average (5.9 compared with 6.0 per 100), the rate of prescribed sex hormone/anabolic medications in Victoria (2.0 per 100) was significantly lower than in the national data set (2.2).

There were no significant differences in the prescribing rates of the other drug groups, including antibiotics, cardiovascular system medications, drugs acting on the central nervous system, medications acting on the musculoskeletal system, respiratory medications, allergy and immune system drugs, medications for the skin, drugs acting on the digestive system, and contraceptives.

Age-standardised results

After age-standardisation, one new difference emerged. Topical steroids for skin were prescribed significantly more by Victorian GPs after standardisation. Differences in prescribing rates for psychological medications, sex hormones/anabolic medications, and topical ear medications became marginal. However, the rest of the significant differences remained (Table A4.14b).

Most commonly prescribed medications

Table A4.15a provides comparative results for the prescribing rates of each of the most commonly prescribed medications in the country as a whole. The most common medications

prescribed by Victorian GPs were amoxycillin (3.2 per 100 encounters), paracetamol (3.1 per 100), paracetamol/codeine (2.2 per 100) and salbutamol (2.2 per 100).

There were three significant differences in the prescribing pattern of Victorian GPs when compared with the national average. They had a higher prescribing rate of diazepam (1.3 compared with 1.1 per 100 encounters), and topical betamethasone (1.1 compared with 0.9 per 100), and a lower prescribing rate of cephalexin (1.7 compared with 1.9 per 100 encounters).

Age-standardised results

After age-standardisation, these significant differences remained and no new differences emerged (Table A4.15b).

Other (non-pharmacological) treatments

As previously stated in 'Content of the encounters' (Table A4.3a), Victorian GPs provided other (non-pharmacological) treatments at the same rate as the national average. This was reflected in their provision of clinical treatments such as advice and counselling. However, they did undertake significantly fewer procedural treatments than the national average.

Clinical treatments

There were no significant differences in the rate of provision of any of the most frequent individual clinical treatments when compared with the national average. The most common were general advice and education (6.4 per 100 encounters), advice and education about treatment of the problem (5.0 per 100), counselling/advice pertaining to nutrition/weight (4.9 per 100) and counselling about the problem managed (4.2 per 100). Psychological counselling was also commonly provided (3.6 per 100 encounters) (Table A4.16a).

Age-standardised results

After age-standardisation, a difference emerged in the most frequent individual clinical treatments. There was a higher rate of reassurance/support in Victoria than in Australia (Table A4.16b).

Procedural treatments

The single significant difference in the provision of individual procedures by Victorian GPs was a lower rate of physical function test, being recorded at a rate of 0.3 per 100 encounters compared with 0.4 per 100 nationally (Table A4.17a).

Age-standardised results

After age-standardisation, the difference in providing physical function tests remained and no new differences emerged (Table A4.17b).

Referrals

As earlier stated (see 'Content of the encounters', Table A4.3a), the overall referral rate by Victorian GPs was similar to the national average. Moreover, the referring rates to specialists, allied health professionals, hospitals, emergency departments or for any other referrals did not differ in Victoria when compared with the average.

Referrals to medical specialists

Victorian GPs referred patients to a medical specialist at a rate of 7.6 per 100 encounters (compared with 7.9 average). As with the national results, referrals were most commonly made to surgeons (0.9 per 100 encounter), ophthalmologists and orthopaedic surgeons (each at a rate of 0.7 per 100 encounters) (Table A4.18a).

Referrals to allied health professionals

As shown in Table A4.18a, there were no significant differences in the rate at which Victorian GPs referred patients to allied health services when compared with the national average. The most common referral was to physiotherapists (1.0 per 100 encounters), followed by unspecified health professionals, podiatrists/chiropodists, psychologists, dietitians/nutritionists, dentists and referrals for an electrocardiogram (each at a rate of 0.2 per 100 encounters).

Age-standardised results

After age-standardisation, a significant difference emerged in the rate of referrals for an electrocardiogram. Victorian GPs referred their patient to undertake this test at a significantly higher rate than the national average (Table A4.18b).

Pathology test orders

As earlier shown (see 'Contents of the encounters'), Victorian GPs ordered pathology tests at a similar rate to the national average (34.0 tests compared with 33.8 per 100 encounters). This also applied to the top four groups of pathology tests, the rates for which are provided in Table A4.19a. Pathology tests classed as Chemistry were the most commonly ordered at a rate of 18.9 per 100 encounters. However, there were four significant differences in the ordering of tests classified as Chemistry. Victorian GPs had higher ordering rates of lipid tests (3.9 compared with 3.4 per 100 encounters), electrolytes, urea, and creatinine (EUC) (3.1 compared with 2.2 per 100 encounters), and glucose (2.9 compared with 2.2 per 100 encounters). In contrast, they had a lower ordering rate for multi-biochemical analysis (0.1 compared with 1.2 per 100 encounters). Two groups of pathology tests were ordered at significantly lower rates in Victoria than in Australia as a whole. Other pathology tests (0.6 per 100 encounters) and Tissue pathology (0.3 per 100) were ordered significantly less often by Victorian GPs than average (0.8 and 0.5 respectively) (Table A4.19a).

Age-standardised results

After age-standardisation, differences in ordering rates for lipid tests and Tissue pathology tests became marginal. However, the other significant differences identified remained. One new difference emerged. Liver function tests were ordered significantly more by Victorian GPs after standardisation. This ordering rate had been marginally higher in the descriptive analysis (Table A4.19b).

Imaging orders

The earlier section 'Contents of the encounters' showed that Victorian GPs ordered imaging tests at the same rate as the national average. Table A4.20a shows that this also applied to ordering of ultrasounds and computerised tomography (CT). However, diagnostic radiology tests were ordered significantly less often by Victorian GPs than all Australian GPs (4.6 tests compared with 5.0 per 100 encounters).

Age-standardised results

After age-standardisation, this significant difference remained and no new differences emerged (Table A4.20b).

Patient risk factors

There have been three major ongoing subsample studies of selected patient risk factors: patient body mass index (BMI) calculated from patient self-reported height and weight, self-reported alcohol consumption and current smoking status. The methods applied to these subsample studies are described in Chapter 2—Methods.

Body mass index

Adults

The adult patients (aged 18 years or more) of Victorian GPs did not differ from the national average in terms of body mass index. Of the 36,712 adult patients (18 years and over) for whom BMI could be calculated, 54.1% were classified as either overweight (33.5%) or obese (20.6%). More than one-third (38.4%) were of normal weight and 7.5% were underweight (Table A4.21).

Children

There were 4,191 children aged between 2 and 17 years for whom a BMI could be calculated. Of these, 33.0% were classified as either overweight (18.7%) or obese (14.3%). Two-thirds were of normal weight or underweight. These results reflected those found in the national data set (Table A4.21).

Alcohol consumption

Responses to the questions on alcohol consumption were recorded for 36,150 adult Victorian patients (aged 18 years or more). There were significantly more responsible drinkers (45.2%) and fewer at-risk drinkers (23.7%) than those from the nation as a whole (43.9% and 25.0% respectively). However, the proportion that reported being non-drinkers did not differ from the national average (Table A4.21).

Smoking status

Of the 36,482 responding adult patients (aged 18 years and over), 18.6% reported smoking daily, 4.9% smoked occasionally, 27.0% were previous smokers, and 49.6% were non-smokers. These results reflected the national average (Table A4.21).

5.3 Discussion

As a data source, the BEACH program is unique in Australia. Its strengths lie in the large size and representativeness of the sample, and the reliability of the research methods.[15] However, as in all analyses of this kind, relying on 95% confidence intervals with a large number of comparisons leads to a possibility that 5% of observed differences may be false (Type 1 error).

The lower proportion of Victorian patients identified as Indigenous people compared with the national average was in line with the 2001 Census data, which showed that Victoria had the lowest proportion of people who identified as being of Indigenous origin (0.5%).[30]

Victorian GPs provided fewer visits to residential aged care facilities compared with the national average, and they were also younger than average. This finding is consistent with results from a recent study which suggested older GPs provided more services to residential aged care facilities than their younger counterparts.[31] Victorian GPs were also less likely to provide their own or cooperative after-hours services for their patients than the national GP sample.

Compared with all participating GPs, Victorian GPs ordered fewer imaging tests. After age-standardisation, this rate remained significant. However, the management rate of musculoskeletal problems in Victoria did not differ from the average. The lower ordering rate of imaging tests was not explained by either the age distribution of the population or the management rate of musculoskeletal problems in Victoria.

In terms of medications, clinical treatments, referrals, and pathology tests, Victorian GPs provided similar management actions to the national average.

The higher presentation and management rates of circulatory problems were explained by the age distribution of the population. In contrast, the higher management rate of acute bronchitis and the lower management rate of oesophageal disease were not explained by the age of the patients seen by Victorian GPs.

The higher prescribing rate of psychological medications generally (anti-anxiety agents and diazepam in particular) reflected the higher management rate of psychological problems (particularly anxiety) in Victoria. The prevalence of mental and behavioural problems in Victoria is the same as in Australia.[5] Higher rates of psychological problems managed and psychological medications prescribed by Victorian GPs might be influenced by the Beyondblue program, introduced by the Commonwealth and Victorian Governments in 2000, which was very much stimulated by Victorian government initiatives. This program focuses mainly on building awareness and understanding about depression, anxiety and related substance misuse disorders.[32] As such, it may be having an effect on the diagnosis and management of psychological problems.

The lower management rate of solar keratosis in Victoria may to some degree reflect the lower presentation rate of skin complaints by their patients. Moreover, less solar keratosis may relate to the marginally lower rate of excision/removal tissue/biopsy noted in Victoria than the average.

In terms of individual pathology tests, Victorian GPs ordered more electrolytes, urea, and creatinine (EUC), liver function, and glucose tests, and less multi-biochemical analysis. This probably reflects the local practise style associated with the pathologist from whom these pathology tests are being ordered. All these differences remained significant after age-standardisation.

Patients attending Victorian GPs did not differ from the national average in terms of risk factors such as overweight, obesity, and smoking status. However, they were more likely to be responsible drinkers, and less likely to report at-risk alcohol consumption.

5.4 Conclusion

The clinical activities of Victorian GPs do not differ markedly from the average of all GPs across Australia. State authorities can feel comfortable in relying on the national data reported regularly by the AIHW and the University of Sydney in such publications as *General Practice Activity in Australia 2002–03*[15] to gain a reliable assessment of the current practise style of GPs in Victoria. However, the differences, such as fewer visits to residential aged care facilities and the lower provision of after-hours services, may need some attention from authorities monitoring the GP workforce. The higher management rate of psychological problems and lower ordering rate of imaging tests would be worthy of further investigation using the BEACH data set. Being one of the more populated states, Victoria has sufficient annual sample size (and therefore power) to measure changes in these activities in the future.

6 Queensland

6.1 Background

In 2001, the population of Queensland was 3,628,946 people, accounting for 18.7% of the total Australian population. Males accounted for 49.8% of those living in Queensland, and females 50.2%. The median age of Queensland residents was 35.5 years, which was similar to the median age for the nation (36.1 years) (Table A3.1).

There were 3,946 GPs and OMPs working in Queensland during the last 3 months of 2001. This equated with 3,283.1 full-time workload equivalent (FWE) GPs practising in Queensland in 2001. This means there was one FWE GP per 1,105.3 people, the highest GP availability per head of population in Australia. Therefore, Queenslanders have more GPs per person than any other state or territory. There were considerably fewer GPs in Queensland aged 55 years or more compared with the national average (18.0% compared with 22.0%). One-quarter of FWE GPs in Queensland were female (Table A3.1).

The age distribution of the Queensland population in 2001 is shown in Figure 6.1. People aged 25–44 years accounted for the greatest proportion (29.8%), while those aged between 45 and 64 years accounted for 23.2% of the population. Queenslanders had a slightly lower proportion of residents aged 65 years and older (11.7%) compared with Australia as a whole (12.5%). Conversely, Queensland had a slightly higher proportion of its population under the age of 25 years (35.4%) when compared with all of Australia (34.2%).

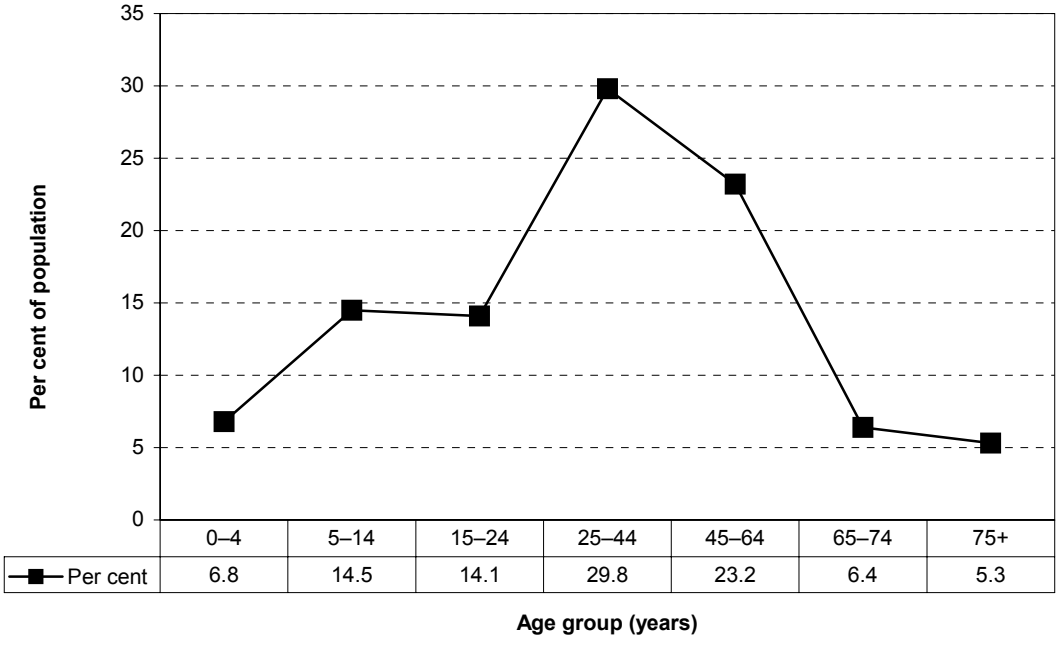

Figure 6.1: Age distribution of the Queensland population, 2001

The HIC processed 17,451,209 Medicare A1 and A2 items of service between July 2002 and June 2003 for Queensland residents, accounting for 18.3% of total services processed throughout Australia over this period. On average, Queenslanders attended general practice 4.8 times in that year, which was similar to the the Australian average of 4.9 times. Those aged 75 years and over attended general practice at the highest rate (10.0 Medicare-claimed attendances), while 65–74 year olds had an average of 8.7 attendances in that year. Children aged between 5 and 14 years had the lowest average rate of attendance (2.5 attendances), while those aged between 15 and 24 years attended an average of 3.5 times (Figure 6.2). These rates were similar to the Australian averages.

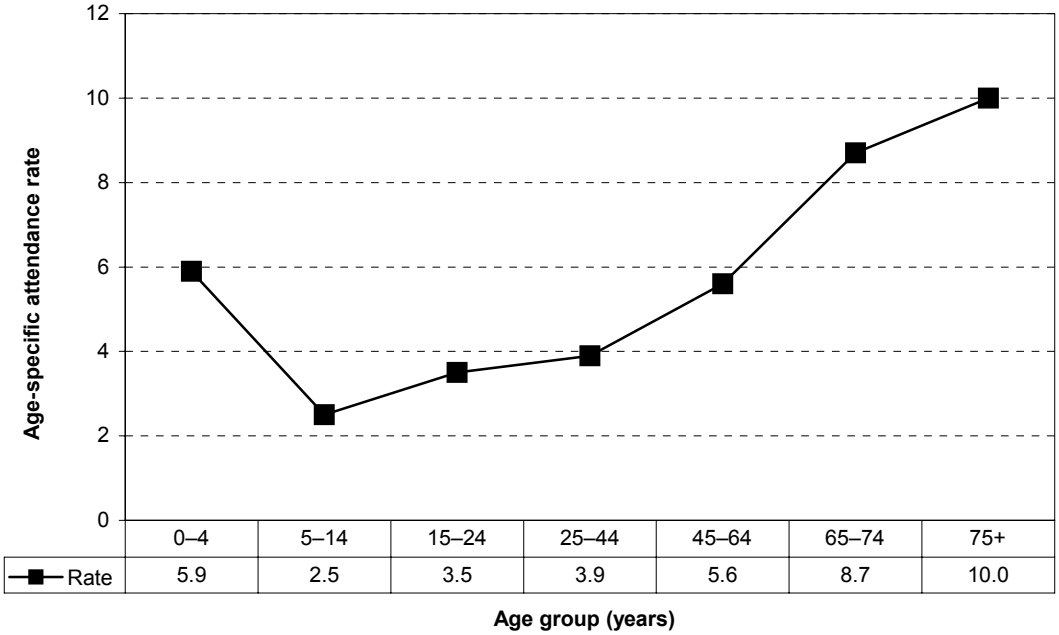

Figure 6.2: Age-specific Medicare-claimed general practice attendance rates for the population of Queensland

6.2 Results

There were 933 GPs from Queensland who participated in BEACH between April 1998 and March 2003. They accounted for 18.6% of the total sample and provided details about 93,300 encounters. Results for Queensland are compared with those throughout Australia in Appendix 4. The differences highlighted below are those identified by non-overlapping 95% confidence intervals. Marginal differences (where the confidence intervals meet but do not overlap) are not noted here but can be identified in the tables in the Appendix.

The general practitioners

Females made up a greater proportion of the GP participants in Queensland than the national average (35.4% compared with 32.6%). Participating GPs from Queensland were less likely to work in the capital city (50.6% compared with 67.1%) or to have graduated in Asia (3.2% compared with 8.3%). There were no significant differences found in the age, experience, size of practice and number of sessions worked per week of participating Queensland GPs when compared with the national average (Table A4.1).

The encounters

The raw figures showing the sample sizes available in the BEACH data set for Queensland, Australia, and for each other state and territory of Australia, are provided in Table A4.2.

Content of encounters

Table A4.3a provides an overview of the content of encounters recorded by Queensland GPs. At the 93,300 encounters, patient reasons for encounter were recorded at a rate of 147.2 per 100 encounters, a significantly lower rate than average for the country (150.2). However, the rate of problems managed per 100 encounters by Queensland GPs (145.9 per 100) did not differ from the average (148.1). The rate of new problems managed (52.6 per 100 encounters) was also similar to the average (51.2). However, the rate of work-related problems managed by Queensland GPs (2.7 per 100 encounters) was significantly lower than reported throughout Australia (3.4).

Queensland GPs prescribed, supplied or advised medications for over-the-counter purchase at a rate of 102.2 per 100 encounters, a significantly lower rate than average (106.5). This was mainly due to a significantly lower prescribing rate amongst Queensland GPs (84.7 per 100 encounters) when compared with the national average (89.4). Queensland GPs advised medications for over-the-counter purchase at a rate of 8.8 per 100 encounters and they supplied medications at a rate of 8.7 per 100 encounters, comparable to the national average.

Queensland GPs provided other (mainly non-pharmacological) treatments to patients at a rate of 53.3 per 100 encounters, no different from the national rate (50.9). Within this group of treatments, there was also no difference found between the rate of clinical treatments given by Queensland GPs (36.1 per 100 encounters) and the national average (37.1). However, procedural treatments were given by Queensland GPs at a significantly higher rate than the national average (17.2 compared with 13.8 per 100 encounters).

Queensland GPs gave referrals at an average rate of 10.7 per 100 encounters, which was significantly lower than the national average (11.8). This applied to both referrals to specialists (7.2 compared with 7.9 per 100 encounters) and to allied health services (2.5 compared with 2.9 per 100 encounters). There were no differences found in the referral rate made to hospitals (0.8 per 100) or to emergency departments (0.1 per 100) by Queensland GPs when compared with the average.

Queensland GPs ordered pathology tests at a rate of 35.9 per 100 encounters, which was similar to the national average of 33.8 per 100 encounters. They ordered imaging tests at an average rate of 8.8 per 100 encounters, in parallel with the Australian average (8.2).

Age-standardised results

After age-standardisation, the significant differences identified in the descriptive analysis remained and no new differences emerged (Table A4.3b).

Type of encounter

The distribution of the types of encounters recorded by Queensland GPs was similar to that recorded by GPs throughout Australia. Patients were seen by the GP at 97.1% of the 93,300 encounters with Queensland GPs, and a Medicare/Department of Veterans' Affairs item of service was claimable at 93.1% of encounters. Standard surgery consultations accounted for 75.1% of all encounters and a further 10.1% were long surgery consultations. Hospital visits were recorded at 0.6% of encounters, and visits to a residential aged care facility at 1.3% of

encounters. However, home visits accounted for only 1.0% of all encounters, a significantly lower proportion than the national average (1.7%). Encounters claimable through workers compensation accounted for only 1.1%, which was also significantly lower than throughout Australia (1.9%). Indirect consultations accounted for 2.9% of encounters, which was identical to the national average (Table A4.4a).

Age-standardised results

After age-standardisation, the significant differences remained and no new significant results emerged (Table A4.4b).

Characteristics of the patients at encounter

The expected age distribution of patients at encounter in Queensland was calculated from the age distribution of the Queensland population (Figure 6.1) and mean annual GP visits by age group (Figure 6.2). The observed age distribution of BEACH encounters from Queensland (Table A4.5a) did not differ from the expected age distribution (results not shown). Therefore, the Queensland sample of BEACH encounters was representative of the Queensland population in terms of age distribution and GP visit rates.

The sex distribution of patients at encounters with GPs in Queensland was similar to the national distribution, with the majority being female (59.4% compared with 59.1% in the national sample). A significantly greater proportion of patients were aged <1 year (2.4% compared with 2.1%) and between 5 and 14 years (7.0% compared with 6.4%). In contrast, there was a significantly lower proportion of patients of 65 to 74 years of age (11.4% compared with 12.1%). Overall Queensland had more patients under the age of 25 (24.8% compared with 23.3%) and fewer patients aged 65 years and older (23.8% compared with 25.1%) than the national average.

The proportion of patients new to the practice was significantly higher in Queensland than the total for Australia (11.1% compared with 9.2%). Repatriation Health Card holders accounted for a significantly greater proportion of encounters in Queensland (3.9% of encounters) than throughout Australia (3.4%). Patients from a non-English-speaking background accounted for only 4.0% of encounters, a significantly lower proportion than the average (8.8%). Patients who were Aboriginal and/or Torres Strait Islander people accounted for 1.6% of encounters and this did not differ from the national average (1.1%) (Table A4.5a).

Age-standardised results

After age-standardisation, all significant results remained and no new differences emerged (Table A4.5b).

Patient reasons for encounter

The distribution of the reasons for encounter (RFEs) described by patients attending GPs in Queensland differed in some respects from those given by patients at all encounters throughout Australia (Table A4.6a).

Patients seeing GPs in Queensland described significantly more RFEs relating to the skin (17.4 compared with 15.0 per 100 encounters) but described fewer relating to the respiratory (21.1 compared with 22.7 per 100 encounters), circulatory (9.5 compared with 11.4 per 100), digestive (9.8 compared with 10.4 per 100), endocrine/nutritional and metabolic (5.3

compared with 6.0 per 100) and neurological systems (5.1 compared with 5.5) and related to the blood and blood-forming organs (1.3 compared with 1.6 per 100).

However, there was no significant difference in the rate at which they described general and unspecified RFEs (31.8 per 100 encounters), RFEs related to the musculoskeletal system (16.2 per 100), RFEs of a psychological nature (7.4 per 100), RFEs related to the female genital system (6.5 per 100), the ear (4.3 per 100), pregnancy and family planning (4.2 per 100), the eye (2.5), the urological (2.4) and male genital systems (1.1 per 100) and RFEs of a social nature (1.2 per 100 encounters).

As in the total Australian data, the most common individual RFEs described by patients at encounters in Queensland were requests for a check-up (15.0 per 100 encounters) and requests for prescriptions (9.7 per 100). No individual RFE occurred more frequently in Queensland than they did in the national average but there were three RFEs that occurred less frequently. These were cough (5.6 compared with 6.1 per 100 encounters), throat complaint (3.1 compared with 3.5) and knee complaint (1.1 compared with 1.4). Requests for immunisation or vaccination (4.9 per 100), requests for test results (4.9 per 100) and back complaints (3.4 per 100) were other commonly described RFEs in both Queensland and the country as a whole (Table A4.7a).

Age-standardised results

After age-standardisation, all significant differences remained and no new differences emerged (Tables A4.6b and A4.7b).

Problems managed at encounter

Number of problems managed

As shown in Table A4.8a, the distribution of the number of problems managed at an encounter did not differ in Queensland when compared with the national average. At around two-thirds of encounters the GP managed only one problem, and at 23.8% of the encounters they managed two problems.

Types of problems managed

Table A4.9a shows the distribution of problems managed at encounters with GPs in Queensland. A number of problems were managed at significantly different rates in Queensland, compared with their management rates throughout Australia as a whole. Problems managed significantly more often were those associated with the skin (19.1 compared with 16.6 per 100 encounters) and problems classified as general and unspecified (15.9 compared with 15.0 per 100 encounters). Problems less often managed were those associated with the respiratory (20.7 compared with 21.7 per 100 encounters), circulatory (14.3 compared with 16.6 per 100 encounters), the endocrine and metabolic (8.8 compared with 9.9 per 100 encounters) systems and those associated with the ear (3.9 compared with 4.3 per 100 encounters).

Similar to the national average, the most frequently managed problem in Queensland was hypertension (7.2 per 100 encounters), followed by upper respiratory tract infections (URTI) (5.6 per 100 encounters), immunisations/vaccinations (5.0 per 100 encounters), depression (3.8 per 100 encounters), and asthma (3.0 per 100 encounters). Although hypertension was the most frequently managed problem, it was managed significantly less often in Queensland than the national average (7.2 compared with 8.8 per 100 encounters). Other problems managed significantly less often were diabetes (2.5 compared with 2.8), lipid

disorders (2.0 compared with 2.8), contact dermatitis (1.6 compared with 1.9), sleep disturbances (1.4 compared with 1.6) and gastroenteritis (0.8 compared with 1.0) (Table A4.10a). Problems managed significantly more often in Queensland were solar keratosis/sunburn (1.8 compared with 1.1) and malignant neoplasms of the skin (1.5 per 100 encounters, 95% CI: 1.3–1.7 compared with 0.9 per 100 encounters 95% CI: 0.8–1.0) (results not tabulated).

Age-standardised results

The number of problems managed at each encounter in Queensland remained representative of the national average after age-standardisation (Table A4.8b).

After age-standardisation, significant differences reported for general and unspecified problems and for ear problems disappeared. No new differences emerged (Table A4.9b).

In the individual problems managed, the differences in the rates of diabetes, sleep disturbance and gastroenteritis were no longer significant after age-standardisation. However, one new significant difference emerged: the management rate of URTI in Queensland became significantly lower when compared with the national average (Table A4.10b).

New problems managed at encounter

The most frequently managed new problems in general practice in Queensland paralleled those most frequently managed nationally. URTI was the most frequently managed at a rate of 4.0 per 100 encounters followed by immunisation and vaccinations (2.5 per 100), acute bronchitis (1.7), sprain/strain (1.0) and urinary tract infection (1.0 per 100 encounters) (Table A4.11a). Malignant neoplasm of the skin was a new problem managed significantly more often in Queensland than throughout Australia (0.7 per 100 encounters 95% CI: 0.6–0.9 compared with 0.5 per 100 encounters 95% CI: 0.3–0.5) (results not tabulated).

Age-standardised results

After age-standardisation, the higher management rate of malignant neoplasms of the skin did not remain significant and no new differences emerged (Table A4.11b).

Management rates

Earlier in this chapter we reported the rates of each management type provided per 100 encounters. In this section we view management in two other ways. First, we compare the rate of each management variable per 100 problems managed. This removes any bias introduced by differing number of problems managed between states. Second, we look at the likelihood of GPs providing at least one of each management action at the encounter. This provides a simple picture of the chance the patient has of receiving, for example, a prescribed medication or a referral when they attend the GP.

Table A4.12a shows that GPs in Queensland provided (prescribed, supplied or advised) a similar number of medications per 100 problems managed to the national average (70.0 compared with 71.9 per 100 problems managed). Queensland GPs prescribed significantly fewer medications than GPs across Australia (58.0 per 100 compared with 60.4). They also supplied medications (6.0 per 100 problems) and advised over-the-counter purchase of medications (6.0 per 100 problems) at similar rates to the national average (5.5 and 6.1 respectively).

Queensland GPs provided other treatments at a significantly higher rate (36.5 per 100 problems) than the national average (34.4). This was mostly due to significantly higher provision of procedural treatments (11.8 compared with 9.3 per 100 problems). There was no difference in the provision of clinical treatments by Queensland GPs compared with the national average (24.7 compared with 25.1 per 100 problems).

Queensland GPs made referrals at a rate similar to the national average (4.3 compared with 4.8 per 100 problems) but referred significantly less often to specialists when compared with the national average (2.8 compared with 3.2 per 100 problems). There were no differences in the referral rates to allied health professionals (0.9 per 100) or to hospitals (0.2 per 100 problems) when compared with the average.

Queensland GPs ordered pathology tests at a higher rate (24.6 tests per 100 problems) than the national average (22.8), although imaging tests were ordered at a similar rate to all GPs in Australia (6.0 compared with 5.5).

Age-standardised results

After age-standardisation, two new differences emerged. Queensland GPs prescribed, supplied or advised medications at a significantly lower rate than average. The overall rate of referrals made by Queensland GPs also became significantly lower than the national average. However, after age-standardisation, the significantly higher rate of pathology tests and the lower referral rate to specialists were no longer apparent (Table A4.12b).

Encounters for which management was recorded

This section considers the relative likelihood of at least one management action of each type occurring at encounters. The results are presented in Table A4.13a.

The likelihood of prescription, advice or supply of at least one medication at the encounter was significantly lower for Queensland GPs compared with the national average (64.5% compared with 66.5% of encounters). This was mainly due to the lower proportion of encounters resulting in at least one prescription (55.3% compared with 57.3% of encounters). There was no difference in the proportion of encounters resulting in at least one medication being advised for over-the-counter purchase, or supplied at the encounter. Encounters with GPs in Queensland were more likely to result in at least one other treatment compared with the total for Australia (40.8% compared with 39.0% of encounters). This was mainly due to encounters with Queensland GPs being more likely to result in at least one procedural treatment when compared with the average (15.5% compared with 12.6% of encounters).

The provision of at least one referral was less likely at GP encounters in Queensland (10.3% compared with 11.2% of encounters) than for the country as a whole (particularly at least one referral to a specialist 3.9% compared with 4.5% of encounters). In contrast, encounters with GPs in Queensland were more likely to result in at least one pathology test order (15.8% compared with 14.9% of encounters). There was no difference in the proportion of encounters with Queensland GPs that involved at least one order for imaging (7.5% compared with 7.2% of encounters).

Age-standardised results

After age-standardisation, all the significant differences noted above remained. In addition, the proportion of encounters resulting in at least one investigation became higher (Table A4.13b).

Medications

The most frequently prescribed medication groups in Queensland were the same as those for the country as a whole. Antibiotics were prescribed at a rate of 15.1 per 100 encounters, followed by cardiovascular medications (11.1 per 100 encounters) and medications affecting the central nervous system (10.1 per encounters). As demonstrated in Table A4.14a, a number of medication groups were prescribed significantly less often in Queensland than throughout Australia.

- Medications acting on the cardiovascular system were prescribed at a rate of 11.1 per 100 encounters compared with 13.7 per 100 encounters for Australia as a whole. This was reflected in the lower prescribing rates of anti-hypertensives (5.8 compared with 7.4 per 100 encounters) and 'other cardiovascular drugs' (mainly lipid lowering medications) (1.9 compared with 2.5).
- Medications acting on the musculoskeletal system were prescribed at a rate of 5.3 per 100 encounters compared with 5.8 per 100 encounters for Australia as a whole.
- Medications acting on the skin were prescribed at a rate of 3.9 compared with 4.3 per 100 encounters. This was reflected in the significantly lower prescription of topical steroids (2.2 compared with 2.7 per 100 encounters).
- Medications acting on the digestive system were prescribed at a rate of 3.6 compared with 4.0 per 100 encounters.
- Medications acting on the urogenital system were prescribed at a rate of 1.7 compared with 2.1 per 100 encounters, particularly diuretics (1.2 compared with 1.5 per 100 encounters).
- Medications acting on the endocrine/metabolic system were prescribed at a rate of 1.2 compared with 1.5 per 100 encounters.
- Other subgroups prescribed at significantly lower rates were simple analgesics (3.7 compared with 4.2 per 100 encounters), hypoglycaemic agents (1.5 compared with 1.9 per 100 encounters) and other blood medications (0.8 compared with 0.9 per 100 encounters).

The only types of medication prescribed significantly more often in Queensland than the average for the nation were contraceptives (2.1 compared with 1.8 per 100 encounters) and topical otic medications (1.1 compared with 0.9 per 100 encounters).

Most commonly prescribed medications

Table A4.15a provides comparative results for the prescribing of the most common generic medications in the country. Five medications were prescribed significantly less often in Queensland when compared with the national average; paracetamol (2.9 compared with 3.4 per 100 encounters), temazepam (1.2 compared with 1.4), simvastatin (0.6 compared with 0.9), topical betamethasone (0.6 compared with 0.9) and frusemide (0.6 compared with 0.8).

Age-standardised results

After age-standardisation, the differences found in the prescription rates for digestive and metabolic medication, topical otics and other blood medication in Queensland were no longer significant (Table A4.14b). The lower prescription rates of temazepam and frusemide in Queensland also lost their significance after age-standardisation (Table A4.15b). All other significant differences identified in the descriptive analysis remained and no other significant differences appeared as a result of age-standardisation.

Other (non-pharmacological) treatments

As previously stated in 'Content of encounters' (Table A4.3a), Queensland GPs provided other treatments at a similar rate to the average for Australia. However, procedural treatments were performed at a significantly higher rate in Queensland compared with the national average. There was no difference in the rate of provision of 'clinical treatments'.

Clinical treatments

The most frequent clinical treatment provided at encounters in Queensland were advice/education relating to treatment of the problem being managed (5.8 per 100 encounters), general advice/education (5.7), counselling related to the problem under management (4.4) and counselling/advice related to nutrition (4.3). Two clinical treatments were provided at a significantly lower rate than the national average: psychological counselling (2.7 per 100 encounters compared with 3.1), and the provision of sickness certificates (0.7 compared with 1.0 per 100 encounters) (Table A4.16a).

Procedural treatments

Queensland GPs performed excisions/biopsies/removal of tissue (including destruction, debridement and cauterisation) at significantly higher rates than the national average and this difference was quite large (4.1 compared with 2.8 per 100 encounters). They also provided dressings (compression, pressure, tamponade) (2.3 compared with 1.9 per 100 encounters) and application/removal of a suture/cast/prosthetic device at higher rates than the national average (1.4 compared with 1.0 per 100 encounters) (Table A4.17a).

Age-standardised results

After age-standardisation, the lower rate of psychological counselling was no longer significant but the rate of provision of sickness certificates remained lower (Table A4.16b). Table A4.17b shows that incision/drainage (including flushing, aspiration, removal of body fluid) was performed by Queensland GPs at a significantly higher rate than the national average after age-standardisation. The remaining differences identified in the descriptive analysis remained after age-standardisation and no other significant differences emerged after age-standardisation.

Referrals

As previously stated in 'Content of encounters' (Table A4.3a), the overall referral rate by Queensland GPs was significantly lower than the average for all of Australia.

Referrals to medical specialists

Queensland GPs referred their patients to medical specialists at a significantly lower rate than the national average (7.2 compared with 7.9 per 100 encounters) and this was reflected in a significantly lower rate of referrals to dermatologists (0.4 compared with 0.6 per 100 encounters). As with the national results, Queensland GPs referred most often to surgeons (0.7 per 100 encounters), ophthalmologists (0.7) and orthopaedic surgeons (0.7) (Table A4.18a).

Referrals to allied health professionals

As shown in Table A4.18a, Queensland GPs referred patients to allied health professionals significantly less often than the national average (2.5 compared with 2.9 per 100 encounters). However, this was not reflected in decreased referral rates to any particular type of allied

health professional. As with the national results, referrals were most commonly made to physiotherapists (0.9), general health professionals (0.2) and dietitians/nutritionists (0.2).

Age-standardised results

After age-standardisation, the significant differences remained, and no new significant differences emerged (Table A4.18b).

Pathology test orders

As shown earlier in 'Content of encounters' (Table A4.3a), Queensland GPs ordered pathology tests at a similar rate to the national average. They had higher ordering rates for Haematology tests (7.4 compared with 6.5 per 100 encounters), mainly due to a higher order rate for full blood counts (5.5 compared with 4.5 per 100 encounters). Queensland GPs also ordered more Microbiology tests (6.7 compared with 5.3 per 100 encounters) and Tissue pathology (0.9 compared with 0.5 per 100 encounters) than the national average. Queensland GPs had a lower rate of Other pathology tests recorded when compared with the national average (0.6 compared with 0.8). While Chemistry tests were ordered at a similar rate to the national average there was considerable variation in the rates of the individual types of tests ordered. Significantly fewer lipid tests (2.6 compared with 3.4 per 100 encounters), electrolyte, urea and creatinine (0.9 compared with 2.2), liver function tests (1.0 compared with 2.2) and glucose tests (0.9 compared with 2.2) were ordered in Queensland than the national average. In contrast, there was a significantly higher rate of thyroid function tests (2.3 compared with 1.8 per 100 encounters) and multi-biochemical analyses (4.1 compared with 1.2) ordered than the national average (Table A4.19a).

Age-standardised results

The significant difference in the rates of Other pathology orders disappeared after age-standardisation. The other significant differences remained and no new significant differences emerged after age-standardisation (Table A4.19b).

Imaging orders

As earlier stated in 'Content of encounters' (Table A4.3a), Queensland GPs ordered imaging tests at a similar rate to the national average.

Table A4.20a shows that there were also no significant differences in the ordering rates of specific imaging tests. Tests classified as Diagnostic radiology were the most commonly ordered imaging group, at a rate of 5.3 per 100 encounters, followed by ultrasounds (2.6 per 100 encounters) and computerised tomography (0.8 per 100 encounters).

Age-standardised results

After age-standardisation, no new significant differences emerged (Table A4.20b).

Patient risk factors

There have been three major ongoing subsample studies of selected patient risk factors: patient body mass index (BMI) calculated from patient self-reported height and weight, self-reported alcohol consumption and current smoking status. The methods applied to these subsample studies are described in Chapter 2—Methods.

Body mass index

Adults

There were 29,231 adult patients (aged 18 years and over) for whom BMI could be calculated. The distribution of adult Queensland patients' BMI scores mirrored the national distribution, with 37.7% of adult patients being classified as normal weight, 32.9% as overweight and 20.2% as obese. The only difference was that Queensland had a significantly higher proportion of patients classified as underweight (9.2%) than the national average (8.1%) (Table A4.21).

Children

There were 3,948 children aged between 2 and 17 years for whom a BMI could be calculated. Children attending general practice in Queensland were more likely to be underweight or of normal weight when compared with the national average (71.8% compared with 69.1%). However, the proportions of the sample that were overweight (16.8%) or obese (11.4%) did not differ from the national average (Table A4.21). On further analysis, with the categories of overweight and obesity combined, Queensland children were less likely to be overweight or obese than children nationally (28.2%, 95% CI: 26.5–29.9 compared with 30.9%, 95% CI: 30.1–31.7%) (results not tabulated).

Alcohol consumption

Respondents to the questions on alcohol consumption numbered 28,897 adults (aged 18 years or more). The proportion of Queensland patients who were non-drinkers was similar to the national average (30.9% compared with 31.1%). However, patients seen by Queensland GPs were less likely to be responsible drinkers (42.3% compared with 43.9%) and more likely to be at-risk drinkers (26.7% compared with 25.0%) than Australians on average (Table A4.21).

Smoking status

Respondents to the question on smoking status numbered 29,428 adults (aged 18 years or more). The distribution of smoking patterns amongst Queensland patients was similar to the national distribution. Nearly half of Queensland patients had never smoked (49.1%), about a quarter were previous smokers (27.9%), 18.9% were daily smokers and 4.2% were occasional smokers (Table A4.21).

6.3 Discussion

General practice activity in Queensland differed significantly from the nation in many areas. Participating Queensland GPs were more likely to be female, less likely to work in a capital city, and less likely to have graduated in Asia than average.

Queensland patients also differed from the national average in several areas. They were more likely to be new to the practice and to hold a Repatriation Health Card and they were also less likely to be from a non-English-speaking background. The higher proportion of patients aged less than 25 years and the lower proportion of patients aged 65 and older reflects the age distribution of the population of Queensland.

One interesting difference in Queensland general practice was the lower rate of work-related issues. Queensland GPs had the lowest proportion of encounters claimable through workers compensation and the lowest rate of work-related problems in the nation, and provided significantly fewer sickness certificates than the national average.

Queensland GPs had a lower rate of circulatory problem management. This was primarily due to having the lowest rate of hypertension management in the country (after age-standardisation). They also had a lower management rate of problems related to the endocrine and metabolic system, due to a lower management rates of diabetes and lipid disorders. This is an interesting result considering more Australians die of cardiovascular diseases than any other cause. If the population prevalence and management of cardiovascular problems in Queensland were low, and they were being managed effectively, one would expect a low mortality of cardiovascular problems in Queensland. However, Queensland had the same rate of deaths due to cardiovascular problems as the rest of Australia.[33] This may indicate that cardiovascular problems in Queensland are being under-managed in general practice.

Other morbidities of Queensland patients seem to reflect the semi-tropical environment in which they live. Queenslanders had one of the highest rates of skin problem management in Australia. Specifically, they have high rates of solar keratosis/sunburn and malignant neoplasms of the skin. This may explain why Queensland GPs administered procedural treatments at a significantly higher rate than the national average, specifically excisions/biopsies/removal of tissue (including destruction, debridement and cauterisation). It might also explain why Queensland GPs had the highest rate of Tissue pathology orders in the country.

Even though Queensland GPs managed more skin problems in general, they had a significantly lower rate of contact dermatitis than the national average. This may explain why Queensland GPs prescribed fewer skin medications (specifically topical steroids) than the national average. It could also explain why Queensland GPs referred significantly less often to dermatologists than GPs nationwide.

The semi-tropical climate of Queensland may also explain why these patients reported sore throat and cough significantly less often as a RFE. It could also explain the lower rate of respiratory problem management in Queensland, specifically in relation to URTI (after age-standardisation).

Overall, Queensland GPs prescribed, advised or supplied medications at a lower rate than the national average. This was due to a lower rate of prescribed medications. The significantly lower prescription rate of certain medication groups or subgroups in Queensland may reflect the lower management rates of associated conditions. For example, the low rates of:

- circulatory problems and cardiovascular medications
- lipid disorders and other cardiovascular medications (mainly lipid lowering medications)
- contact dermatitis and skin medications (particularly topical steroids)
- diabetes and hypoglycaemic medications.

It is interesting that the only medication group prescribed more often than the national average was contraceptives.

The ordering of tests classified as Chemistry in Queensland was interesting. The lower rate of orders for lipid profiles may be due to the lower management of lipid disorders. The high

rate of multi-biochemical analysis and the low rate of lipid tests, electrolyte, urea and creatinine tests, liver function tests and glucose tests may be due to GPs including these specific tests within multi-biochemical analyses.

In terms of risk factors, Queensland had the highest proportion of adult patients who were 'underweight'. Queensland was also the only state to have a significantly higher proportion of children classed either as of normal weight or underweight and a significantly lower proportion of children patients classed as overweight or obese compared with the national average. In contrast, Queensland adult patients were more likely to be at-risk drinkers.

The BEACH program as a data source is unique in Australia. Its strengths lie in the large size and representativeness of the sample, and the reliability of the research methods.[15] However, as in all analyses of this kind, relying on 95% confidence intervals with a large number of comparisons leads to a possibility that 5% of observed differences may be false (Type 1 error).

6.4 Conclusion

The clinical activities of GPs practising in Queensland differed in several key areas compared with all GPs across Australia. These areas include the low management rates of work-related issues and circulatory problems, higher rates of skin problems and the subsequent management of each these specific problems. State authorities could use the national data reported regularly by the AIHW and the University of Sydney in publications such as *General Practice Activity in Australia 2002–03*[15] as an indication of the current practise style of GPs in Queensland. However, being one of the more populated states, there are sufficient data collected each year in BEACH to provide an annual state-based measure of GP activity, and detect changes that may occur as the result of state based interventions. State authorities should consider requesting more detailed analysis of the BEACH data to gain a greater understanding of the current practise style of GPs in Queensland.

7 Western Australia

7.1 Background

The population of Western Australia in 2001 was 1,901,159 people, accounting for 9.8% of the Australian population. Just over half of those living in Western Australia were male (50.1%) which was slightly higher than the national average of 49.6%. The median age of the Western Australian population was 35.5 years, lower than the national median of 36.1 years.

There were 2,014 Western Australian GPs and OMPs who provided a Medicare service in the last 3 months of 2001. This equated to 1,441.2 full-time workload equivalent (FWE) GPs. Therefore, there was one FWE GP in Western Australia for every 1,319.2 people. The 20.0% of FWE GPs in Western Australia who were aged over 55 years was somewhat less than the Australian average of 22.0%, while the 25.0% of FWE GPs who were female corresponded with the national average (Table A3.1).

The age distribution of the Western Australian population is shown in Figure 7.1. People aged between 25 and 44 years accounted for 30.4% of the population, and 23.2% were aged 45–64 years. In comparison with the Australian population, shown in Table A3.1, the distribution is somewhat younger. There were 28.7% of Western Australians aged 5 to 24 years, compared with 27.6% in all of Australia, while only 11.0% were aged 65 years or more, compared with 12.5% nationally.

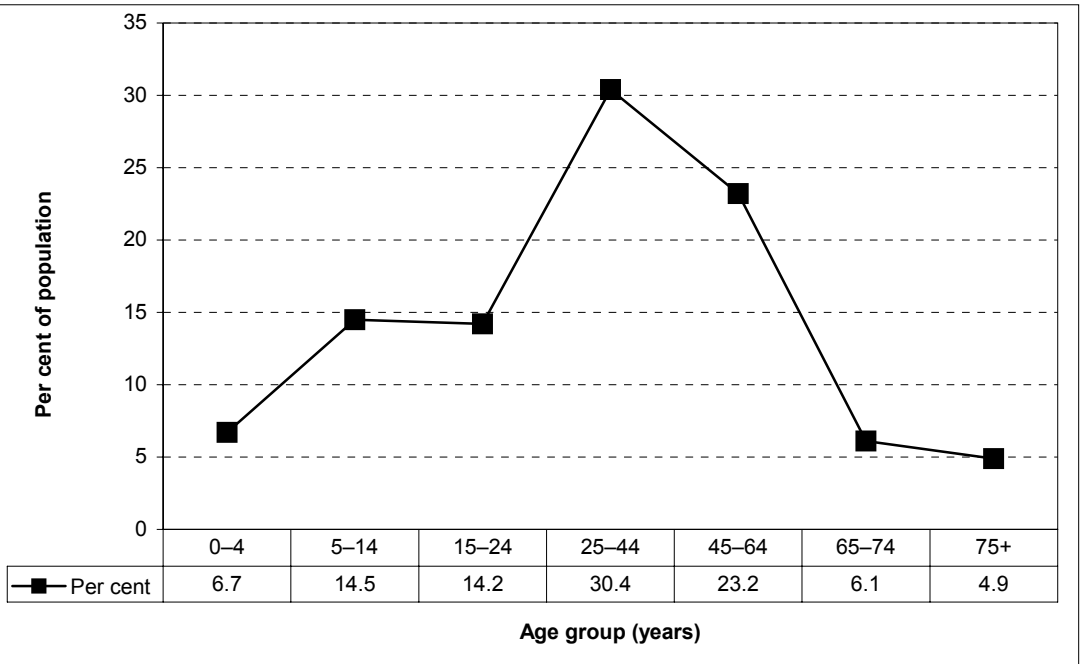

Figure 7.1: Age distribution of the Western Australian population, 2001

A total of 8,295,639 Medicare A1 and A2 items of service were processed through the HIC for residents of Western Australia between July 2002 and June 2003. These accounted for 8.7% of total claims throughout Australia over this period. On average, people living in Western Australia attended general practice 4.4 times in that year, slightly lower than the 4.9 times

nationally. Older people had the highest rates of Medicare-claimed general practice attendances, with people aged 75 years and over attending 9.8 times per person on average, and those aged 65–74 attending 8.1 times. The lowest rates of attendance were for those aged 5–14 years (2.2 attendances) and people aged between 15 and 24 years (3.2 attendances) (Figure 7.2). Attendance rates across all age groups in Western Australia were lower than the national averages.

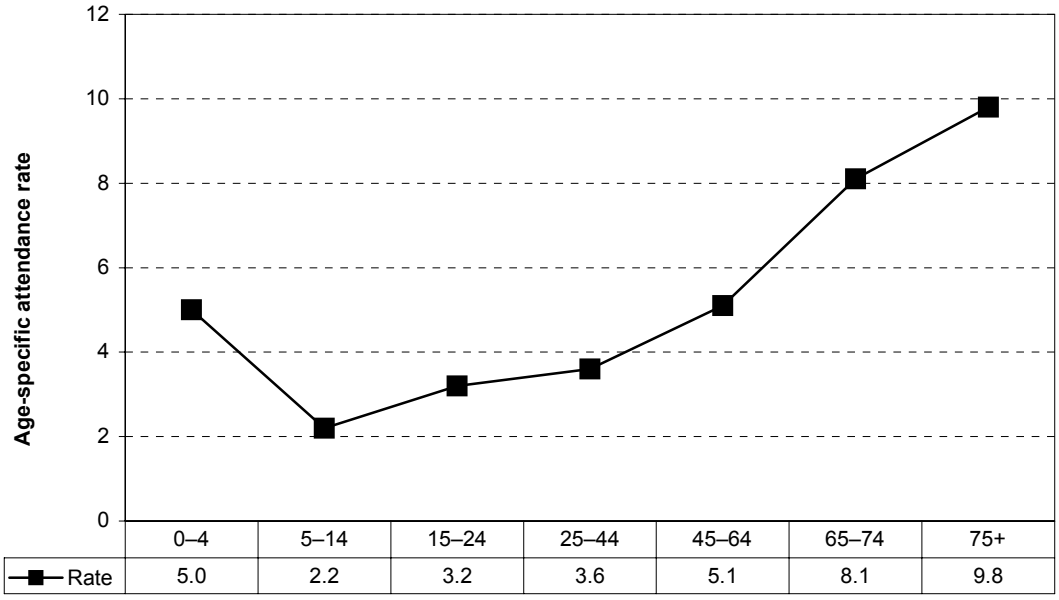

Figure 7.2: Age-specific Medicare-claimed general practice attendance rates for the population of Western Australia

7.2 Results

There were 412 GPs from Western Australia who participated in BEACH between April 1998 and March 2003. They accounted for 8.2% of the total 5-year sample and provided details about 41,200 encounters. The Western Australian results are compared with those for all of Australia in Appendix 4. The differences highlighted below are those identified by non-overlapping 95% confidence intervals. Marginal differences (where the confidence intervals meet but do not overlap) are mentioned only when marginal differences in the crude rates become significant after age-standardisation.

The general practitioners

The proportion of GPs in Western Australia who were female (31.6%) did not differ from that of all participants. They did, however, tend to be younger, with 10.2% aged under 35 years compared with 7.2% nationally and 27.1% being over 55 years as opposed to 28.4%. There were only 13.6% who worked 11 or more sessions per week compared with 16.5% in all Australia. The same proportion was in solo practice, again a lower proportion than the national average of 16.9%. The percentage who worked part-time (i.e. less than six sessions per week) (15.8%) or who were FRACGP (33.3%) did not differ from national results. However, considerably fewer Western Australian GPs graduated in Australia (65.4%

compared with 74.3%), and graduates from the United Kingdom accounted for double the national average (16.8% compared with 8.5%). On average, 67.1% of Australian GPs worked in a capital city whereas 75.0% of Western Australian GPs worked in Perth (Table A4.1).

The encounters

The raw figures showing the number of each variable in the BEACH data set for Australia and for each state of Australia are provided in Table A4.2.

Content of the encounters

Table A4.3a provides an overview of the content of the encounters recorded by Western Australian GPs. At the 41,200 encounters reported, the number of patient reasons for encounter (147.7 per 100 encounters) and problems managed (148.5) did not differ from the national average. Western Australian GPs managed new problems at a rate of 50.2 per 100 encounters and work-related problems at a rate of 3.6 per 100 encounters, neither of which differed from the national average.

Medications were prescribed at a significantly lower rate than average (83.2 compared with 89.4 per 100 encounters) and advised for over-the-counter purchase less often (7.6 compared with 9.0). It was significantly more common for GPs in Western Australia to provide medications from their own supplies (11.0 compared with the average 8.1). There was no significant difference between encounters with Western Australian GPs and the national average in terms of the number of other (non-pharmacological) treatments provided.

There were no significant differences between Western Australian and total Australian GPs in the referral rates (12.0 per 100 encounters) or in orders for imaging (8.8 per 100). However, pathology was ordered at a significantly higher rate than average, at 39.2 per 100 compared with 31.1 per 100 encounters.

Age-standardised results

After age-standardisation, the difference in pathology ordering was no longer significant and no new differences emerged (Table A4.3b).

Type of encounter

At 92.3% of the 41,200 encounters recorded by GPs in Western Australia, the patient attended in person and for 91.7% a Medicare or Department of Veterans' Affairs item of service was claimable. Standard surgery consultations accounted for 76.3% of all encounters and a further 8.9% were long surgery consultations. These results paralleled the national pattern. The rate of prolonged surgery visits was significantly lower than average (0.6 compared with 1.0 per 100 encounters). Visits to aged care facilities were also significantly less common at 0.5 per 100 compared with 1.0 per 100 encounters nationally (Table A4.4a).

Age-standardised results

After age-standardisation, the significantly lower rate of prolonged consultations remained but the difference in residential aged care facility visits was no longer significant. No new differences in distribution of GP services between Western Australia and the national sample were identified (Table A4.4b).

Characteristics of the patients at encounter

The expected age distribution of patients at encounter in Western Australia was calculated from the age distribution of the Western Australian population (Figure 7.1) and mean annual GP visits by age group (Figure 7.2). The observed age distribution of BEACH encounters from Western Australia (Table A4.5a) did not differ from the expected age distribution (results not shown). Therefore, the Western Australian sample of BEACH encounters was representative of the Western Australian population in terms of age distribution and GP visit rates.

The demographics of patients at encounters with GPs in Western Australia did not differ significantly from that of patients seen by all GPs in Australia, with the majority (59.0) being female. Approximately 23% were young people of less than 25 years, 26% were in each of the 25–44 and 45–64 age groups, while 23.9% were 65 years of age or over.

There was a significantly lower proportion holding a Repatriation Health Card (2.9%) than the national average (3.4%) and patients were also less likely to be from a non-English-speaking background (6.1% compared with 8.8%). The proportion of encounters with Indigenous patients (2.6%) was significantly greater than the average of 1.1% (Table A4.5a).

Age-standardised results

After age-standardisation, the difference in the proportion of patients holding a Repatriation Health Card disappeared but the significantly lower proportion of non-English-speaking patients and higher proportion of Indigenous patients remained (Table A4.5b).

Patient reasons for encounter

The distribution of reasons for encounter (RFEs) described by patients attending GPs in Western Australia differed in some respects from that of patients at all encounters.

As shown in Table A4.6a, there was no significant difference in the rate at which they described general and unspecific problems (30.5 per 100 encounters), problems related to the musculoskeletal system (17.6 per 100) or skin problems (15.0 per 100). However, reasons associated with the respiratory system were significantly less common in Western Australia, described at 20.5 per 100 encounters compared with 22.7 per 100 nationally, as were circulatory reasons, presenting at a rate of 10.6 compared with the national results of 11.4 per 100 encounters.

In Table A4.7a, one can see the most common individual RFEs described by patients at encounters. In Western Australia, as with the total national data, a request for check-up, either specific or general, (14.2 per 100 encounters) and requests for prescriptions (10.6 per 100 encounters) were most frequent. There were two RFEs that occurred at a significantly lower rate in Western Australia and these were cough (5.3 compared with 6.1) and throat complaints (2.9 compared with 3.5 per 100 encounters).

Age-standardised results

After age-standardisation, these significant differences remained and some new differences emerged. Neurological problems were less common reasons for encounter, while eye problems were more common than in the national results (Tables A4.6b and A4.7b).

Problems managed at encounter

Number of problems managed

As shown in Table A4.8a, the distribution of the number of problems managed at encounter did not differ for Western Australia when compared with the national average. At almost two-thirds of encounters the GP managed only one problem and at one-quarter they managed two problems. Three problems (8.5%) and four problems (2.2%) were less often managed at a single encounter.

Types of problems managed

Table A4.9a shows the distribution of problems managed at encounters with GPs in Western Australia. Problems managed significantly less often were respiratory (20.4 compared with 21.7 per 100 encounters) and circulatory (15.3 compared with 16.6 per 100 encounters). Endocrine and metabolic disorders were managed at the significantly higher rate of 10.8 per 100 encounters compared with the national average of 9.9.

As with the national average, the most common problem managed in Western Australia was hypertension at 8.0 per 100 encounters, followed by upper respiratory tract infection (URTI), which was managed at the significantly lower rate of 5.3 per 100 encounters compared with 6.0 per 100 total encounters. Anxiety was also less frequently managed in Western Australia (1.4 per 100 compared with 1.7) (Table A4.10a).

Age-standardised results

No significant differences emerged after age-standardisation in terms of numbers of problems managed (Table A4.8b).

After age-standardisation, the significantly lower rate of respiratory problems and higher rate of endocrine/metabolic problems remained. A significantly higher rate of eye problems was found but the difference in rates of circulatory problems was no longer apparent. The lower rate of URTI remained but the difference in rates of anxiety management was no longer significant (Tables A4.9b and A4.10b).

New problems managed at encounter

URTI was the most frequent new problem managed, again at a significantly lower rate (3.6 per 100 encounters compared with the average rate of 4.2). All other results for Western Australia parallelled the national average, with immunisation and acute bronchitis the next most common new problems (Table A4.11a).

Age-standardised results

Age-standardisation did not change these results. URTI remained significantly less frequently managed and no other differences were found between Western Australia and the national average in the management rates of the most common new problems (Table A4.11b).

Management rates

Earlier in this chapter we reported the rates of each management type provided per 100 encounters. In this section we view management in two other ways. First, we compare the rate of each management variable per 100 problems managed. This removes any bias introduced by differing numbers of problems managed between states. Then we look at the likelihood of GPs providing at least one of each management action at the encounter. This

provides a simple picture of the chance the patient has of receiving, for example, a prescribed medication or a referral when they attend the GP.

Management rates per 100 problems

Total medication rates per 100 problems managed were significantly lower in Western Australia, at 68.5 per 100 problems managed compared with 71.9 per 100 problems nationally. Lower rates for medications both prescribed (56.0 per 100 problems managed) and advised (5.1) were recorded compared with the national averages of 60.4 and 6.1 respectively. However, GPs in Western Australia ordered pathology at a rate of 26.3, which was significantly higher than the national average of 22.8 per 100 problems managed (Table A4.12a).

Age-standardised results

Significant differences in rates of total, prescribed and advised medications were still apparent after standardisation and a new significant difference was found in rates of GP-supplied medications. The significant difference in pathology ordering rates between Western Australia and total Australia disappeared (Table A4.12b).

Encounters at which management was recorded

Encounters with GPs in Western Australia were less likely than average to generate a medication or other treatment (81.6% compared with 83.0%). The proportion generating at least one prescribed medication and the proportion generating at least one over-the-counter advised medication were smaller, with 54.8% compared with 57.3% for prescribing and 6.3% compared with 8.0% for advising. On the other hand, a higher proportion of encounters resulted in the direct provision of at least one medication by the GP (7.8% compared with the national figure of 6.0%).

The proportion of encounters where at least one investigation was recorded was higher (21.8% compared with the national average of 20.4%) due to the significantly higher percentage of encounters where pathology was ordered (16.0% compared with 14.9%). There were no differences in the results for other treatments and referrals (Table A4.13a).

Age-standardised results

After age-standardisation, all the significant differences for medications remained but the difference in pathology ordering became marginal. No new differences emerged (Table A4.13b).

Medications

In Table A4.3a, the total prescribing rate per 100 encounters was seen to be significantly lower in Western Australia. Table A4.14a, which lists prescribing rates of medication groups and subgroups, shows that all significant differences that were identified were lower for Western Australia than for Australia as a whole.

- Antibiotics were prescribed at the lower rate of 13.1 per 100 encounters in Western Australia compared with the national average of 14.9. 'Other antibiotics', which includes macrolides, were prescribed at a rate of 2.5 per 100 compared with 3.2 in the total data and the prescribing rate of cephalosporins was 1.4 per 100 encounters compared with 1.8 nationally.

- Anti-hypertensives were the only cardiovascular medications to demonstrate a significant difference, prescribed at the lower rate of 6.3 per 100 encounters compared with 7.4 in the total data.
- Among psychological medications, anti-anxiety agents were prescribed at the lower rate of 1.6 in Western Australia compared with the average rate of 2.0 per 100 encounters.
- The respiratory medication prescribing rate was a low 4.4 compared with the national average of 6.0 per 100 encounters, with bronchodilators/spasm relaxers prescribed at a rate of 1.9 compared with the average 3.0 per 100 encounters.
- Skin medications were prescribed at a rate of 3.9 per 100 encounters in Western Australia, significantly lower than the average of 4.3 per 100.
- Medications acting on the digestive system were prescribed at a rate of 3.5 per 100 encounters in Western Australia, significantly lower than average (4.0 per 100).

There were no significant differences in the prescribing rates of the other drug groups.

Most commonly prescribed medications

Table A4.15a provides comparative results for the rates of the most commonly prescribed medications in the country as a whole. Four significant differences appeared for Western Australia when compared with the national average: lower prescribing rates of salbutamol (1.3 compared with 2.0 per 100 encounters), roxithromycin (1.2 compared with 1.6 per 100), cefaclor monohydrate (0.9 compared with 1.3 per 100 encounters) and erythromycin (0.4 compared with 0.7 per 100).

Age-standardised results

Two changes occurred when the results were age-standardised. A significantly lower rate of asthma preventive prescribing occurred, while the lower rate of skin medication prescribing in Western Australia was reduced to only a marginal difference (Tables A4.14b and A4.15b).

Other (non-pharmacological) treatments

As previously demonstrated in Table A4.3a, there was no significant difference in the overall rates of clinical and procedural treatments provided by Western Australian GPs when compared with the average for all of Australia.

Clinical treatments

Psychological counselling was the only clinical treatment that demonstrated a significant difference in rate compared with the average. Western Australian GPs provided psychological counselling at the lower rate of 2.6 per 100 encounters, whereas the national average was 3.1. The most frequent types of clinical treatments did not differ from the national average. The most common were general advice/education at 6.0 per 100 encounters, advice and education concerning treatment of the problem at 4.8 per 100 and counselling/advice about nutrition/weight at 4.7 per 100 encounters (Table A4.16a).

Procedural treatments

There were no significant differences in the use of individual procedures in Western Australia compared with Australia as a whole. Excision/removal of tissues (including destruction, debridement or cauterisation) was recorded most often, at a rate of 3.0 per 100 encounters, followed by application of a dressing, at 1.8 per 100 (Table A4.17a).

Age-standardised results

When age-standardisation was applied, the difference in psychological counselling remained and a new difference was noted: the rate of provision of sickness certificate was lower in Western Australia (Table A4.16b).

No significant differences emerged after age-standardisation in the most commonly performed procedural treatments (Table A4.17b).

Referrals

As previously stated in Table A4.3a, the overall referral rate in Western Australia was 12.0 per 100 encounters, a similar rate to the national average (11.8).

Referrals to medical specialists

In Table A4.18a, one can see that GPs in Western Australia referred patients to a medical specialist at a rate of 8.0 per 100 encounters, a similar rate to the national average of 7.9. The most common specialist referral was to an ophthalmologist, at 0.9 per 100 encounters, close to the average rate of 0.8. There was a significantly lower rate of referrals to cardiologists in Western Australia (0.3 per 100 encounters) compared with the total data (0.4 per 100).

Referrals to allied health professionals

As shown in Table A4.18a, there were no significant differences in the rate at which Western Australian GPs referred patients to allied health services when compared with the national average. The most common referrals were to physiotherapists (1.1 per 100 encounters).

Age-standardised results

After age-standardisation, the rate of referrals to psychiatrists appeared significantly lower than the national average and the lower rate of cardiologist referrals remained (Table A4.18b).

Pathology test orders

As mentioned previously, the number of pathology tests ordered per 100 encounters, per 100 problems managed and the percentage of encounters at which any pathology was ordered were all significantly higher in Western Australia.

Table A4.19a presents details of pathology ordering rates. Chemistry tests were ordered at the significantly higher rate of 21.6 per 100 encounters compared with the average of 17.7. In this category, total glucose tests (3.4 per 100 encounters in Western Australia compared with 2.2 nationally), EUC (2.9 compared with 2.2), and thyroid function tests (2.4 compared with 1.8) were ordered at significantly higher rates. Total Microbiology tests were ordered at a rate of 6.1 per 100 encounters, also significantly higher than the average of 5.3. Erythrocyte sedimentation rate (ESR) screening was the only test to be ordered significantly less often in Western Australia, at a rate of 0.7 per 100 encounters compared with 1.0 per 100.

Age-standardised results

A number of changes in the results occurred after age-standardisation and these can be seen in Table A4.19b. The higher rates of total Chemistry test and glucose test ordering remained. The differences in EUC, thyroid function and ESR ordering became marginal, whereas the difference in Microbiology testing was no longer evident.

Imaging orders

Western Australian GPs were earlier shown to order imaging at a similar rate to the national average (Table A4.3a). One can see in Table A4.20a that most of the commonly ordered tests did not demonstrate significant differences when compared with the national data with the exception of ultrasound, ordered at a rate of 2.8 per 100 encounters compared with 2.4 per 100 encounters nationally.

Age-standardised results

The significant difference in ultrasound ordering rates between Western Australian and total GPs did not remain after age-standardisation (Table A4.20b).

Patient risk factors

Body mass index

Adults

The adult patients (aged 18 years or more) of Western Australian GPs did not differ from the average in terms of body mass index (BMI). Just over one-third of patients were of normal weight and a small proportion (7.5%) were underweight. Overweight and obese patients accounted for 54.9% of the total (Table A4.21).

Children

Using the BMI classification specific to children (aged 2–17 years), we found no significant differences between child patients in Western Australia and the national average for children (Table A4.21).

Alcohol consumption

A significantly smaller proportion of patients (aged at least 18 years) reported they were non-drinkers in Western Australia (27.9% compared with the average of 31.1%). Of those who did drink, a higher proportion drank at at-risk levels: 28.9% compared with the national average of 25.0% (Table A4.21).

Smoking status

The percentage of patients aged 18 years or more who reported they had never smoked was lower in Western Australia than nationally (47.5% compared with 49.5%), and significantly more patients, 29.0%, were previous smokers. Nationally the figure was 27.3%. The percentage of current daily smokers in the Western Australian sample was close to the average at 18.9% (Table A4.21).

7.3 Discussion

The BEACH program as a data source is unique in Australia. Its strengths lie in the large size and representativeness of the sample, and the reliability of the research methods.[15] However, as in all analyses of this kind, relying on 95% confidence intervals with a large number of comparisons leads to a possibility that 5% of observed differences may be false (Type 1 error).

The comparatively younger population of the state was reflected in the age distribution of the GP participants in BEACH, who were more likely than average to be aged less than 35 years. We also found that Western Australian GPs were more inclined to work between 6 and 10 sessions a week and less likely than average to work extended hours. When one takes into account the ratio of GP to population (one FWE GP for every 1,319.2 people, which was the lowest of all the states), a pattern of service supply emerges. ABS data show annual per capita attendance rates at general practice were lower across all age groups for Western Australians than for the total population. This supports a Western Australia Planning Commission report that referred to a shortage of GPs and limited after-hours care leading to a reliance on hospital emergency services.[34]

A capital city practice location was less common nationally than it was in Western Australia, where 75.0% of GP participants were located in Perth. This would be expected in a state that is sparsely populated except for the capital city where 72.7% of its population is concentrated.[35]

Overseas graduates formed a much higher percentage of GPs from Western Australia than for all Australia. In particular, there were twice as many graduates from the United Kingdom as the national average. Western Australia provides work for a considerable number of temporary resident doctors, particularly from the United Kingdom, who fill rural places to which it is difficult to recruit Australian doctors.[36] Since 1993 the University of Western Australia's Centre for Remote and Rural Medicine together with the Australian Medical Association of Western Australia have recruited and sponsored GPs from throughout the world.[37,38]

Patients from Western Australia encountered in the BEACH study were significantly less likely than average to hold a Repatriation Health Card and GPs were also less likely to visit aged care facilities. These differences were found to be due to the age distribution of the population as they disappeared after adjustment.

The low rate of non-English-speaking background patients in BEACH is not easily explained, given that in Western Australia overseas-born residents form a higher proportion of the population (28.5%) than in any other state or territory. However, a high proportion of these overseas-born persons come from the United Kingdom and Ireland, making the percentage of the population coming from non-English-speaking countries almost the same as the national average (about 17.0%).[39] The percentage of Indigenous patients in Western Australia (2.6%) was more than double the average in BEACH and was indicative of the state population of which 3.5% are of Aboriginal or Torres Strait Islander origin.[35]

The significantly lower management rates of circulatory problems managed may be due to the slightly lower proportion of the population in the oldest age group, as the difference disappeared after age-standardisation. Respiratory problem management was also significantly lower, partly due to the low management rate of URTI, the second most common problem managed in Australian general practice. This finding was not linked to age of the population so a contributing factor could be the cleaner air in Western Australia. The Department of Environmental Protection has stated that, for most of the time, Perth enjoys

satisfactory air quality[40] and a study of the former East Germany after reunification found that decreased rates of respiratory disease were clearly linked to lower air pollution.[41] These results are consistent with data published in *Australia's Health 2002*, which showed significantly lower death rates from circulatory and respiratory causes in Western Australia.[42]

Endocrine/metabolic problems were more commonly managed in Western Australia than in the total results, despite average management rates of the two most common endocrine problems, diabetes and lipid disorder. This difference was not explained by the age distribution of the population and has no obvious cause.

Medication rates were considerably lower overall, demonstrating lower rates across a number of medication categories. Some of these are linked to the rates of problem management, for example, low management rates of circulatory and respiratory problems led to low anti-hypertensive and bronchodilator prescribing. However, many of the medications less frequently prescribed than average, such as antibiotics, digestive and skin treatments, are not easily explained by identified differences in problem management.

The significantly higher rates of pathology test ordering, which were evident across most of the common Chemistry tests and Microbiology, were shown to be linked to the age distribution of the population. Further analysis of the Western Australian data from BEACH would allow closer investigation of these differences and their relationship to problems managed.

In terms of health risk factors, Western Australian patients did not differ from average in their body mass evaluation. However, a considerably smaller proportion were non-drinkers and, of those who did drink, a larger than average proportion were in the at-risk category of alcohol consumption. The lower percentage of patients who had never smoked was possibly due to the higher than average numbers of overseas-born[43] and Indigenous patients[15] living in Western Australia.[39] Western Australia also had the highest rate of previous smokers. None of these differences were explained by the age distribution of the population.

7.4 Conclusion

This analysis of BEACH data has provided a broad overview of current activities in Western Australian general practice. A number of significant differences between these results and the national average were evident, although the majority of results did not differ significantly from average. A closer examination of some of the topics covered here may be of benefit to the health workers, researchers and planners of Western Australia.

8 South Australia

8.1 Background

There were 1,511,728 residents of South Australia in 2001, accounting for 7.8% of the total Australian population. Within South Australia, 49.4% of the population were male, and 50.6% were female. The median age of the South Australian population was 38.2 years. This was the oldest median age across all states and territories of Australia (Table A3.1).

There were 1,859 South Australian GPs or OMPs who had provided at least one Medicare service in the last 3 months of 2001, equating to 1,358.8 full-time workload equivalent (FWE) GPs. Therefore, there was one FWE GP for every 1,112.6 people in South Australia. Female FWE GPs accounted for 23% of the GPs in South Australia, slightly fewer than the national average, and 21% of FWE GPs were aged more than 55 years (Table A3.1).

People aged between 25 and 44 years accounted for the greatest proportion of the population in South Australia (29.0%), while almost one-quarter of the population were aged 45–64 years (24.0%). Those aged between 0 and 4 years accounted for 6.1% of the population and 7.0% were aged 75 years or more (Figure 8.1)

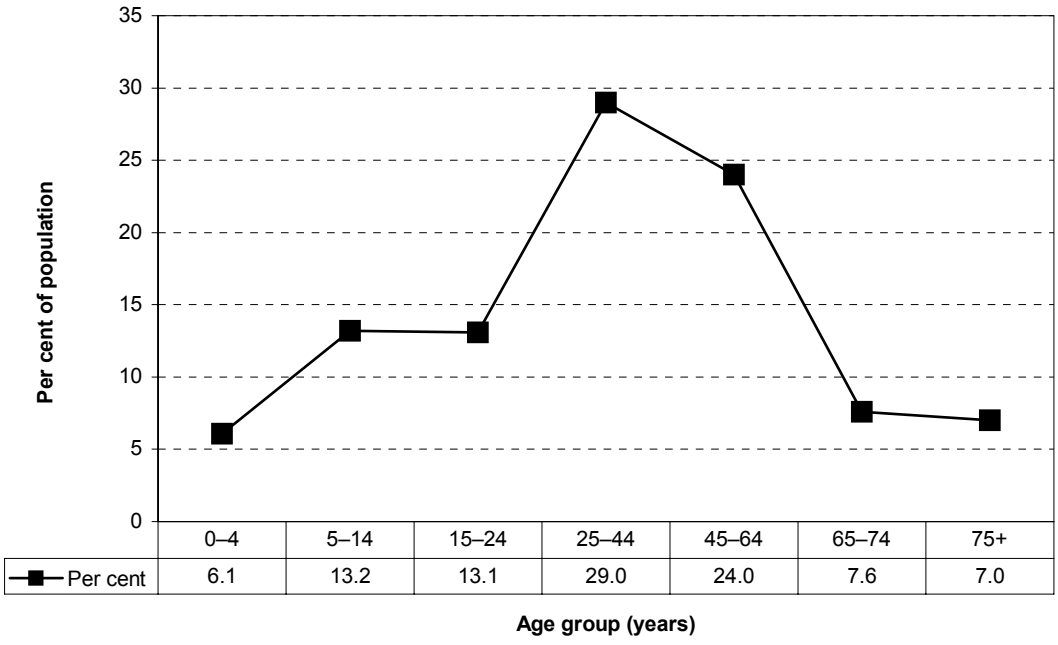

Figure 8.1: Age distribution of the South Australian population, 2001

Between July 2002 and June 2003, 7,609,152 Medicare A1 and A2 items of service were processed by the HIC for people living in South Australia. This equated with 8.0% of total services processed throughout Australia over this time. South Australians attended general practice an average of 5.0 times during that year. As shown in Figure 8.2, older people had the highest rates of Medicare-claimed general practice attendance, with those aged 75 years and over attending, on average, 10.2 times per person, and 65–74 year olds averaging of 8.6 attendances. Children aged between 5 and 14 years attended general practice at the lowest

rates (2.5 times in that year), while those aged 15–24 attended 3.7 times on average. These figures were very similar to the attendance rates throughout Australia.

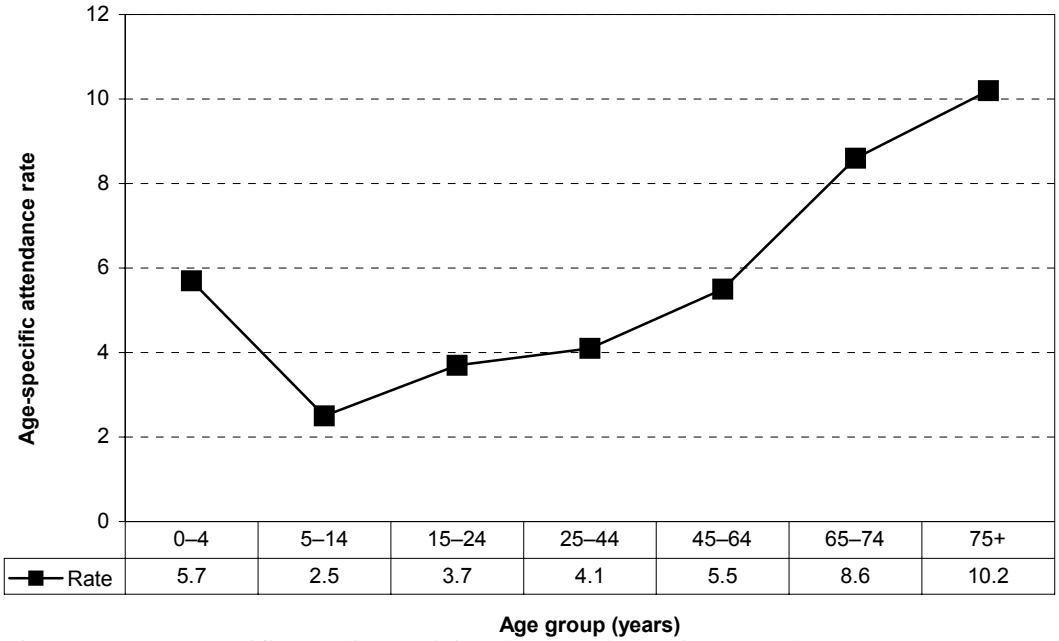

Figure 8.2: Age-specific Medicare-claimed general practice attendance rates for the population of South Australia

8.2 Results

Between April 1998 and March 2003 there were 381 South Australian GPs who took part in the BEACH program. They accounted for 7.6% of the total 5-year sample and provided details about 38,100 encounters. The results for South Australia are presented in Appendix 4, and compared with the results for all states and territories in Australia. The significant differences (between South Australian and all Australian GPs) discussed below are identified by non-overlapping 95% confidence intervals. Marginal differences (where the confidence intervals meet but do not overlap) are not noted here but can be identified in the tables in the Appendix.

The general practitioners

The participating GPs from South Australia were more likely than the national average to be male (71.7% compared with 67.4%). They were less likely to be in solo practices (13.2%) or practices with 2–4 GPs (31.0%) and more likely to be in practices of 5 or more GPs (55.8%) compared with the total sample (16.9%, 39.2% and 44.0% respectively).

A greater proportion of South Australian GPs graduated in Australia (81.2% compared with 74.3%) and Asia (11.1% compared with 8.3%). They were more likely to practise in capital cities (75.9%) and other rural locations (16.8%), but less likely to practise in large rural locations (1.8%) compared with the national average (67.1%, 11.6% and 6.1% respectively).

South Australian GPs did not differ from the national average in terms of the age of GPs, the number of years in general practice, number of sessions worked per week and whether the GP was currently undertaking a general practice vocational training program or a Fellow of the RACGP (Table A4.1).

The encounters

The raw figures showing the numbers of each variable available in the BEACH data set for Australia, and for each state and territory of Australia are provided in Table A4.2.

Content of the encounters

Table A4.3a provides an overview of the encounters recorded by the South Australian GPs. At the 38,100 encounters reported by South Australian GPs, patient reasons for encounter were recorded at a rate of 147.1 per 100 encounters, a significantly lower rate than average for the country (150.2 per 100). However, the number of problems managed by South Australian GPs did not differ from the national average (145.9 per 100 encounters compared with 148.1). New problems were managed at a rate of 49.8 per 100 encounters and work-related problems at a rate of 3.7 per 100 encounters, neither of which differed from the national average.

Medications were prescribed, supplied or advised for purchase at a significantly lower rate by South Australian GPs (100.2 per 100 encounters) than average (106.5 per 100). This was due to lower prescribing rates by South Australian GPs (82.4 compared with an average rate of 89.4 per 100 encounters). There were no significant differences between South Australian and all Australian GPs in the rate of medications advised for over-the-counter purchase or supplied by the GP.

There was no overall difference in the provision of other (non-pharmacological) treatments by South Australian GPs (48.4 per 100 encounters) compared with average (50.9 per 100). However, South Australian GPs provided significantly fewer procedural treatments (12.5 per 100 encounters) than average (13.8).

Imaging was provided at a rate of 6.4 per 100 encounters by South Australian GPs, which was significantly lower than average for the country (8.2 per 100). South Australian GPs did not differ from average in terms of the number of referrals provided (11.7 per 100 encounters compared with 11.8 per 100) or in the ordering of pathology tests (31.2 compared with 33.8 per 100 encounters).

Age-standardised results

After age-standardisation, the significant differences identified above remained and no new differences emerged (Table A4.3b).

Type of encounter

The types of encounters undertaken by South Australian GPs did not differ largely from those conducted by all GPs in the national sample. At 97.4% of the 38,100 encounters, the patient was seen by the GP. A Medicare or Department of Veterans' Affairs item of service was claimable for 93.0% of encounters and standard surgery consultations were claimed at 74.8% of all encounters. However, significantly fewer long surgery consultations were claimed at encounters with South Australian GPs (8.3%) compared with the national average (9.6%).

Home visits accounted for 1.9% of all encounters, while hospital and residential aged care facility visits were even less common (0.9% and 1.6% respectively). Encounters claimable through workers compensation accounted for 2.4% of encounters, and indirect encounters accounted for 2.6% of the total for South Australia (Table A4.4a). These types of encounters did not differ significantly from the national average.

Age-standardised results

After age-standardisation, these results remained and no new differences emerged (Table A4.4b).

Characteristics of the patients at encounter

The expected age distribution of patients at encounter in South Australia was calculated from the age distribution of the South Australian population (Figure 8.1) and mean annual GP visits by age group (Figure 8.2). The observed age distribution of BEACH encounters from South Australia (Table A4.5a) did not differ from the expected age distribution (results not shown). Therefore, the South Australian sample of BEACH encounters was representative of the South Australian population in terms of age distribution and GP visit rates.

Patients at encounters with South Australian GPs were, in most ways, representative of the patients seen by all GPs in Australia. The majority of patients were female (58.1%), and this was similar to the sex distribution for the total sample (59.1% female). At encounters with South Australian GPs, the patient was slightly less likely to be aged <1 year (1.8%) compared with the national average (2.1%). However, there were no further differences in the age distribution of South Australian patients compared with that of the Australian sample.

The proportion of patients who were new to the practice (8.4%) and the proportion holding a Repatriation Health Card (3.1%) did not differ significantly from the national average. However, a significantly higher proportion of patients at encounters with South Australian GPs held a Commonwealth Concession Card (45.9% compared with 39.3%) and a lower proportion were from a non-English-speaking background (6.1% compared with 8.8%). The proportion of encounters with Indigenous patients (1.0%) did not differ from the average (1.1%) (Table A4.5a).

Age-standardised results

After age-standardisation, only the 'other characteristics' of patients at encounter were compared. The significant differences identified in the descriptive analysis of these characteristics remained, and no new significant differences were identified (Table A4.5b).

Patient reasons for encounter

Reasons for encounter (RFEs) described by patients in South Australia did not differ largely from those described by all patients in the total population.

As shown in Table A4.6a, there were no significant differences in the way patients reported RFEs of a general and unspecified nature (29.9 per 100 encounters), those related to the respiratory system (22.3 per 100), the musculoskeletal system (17.1 per 100), the circulatory system (10.6 per 100), the digestive system (10.0), the female genital system (5.8), the endocrine/metabolic system (5.9), the neurological system (5.6), the ear (4.4), pregnancy and family planning (3.3), the eye (2.9), the urinary system (2.5), blood & blood-forming organs (1.8), the male genital system (1.0), and those RFEs of a psychological (8.9) or social nature

(1.3 per 100 encounters). However, patients seen by South Australian GPs described significantly fewer RFEs related to the skin (13.9 compared with 15.0 per 100 encounters).

The most common individual RFEs are described in Table A4.7a. As with the total population, the most common RFEs reported by South Australian patients were requests for a check-up (13.6 per 100 encounters), requests for prescriptions (10.2 per 100) and cough (5.9 per 100). There were two RFEs reported less frequently in South Australia. These were requests for immunisation or vaccination (3.5 compared with 4.6 per 100 encounters) and for test results (3.5 compared with 4.6 per 100 encounters).

Age-standardised results

After age-standardisation, the significant differences identified above remained and one new difference emerged (Tables A4.6b and A4.7b). After adjustment, RFEs related to the circulatory system were reported significantly less often by patients from South Australia compared with all patients. This difference was marginally lower in the descriptive analysis.

Problems managed at encounter

Number of problems managed

As shown in Table A4.8a, there was no difference between the number of problems managed per encounter by South Australian GPs compared with all GPs in Australia. At the majority of encounters only one problem was managed (66.0%), while two problems were managed at approximately a quarter of the encounters (24.2%). Encounters where three or four problems were managed were less common.

Types of problems managed

The types of problems managed by South Australian GPs were largely representative of the problems managed by all Australian GPs. The most commonly managed problems in South Australia were those related to the respiratory (21.6 per 100 encounters) and the musculoskeletal systems (18.1 per 100). However, skin problems (15.5 per 100 encounters) and pregnancy and family planning (3.7 per 100) were managed significantly less often at encounters with South Australian GPs compared with the national average (16.6 and 4.3 per 100 encounters respectively) (Table A4.9a).

Hypertension was the most commonly managed problem (8.0 per 100 encounters), but, together with immunisation/vaccinations (3.8) and test results (0.7), hypertension was managed significantly less often compared with the national average (8.8, 4.8 and 1.0 per 100 encounters respectively). In contrast, general check-ups (2.2 per 100 encounters) and gastroenteritis (1.2 per 100) were managed at higher rates in South Australia than throughout Australia (1.9 and 1.0 respectively) (Table A4.10a).

Age-standardised results

Significant differences identified in the number and type of problems managed remained after age-standardisation and no new significant differences emerged (Tables A4.8b and A4.9b).

However, after standardisation, some of the significant differences demonstrated in the descriptive analysis of the most commonly managed individual problems did not remain. Differences observed in the provision of test results and the management of general check-ups and gastroenteritis did not persist after age-standardisation (Table A4.10b).

New problems managed at encounter

The new problems most frequently managed by South Australian GPs did not differ significantly from those managed by all Australian GPs. The most commonly managed new problem was upper respiratory tract infection (4.4 per 100 encounters), followed by immunisation (1.9), acute bronchitis (1.7) and sprains and strains (1.1 per 100) (Table A4.11a).

Age-standardised results

After age-standardisation, no significant differences emerged between the most commonly managed new problems in South Australia compared with the national average (Table A4.11b).

Management rates

Earlier in this chapter we reported the rates of each management type provided per 100 encounters. In this section we view management in two other ways. First, we compare the rate of each management variable per 100 problems managed. This removes any bias introduced by differing numbers of problems managed between the states. Second, we look at the likelihood of GPs providing at least one of each management action at the encounter. This provides a simple picture of the chance the patient has of receiving, for example, a prescribed medication or a referral when they attend the GP.

Table A4.12a provides a summary of management reported as rates per 100 problems. The differences identified earlier when reported as rates per 100 encounters remained, with one exception. In comparison to management rates reported earlier as rates per 100 encounters (Table A4.3a), procedural treatments (8.6 per 100 problems) were not significantly different from the national average (9.3 per 100) when reported as rates per 100 problems.

Age-standardised results

After age-standardisation, the significant differences identified in the descriptive analysis remained and no new differences emerged (Table A4.12b).

Encounters for which management was recorded

GPs in South Australia provided at least one management action at 91.1% of encounters. Management actions include the provision of medication (either prescribed, advised or supplied), other treatments (clinical or procedural), referrals and investigation orders.

A lower proportion of encounters with South Australian GPs resulted in having a medication prescribed, advised or supplied (64.6% of encounters) compared with the average (66.5%). This was reflected in the more specific group of prescribed medications where 54.3% of encounters resulted in at least one prescription, compared with 57.3% throughout Australia. South Australian GPs were also less likely to order at least one investigation (19.2%) compared with all Australian GPs (20.4%). This was reflected in the proportion of encounters with at least one imaging order (5.8% compared with 7.2% of encounters) (Table A4.13a).

Age-standardised results

The significant differences identified in the descriptive analysis remained after age-standardisation and no new significant differences were identified (Table A4.13b).

Medications

As discussed earlier, South Australian GPs provided fewer prescriptions than the national average (Table A4.3a). Table A4.14a shows the prescribed medications by group and subgroup. Some medications were prescribed significantly less often at encounters with South Australian GPs.

- Antibiotics were prescribed at a rate of 13.7 per 100 encounters compared with the average rate of 14.9 per 100. This was reflected in the lower prescription rates of penicillin (1.9 compared with 2.2 per 100 encounters) and anti-infectives (0.5 compared with 0.7 per 100 encounters).
- Medications acting on the cardiovascular system were prescribed at a rate of 11.7 per 100 encounters compared with the national average rate of 13.7 per 100. The subgroup anti-hypertensives were prescribed significantly less in South Australia (6.1 per 100 encounters) than throughout Australia (7.4).
- Medications acting on the musculoskeletal system were prescribed at a rate of 4.9 per 100 encounters compared with the national average (5.8). This was reflected in the subgroup of non-steroidal anti-inflammatory drugs (4.2 per 100 encounters compared with 4.8 per 100 nationally).
- Allergy and immune system medications were prescribed at a rate of 3.7 per 100 encounters, compared with the national average (4.8). This was reflected in the immunisation subgroup (3.2 compared with the national average of 4.1 per 100 encounters).
- Medications related to the skin were prescribed at a rate of 3.6 per 100 encounters in South Australia, compared with 4.3 per 100 encounters nationally.
- Medications acting on the digestive system were prescribed at a rate of 3.4 per 100 encounters compared with 4.0 per 100 nationally. Medications in the anti-ulcerant subgroup (1.9 per 100) were prescribed at significantly lower rates in South Australia than the national average (2.3).
- Topical ear and nose medications were prescribed at a rate of 1.6 per 100 encounters in South Australia compared with an average rate of 2.1 per 100. This was reflected in the topical nasal medication subgroup (0.9 compared with 1.1 per 100 encounters nationally).

Compound analgesics were the only medication subgroup that was prescribed significantly more often at encounters with South Australian GPs (3.2 per 100 encounters) compared with all GPs (2.7). It is interesting to note, however, that there was no difference between South Australia and the national average in the upper grouping of medications acting on the central nervous system.

Most commonly prescribed medications

The most commonly prescribed individual medications in South Australia were largely representative of those prescribed in Australia as a whole (Table A4.15a). Paracetamol was prescribed at a rate of 2.9 per 100 encounters, amoxycillin at a rate of 2.6 per 100 and paracetamol/codeine at a rate of 2.4 per 100 encounters. There were two medications prescribed less often at encounters with South Australian GPs compared with those prescribed by all Australian GPs: erythromycin (0.5 compared with 0.7 per 100 encounters) and amlodipine (0.5 compared with 0.7 per 100 encounters).

Age-standardised results

Differences identified in the descriptive analysis of the prescribing in groups and subgroups remained largely unchanged, with two exceptions. Differences evident for prescribing in the antibiotic group and penicillin subgroup lost significance after standardisation (Table A4.14b).

In the most commonly prescribed generic medications, one new significant difference emerged. Irbesartan was prescribed at a lower rate at encounters in South Australia compared with the national average. This difference had been marginal in the descriptive analysis. Other differences identified in the descriptive analysis remained after standardisation (Table A4.15b).

Other (non-pharmacological) treatments

As previously stated (Table A4.3a), South Australian GPs provided other treatments at the same rate as the national average. In the more specific group of clinical treatments, South Australian GPs were also found to be representative of the average. However, procedural treatments were performed at a significantly lower rate by South Australian GPs.

Clinical treatments

Table A4.16a shows the most common clinical treatments provided by South Australian GPs compared with all Australian GPs. These were largely representative of the national average, with one exception. Counselling and advice relating to exercise was provided at a significantly lower rate at encounters in South Australia (1.3 per 100 encounters) compared with the national average (1.8).

Procedural treatments

The most common procedural treatments are described in Table A4.17a. The excision or removal of tissue (including destruction, debridement or cauterisation) (2.3 per 100 encounters) and local injections (0.8 per 100) were performed significantly less often at encounters in South Australia compared with the national average (2.8 and 1.1 per 100 encounters respectively).

Age-standardised results

After age-standardisation, the significant differences observed in the descriptive analysis for clinical and procedural treatments remained and no new significant differences emerged (Tables A4.16b and A4.17b).

Referrals

The overall rate of referrals by South Australian GPs did not differ significantly from that of all Australian GPs. This was reflected in the rates of referral to medical specialists, allied health services, hospitals, emergency departments and other referrals (Table A4.3a).

Referrals to medical specialists

Table A4.18a shows the most common referrals made to medical specialists by South Australian GPs. These did not differ significantly from the national average. Referrals to medical specialists were made at a rate of 7.5 per 100 encounters. Most common were referrals to surgeons (0.8 per 100 encounters), followed by referrals to orthopaedic surgeons (0.8 per 100) and ophthalmologists (0.7 per 100).

Referrals to allied health professionals

Referrals to allied health and other professionals occurred at a rate of 3.2 per 100 encounters, and did not differ from the national average. The most common were referrals to physiotherapists (1.3 per 100) (Table A4.18a).

Age-standardised results

Rates of referral to medical specialists and allied health professionals remained representative of the national average after age-standardisation—no new differences emerged (Table A4.18b).

Pathology test orders

There was no difference in the overall ordering rate of Chemistry tests by South Australian GPs compared with all Australian GPs. However, there were differences among the most common Chemistry tests: electrolyte, urea and creatinine (EUC) and glucose tests were ordered at significantly lower rates by South Australian GPs compared with the national average (1.5 compared with 2.2 per 100 encounters, and 1.3 compared with 2.2 per 100 encounters respectively). Microbiology tests were ordered significantly less often by South Australian GPs (4.3 per 100 encounters) compared with the national average (5.3), and this was reflected in the order rates for urine MC&S (1.4 compared with 1.7 per 100 encounters). Infertility and pregnancy tests were also ordered at a significantly lower rate in South Australia (0.2 per 100 encounters) compared with the national average (0.3) (Table A4.19a).

Age-standardised results

After age-standardisation, rates of EUC tests, and tests classified as Microbiology or Infertility/pregnancy, were no longer significantly different. However, a new difference emerged. Full blood counts were ordered significantly less often at encounters with South Australian GPs after standardisation (Table A4.19b).

Imaging orders

As discussed earlier (Table A4.3a), there were significantly fewer imaging orders made by South Australian GPs compared with all Australian GPs.

The most frequently ordered imaging classified by the Medicare Benefits Schedule (MBS) groups are presented in Table A4.20a. The significantly fewer diagnostic imaging orders made by South Australian GPs (4.2 per 100 encounters), compared with the national average (5.0), were reflected in the ordering of chest x-rays (0.8 compared with 1.1 per 100 encounters) and ultrasounds (1.7 per 100 encounters compared with 2.4), and in the lower rates of pelvic ultrasounds (0.3 compared with 0.5 per 100 encounters).

Age-standardised results

The significant differences identified in the descriptive analysis of imaging orders remained and one new difference emerged after age-standardisation. Computerised tomography was ordered significantly less often at encounters with South Australian GPs compared with the national average (Table A4.20b).

Patient risk factors

Three measures of risk are assessed by subsample studies of participating patients: BMI, alcohol consumption and smoking status. The methods applied to these subsample studies are described in Chapter 2—Methods.

Body mass index

Adults

Differences were observed in the BMI of adult patients (aged 18 years or more) in South Australia compared with the total Australian sample. These patients were significantly more likely to be obese (22.0%) and significantly less likely to be of a normal BMI (36.7%) than average (20.0% and 38.4% respectively) (Table A4.21).

Children

The BMI of patients aged between 2 and 17 years are presented in Table A4.21. The BMI of children in South Australia did not differ significantly from the national average. The majority of children were in the 'underweight/normal' category (69.6%), a further 18.2% were overweight and 12.2% were obese.

Alcohol consumption

Alcohol consumption and smoking status in South Australian patients aged 18 years or more were representative of the national average. Just over a quarter of patients reported drinking at at-risk levels. However, the majority of patients subsampled reported responsible drinking levels (44.9%) and a further 29.4% were non-drinkers (Table A4.21).

Smoking status

Almost 20% of patients (aged 18 years and over) reported daily smoking. A further 28% were previous smokers, while almost 50% reported never smoking (Table A4.21).

8.3 Discussion

Overall South Australian GPs managed a similar number of problems to the national average. However, they appeared to provide fewer management actions in terms of medications, procedural treatments and imaging. In particular, skin problems and immunisations were both reported as the RFE and managed at significantly lower rates in South Australia in comparison with Australia as a whole. This was reflected in the provision of prescriptions and procedures related to the skin and immunity.

The lower rate of management of immunisation is not due to differences in the age distribution of patients in the sample, as the difference persisted after age-standardisation. It is possible that the involvement of local councils and community centres in the South Australian immunisation program[44] means that these patients are not required to visit their GP for immunisation.

Also of concern was the high proportion of patients in South Australia who were obese (22.0%). These results are considerably higher than those reported from the 2001 South Australian omnibus survey where 17.8% of South Australians were found to be obese.[45] This

difference may be due to the fact that the omnibus survey is a household study conducted face-to-face with participants, whereas data gathered in the BEACH project are collected in a confidential GP–patient consultation. However, the current study showed that South Australian GPs did not take the opportunity to provide counselling and advice regarding exercise at their encounters as often as the average throughout Australia.

The BEACH program as a data source is unique in Australia. Its strengths lie in the large size and representativeness of the sample, and the reliability of the research methods.[15] However, as in all analyses of this kind, relying on 95% confidence intervals with a large number of comparisons leads to a possibility that 5% of observed differences may be false (Type 1 error).

8.4 Conclusion

The clinical activities of GPs practising in South Australia do not differ markedly from the average of all GPs across Australia. State authorities can feel comfortable relying on the national data reported regularly by the AIHW and the University of Sydney in such publications as *General Practice Activity in Australia 2002–03*[15] to gain a reliable assessment of the current practise style of GPs in this state. However, some attention should be given to immunisation and obesity, above and beyond natural demand.

9 Tasmania

9.1 Background

The population of Tasmania in 2001 was 471,795 people, accounting for 2.4% of the total Australian population. Males accounted for just under half of the population (49.3%), and females 50.7%.

There were 589 GPs and OMPs in Tasmania who provided at least one Medicare item in the last 3 months of 2001. This equated to 388.7 full-time workload equivalent (FWE) GPs practising in Tasmania in 2001. This means that there was one FWE GP for every 1,213.8 people in Tasmania compared with one FWE per 1,153.9 for all Australians. Over one-quarter of the FWE GPs in Tasmania were female (27%). Only 17% of FWE GPs were aged more than 55 years (Table A3.1), which was the lowest rate in Australia.

The age distribution of the Tasmanian population is shown in Figure 9.1. Those aged between 25 and 44 years accounted for the greatest proportion of the population (27.8%), and almost one-quarter of Tasmanians were aged 45–64 years (24.3%). Only 6.3% were aged 75 years or more, and 6.6% were aged between 0 and 4 years. Overall, the population of Tasmania was older (median age 38.1) than the total Australian population (median age 36.1) (Table A3.1).

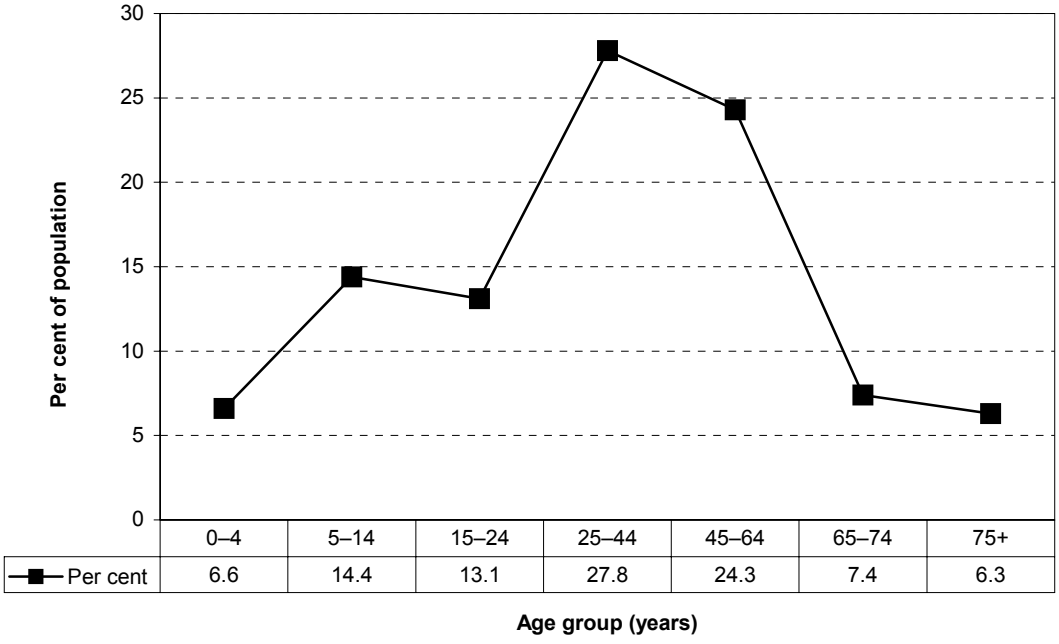

Figure 9.1: Age distribution of the Tasmanian population, 2001

Over 2 million Medicare A1 and A2 items of service were processed for Tasmanians between July 2002 and June 2003 (2,158,205 services). These accounted for 2.3% of total services processed throughout Australia during this period. Tasmanians attended general practice 4.6 times in that year, on average. Figure 9.2 shows that people aged 75 years or more attended, on average, at the highest rates (8.8 attendances per person), while those aged between 65

and 74 years attended general practice 8.0 times per year. Children aged between 5 and 14 years had the lowest rates of Medicare-claimed general practice attendance (2.2 times per year), followed by those aged 15–24 years (3.6 attendances). These attendance rates are substantially lower than the Australian average for all age groups except for those aged 15–24 years, where they are the same as the average.

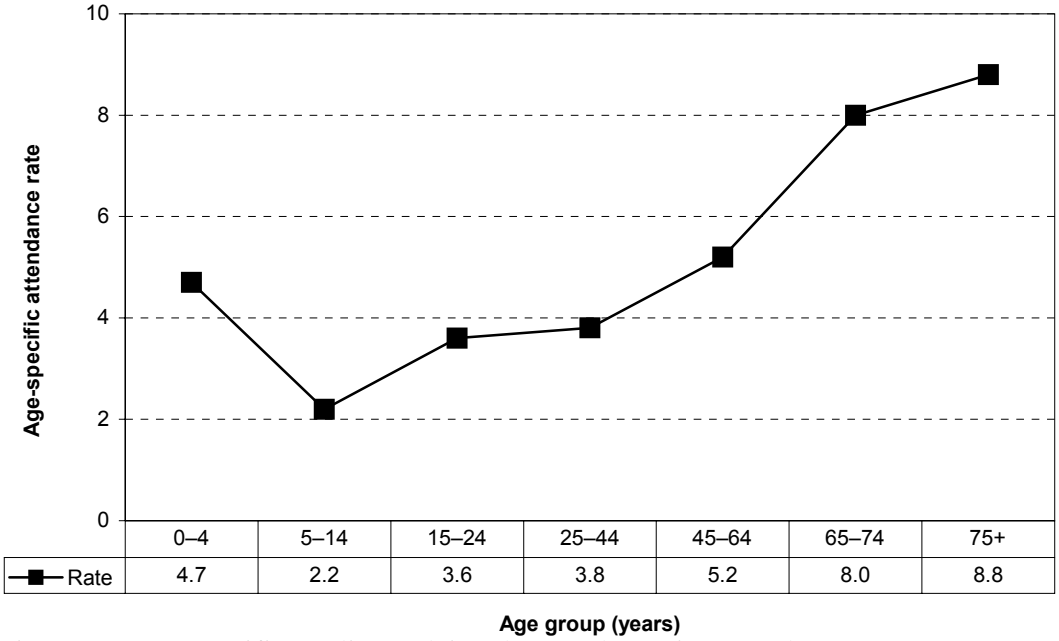

Figure 9.2: Age-specific Medicare-claimed general practice attendance rates for the population of Tasmania

9.2 Results

There were 133 GPs from Tasmania who participated in BEACH between April 1998 and March 2003. They accounted for 2.6% of the total 5-year sample and provided details about 13,300 encounters. The Tasmanian state results are compared with those for all of Australia in Appendix 4. The differences highlighted below are those identified by non-overlapping 95% confidence intervals. Marginal differences (where the confidence intervals meet but do not overlap) are not noted here but can be identified in the tables in the Appendix.

The general practitioners

The participating Tasmanian GPs did not differ from all participants in terms of their sex (33.1% female) and in terms of their practice location (67.3% in capital cities). However, they worked fewer sessions per week (17.3% less than 6 sessions per week compared with 15.9% on average and 5.3% more than 10 sessions per week compared with 16.6% for all Australian GPs).

They were a little younger than average (57.9% being 45 years or more compared with 62.6% on average), and their years in general practice reflected this difference in age distribution. They were less likely to work as a solo practitioner (12.0%) than average (16.9%) and more likely to be in practices of 5 or more GPs (48.1% compared with 44.0%). A lesser proportion of these GPs had graduated in Australia (65.4% compared with 74.3%) and many more had

graduated in the United Kingdom (24.1% compared with 8.5%). They were also more likely to hold the FRACGP (36.1%) than the average for Australia (32.2%) (Table A4.1).

The encounters

The raw figures showing the number of each variable available in the BEACH data set for Australia and for each state of Australia are provided in Table A4.2.

Content of the encounters

Table A4.3a provides an overview of the content of the encounters recorded by Tasmanian GPs. At the 13,300 encounters, GPs recorded 145.2 patient reasons for encounter per 100 encounters, a significantly lower rate than average for the country (150.2 per 100). However, the number of problems managed at encounters by Tasmanian GPs (147.0 per 100 encounters) did not differ from the national average (148.1 per 100). New problems arose at a rate of 46.3 per 100 encounters, significantly lower than the national average of 51.2 per 100, and work-related problems were managed at almost the same rate (3.6 per 100 encounters) as the national average (3.4).

Medications were prescribed, supplied or advised at a rate of 102.6 per 100 encounters, not significantly less than the average (106.5 per 100).

There was no significant difference between encounters with Tasmanian GPs and the national average in terms of the number of other (non-pharmacological) treatments provided, clinical treatments being given at a rate of 37.7 per 100 encounters (compared with 37.1 on average). The rate of procedural work (15.1 per 100 encounters) did not differ from the national average of 13.8 per 100.

Total referrals occurred at a rate of 11.6 per 100 encounters, a little lower than the national average (11.8 per 100), and Tasmanian GPs referred to specialists at a rate of 7.3 per 100 encounters (compared with 7.9 national average).

Tasmanian GPs also did not differ from average in terms of their referrals to hospitals (0.6 per 100 encounters) and emergency departments (0.2 per 100) or their ordering of pathology tests (30.3 tests per 100) and imaging (7.4 per 100).

Age-standardised results

After age-standardisation, the significant differences remained and no new differences emerged (Table A4.3b).

Type of encounter

GPs in Tasmania had significantly fewer direct encounters. At 95.1% of the 13,300 encounters, the patient was seen by the GP (compared with 97.1 on average) and a significantly lower proportion were claimable through Medicare or the Department of Veterans' Affairs (89.3% compared with 92.6% on average). Standard surgery consultations accounted for 72.8% of all encounters and a further 8.4% were long surgery consultations. While home visits accounted for only 2.1% of the total, hospital and aged care facility visits were even less common but did not differ from the national average. Indirect consultations (where the patient was not seen) accounted for 4.9% of the total, significantly higher than the national average of 2.9% (Table A4.4a).

Age-standardised results

After age-standardisation, these statistical differences remained and the marginally lower rate of hospital encounters became statistically significant (Table A4.4b).

Characteristics of the patients at encounter

The expected age distribution of patients at encounter in Tasmania was calculated from the age distribution of the Tasmanian population (Figure 9.1) and mean annual GP visits by age group (Figure 9.2). The observed age distribution of BEACH encounters from Tasmania (Table A4.5a) did not differ from the expected age distribution (results not shown). Therefore, the Tasmanian sample of BEACH encounters was representative of the Tasmanian population in terms of age distribution and GP visit rates.

The patients at encounters with GPs in Tasmania were in most ways representative of the patients seen by all GPs in Australia. The majority were female (60.1% compared with 59.1% nationally) and the age distribution aligned with the national average. Approximately 23% were young people of less than 25 years, and 25–26% were in each of the other age groups of 25–44 years, 45–64 years and 65 years and over. However, there was a small but significant difference in patients seen in the 1–4 age group who accounted for 3.9% of the total encounters in Tasmania compared with 4.9% on average.

The proportion of patients who were new to the practice (6.4%) was significantly lower than average (9.2%) and the proportion holding a Commonwealth Concession Card (50.1% compared with 39.3%) or a Repatriation Health Card (4.9% compared with 3.4%) was significantly higher than the national average. A significantly lower proportion of patients at encounters with Tasmanian GPs were from a non-English-speaking background (1.3% compared with 8.8%) or were Indigenous (0.6% compared with1.1%) (Table A4.5a).

Age-standardised results

After age-standardisation, these other characteristics of patients at encounter remained statistically different (Table A4.5b).

Patient reasons for encounter

The distribution of patient reasons for encounter (RFEs) described by patients attending GPs in Tasmania differed in some respects from those given by all patients at all encounters.

As shown in Table A4.6a, the patients seeing GPs in Tasmania described relatively fewer problems related to the respiratory system (19.1 per 100), the digestive system (9.0 compared with 10.4 per 100 encounter) and eye problems (2.0 per 100 encounters) than in the national data set (2.7). However, there was no significant difference in the rate at which they described general and unspecific problems (32.8 per 100 encounters), problems related to the musculoskeletal system (18.2 per 100), the skin (15.0 per 100), the circulatory system (10.9 per 100), the endocrine/nutritional and metabolic system (5.4 per 100), the neurological system (5.2 per 100), the female genital system (5.7 per 100), the ear (3.7), pregnancy and family planning (33.5), the urinary system (2.5), blood/blood-forming organs (1.9), the male genital system (0.8), nor in the management rate of problems of a psychological (8.4 per 100 encounters), or social (1.2) nature.

Age-standardised results

After age-standardisation, these significant differences remained and no new differences emerged (Table A4.6b).

Individual reasons for encounter

In terms of the most common individual RFEs described by patients at encounters in Tasmania, as with the total national data, a request for check-up, either specific or general, (13.9 per 100 encounters) and requests for prescriptions (11.4 per 100 encounters) were most frequent. There were four RFEs which occurred at a less frequent rate in Tasmania than in the national data and these were cough (5.1 compared with 6.1 per 100 encounters), throat complaints (2.7 compared with 3.5 per 100 encounters), fever (1.2 compared with 1.9) and diarrhoea (0.9 compared with 1.3). Requests for immunisation or vaccination (4.9 per 100), for test results (3.8 per 100) and back complaints were other commonly described RFEs in both Tasmania and for the country as a whole (Table A4.7a).

Age-standardised results

After age-standardisation, the significant differences disappeared for fever and diarrhoea and one new difference emerged. Presentations for test results were significantly less common after standardisation (Table A4.7b).

Problems managed at encounter

Number of problems managed

As shown in Tables A4.8a and A4.8b, the distribution of the number of problems managed at encounter did not differ for Tasmania when compared with the national average either before or after age-standardisation. At more than two-thirds of encounters the GP managed only one problem, and at one-quarter they managed two problems. Three problems (7.8%) and four problems (2.4%) were less often managed at a single encounter.

Types of problems managed

Table A4.9a shows that the distribution of the problems managed at encounters with GPs in Tasmania frequently differed from the national average. Problems managed significantly more often were those associated with the musculoskeletal system (20.0 compared with 17.4 per 100 encounters). Less often managed than average were respiratory problems (18.8 compared with 21.7 per 100 encounters), digestive (9.1 compared with 10.0), endocrine and metabolic (8.9 compared with 9.9) and eye problems (2.1 compared with 2.7 per 100 encounters).

Age-standardised results

After age-standardisation, the above differences remained and no new differences emerged (Table A4.9b).

Individual problems managed

The most common problem managed in Tasmania was hypertension (9.1 per 100 encounters, followed by immunisation/vaccination (5.1 per 100), upper respiratory tract infection (URTI) (4.2 per 100 encounters), depression (also 4.2), back complaint (3.4), osteoarthritis (3.2) diabetes (2.5), asthma (2.4) and lipid disorder (2.4 per 100). However, back complaints and osteoarthritis were both managed at a significantly higher rate in Tasmania than average (3.4 compared with 2.6 per 100 encounters and 3.2 compared with 2.4 per 100 encounters respectively). Anxiety was also managed more frequently (2.4 compared with 1.7 for 100 encounters). In contrast, URTI (4.2 compared with 6.0 per 100 encounters), asthma (2.4

compared with 2.9) and gastroenteritis (0.8 compared with 1.0) were all managed less frequently (Table A4.10a).

Age-standardised results

After age-standardisation, the significant differences for osteoarthritis, anxiety and gastroenteritis disappeared, the other differences remained and no new differences emerged (Table A4.10b).

New problems managed at encounter

The most commonly managed new problems in general practice in Tasmania paralleled those most frequently managed nationally. New cases of URTI were the most frequently managed new problems at a rate of 2.9 per 100 encounters; however, this was significantly lower than the national rate of 4.2 per 100 encounters. This was followed by immunisations/vaccinations (2.0 per 100), acute bronchitis (1.6), urinary tract infection (1.0), and strain/sprain (0.9 per 100) (Table A4.11a).

Age-standardised results

Age-standardisation did not change these results (Table A4.11b).

Management rates

Earlier in this chapter we reported the rates of each management type provided per 100 encounters. In this section we view management in two other ways. First, we compare the rate of each management variable per 100 problems managed. This removes any bias introduced by differing number of problems managed between states. Second, we look at the likelihood of GPs providing at least one of each management action at the encounter. This provides a simple picture of the chance the patient has of receiving, for example, a prescribed medication or a referral when they attend the GP.

Management rates per 100 problems managed

Table A4.12a shows that GPs in Tasmania prescribed, supplied or advised medications at a rate of 69.8 per 100 problems managed, not significantly different to the national average (71.9). Prescribing rates were also similar (58.9 compared with 60.4 per 100 problems managed) as was advice for over-the-counter purchase of medications (5.2 compared with 6.1 per 100 problems). They also did not differ from the average in terms of the number of medications supplied by the GP per 100 problems managed (5.7).

All other management was conducted at rates similar to the national average (Table A4.12a).

Age-standardised results

After age-standardisation, the picture remained the same with no significant differences between the management by Tasmanian GPs and the national average (Tables A4.11b and A4.12b).

Encounters for which management was recorded

This section considers the relative likelihood of at least one management action of each type, at an encounter, and the results are presented in Table A4.13a.

As with the preceding analysis of management, there was no significant difference between the management pattern of Tasmanian GPs and the national average.

Age-standardised results

After age-standardisation, the lack of significant differences continued and no new differences emerged (Table A4.13b).

Medications

As demonstrated in Table A4.14a, some medication groups were prescribed significantly more often in Tasmania than the average for the nation.

- Narcotic analgesics were prescribed at a significantly higher rate in Tasmania (2.6 per 100 encounters) than in Australia as a whole (1.7) and this was accompanied by higher prescribing rates of psychological medications (9.2 compared with 7.6 per 100 encounters), particularly anti-anxiety agents (2.7 compared with 2.0).
- Anti-neoplastic medications were also prescribed at a significantly higher rate than average in Tasmania, at 0.7 prescriptions per 100 encounters compared with 0.4.

There were four medication groups prescribed significantly less often in Tasmania when compared with the national average.

- antibiotics (12.9 compared with 14.9 per 100 encounters), broad spectrum penicillins in particular (3.5 compared with 5.1 per 100)
- respiratory medications (4.2 compared with 6.0 per 100 encounters), in particular bronchodilators (2.4 compared with 3.0) and asthma preventives (1.6 compared with 2.2)
- ear, nose and throat medications (1.5 compared with 2.1 per 100 encounters), particularly topical nasal medications (0.8 compared with 1.1)
- nutrition/metabolic medications (1.1 compared with 1.5 per 100 encounters).

There were no significant difference in the prescribing rates of the other drug groups.

Further analysis investigated possible reasons for the higher prescribing rates for narcotic analgesics and anti-anxiety agents. Tasmanian GPs prescribed narcotic analgesics most frequently for back pain, in common with all Australian GPs, and there was no statistical difference in their prescribing rate of narcotic analgesics for back pain. However, one-third of Tasmanian GPs recorded a prescription of narcotic analgesics for back pain during their collection period compared with one-quarter of all Australian GPs. Similarly almost a fifth of Tasmanian GPs recorded at least one prescription for anti-anxiety agents for back pain compared with national recording by less than a tenth of GPs. The prescribing differences for these two groups of medications may therefore be related to the higher rate of management of back complaints by Tasmanian GPs described previously, rather than to difference in management methods.

Age-standardised results

After age-standardisation, the differences for anti-neoplastics disappeared but all the other significant differences remained and the marginally lower prescribing rate for anti-angina medications became statistically significant (Table A4.14b).

Most commonly prescribed medications

Table A4.15a provides comparative results for the prescribing rates of each of the most commonly prescribed medications in the country as a whole. Only five significant differences appeared for Tasmania when compared with the national average: a higher prescribing rate of diazepam (1.5 compared with 1.1 per 100 encounters) and lower prescribing of amoxycillin (2.3 compared with 2.9), cephalexin (1.4 compared with 1.9 per

100), amoxycillin/clavulate (0.9 compared with 1.5) and chloramphenicol eye preparations (0.6 compared with 0.8 per 100 encounters). The higher prescribing rate for diazepam is consistent with the higher rate of management of anxiety and back complaints described earlier. Similarly the lower rate of chloramphenicol eye preparations is consistent with the lower management rate of eye problems.

Age-standardised results

After age-standardisation, the difference for amoxycillin disappeared. However, the other significant differences remained and one new difference emerged: lower rates of prescribing amlodipine (Table A4.15b).

Other (non-pharmacological) treatments

As previously stated in 'Content of the encounters' (Table A4.3a), Tasmanian GPs provided clinical and procedural treatments at the same rate as the average for all of Australia.

Clinical treatments

There were also no significant differences in the rate of provision of any of the most frequent individual types of clinical treatments when compared with the national average. The most common were general advice/education (6.5 per 100 encounters), advice and education about treatment of the problem (5.3 per 100) and counselling/advice about the problem itself (4.8). Counselling regarding nutrition and weight was also commonly provided (3.9 per 100 encounters) (Table A4.16a).

Age-standardised results

After age-standardisation, no significant differences emerged (Table A4.16b).

Procedural treatments

There were no significant differences in the use of individual procedures in Tasmania (Table A4.17a).

Age-standardised results

After age-standardisation, no significant differences emerged (Table A4.17b).

Referrals

As earlier stated in 'Content of the encounters' (Table A4.3a), the overall referral rate by Tasmanian GPs was not significantly different from the national average.

Referrals to medical specialists

Tasmanian GPs referred patients to a medical specialist at a rate of 7.3 per 100 encounters (similar to the 7.9 national average). As with the national results, referrals were commonly made to surgeons (0.8 per 100 encounter), orthopaedic surgeons (0.7) and gynaecologists (0.6 per 100 encounters) (Table A4.18a).

Referrals to allied health professionals

As shown in Table A4.18a, there were no significant differences in the rate at which Tasmanian GPs referred patients to allied health services when compared with the national average with the exception of higher physiotherapy referrals (1.6 compared with 1.1 per 100

encounters). The most common referrals were to physiotherapists and to psychologists (0.3 per 100 encounters) and podiatrists (0.3 per 100).

Age-standardised results

After age-standardisation, the difference in physiotherapy referrals remained and no new differences emerged (Table A4.18b).

Pathology test orders

As stated earlier ('Content of the encounters', Table A4.3a), Tasmanian GPs ordered pathology tests at a rate of 30.3 tests per 100 encounters, a rate which did not differ from the national average. This also applied to most of the pathology tests for which rates are provided in Table A4.19a. However, three tests were ordered at significantly lower rates than average: thyroid function tests (1.3 compared with 1.8 per 100 encounters), multi-biochemical analysis (0.1 compared with 1.2 per 100 encounters) and full blood counts (3.6 compared with 4.5). As in the national results, pathology tests classed as Chemistry were most the common type ordered at a rate of 16.0 per 100 encounters, followed by Haematology (5.9 per 100) and Microbiology (4.5 per 100 encounters).

Age-standardised results

After age-adjustment, the differences for thyroid function tests and full blood counts disappeared. The rates for multi-biochemical analysis orders by Tasmanian GPs became so small that they could not be statistically compared (Table A4.19b).

Imaging orders

As earlier stated ('Content of the encounters', Table A4.3a) Tasmanian GPs ordered imaging at the same rate as the national average. Table A4.20a shows that this result applied through all the most commonly ordered tests. Chest x-rays were by far the most often ordered (0.9 per 100 encounters). The ultrasound most often ordered by Tasmanian GPs and nationally was pelvic ultrasound (0.5 per 100 encounters).

Age-standardised results

After age-standardisation, no significant differences emerged (Table A4.20b).

Patient risk factors

Body mass index

Adults

There were 4,198 adult patients (aged 18 years and over) for whom BMI could be calculated. Their results reflected those found in the total national data, 35.4% being classed as overweight and a further 19.7% being classed as obese (Table A4.21).

Children

The weight distribution of Tasmanian children (aged between 2 and 17 years) did not differ significantly from the Australian average (Table A4.21).

Alcohol consumption

The percentage of Tasmanian adults (aged 18 years and over) who were at-risk drinkers (25.2%) was not significantly different from the Australian average (25.0%). The percentages of non-drinkers and responsible drinkers also showed no difference from the average (Table A4.21).

Smoking status

Fewer Tasmanian adults (aged 18 years or more) (44.9%) had never smoked compared with the Australian average (49.5%) and a higher percentage were current daily smokers (22.2% compared with 18.6% nationally). The percentage of previous and occasional smokers did not differ from the Australian average (Table A4.21).

9.3 Discussion

Tasmanian GPs differed from their mainland colleagues in several respects. They were:

- less likely to be Australian graduates and almost a quarter had graduated in the United Kingdom
- a little younger and therefore had had less time in general practice
- more likely to work in larger practices
- more likely to work fewer sessions in general practice per week.

Their patients were also different. They were:

- somewhat older than their mainland counterparts
- less likely to have Medicare-claimable GP encounters
- less likely to be new to the practice
- much more likely to hold a Commonwealth Concession Card or Repatriation Health Card
- very much less likely to be of non-English-speaking background or Indigenous patients
- more likely to be daily smokers.

The lower rates of Medicare-claimed items in Tasmania (Figure 9.2) may be explained by the higher number of indirect encounters and the larger number of people holding a Repatriation Health Card.

These differences may contribute to the differences in both reasons for encounter and problems managed at encounters with Tasmanian GPs. The higher rates of musculoskeletal problems and lower rates of respiratory problems did not disappear after age-adjustment and may therefore be due to other practitioner or patient factors.

The differences in prescribing of antibiotics may be related to the lower prevalence of respiratory problems at encounters and/or to differences in practitioner and patient background and practitioner training. Similarly the lower use of respiratory medications may be related to the lower prevalence of respiratory problems.

The greater use of narcotic analgesics and psychotropic drugs may be explained by the higher rate of back complaints managed at encounters with Tasmanian GPs. As stated above, the reason for the higher rate of back complaints remains unexplained.

The higher rates of referral by Tasmanian GPs to physiotherapists may also be explained by the higher prevalence of musculoskeletal problems seen at encounters.

The BEACH program as a data source is unique in Australia. Its strengths lie in the large size and representativeness of the sample, and the reliability of the research methods.[15] However, as in all analyses of this kind, relying on 95% confidence intervals with a large number of comparisons leads to a possibility that 5% of observed differences may be false (Type 1 error).

9.4 Conclusion

There are significant differences in the practice activity patterns of Tasmanian GPs when compared with all Australian GPs. These differences are sufficient in both importance and magnitude to justify consideration by health organisations in Tasmania of using state-based BEACH data rather than the national data to monitor the activity of general practitioners in that state.

10 Australian Capital Territory

10.1 Background

In 2001, the population of the Australian Capital Territory was 319,317 people, accounting for 1.6% of the total Australian population. Males accounted for 49.3% of people living in the Australian Capital Territory, and 50.7% of the population were female. The median age of people in the Australian Capital Territory was 33.8 years, about 3 years younger than the national median (Table A3.1).

In the Australian Capital Territory in 2001, there were 366 GPs/OMPs who provided at least one Medicare service in the last 3 months of 2001. This accounted for 215.5 full-time workload equivalent (FWE) GPs, which corresponded with one FWE GP for every 1,481.8 people living in the Australian Capital Territory. This was somewhat lower than the average throughout Australia, where there was one FWE GP per 1,153.9 people. Of these, 18% were aged more than 55 years. The Australian Capital Territory had a considerably higher proportion of female GPs compared with the national average (34% compared with 25%) (Table A3.1).

Figure 10.1 shows that 31.7% of people living in the Australian Capital Territory were aged between 25 and 44 years, and 23.2% were aged 45–64 years. Only 3.7% were aged 75 years or more, and 4.8% were aged between 65 and 74 years.

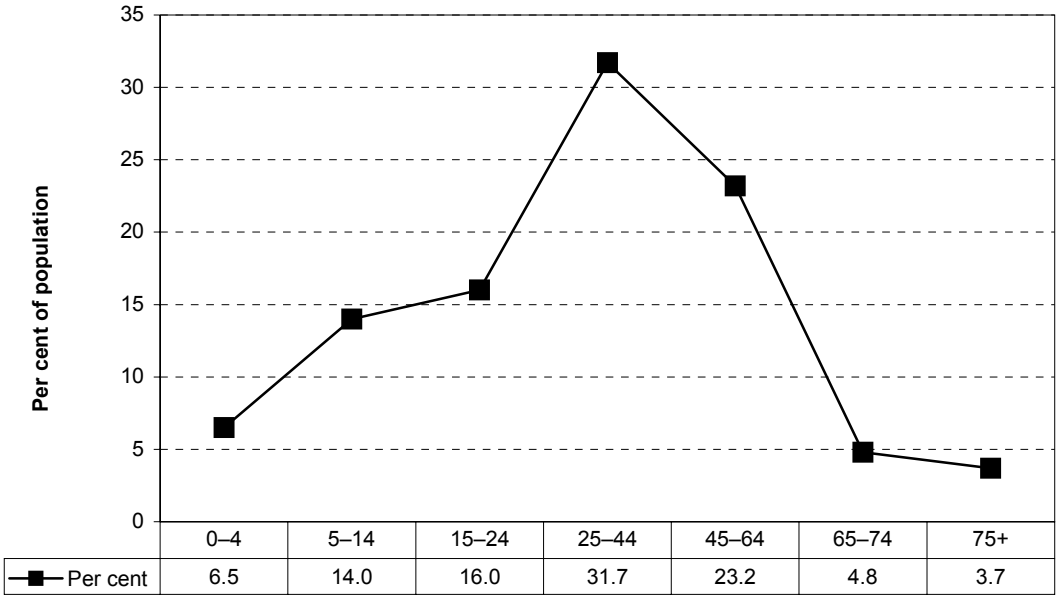

Figure 10.1: Age distribution of the Australian Capital Territory population, 2001

Between July 2002 and June 2003, 1,179,831 Medicare A1 and A2 items of service were processed by the HIC for people living in the Australian Capital Territory, accounting for 1.2% of total services processed throughout Australia in that year. Residents of the Australian Capital Territory attended general practice, on average, 3.7 times over this period.

Older patients attended at the highest rates, with those aged 75 years and over averaging 8.4 Medicare-claimed attendances, although those aged 65–74 years attended 7.4 times per person. Children aged between 5 and 14 had the lowest rates of attendance (1.9 attendances per person), and people aged 15–24 years attended general practice 2.7 times per year (Figure 10.2).

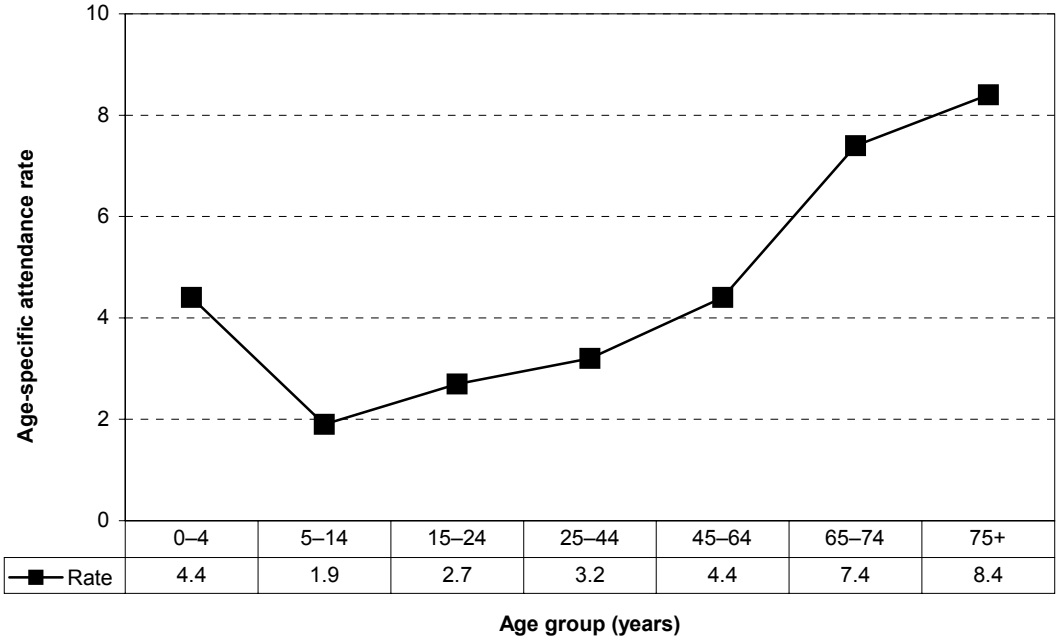

Figure 10.2: Age-specific Medicare-claimed general practice attendance rates for the population of the Australian Capital Territory

10.2 Results

Of the 5,021 GPs who participated in BEACH Australia-wide between April 1998 and March 2003, 78 were from the Australian Capital Territory. They accounted for 1.6% of the total sample over the 5 years, and they provided information about 7,800 encounters. The Australian Capital Territory results are compared with those for all of Australia and for each of the other Australian states and territories in Appendix 4. The differences highlighted below are those identified by non-overlapping 95% confidence intervals. Marginal differences (where the confidence intervals meet but do not overlap) are not noted here but can be identified in the tables in the Appendix.

The general practitioners

The participating Australian Capital Territory GPs differed from all participants in most of their characteristics. GPs were more likely to be female (50.0%) compared with the average for all participants (32.6%), less likely to be aged less than 45 years (29.9% compared with 37.3%), and more likely to be 45 years or older (70.2% compared with 62.6%). The Australian Capital Territory participants were more likely to have worked less than 2 years in practice (1.3% compared with 0.6%), more likely to work fewer than 6 sessions per week (23.4% compared with 15.8%), more likely to work 6–10 sessions per week (74.0% compared with 67.7%), and far less likely to work 11 or more sessions per week (2.6% compared with 16.5%).

The participants from the national capital were also less likely to be solo practitioners (5.3% compared with 16.9%), far more likely to work in practices of 2–4 GPs (61.8% compared with 39.2%) and less likely to work in practices with 5 or more partners (32.9% compared with 44.0%).

The number of participants currently in a general practice vocational training program (5.3%) was significantly greater than the proportion for all participants (2.5%). The Australian Capital Territory participants were more likely to be Fellows of the RACGP (44.2% compared with 32.2%), and less likely to provide their own after-hours care (38.5% compared with 43.4%).

Australian Capital Territory participants were significantly more likely to have a practice location in a capital city (98.7% compared with 67.1%). The Australian Capital Territory participants did not differ from their national counterparts in place of graduation (Table A4.1).

The encounters

The raw figures showing the number of each variable available in the BEACH data set for Australia and for each state and territory of Australia are provided in Table A4.2.

Content of the encounters

Table A4.3a provides an overview of the content of the encounters recorded by Australian Capital Territory participants. At the 7,800 encounters reported by Australian Capital Territory GPs, patient reasons for encounter were recorded at a rate of 150.1 per 100 encounters which was almost identical to the average rate for Australia (150.2 per 100). Although the number of problems managed at Australian Capital Territory encounters (143.1 per 100) did not differ significantly from the national average (148.1 per 100), they managed significantly fewer new problems (45.2 per 100 compared with 51.2 per 100). Work-related problems (3.2 per 100) were managed at a similar rate to the national average (3.4 per 100).

Medications were prescribed, supplied or advised at a rate of 92.2 per 100 encounters, which was significantly lower than the national rate of 106.5 per 100. This was mainly due to the significantly lower prescribing rates (79.4 per 100) and rates of medication supplied by the GP (3.7 per 100) compared with the national averages of 89.4 per 100 and 8.1 per 100 respectively.

Encounters with Australian Capital Territory GPs did not differ from the national average in terms of the number of other (non-pharmacological) treatments provided. Clinical treatments were provided at a similar rate in the Australian Capital Territory (34.7 per 100 encounters) to those provided nationally (37.1 per 100); however, the rate of procedural treatments (10.3 per 100) was significantly lower than the national average (13.8 per 100).

Australian Capital Territory GPs did not differ from the national average in rates of referrals generally (12.1 per 100 encounters), or to specialists (7.8 per 100), allied health professionals (3.6 per 100), hospitals (0.4 per 100), emergency departments (0.1 per 100), or other referrals (0.2 per 100). They did not differ in their rates of pathology (35.0 per 100) or imaging (9.4) requests compared with the national average.

Age-standardised results

After age-standardisation, all these significant differences remained and a further difference emerged. The rate of pathology orders was significantly higher than the national average (Table A4.3b).

Type of encounter

GPs in the Australian Capital Territory made no hospital visits at all, which is a significant difference to GPs in the rest of the country. They made fewer home visits (0.9 per 100 encounters) than the national participants (1.7 per 100), and fewer visits to residential aged care facilities (0.3 per 100 compared with 1.0). They also claimed fewer other Medicare items (1.1 per 100) compared with the national average (2.6 per 100). With these exceptions, the types of encounters undertaken by Australian Capital Territory GPs did not differ from those performed by their national counterparts (Table A4.4a).

Age-standardised results

After age-standardisation, the differences between home visits and aged care facility visits no longer existed. The only significant differences remaining were for hospital visits and other items of service. No other significant differences emerged (Table A4.4b).

Characteristics of the patients at encounter

The expected age distribution of patients at encounter in the Australian Capital Territory was calculated from the age distribution of the Australian Capital Territory population (Figure 10.1) and mean annual GP visits by age group (Figure 10.2). The observed age distribution of BEACH encounters from the Australian Capital Territory (Table A4.5a) did not differ from the expected age distribution (results not shown). Therefore, the Australian Capital Territory sample of BEACH encounters was representative of the Australian Capital Territory population in terms of age distribution and GP visit rates.

There were several differences in the patients at encounters with Australian Capital Territory GPs and those seen at all other encounters. There were significantly more encounters with patients aged 15–24 years (12.7%), and fewer with those of 65–74 years (9.1%) or 75 and over (9.2%) compared with the national average (9.9%, 12.1% and 13.0% respectively). Patients at Australian Capital Territory encounters were less likely to hold a Commonwealth Concession Card (26.0% compared with 39.3%), and considerably less likely to be from a non-English-speaking background (5.1% compared with 8.8%) or to identify themselves as an Aboriginal or Torres Strait Islander person (0.4% compared with 1.1%) (Table A4.5a).

Age-standardised results

Only 'other characteristics' could be compared after age-standardisation, and the existing differences remained significant. No other significant differences emerged (Table A4.5b).

Patient reasons for encounter

The distribution of patient reasons for encounter (RFEs) given by patients attending general practice in the Australian Capital Territory was not significantly different to those provided by patients at all encounters, with one exception. Patients in the Australian Capital Territory were significantly less likely to describe circulatory problems as their reason for visiting the GP (9.2 per 100 encounters) compared with patients at all encounters (11.4 per 100) (Table A4.6a).

A request for check-up, either specific or general, was described by patients in the Australian Capital Territory at a rate of 12.0 per 100 encounters compared with the national rate of 14.6 per 100. This was the only individual RFE where patients at encounters with Australian Capital Territory GPs differed significantly from patients at all encounters (Table A4.7a).

Age-standardised results

After age-standardisation, the significant difference for circulatory problems no longer remained, although a new difference emerged. Patients described social problems as a reason for consulting the GP at a significantly lower rate than all patients at all encounters (Table A4.6b). In terms of individual RFEs the difference in request for check-up no longer existed. No other significant differences emerged (Table A4.7b).

Problems managed at encounter

Number of problems managed

The distribution of the number of problems managed at the encounter did not differ for the Australian Capital Territory when compared with the national average. At more than two-thirds of encounters the GPs managed only one problem (67.4%), and managed two problems at slightly less than one-quarter of encounters (23.8%). Three problems (7.1%) and four problems (1.7%) were managed at relatively few encounters (Table A4.8a).

Types of problems managed

The problems managed significantly more often in Australian Capital Territory patients were those associated with the respiratory system (24.1 compared with 21.7 per 100 encounters). Problems managed significantly less often when compared with the national rates were those associated with the skin (14.9 compared with 16.6 per 100), the circulatory system (12.9 compared with 16.6 per 100), those of a psychological nature (9.6 compared with 11.3 per 100) and the endocrine & metabolic system (7.9 compared with 9.9 per 100) (Table A4.9a).

Table A4.10a shows that the most common problem managed in the Australian Capital Territory was upper respiratory tract infection (7.1 per 100 encounters), followed by hypertension (6.6 per 100) and immmunisation/vaccination (4.9 per 100), depression (3.7 per 100) and asthma and back complaint (2.6 per 100 encounters each). Five conditions were managed at a significantly lower rate than the national average:

- hypertension (6.6 compared with 8.8 per 100)
- diabetes (1.9 compared with 2.8 per 100)
- lipid disorders (2.1 compared with 2.8 per 100)
- anxiety (1.1 compared with 1.7 per 100) and
- insomnia (1.1 compared with 1.6 per 100 encounters).

There were no significant differences in the rates of management of other more common problems.

Age-standardised results

No significant differences emerged after age-standardisation in terms of numbers of problems managed (Table A4.8b). The only significant difference to remain after age-standardisation was that the rate of skin problems managed remained significantly lower in

the Australian Capital Territory than the national average (Table A4.9b). In terms of the most frequently managed problems, no differences remained after age-standardisation (Table A4.10b).

New problems managed at encounter

As previously reported, there were significantly fewer new problems managed in the Australian Capital Territory when compared with the national average (Table A4.3a). The new problems most frequently managed by Australian Capital Territory GPs paralleled those managed most frequently across Australia. Upper respiratory tract infection was the most frequent (4.5 per 100 encounters), followed by immunisation (1.8 per 100), acute bronchitis (1.2 per 100), sprain/strain and urinary tract infection (each recorded at a rate of 0.9 per 100 encounters) (Table A4.11a).

Age-standardised results

These results were not changed by age-standardisation. No significant differences emerged in the most frequently managed new problems (Table A4.11b).

Management rates

Earlier in this chapter we reported the rates of each management type provided per 100 encounters. In this section we view management in two other ways. First, we compare the rate of each management variable per 100 problems managed. This removes any bias introduced by differing numbers of problems managed per 100 encounters between states. Second, we look at the likelihood of GPs providing at least one of each management action at the encounter. This provides a simple picture of the chance the patient has of receiving, for example, a prescribed medication or a referral when they attend the GP.

GPs in the Australian Capital Territory prescribed, advised or supplied significantly fewer medications per 100 problems managed (64.5) than the national average (71.9). Although advised medications were not significantly different, the Australian Capital Territory GPs prescribed (55.5 per 100 problems) and supplied (2.6 per 100) significantly fewer medications than GPs nationally (60.4 and 5.5 per 100 problems respectively) (Table A4.12a).

They provided fewer procedural treatments per 100 problems managed (7.2 compared with 9.3) than GPs at the national level, but did not differ in terms of clinical treatments (24.3 per 100 problems), referrals (5.4 per 100) or orders for pathology (24.1 per 100) or imaging (6.5 per 100 problems managed).

Age-standardised results

After age-standardisation, all significant differences remained with the exception of prescribed medications. No other significant differences emerged (Table A4.12b).

Encounters for which management was recorded

This section considers the relative likelihood of at least one management action of each type per encounter, and the results are presented in Table A4.13a.

The likelihood of at least one management type being provided at the encounter was significantly lower at Australian Capital Territory encounters (88.8%) compared with the national average (91.7%). Specifically, at least one medication or other treatment (78.8%) was less likely to be provided than at the national level (83.0%), mainly due to at least one medication being significantly less likely to be prescribed, advised or supplied at the encounter. Although there were no differences in the proportions generating prescribed or

advised medications, the Australian Capital Territory GPs were only half as likely to supply a medication than their national counterparts (3.2% compared with 6.0%). They were also less likely to provide at least one therapeutic procedure at the encounter (9.5% compared with 12.6%). There was no significant difference in the proportion of encounters generating at least one referral, although Australian Capital Territory GPs were less likely to have made at least one referral to a hospital (0.1% compared with 0.3%). There were no significant differences in their likelihood of ordering at least one investigation, either for pathology or imaging.

Age-standardised results

After age-standardisation, these significant differences remained with the exception of at least one referral to a hospital, which became only marginal (Table A4.13b).

Medications

Some medication groups were prescribed at significantly different rates in the Australian Capital Territory when compared with the average for the nation.

- Medications acting on the cardiovascular system were prescribed at a significantly lower rate in the Australian Capital Territory (10.3 per 100 encounters) than the national average (13.7), mainly due to the lower prescribing rates of anti-hypertensives (5.7 compared with 7.4 per 100 encounters), beta-blockers (0.9 compared with 1.7 per 100) and anti-angina medications (0.8 compared with 1.2 per 100).
- Central nervous system medications were also prescribed at a significantly lower rate in the Australian Capital Territory (8.0 per 100) than the average for the nation (10.7 per 100). This was mainly attributable to the much lower rate of prescribed simple analgesics in the nation's capital (2.6 compared with 4.2 per 100), which was the only subgroup in which the difference was reflected.
- Medications for psychological problems were prescribed at a significantly lower rate in the Australian Capital Territory than the national average (6.4 per 100 compared with 7.6 per 100). This difference was due to the significantly lower rate of prescribed anti-anxiety agents (1.2 compared with 2.0 per 100 encounters).
- Although the prescribing rate for hormones generally was not significantly different to the national average (5.2 compared with 6.0 per 100), the rate of prescribed hypoglycaemic agents was significantly lower (1.1) than that prescribed nationally (1.9 per 100 encounters).
- Medications acting on the digestive system were prescribed at a significantly lower rate at encounters in the Australian Capital Territory (3.2) than at national encounters (4.0 per 100), and this was reflected in the lower rate of prescribing for anti-ulcerants (1.7 compared with 2.3).
- Prescribing rates for ear and nose topical medications did not differ in the national capital from the national average, but the rate for topical otic prescriptions was significantly lower in the Australian Capital Territory (0.5 compared with 0.9 per 100 encounters).
- Urogenital medications were prescribed at a rate of 1.3 per 100 encounters in the Australian Capital Territory which was significantly lower than the national rate of 2.1 per 100 encounters. This was reflected in the significantly lower rate of prescribed diuretics (0.9 compared with 1.5 per 100 encounters).

- The only medication prescribed significantly more often in the Australian Capital Territory than the national average was contraceptives (2.7 compared with 1.8 per 100 encounters), particularly oral or systemic contraceptives.

There were no significant differences in the prescribing rates of the other drug groups, including antibiotics, medications acting on the musculoskeletal, respiratory or allergy and immune systems, or medications for the skin, the blood, nutrition and metabolism, eye medications or anti-neoplastics (Table A4.14a).

Most commonly prescribed medications

Comparative results for the prescribing rates of each of the most frequently prescribed generic medications in the Australian Capital Territory are shown in Table A4.15a. The most frequently prescribed were amoxycillin (2.4 per 100 encounters), roxithromycin (2.2 per 100), cefaclor monohydrate (2.2 per 100), paracetamol (2.2 per 100) and influenza virus vaccine (2.2 per 100 encounters).

Twelve significant differences emerged for the Australian Capital Territory when compared with all of Australia. Ten of these were significantly lower prescribing rates than the national average:

- paracetamol (2.0 compared with 3.4 per 100 encounters)
- salbutamol (1.4 compared with 2.0 per 100)
- atenolol ((0.4 compared with 0.9 per 100)
- betamethasone topical (0.5 compared with 0.9 per 100)
- ranitidine (0.6 compared with 0.8 per 100)
- frusemide (furosemide) (0.5 compared with 0.8 per 100)
- metformin (0.5 compared with 0.8 per 100)
- oxazepam (0.3 compared with 0.7 per 100)
- amlodipine (0.3 compared with 0.7 per 100)
- prochlorperazine (0.5 compared with 0.7 per 100 encounters).

For only two medications was the prescribing rate significantly higher in the Australian Capital Territory than for the rest of the country: cefaclor monohydrate (2.2 compared with 1.3 per 100 encounters) and levonorgestrel/ethinyloestradiol (1.8 compared with 1.3 per 100 encounters).

Age-standardised results

After age-standardisation, the only remaining significant differences in the rate of prescribed medications were in the rates of beta-blockers, central nervous system medications, simple analgesics, anti-anxiety agents, hypoglycaemic agents, and topical otic medications (Table A4.14b). Although the order of the most frequently prescribed medications changed, the same five medications were still the top five after standardisation. The significant differences in prescribing rates remained for paracetamol, salbutamol, cefaclor monohydrate, atenolol, betamethasone topical, oxazepam, and amlodipine. A new difference emerged with amoxycillin being prescribed at a significantly lower rate than the national average (Table A4.15b).

Other (non-pharmacological) treatments

As previously stated in 'Content of the encounters' (Table A4.3a), GPs from the Australian Capital Territory did not differ from the national average in terms of the number of other (non-pharmacological) treatments provided. Although clinical treatments were provided at a similar rate to those provided nationally, the rate of procedural treatments was significantly lower than the national average.

Clinical treatments

The rate of provision of any of the most frequent individual types of clinical treatment was not significantly different in the Australian Capital Territory when compared with the national rate. The most frequent clinical treatments were general advice/education (5.3 per 100 encounters), advice/education about the treatment of a problem (4.8 per 100), counselling about a problem (4.5 per 100), counselling/advice about nutrition/weight (3.7) and counselling for psychological problems (2.5 per 100 encounters) (Table A4.16a).

Procedural treatments

Several procedural treatments were provided at a significantly lower rate in the Australian Capital Territory than average:

- excision/removal of tissue/biopsy (including destruction, debridement or cauterisation) (1.7 compared with 2.8 per 100 encounters)
- dressing/compression/tamponade (1.3 compared with 1.9 per 100)
- incision/drainage/flushing/aspiration/removal of body fluid (0.6 compared with 1.1 per 100)
- repair/fixation-suture/cast/prosthetic device (apply/remove) (0.6 compared with 1.0 per 100)
- electrical tracings (0.2 compared with 0.4 per 100 encounters) (Table A4.17a).

Age-standardised results

After age-standardisation, a new difference emerged in the rate of provision of counselling for drug abuse, which was now significantly lower in the Australian Capital Territory (Table A4.16b).

All significant differences observed in the rates of procedural treatments remained, and no new differences emerged (Table A4.17b).

Referrals

As stated earlier in 'Content of the encounters' (Table A4.3a), Australian Capital Territory GPs did not differ from the national average in rates of referrals to specialists, allied health professionals, hospitals, emergency departments or for any other referrals.

Referrals to medical specialists

Patients were referred to medical specialists at a similar rate by Australian Capital Territory GPs (7.7 per 100 encounters) compared with other GPs in Australia (7.9 per 100). Referrals were most commonly made to ophthalmologists, orthopaedic surgeons, dermatologists and ear, nose and throat specialists (all at 0.6 per 100 encounters). The rate of referrals to a surgeon was significantly lower than the national average (0.5 compared with 0.8 per 100 encounters) (Table A4.18a).

Referrals to allied health professionals

There were no significant differences in the rates of referrals to allied health professionals. The most common referral made by Australian Capital Territory GPs was for physiotherapy (1.1 per 100 encounters), followed by referrals to podiatrists/chiropodists (0.4 per 100 encounters). Referrals to health professionals (unspecified), psychologists, dietitians/nutritionists and dentists all occurred at a rate of 0.2 per 100 encounters (Table A4.18a).

Age-standardised results

The rate of referrals to a surgeon remained significantly lower in the Australian Capital Territory after age-standardisation. No other significant differences emerged (Table A4.18b).

Pathology test orders

In the earlier section, 'Content of the encounters' (Table A4.3a), we stated that GPs in the Australian Capital Territory did not differ in their rates of pathology ordering when compared with the national average (35.0 compared with 33.7 per 100 encounters). Pathology tests classed as Chemistry were the most commonly ordered type, at a rate of 17.9 per 100 encounters, followed by Haematology (6.9 per 100) and Microbiology (5.5 per 100). The most frequently ordered individual pathology order was for a full blood count (4.8 per 100 encounters) (Table A4.19a).

Age-standardised results

After age-standardisation, a significant difference emerged in the rate of pathology orders for full blood count. GPs in the Australian Capital Territory requested this test at a significantly rate than the national average. No other significant differences emerged (Table A4.19b).

Imaging orders

Australian Capital Territory GPs did not differ from their national counterparts in rates of requests for imaging (9.4 compared with 8.2 per 100 encounters) as previously reported (Table A4.3a).

The most frequently ordered imaging tests classified by Medicare Benefits Schedule groups are presented in Table A4.20a. GPs in the Australian Capital Territory did not differ significantly in their imaging ordering in any of these groups.

Age-standardised results

These results did not change following age-standardisation. No significant differences emerged between rates for the Australian Capital Territory GPs and for all Australian GPs (Table A4.20b).

Patient risk factors

Information about patient height and weight were asked of patients of all ages for calculation of body mass index (BMI). However, questions about other risk behaviours such as smoking status and alcohol consumption were only asked of patients aged 18 years or over.

Body mass index

Adults

There were no significant differences in the proportions of underweight, normal, overweight or obese adults (aged 18 years and over) seen by participating GPs from the Australian Capital Territory compared with the national average (Table A4.21).

Children

The Australian Capital Territory GPs saw similar proportions of children aged 2–17 years in each of the underweight, normal, overweight and obese categories when compared with children in this age group seen by all participating GPs (Table A4.21).

Alcohol consumption

Adult patients (aged 18 years or more) from the Australian Capital Territory were significantly less likely to be non-drinkers (26.0% compared with 31.1%) and significantly more likely to be responsible drinkers (50.4% compared with 43.9%) than those from the nation as a whole. However, the proportion who were classified as at-risk drinkers did not differ from the national average (Table A4.21).

Smoking status

There were no significant differences in the smoking status of adult patients (aged 18 years and over) seen by GPs in the Australian Capital Territory when compared with the national average. However, there appeared to be a trend towards fewer daily smokers and more previous smokers.

10.3 Discussion

The GPs

The 78 GPs from the Australian Capital Territory who participated in BEACH were significantly different from their national counterparts in almost every respect. The higher proportion of GPs who are female, have worked fewer than 2 years in general practice, and are currently in a general practice vocational training program, reflect the recent trend towards feminisation of general practice, and suggests that young graduates are attracted to working in the Australian Capital Territory. Approximately 70% of new graduates from medicine in recent years have been female.[46] This trend may also be reflected in the differences in numbers of sessions worked per week, and in the fewer FWE equivalents per head of population—women may be more likely to work fewer than 6 sessions per week and less likely to work 11 or more sessions per week, as has occurred in the GP workforce in the nation's capital. The lower rate of home visits and visits to residential aged care facilities in the nation's capital may also relate to the higher proportion of female GPs. A recent study of residential aged care found that although numbers of female GPs had increased between 1984 and 2000, the rate of services of this type per female GP had declined, leading to a reliance on older, male GPs to provide these services.[31] This does not, however, explain why GPs in the Australian Capital Territory made no hospital visits at all over the 5 years of this study. Age-standardisation did not explain the significant difference in the rates of hospital visits or in the rates of claims for 'other' items of service. The geographical construct of the

Territory may more likely account for these differences: the fact that the area is entirely metropolitan would alleviate the need for GPs to have visiting medical officer rights to their patients in hospital where they are under the care of hospital physicians.

The fact that 98.7% of Australian Capital Territory participants had a capital city practice location, although differing significantly from all participants at 67.1%, is not an unusual finding given the geography of the Australian capital. Place of graduation was the only characteristic where the Australian Capital Territory participants did not differ from their national counterparts.

The patients

The average rate of visits to GPs by the population of the Australian Capital Territory was lower by approximately 25% compared with the national average, and lower in each individual age group. Given the higher proportion of GPs working fewer than 6 sessions per week, the far fewer working more than 11 sessions per week (the national proportion is 6 times greater in this category), and the higher population:GP ratio, the patients appear to have less access to GPs than their national counterparts. The slightly greater proportion of people in the 15–24 year age group living in the Australian Capital Territory (16.0%) than the national average (13.7%) is reflected in the significantly higher proportion of encounters with patients in this age group compared with all Australia. Similarly the lower percentage of encounters with patients in the 65–74 (4.8%) and 75+ (3.7%) age groups is related to the lower percentage of the population in these age groups compared with the national average (6.8% and 5.8% respectively).

The Australian Capital Territory has a high socio-economic status by SEIFA classification[47] and the significantly lower rate of Commonwealth Concession Card holders at encounters with GPs reflects this. The smaller proportions of patients in the older age groups, of Aboriginal and Torres Strait Islander patients and NESB patients all relate to this significant difference, as these groups are considerably more likely to hold Commonwealth Concession Cards than other Australians.[15,48]

As older patients have more problems managed and medications prescribed per 100 encounters,[9] the smaller proportion of older people in the Australian Capital Territory may provide some explanation for the lower numbers of problems managed and lower rates of prescribed medications. However, patients aged 65 years and over have procedural treatments and medications supplied by the GP at a similar rate to the rest of the population,[49] so the significantly lower rates of these in the national capital cannot be explained by the age distribution (as supported by the age-adjusted result which remained significantly different). The significantly fewer circulatory problems recorded as the patients' reason for visiting the GP was also influenced by the smaller proportion of older people in the Australian Capital Territory as the difference no longer remained following age-standardisation.

The smaller proportion of Aboriginal or Torres Strait Islander peoples and Commonwealth Concession Card holders in the capital possibly contributed to the significantly lower rate of social problems reported as RFEs. Patients who identify themselves as Aboriginal or Torres Strait Islander have significantly higher rates of social problems managed by GPs than other Australian patients,[15] as do Commonwealth Concession Card holders.[29] The smaller proportion of NESB patients may be influenced by several factors. First, although Canberra is a city, it is smaller than most state capitals and is regionally located. Encounters with NESB patients are more likely to occur in metropolitan practices than in regional areas.[48] There may also be fewer employment opportunities for migrants who are not yet Australian

citizens. Many Australian government departments are based in the Australian Capital Territory, and the Public Service Act (1999) requires that Agency heads must not engage (in normal circumstances), as an Australian Public Service employee, a person who is not an Australian citizen.[50]

Problems and management

It would appear that the age distribution and high socio-economic status of the Australian Capital Territory population have resulted in their relative good health compared with all Australians. Although the general practice attendance rates for every age group in the Australian Capital Territory are lower than the national averages, the number of problems managed per encounter was no greater than for all encounters. Where problems were managed, there was a significantly lower prospect of a management of any type being provided. There were significantly fewer medications prescribed, advised or supplied, and fewer therapeutic treatments or referrals to hospital or a surgeon provided, per 100 encounters. Although amoxycillin was the most frequently prescribed medication in the Australian Capital Territory, it was still prescribed at a significantly lower rate than the national average (after age-standardisation).

Respiratory problems were the only problems that were managed significantly more often in the Australian Capital Territory than the national average. The higher rate of prescribed cefaclor monohydrate probably reflects this. The three most frequently prescribed medications (amoxycillin, roxithromycin and cefaclor monohydrate) were antibiotics commonly prescribed for respiratory problems, followed by paracetamol and influenza vaccine. Although upper respiratory tract infection was the most frequently managed new problem and the second most frequently managed problem overall, its management rate was not significantly different to the national rate, so it would appear that the antibiotics were prescribed for respiratory problems other than URTI.

The significantly lower management rates of circulatory problems (particularly hypertension), diabetes and lipid disorders are associated with the lower proportion of the population in the older age groups, and correspond to the significantly lower prescribing rates of atenolol (beta-blocker), amlodipine (anti-hypertensive), frusemide/furosemide (diuretic), and metformin (hypoglycaemic agent). Skin problems are also more prevalent in older patients and were managed significantly less often compared with the national average. This corresponded to the lower than national average rate of excision, and the significantly lower rate of prescribed betamethasone topical. The lower rates of psychological problems, notably anxiety and insomnia, correspond with the significantly lower prescribing rate of the anti-anxiety agent, oxazepam. The significantly lower prescribing rates of salbutamol and simple analgesics, especially paracetamol, may also reflect the significantly fewer Commonwealth Concession Card holders in the nation's capital, as these medications are available for over-the-counter purchase but may be more affordable if prescribed for these card holders. Apart from the better diets that may be associated with this higher socio-economic status, there seems little explanation for the significantly lower rate of medications for the digestive system, particularly anti-ulcerants.

The only medication other than cefaclor monohydrate to be prescribed at a significantly higher rate than the national average was the oral contraceptive, levonorgestrel/ethinyloestradiol. The higher proportion of the population in the 15–44 years age groups is the likely explanation for this disparity, as the difference no longer remained following age-standardisation.

The lower rate of many procedural treatments (dressing/compression/tamponade, incision/drainage/flushing/aspiration/removal of body fluid, repair/fixation-suture/cast/prosthetic device (apply/remove), electrical tracings) may reflect the metropolitan nature of the Australian Capital Territory. If a hospital casualty department is in close proximity, patients requiring these treatments may be more likely to attend these institutions than approach their GP, especially if a payment for the GP consultation is required. There seems no obvious explanation for the significantly higher rate of pathology orders for full blood counts (after age-standardisation) by GPs in the Australian Capital Territory compared with those ordered for other Australian patients.

Although the percentage of at-risk drinkers remained similar to all Australia, there were significantly fewer non-drinkers and significantly more responsible drinkers in the Australian Capital Territory. While the differences were not significant, there appeared to be a trend towards fewer daily smokers and more previous smokers. These differences may partially explain why (following standardisation) counselling for substance abuse emerged as a clinical treatment which occurred at a significantly lower rate than the national average.

The size and representativeness of the sample and the reliability of the research methods ensure the uniqueness of BEACH as a reliable data source.[15] However, as in all research of this kind, there is the possibility that some of the significant differences reported here result from Type 1 error owing to the large number of comparisons made. Relying on 95% confidence intervals to determine differences may lead to 5% of identified differences being false.

10.4 Conclusion

The GPs in the Australian Capital Territory are more likely to be female, newly graduated, part-time workers who are enrolled in a general practice vocational training program. They are less likely, because of the mostly metropolitan nature of the Territory, to make a hospital visit than other Australian GPs. The patients are more likely to be younger, affluent, employees who drink responsibly compared with other Australians. They visit their GP less often per year but have similar numbers of problems managed when they do attend. They receive fewer medications, procedural treatments or referrals to a hospital or surgeon. Overall, this study suggests they seem to denote a younger, healthier pocket of Australia.

The practice patterns of GPs in the Australian Capital Territory are significantly different to those of all Australian GPs in many aspects. It may be more beneficial for health planners and workers to use data specific to the nation's capital rather than the national BEACH data when assessing the activity of general practitioners in the Australian Capital Territory.

11 Northern Territory

11.1 Background

The population of the Northern Territory was 197,768 people in 2001, accounting for the smallest proportion of the Australian population (1.0%). In the Northern Territory, 52.3% of the population were male, while females accounted for 47.7% (Table A3.1).

There were 221 GPs/OMPs practising in the Northern Territory in the last 3 months of 2001, equating to 92.8 FWE GPs, giving a ratio of one FWE GP per 2,131.1 people. This is around half the rate for Australia as a whole (one FWE GP per 1,153.9 people). One-quarter of the FWE GPs were aged over 55 years, which was slightly higher than the national average (25%) and a considerably higher proportion were female (33%, compared with the national average of 25%) (Table A3.1).

The median age in the Northern Territory was 30.3 years, 6 years younger than the national median (Table A3.1). The age distribution of the Northern Territory population is shown in Figure 11.1. People aged between 25 and 44 years accounted for over one-third of the population (35.2%), while almost one-fifth were aged 45–64 years. Only 1.2% of people were aged 75 years or more, while only 2.5% were aged 65–74 years.

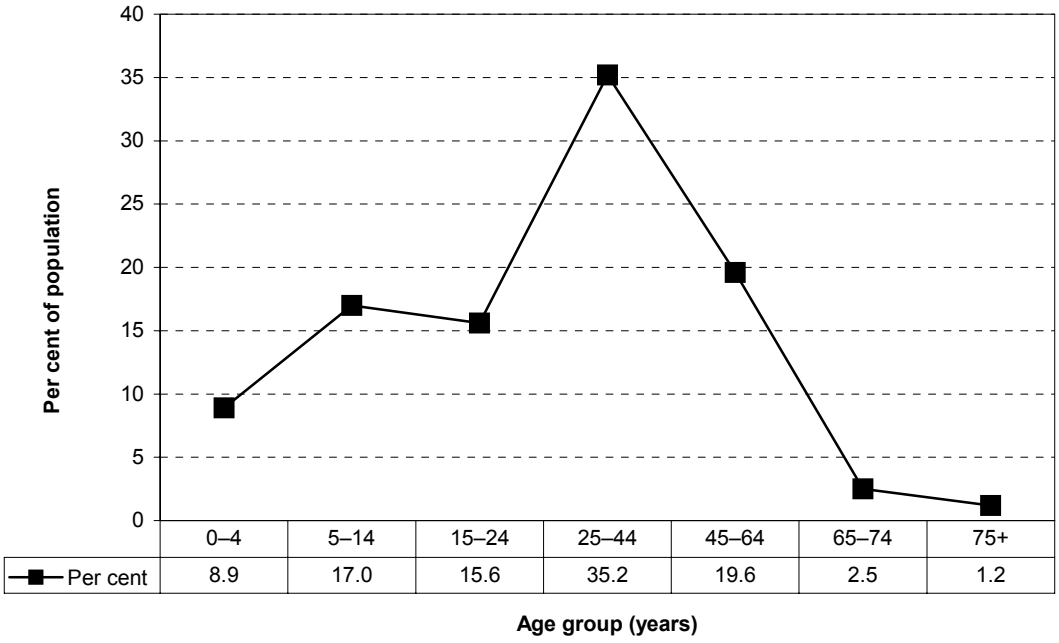

Figure 11.1: Age distribution of the Northern Territory population, 2001

In the Northern Territory 507,923 Medicare A1 and A2 items of service were processed over the period between July 2002 and June 2003. These accounted for 0.5% of total services processed over this time throughout Australia. On average, people living in the Northern Territory attended general practice 2.6 times in the 12-month period. This was a little more than half the overall rate for Australia (4.9 visits). Older people had the highest rates of Medicare-claimed attendance per annum, with those aged 75 years or more having an

average of 6.6 attendances per person (compared with 10.0 for all Australia), while people aged 65–74 attended 5.8 times (compared with 8.6 for all Australia). Those aged between 5 and 14 years attended only 1.2 times on average, while the 15–24 year age group had an average of 1.8 attendances per year (Figure 11.2).

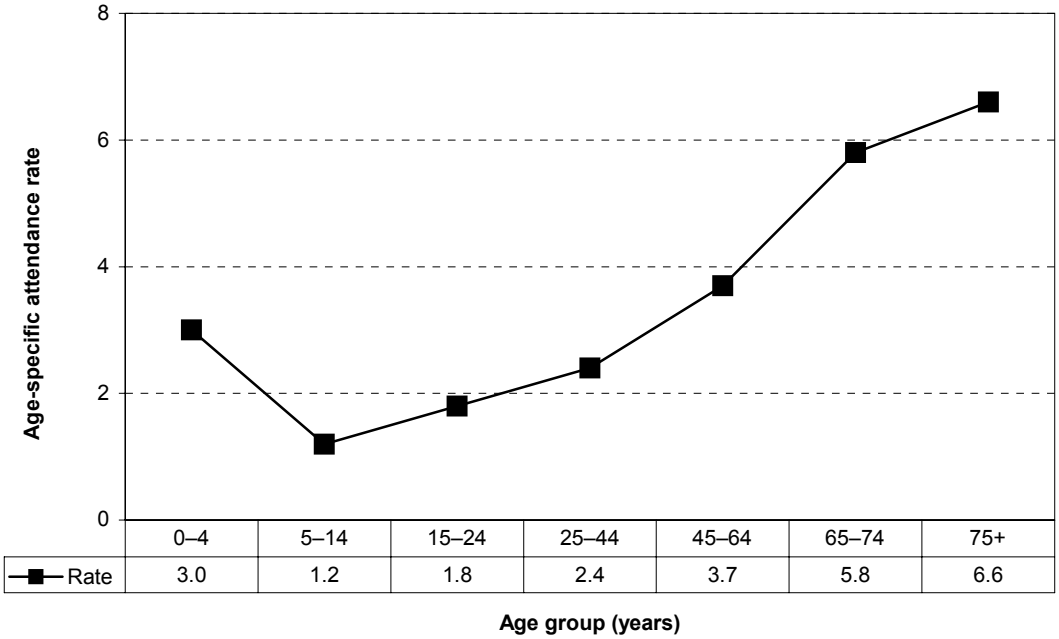

Figure 11.2: Age-specific Medicare-claimed general practice attendance rates the population of the Northern Territory

11.2 Results

Fifty-two GPs from the Northern Territory participated in BEACH between April 1998 and March 2003, accounting for 1.0% of the total 5-year sample. Northern Territory GPs provided details on 5,200 patient encounters. The Northern Territory results are compared with those for all of Australia in Appendix 4. The differences highlighted below are those identified by non-overlapping 95% confidence intervals. Marginal differences (where confidence intervals meet but do not overlap) are not noted here but can be examined in the tables in the Appendix.

The general practitioners

The participating GPs from the Northern Territory were a little older than average, with the greatest proportion of GPs being 55 years and over (34.6% compared with the average of 28.4%). The GPs did not differ markedly from the total sample in terms of sex distribution or years in general practice. Compared with the total sample, GPs in the Northern Territory were somewhat less likely to work less than six sessions per week (11.5% compared with 15.8%) and more likely to work in small group practices of 2–5 GPs (51.9% compared with 39.2%) than in large practices of 5 or more GPs (30.8% compared with 44.0%). The GPs were mostly practising in Darwin (67.3%) or in remote centres (11.5%). They were more likely to hold FRACGP than the average (41.2% compared with 32.2%) (Table A4.1).

The encounters

The raw figures for each variable in the BEACH data set for Australia and each state/territory are provided in Table A4.2.

Content of the encounters

The rate of patient reasons for encounter (145.8 per 100 encounters) and of problems managed (149.0 per 100 encounters) did not differ from the national average. However, new problems were managed at a significantly higher rate in the Northern Territory (58.6 per 100 encounters compared with the average of 51.2 per 100 encounters) and work-related problems were managed at twice the average rate (6.7 per 100 compared with 3.4 per 100) (Table A4.3a).

The number of medications per encounter in the Northern Territory (104.6 per 100) did not differ from the national average. GPs in the Northern Territory, however, supplied significantly fewer medications directly to the patient at the encounter than average (4.9 per 100 encounters compared with 8.1 per 100).

There were no significant differences in terms of other management received at the encounter. The overall rate of other treatments (54.8 per 100 encounters), the rate of referrals (12.4 per 100 encounters), including hospital referrals (0.8 per 100 encounters), and the overall rate of orders for imaging tests (7.8 per 100 encounters) were similar to the national average. Although the rate of pathology ordering (41.8 per 100 encounters compared with the average 33.8) was the highest in the country, this difference was not significant, due to the smaller sample size from the Northern Territory.

Age-standardised results

After age-standardisation, the difference in the rates of new and work-related problems were no longer significant. However, the rate of GP-supplied medications remained significantly lower in the Northern Territory (Table A4.3b).

Type of encounter

The proportion of consultations involving face-to-face contact with the patient (direct encounters) was similar in the Northern Territory (97.1%) to the national average (Table A4.4a). There was a significantly greater proportion of encounters with no charge to the patient compared with the national average (1.7 % compared with 0.7 %) and there was a significantly smaller proportion of claimable MBS items (87.7% compared with 92.6%). Although only a small proportion of all encounters, those conducted in residential aged care facilities were less common in the Northern Territory compared with the national average (0.3% compared with 1.0%).

Age-standardised results

After age-standardisation, differences remained between the Northern Territory and the national average in terms of relatively more encounters with no charge and relatively fewer MBS items remained (Table A4.4b). However, standardisation removed the observed difference in rates of encounters at residential aged care facilities.

Characteristics of the patients at encounter

The expected age distribution of patients at encounter in the Northern Territory was calculated from the age distribution of the Northern Territory population (Figure 11.1) and mean annual GP visits by age group (Figure 11.2). The observed age distribution of BEACH encounters from the Northern Territory (Table A4.5a) did not differ from the expected age distribution (results not shown). Therefore, the Northern Territory sample of BEACH encounters was representative of the Northern Territory population in terms of age distribution and GP visit rates.

The patients at encounters with GPs in the Northern Territory were significantly younger than all patients at encounters (Table A4.5a). There was a greater proportion of children aged 1–4 years (6.7% compared with 4.9%) and adults aged 25–44 years (34.7% compared with 25.9%). There was a smaller proportion of older adults aged 65–74 years (6.4% compared with 12.1%) and 75 years plus (3.8% compared with 13.0%).

The proportion of encounters where the patient was new to the practice was significantly greater in the Northern Territory compared with the national average (16.1% compared with 9.2%). There was a significantly smaller proportion of encounters with patients holding a Commonwealth Concession Card (23.8% compared with 39.3%) or a Repatriation Health Card (1.4 % compared with 3.4%). The proportion of encounters with Indigenous patients was eight times the national average (8.6% compared with 1.1%).

Age-standardised results

After age-standardisation, the rates of encounters with new patients, and encounters with Indigenous patients, remained significantly higher than the national average. A significantly lower proportion of encounters with Commonwealth Concession Card holders also remained, although the size of the difference was reduced. The rate of Repatriation Health Card holders was no longer significantly lower after age-standardisation (Table A4.5b).

Patient reasons for encounter

The patient reasons for encounter in the Northern Territory were broadly similar to all Australia with some significant differences. Patients described significantly higher rates of skin problems (16.9 per 100 encounters compared with 15.0 per 100) and ear problems (5.4 per 100 encounters compared with 4.1 per 100) than the Australian average. Conversely patients described fewer circulatory problems than average (6.8 per 100 encounters compared with 11.4 per 100) (Table A4.6a).

In terms of specific reasons for encounter, patients gave immunisation/vaccination as a reason for encounter less frequently than the Australian average (2.1 per 100 encounters compared with 4.6 per 100). Patients described a significantly higher rate of fever (3.0 per 100 encounters compared with 1.9 per 100), ear pain (3.0 compared with 1.7 per 100 encounters) and diarrhoea (2.3 per 100 encounters compared with 1.3 per 100) (Table A4.7a).

Age-standardised results

Most of the differences observed in patient reasons for encounter disappeared after age-standardisation, with two exceptions. After age-standardisation, only ear pain and diarrhoea remained significantly higher than average as reasons for encounter in the Northern Territory (Tables A4.6b and A4.7b).

Problems managed at encounter

Number of problems managed

The distribution of the number of problems managed by the GP at the encounter did not differ between the Northern Territory and the national average (Table A4.8a). At nearly two-thirds of encounters (64.2%) only one problem was managed. One in ten (10.6)% encounters involved the management of three or four problems.

Types of problems managed

The rates of problems managed by GPs in the Northern Territory broadly resembled the national profile with some exceptions (Table A4.9a). There was a significantly higher rate of skin problems (19.2 per 100 encounters) and ear problems (5.8 per 100 compared with 4.3 per 100) and a higher rate of management of pregnancy and family planning (6.0 per 100 encounters compared with 4.3 per 100). GPs in the Northern Territory managed relatively fewer circulatory problems than the national average (12.4 per 100 encounters compared with 16.6 per 100).

In terms of common specific problems, GPs in the Northern Territory managed hypertension (6.8 per 100 encounters compared with 8.8 per 100), problems described as immunisation (2.5 per 100 encounters compared with 4.8 per 100) and osteoarthritis (1.7 per 100 encounters compared with 2.4) significantly less frequently. Northern Territory GPs managed general check-ups (3.5 per 100 encounters compared with 1.9) at a significantly higher rate than the national average (Table A4.10a).

Age-standardised results

The distribution of the number of problems managed by the GP at the encounter did not differ between the Northern Territory and the national average after age-standardisation (Table A4.8b).

After age-standardisation, there remained significantly higher management rates of skin and ear problems but the differences in the rates of circulatory and pregnancy and family planning problems were removed. After standardisation, one new difference emerged: male genital problems were managed at significantly higher rates in the Northern Territory compared with Australia as a whole (Table A4.9b).

Among the most commonly managed problems, general check-ups remained significantly higher, but the differences in the rates of immunisations, osteoarthritis and hypertension were removed. Although the crude management rate of diabetes was not significantly higher than average, age-standardisation revealed a significantly higher age-standardised rate of diabetes management in the Northern Territory (Table A4.10b).

New problems managed at encounter

Compared with the national average, there were few differences in the rates of new problems commonly managed by GPs in the Northern Territory. One exception was the management of otitis externa, which was managed as a new problem significantly more frequently than average (1.2 per 100 encounters compared with 0.4 per 100 encounters). There was also a significantly lower than average rate of new immunisation problems at Northern Territory encounters (1.1 per 100 compared with 2.3) (Table A4.11a).

Age-standardised results

After age-standardisation, the management of otitis externa as a new problem remained significantly higher than average (Table A4.11b). The lower rate of immunisation was not significant after age-standardisation.

Management rates

Earlier in this chapter we reported the rates of each management type provided per 100 encounters. In this section we view management in two other ways. First, we compare the rate of each management variable per 100 problems managed. This removes any bias introduced by differing numbers of problems managed per 100 encounters between states. Second, we look at the likelihood of GPs providing at least one of each management action at the encounter. This provides a simple picture of the chance the patient has of receiving, for example, a prescribed medication or a referral when they attend the GP.

Table A4.12a shows the rate of treatments received per 100 problems managed. The total rate of all medications prescribed, advised or supplied per 100 problems in the Northern Territory was comparable to the national average. GPs in the Northern Territory supplied medications directly to the patient at a significantly lower rate than average (3.3 per 100 problems compared with 5.5 per 100). There were no significant differences between the Northern Territory and the national average in rates per 100 problems of other treatments, referrals, imaging or pathology orders.

Age-standardised results

Table A4.12b shows the age-standardised rates of treatments per 100 problems. There was no change in the pattern of treatments after age-standardisation.

Encounters for which management was recorded

This section considers the relative likelihood of at least one management action of each type per encounter, and the results are presented in Table A4.13a.

There was no difference between the Northern Territory and the national average in the proportion of encounters that received any medications (66.1%), any prescriptions (57.6%), advised medications (10.0%) or a medication supplied by the GP (4.1%). The percentage of encounters where the patient received at least one other treatment (40.4%), either clinical (31.4%) or procedural (11.8%), was similar to the national average. The proportion of encounters that received any referrals (12.0%), including to hospital (0.3%) or to a specialist (5.0%), also did not differ from the national average. However, the proportion of encounters that resulted in an order for any investigation was significantly greater in the Northern Territory (23.6%) than the national average (20.4%). This was largely explained by the greater proportion of encounters in the Northern Territory where an order for a pathology test was made (18.3% compared with 14.9%).

Age-standardised results

The greater proportion of Northern Territory encounters with an order for a pathology test remained unaffected by age-standardisation (Table A4.13b).

Medications

Most major medication groups were prescribed in the Northern Territory at rates comparable to the national average (Table A4.14a). Antibiotics, however, were prescribed at a significantly higher rate than the national average (19.3 per 100 encounters compared with 14.9 per 100 encounters). In particular, penicillin was prescribed at twice the rate of the national average (4.7 per 100 encounters compared with 2.2 per 100 encounters).

Topical ear medications were prescribed significantly more frequently at Northern Territory encounters (2.3 per 100) than the national average (0.9 per 100 encounters).

Simple analgesics (2.1 per 100 compared with 4.2 per 100) and anti-anxiety agents (1.4 per 100 compared with 2.0 per 100) were prescribed significantly less frequently in the Northern Territory compared with the national average. Medications acting on the endocrine/nutrition/metabolic system were infrequently prescribed in the Northern Territory (0.8 per 100 encounters), significantly below the national average (1.5 per 100).

Most commonly prescribed medications

In terms of generic medications, the most commonly prescribed in the Northern Territory was combined paracetamol/codeine analgesic, which was prescribed significantly more frequently than the national average (3.1 per 100 encounters compared with 2.2 per 100 encounters). The higher prescribing of the combined analgesic was compensated by the significantly lower prescribing of simple paracetamol in the Northern Territory (1.4 per 100 encounters compared with 3.4 per 100 encounters). The prescribing of systemic diclofenac sodium (2.2 per 100 encounters) was twice the national average; however, the prescribing of celecoxib was significantly lower than the national average (0.5 per 100 encounters compared with 1.0 per 100) (Table A4.15a).

Age-standardised results

After age-standardisation, the prescribing rates of antibiotics and topical ear medications remained significantly higher than the national average. The prescribing rate of penicillin remained significantly higher than the national average; however, the age-standardised prescribing rate of plain amoxycillin was significantly lower. The prescribing rates of simple analgesics remained significantly lower than the national average. The prescribing rate of diclofenac sodium remained significantly higher after age-standardisation. The differences in the rates of anti-anxiety agents and endocrine/nutrition/metabolism medications were only marginally significant after age-standardisation, and there was no significant difference from the national average for celecoxib after age-standardisation (Tables A4.14b and A4.15b).

Other (non-pharmacological) treatments

As shown in Table A4.3a, the overall rate of other (non-pharmacological) treatments was comparable to the national average.

Clinical treatments

The rate of all clinical treatments in the Northern Territory was not different from the national average. Table A4.16a shows the most common clinical treatments given. Counselling/advice for smoking was given significantly more frequently at encounters in the Northern Territory (1.9 per 100 encounters compared with 0.7 per 100).

Procedural treatments

Overall the rates of procedural treatments in the Northern Territory were similar to the national average. The rates of dressing/pressure/compression/tamponade, physical medicine/rehabilitation and other non-specified therapeutic procedures were lower than the national average (Table A4.17a).

Age-standardised results

The rate of counselling/advice for smoking remained significantly higher than average after age-standardisation (Table A4.16b).

The lower rates of physical medicine and non-specified procedures remained significantly lower after age-standardisation. However, the lower rates of dressing/pressure/compression/tamponade did not persist after standardisation (Table A4.17b).

Referrals

Referrals to medical specialists

The overall rate of referrals to medical specialists in the Northern Territory (7.6 per 100 encounters) was similar to the national average (Table A4.18a). However, GPs in the Northern Territory made referrals to surgeons significantly more often than the national average (1.5 per 100 encounters compared with 0.8 per 100). Referrals to ophthalmologists (0.4 per 100 encounters), gastroenterologists (0.1 per 100 encounters) and urologists (0.1 per 100 encounters) were made significantly less frequently than the national average (0.8, 0.4 and 0.3 per 100 encounters respectively).

Referrals to allied health professionals

There were no differences between the Northern Territory and the national average in referral rates to allied health and other health professionals (Table A4.18a).

Age-standardised results

The age-standardised rates of referrals to surgeons remained significantly higher in the Northern Territory compared with the national average. Referrals to gastroenterologists and urologists remained significantly lower than the national average, but referrals to ophthalmologists were no longer significantly lower after age-standardisation. One new age-standardised difference emerged: rates of referral to dermatologists were significantly lower in the Northern Territory compared with the national average (Table A4.18b).

Pathology test orders

Table A4.19a shows the rates of orders for pathology tests by Medicare Benefits Schedule (MBS) groups and subgroups. There were no significant differences between the Northern Territory and the national average in terms of the rates of pathology orders per 100 encounters. Chemistry tests were the most commonly ordered (22.4 per 100 encounters), followed by Microbiology (7.1 per 100 encounters) and Haematology (6.2 per 100 encounters).

Age-standardised results

Age-standardisation did not reveal any differences in rates of pathology orders (Table A4.19b).

Imaging orders

Order rates for imaging tests by MBS group and subgroup are shown in Table A4.20a. GPs in the Northern Territory ordered most types of imaging tests at similar rates to the national average. The one exception was computerised tomography, which was ordered significantly less frequently in the Northern Territory compared with the national average (0.3 per 100 encounters compared with 0.7 per 100).

Age-standardised results

After age-standardisation, the rate of computerised tomography orders in the Northern Territory remained lower than the national average (Table A4.20b).

Patient risk factors

There have been three major ongoing subsample studies of selected patient risk factors: patient body mass index (BMI) calculated from patient self-reported height and weight, self-reported alcohol consumption and smoking status. The methods applied to these subsample studies are described in Chapter 2—Methods.

Body mass index

Adults

There were 1,618 adult patients (aged 18 years and over) for whom BMI could be calculated. There was no difference between the Northern Territory and the national average in the proportion of overweight (31.3%) or obese patients (19.3%) (Table A4.21).

Children

There were 221 children aged between 2 and 17 years for whom BMI could be calculated. Of these 75.6% were normal or underweight, 14.9% were overweight and 9.5% were obese. These proportions were not significantly different from the national average (Table A4.21).

Alcohol consumption

In terms of drinking, a significantly greater proportion of Northern Territory patients (aged 18 years or more) were at-risk drinkers compared with the national average (39.9% compared with 25.0%) and a significantly smaller proportion were non-drinkers (26.1% compared with 31.1%) (Table A4.21).

Smoking status

Patients (aged 18 years and over) in the Northern Territory were also significantly more likely to smoke daily (28.9%) compared with the national average (18.6%) (Table A4.21).

11.3 Discussion

There were several salient differences in patient morbidity and management at GP–patient encounters in the Northern Territory.

The Northern Territory differs from Australia in demographic terms, with a younger population and a high proportion (28%) of Aboriginal or Torres Strait Islander people [51]. These differences are reflected in the demographics of patients seen at GP–patient encounters. There was a greater proportion of encounters with patients aged 25 to 44 and a smaller proportion with those aged 65 years and over in the Northern Territory. The rate of encounters with Indigenous people was higher than for any other state or territory (8.6%) but still low relative to the size of the Indigenous population in the Northern Territory.

The younger age of patients may partly explain the smaller proportion that held a Commonwealth Concession Card compared with the average for Australia, although the lower rate of Commonwealth Concession Card holders in the Northern Territory remained after age-standardisation. The higher rate of work-related problems was explained by the younger age of patients in the Northern Territory since after age-standardisation the rate of work-related problems was no longer significantly higher than the national average. Only one in ten encounters in the Northern Territory were with patients aged 65 years and over, compared with the national average of one in four.

The larger proportion of encounters with younger patients did not fully explain the higher rate of patients who were new to the practice, since the rate remained significantly higher after age-standardisation. This high rate of patients new to the practice possibly reflects the low average annual visit rates for the Northern Territory and may indicate less continuity of care. Distance from services contributes to infrequent GP attendance, and patients in the Northern Territory may make opportunistic use of medical services whenever they visit a major centre, without returning regularly to the same GP. Infrequent attendance may also explain the high rates of general check-ups that occur at encounters in the Northern Territory as GPs take the opportunity to provide general health check for new patients or those seen only occasionally. The higher rates of general check-ups could also explain the higher rate of pathology ordering in the Northern Territory.

Morbidity management rates in the Northern Territory need to be interpreted in the light of the apparent lack of GP services. The Northern Territory has around half the number of Medicare-paid FWE GPs per head of population than Australia as a whole, and half the mean number of annual GP visits per head of population. These figures are based on the number of claims for Medicare general practice items and represent activity in private general practice. Based on Medicare claims activity, the ratio of FWE GPs to the number of practising GPs in the Northern Territory is 93 FWE/221 GPs = 0.42. Each GP is working on average less than half a full-time load. This compares to a ratio of 0.79 for all Australian GPs. This indicates that the Northern Territory GPs spend less time in conventional private practice than their counterparts in other states. It could be that a high proportion of GPs in the Northern Territory work part-time, especially since the Northern Territory has a high proportion of female GPs. An alternative explanation is that Northern Territory GPs are providing more consultations in primary health care services that are not claimed as MBS items than their counterparts in other states. General practice in the Northern Territory appears more diverse than in other states, with a large proportion of GPs working in salaried positions in remote communities and Territory Health Clinics.[52] Therefore, some of the short-

fall in population visit rates to private general practice, as measured by Medicare claims, may be met by consultations with salaried GPs that are not claimed through Medicare.

Even though patients visit private general practice less frequently, GPs manage the same mean number of problems per encounter as the national average. Therefore, GPs are not compensating for fewer visits by each patient by managing more problems at each visit. Therefore, those morbidities that are managed at the same rate per 100 encounters as the national average are in fact managed relatively less frequently in private practice per head of population in the Northern Territory, since there are fewer encounters per head of population compared with the Australian average.

One exception was diabetes which had nearly twice the age-standardised management rate per 100 encounters than the national average. However, GP visits per head of population is half the national average, so it appears that the diabetes management rate per head of population in the Northern Territory is only slightly less than the Australian average. This may indicate that Northern Territorians are more likely to attend a GP for the management of diabetes, relative to other morbidities, perhaps as part of a structured care plan. Alternatively, higher age-specific prevalence of diabetes among the Northern Territory population may account for the higher age-standardised visit rates for diabetes relative to other morbidities.

Ear problems were also prominent at encounters in the Northern Territory. Patients gave ear pain as a reason for encounter more frequently than average. GPs managed ear problems and prescribed topical ear medications at a higher rate per 100 encounters than the national average. These increased rates could be due to the high management rates of otitis media among Indigenous patients.[15]

The small proportion of encounters with Aboriginal and Torres Islander people relative to the proportion of the Northern Territory population indicates that Aboriginal and Torres Strait Islander people are visiting private general practice much less frequently than the rest of the Northern Territory population. However, it is uncertain how much of this difference is due to under-identification of Aboriginal and Torres Strait Islander patients in BEACH and how much is explained by the use of alternative primary health care services by Aboriginal and Torres Strait Islander people. The promotion of the 'Well persons check-up' among Aboriginal and Torres Strait Islander health services may contribute to the high rate of check-ups at encounters in the Northern Territory.

The BEACH program as a data source is unique in Australia. Its strengths lie in the large size and representativeness of the sample, and the reliability of the research methods.[15] However, as in all analyses of this kind, relying on 95% confidence intervals with a large number of comparisons leads to a possibility that 5% of observed differences may be false (Type 1 error).

11.4 Conclusion

Compared with the national average, the Northern Territory has fewer FWE GPs per head of population, the population visits a GP less frequently on average, and relatively fewer Territorians attend a regular GP. As the number of new patients is higher than elsewhere this suggests that they may received less continuity of care. Despite fewer patient visits, GPs in private practice are not being presented with a greater number of problems to manage (per encounter) when visits do occur. Analogous to the fewer problems, GPs in private practice in

the Northern Territory provide fewer managements per head of population for most morbidities relative to the Australian average.

One exception may be diabetes where the higher age-specific management rate may indicate that patients in the Northern Territory are returning more frequently for the management of diabetes than for other morbidities, perhaps as part of a program of structured care.

Less frequent visits, less continuity of care and higher risk factors among Northern Territory patients may explain the higher rate of check-ups seen at Northern Territory encounters. Aboriginal and Torres Strait Islander persons appear to be visiting GPs even less frequently than other Territorians, indicating that Aboriginal and Torres Strait Islander persons from the Northern Territory are among the most infrequent attenders at general practice.

Northern Territory GPs are claiming on average fewer Medicare items than average for all states and territories, indicating they spend less time in private general practice than average GPs. It would be useful to enumerate those consultations with salaried GPs that are not claimed against Medicare to understand how much of the short-fall in patient visit rates to private general practice is compensated by attendance at Territory funded clinics and other health services.

This report has described important differences between the Northern Territory and Australia as a whole. These differences indicate that the Northern Territory cannot rely on national averages to adequately understand private general practice in the Territory. Where possible, specific analyses should be undertaken to describe the Northern Territory's unique general practice context.

12 Discussion

This report has provided the first clear description of the current activities of general practitioners in each state and territory of Australia. These data fill a gap in available information about the health of the Australian population. Information has been available about hospital in-patient attendances,[27] mortality rates and cause of death,[28] but these statistics reflect what happens to a minority of the population. The National Health Survey collects information about the health of the broader community but this survey is only conducted every 4 years and relies on self-reported problems.[5] The state-based health surveys rely on self-report by telephone interview on a selected range of topics.[53,54]

About 85% of the population visit a GP at least once in any given year and it could be assumed that close to all Australians would have visited at least once in the 5-year period of the BEACH study reported here (1998–2003). This report therefore provides an additional view of the health of the population in each state and territory. The only previous report has been a simple upper level summary of results by state and territory, published in the report of the Australian Morbidity and Treatment Survey 1990–91, almost 15 years ago.[22]

The BEACH GP–patient encounter data in each state and territory were found to be remarkably representative. When we tested the age distribution of patients at BEACH encounters in each state and territory against the expected age distribution (on the basis of the age distribution of each population and the mean annual visit rate per age group within that population), the results did not differ. One can therefore conclude that the sample of BEACH encounters was representative of the population in each state and territory in terms of age distribution and GP visit rates.

The remarkable consistency of most of the results across the country is notable. While differences have been identified between the characteristics of the GPs, their patients and their practice patterns in every state and territory, considering the very large number of comparisons made, relatively few significant differences were identified. However, the study has demonstrated that while practise patterns are similar across the country, each state and territory has specific morbidities or management styles which stand out, being above or below the average. Only some of these can be partially or fully explained by the age distribution of the state/territory patient population.

These data provide health care planners with an up-to-date view of the common issues taken to and managed by GPs in each state and territory. They also provide other researchers with state and territory averages against which they can compare smaller study samples. The large sample size and the consequent accuracy of the estimates can assist researchers to plan local general practice based studies of specific morbidity and its management by providing better estimates of required GP sample size through a knowledge of the likely occurrence of the event of interest.

The statistical techniques applied in BEACH recognise that the sampling is based on GPs and that for each GP there is a cluster of encounters. Each cluster may have its own characteristics, being influenced by the characteristics of the GP. While ideally the sample should be a random sample of GP–patient encounters, such a sampling method is impractical in the Australian health care system. The reader should, however, be aware that the larger the GP sample and the smaller the cluster, the better. The national sample size of 100,000 encounters from a random sample of 1,000 GPs per year has been demonstrated to be the most suitable balance between cost and statistical power and validity.[55]

The very large sample sizes for the more populous states of New South Wales, Victoria and Queensland (189,200, 114,000 and 93,300 respectively) provide a very reliable picture of general practice activity in these states. Even in Western Australia and South Australia the sample sizes of 41,200 and 38,100 are larger than other state based health data currently available. Tasmania, the Australian Capital Territory and the Northern Territory, with smaller populations and fewer GPs, had smaller sample sizes of 13,300, 7,800 and 5,200 respectively. This resulted in somewhat wider confidence intervals in the estimates of events, thus reducing the number of variables found significantly different from the national average. Yet the Australian Capital Territory and the Northern Territory were the two that differed most from the national average. The influence of the age distribution of these two populations on their results has been discussed in the relevant chapters.

The results of this study suggest that people interested in the general practice care provided in New South Wales and Victoria can largely rely on the published annual reports of the national BEACH data, since these two states did not differ markedly from the average. This is not surprising as both heavily influence the average through the size of their populations and therefore the size of their representation in the total data set. However, in New South Wales, topics that may be worthy of more detailed analysis of BEACH data were the higher management rates of hypertension and lipid disorders, neither of which were explained by the age distribution of the population. The overall higher prescribing rate in New South Wales may also be worth more specific study. In Victoria, the higher management rates of psychological problems (anxiety in particular) in combination with the higher prescribing of anti-anxiety agents could be worthy of further investigation. It is interesting to find that the proportion of patients reporting at-risk alcohol consumption levels was lower than average in both New South Wales and Victoria, and the other risk factors measured (smoking and BMI) provided results consistent with the national average.

In Queensland, the higher management rate of skin problems (particularly solar keratosis and malignant neoplasms), together with their low referral rate to dermatologists and their more frequent action of excision/biopsy, suggest that GPs in this state are taking considerable responsibility for the management of these problems. More detailed analysis of this subset of data may assist in the design of educational programs for general practitioners in managing these problems.

In Western Australia, the pattern of morbidity managed was remarkably similar to the average and it is unclear why the prescribing rate was significantly lower than average, even after age-standardisation. It may reflect their lower management rates of respiratory and circulatory problems as the prescribing rates of anti-hypertensives and antibiotics were both lower than average. The higher proportion of patients reporting at-risk levels of drinking may be worthy of increased state based attention.

In South Australia, there were lower rates of management of immunisation/vaccination and hypertension with an associated lower prescribing rate for drugs acting on the cardiovascular system (particularly anti-hypertensives). As these differences were not due to the age distribution of the South Australian patients, further investigation of these results might provide some insight into whether hypertension is not being diagnosed at the optimum rate and whether the immunisations are being covered by other services within the health care system. The higher reported patient prevalence of obesity, together with the lower rate of provision of counselling regarding exercise by participating GPs, may suggest that programs highlighting the obesity problem should be promoted in general practice in this state.

In Tasmania, the significantly higher proportion of the patient population who reported smoking on a daily basis is somewhat surprising. Tasmania has a somewhat older population than average and the highest smoking rates are usually found in younger people.[15] The relatively high prescribing rates of narcotic analgesics and psychotropic drugs may be explained by the higher management rate of back complaints but this area is worthy of further investigation through more detailed analysis of BEACH data for Tasmania.

In the main, the differences found in GP activity in the Australian Capital Territory were due to the age distribution of the patient population which is younger than average. The fewer visits per head of population to general practice did not result in higher rates of morbidity managed when they did attend. It is highly likely that the results are reflecting the relatively young and affluent nature of the community. However, because of the difference in the age distribution in this area, any specific analysis of GP management of any selected problem needs to be undertaken for the Australian Capital Territory alone, as relying on the annual BEACH national reported data would not provide a true picture for the Capital Territory itself.

The relatively young age distribution of the population also explains many of the differences in the Northern Territory, although there are a number of specific areas that should be investigated further at Territory level. These include the high number of work-related problems managed in general practice, the more frequent management of ear and skin problems and the higher age-standardised rate of diabetes management. In terms of population risk factors, the Territory GPs seem well aware of the high prevalence of daily smoking (as they provide more frequent advice and counselling on this subject), but their attention could be drawn to the very high patient prevalence of at-risk drinking behaviour identified in this study.

12.1 Using BEACH data with those from other sources

Users of the data reported in this publication might wish to compare the results with those from other sources, such as the National Health Survey[5] or the HIC.[4] Although integration of data from multiple sources can provide a more comprehensive picture of the health of the community, the user must keep in mind the limitations of each data set and the differences between them. Some examples are presented below.

The National Health Survey (NHS) and state based telephone interviews

Using BEACH data in combination with NHS state or territory data could provide a more comprehensive picture of the health of the community. However, both the NHS and the state based telephone surveys (e.g. the NSW Health Survey,[54] South Australia's Omnibus Survey[53]) are population based, where the unit of selection and analysis is the person. This allows estimates of prevalence and incidence for some conditions.

In contrast, the BEACH survey is encounter based. Estimates of incidence can be made on the basis of the number of new presentations of a selected condition through extrapolation of the rate of presentation to the total number of Medicare-paid encounters in that state/territory over the same period. However, BEACH describes what happens at the GP–patient encounter. While about 85% of the population visit a GP in any one year,

incidence estimates from BEACH describe incidence within the attending population, not incidence for the total population, because some may choose not to attend the GP for management of their problem.

You cannot estimate population prevalence of disease from the BEACH encounter data as there are 100 million GP consultations represented by the national sample, not 19.5 million people.

The most useful approach is to use the NHS to gain an estimate of population prevalence of a disease and then consider the encounter data on the basis of this prevalence estimate in your state or territory. MBS and PBS data can also be used in combination with the NHS and BEACH data.

The Pharmaceutical Benefits Scheme (PBS)

If comparing BEACH prescribing data with data from the PBS, the reader should be aware of the following differences.

- Total medications in BEACH include those prescribed, those supplied to the patient directly by the GP, and those advised for over-the-counter purchase.
- Each prescription recorded in the BEACH program reflects the GP's intent that the patient receives the prescribed medication and the specified number of repeats. The prescription, irrespective of the number of repeats ordered, is counted only once.
- Prescriptions are counted in BEACH irrespective of whether or not the medication is covered by the PBS for all patients, for those holding a Commonwealth Concession Card or for those who have reached the safety net threshold.
- The BEACH data do not provide information on the number of prescriptions not filled by the patient (and neither does the PBS).

In contrast, the PBS data:

- count the prescription each time it is dispensed by the pharmacist
- count only prescribed medications subsidised by the PBS (i.e. those costing more than the minimum subsidy (therefore covered by the PBS for all patients), or those prescribed for people holding a Commonwealth Concession Card or for those who have reached the safety net threshold).

These differences will influence not only the numbers of prescriptions counted but also their distribution. For example, the majority of hormone replacement therapies (HRTs) fall under the PBS minimum subsidy level and would not be counted in the PBS data unless patients receive the medication under the PBS because they are a Commonwealth Concession Card holder or have reached the annual safety net threshold. The PBS would therefore under-estimate the number of HRT prescriptions filled and the proportion of total medications accounted for by HRTs.

The Medicare Benefits Schedule (MBS) items

If comparing the BEACH data with Medicare data, it should be noted that:

- the MBS data provided by the DoHA does not usually include data about patients and encounters funded through the Department of Veterans' Affairs. The effect of this on comparisons between data sets has been demonstrated previously using a comparison of the age–sex distribution of patients at A1 encounters in BEACH with those of the MBS A1 items of service;[15]
- the BEACH participants have the opportunity to record only one Medicare item number on each encounter form. They are instructed to select the more general item number where two item numbers apply to the consultation because additional services attracting their own item number (e.g. 30026—repair of wound) are counted as actions in other parts of the form. This results in a lesser number of 'other' Medicare items than would be counted in the Medicare data;
- the BEACH database includes data about all clinical activities, not only those billed to the MBS. Both direct (patient seen) and indirect (patient not seen but a clinical activity undertaken) consultations are recorded. Some of these are paid by other funding sources (such as state health departments, private insurance companies, workers compensation, etc.) and some are provided free of charge by the GP. In contrast, the MBS data include only those GP services that have been billed to Medicare; and
- in general practice activities of relatively low frequency with a skewed distribution across individual GPs, the relative frequency of the event in the BEACH data may not reflect that reported in the MBS data.

Pathology data from the MBS

The BEACH database includes details of pathology tests ordered by the participating GPs. When comparing these data with those in the MBS, remember that:

- BEACH reflects the GP's intent that the patient have the pathology test(s) done and information as to the extent to which patients do not have the test done is not available;
- each pathology company can respond differently to a specific test order label recorded by the GP. Further, the pathology companies can charge through the MBS only for the three most expensive tests undertaken even where more were actually undertaken. This is called 'coning' and is part of the DoHA pathology payment system; and
- pathology MBS items contain pathology tests grouped on the basis of cost. An item may therefore not give a clear picture of the precise tests performed.

The effect of these factors is that the MBS pathology data include only those tests billed to the MBS after interpretation of the order by the pathologist and after selection of the three most expensive tests. This effect will not be random. For example, in an order for four tests to review the status of a patient with diabetes, it is likely that the HbA1c will be the least expensive and will 'drop' off the billing process due to coning. This would result in an under-estimate of the number of HbA1cs being ordered by GPs.

The distributions of the two data sets will differ, reflecting on the one hand the GP order and on the other the MBS-billed services after coning and assignment of MBS item number.

Those interested in GP pathology ordering will find more detailed information from the BEACH program in *Pathology Ordering by General Practitioners in Australia 1998*.[56] A study of changes in pathology ordering patterns between 1998–99 and 2000–01 has also recently been released[57] and is available through our web site <http://www.fmrc.org.au/publications/> (go to Books—General Practice Series).

Imaging data from the MBS

Some of the issues discussed regarding pathology data also apply to imaging data. Although coning is not an issue for imaging, radiologists are free to decide whether or not the test ordered by the GP is the most suitable and whether to undertake other tests of their choosing. The MBS data therefore reflect the tests that are actually undertaken by the radiologist, whereas the BEACH data reflect those ordered by the GP. Those interested in GP imaging ordering will find more detailed information from the BEACH program in *Imaging Orders by General Practitioners in Australia 1999–00,*[58] also available from our web site.

13 Conclusion

General practice activity in Australia is, in the main, quite consistent across state and territory boundaries. However, differences between individual states and territories and the national average have been identified in terms of the characteristics of the GPs practising in each, the characteristics of their patients, the reasons their patients attend, the problems managed at GP–patient encounters and the methods of management used. More detailed individual analysis of state/territory based BEACH data should be considered in many of the areas of identified differences.

13.1 Access to BEACH data

Public domain

Much of the national information produced through the BEACH program is publicly available. In line with standard Australian Institute of Health and Welfare practice, an annual publication provides a comprehensive view of general practice activity in Australia.

Abstracts of results for the substudies conducted throughout the program (not reported in the annual report) are available through the web site of the Family Medicine Research Centre (of which the General Practice Statistics and Classification Unit is a part) at <http://www.fmrc.org.au/beach.htm> (select Abstracts).

Analysis of the BEACH data is a complex task. The General Practice Statistics and Classification Unit has therefore designed standard report formats that cover most aspects of the subject under investigation. Examples of a problem based standard report (the subject is Warts) and a pharmacological based standard report (subject Allopurinol) for a single year's data are available on our web site <http://www.fmrc.org.au/purchase.htm>.

Participating organisations

Organisations providing funding for the BEACH program receive summary reports of the encounter data quarterly and standard reports about their subjects of interest.

The GPSCU now provides participating organisations direct access to straightforward analyses on any selected problem or medication in real time, through our interactive web server.

External purchasers of standard reports

Non-contributing organisations may purchase standard reports or other ad hoc analyses. Standard reports are also available (upon request) for a selected state or territory and within these for specific groups of patients (e.g. children) or for a specific management action.

We can design individual data analyses for more complex research where the question is not adequately answered through standard reports. Charges are available on request. The General Practice Statistics and Classification Unit should be contacted for further information. Contact details are provided at the front of this publication.

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Glossary

A1 Medicare items: Medicare item numbers 1, 2, 3, 4, 13, 19, 20, 23, 24, 25, 33, 35, 36, 37, 38, 40, 43, 44, 47, 48, 50, 51, 601, 602.

A2 Medicare items: Medicare item numbers 52, 53, 54, 57, 58, 59, 60, 65, 81, 83, 84, 86, 87, 89, 90, 91, 92, 93, 95, 96, 97, 98, 697, 698.

Aboriginal: The patient identifies himself or herself as an Aboriginal person.

Activity level: The number of general practice A1 Medicare items claimed during the previous 3 months by a participating GP.

Allied and other health professionals: Those who provide clinical and other specialised services in the management of patients, including physiotherapists, occupational therapists, dietitians, dentists and pharmacists.

Chapters (ICPC-2): The main divisions within ICPC-2. There are 17 chapters primarily representing the body systems.

Complaint: A symptom or disorder expressed by the patient when seeking care.

Component (ICPC-2): In ICPC-2 there are seven components which act as a second axis across all chapters.

Consultation: See *Encounter*

Diagnosis/problem: A statement of the provider's understanding of a health problem presented by a patient, family or community. GPs are instructed to record at the most specific level possible from the information available at the time. It may be limited to the level of symptoms.

- *New problem:* The first presentation of a problem, including the first presentation of a recurrence of a previously resolved problem but excluding the presentation of a problem first assessed by another provider.
- *Old problem:* A previously assessed problem that requires ongoing care. Includes follow-up for a problem or an initial presentation of a problem previously assessed by another provider.
- *Work-related problem:* Irrespective of the source of payment for the encounter, it is likely in the GP's view that the problem has resulted from work-related activity or workplace exposures or that a pre-existing condition has been significantly exacerbated by work activity or workplace exposure.

Encounter (enc): Any professional interchange between a patient and a GP.

- *Indirect:* Encounter where there is no face-to-face meeting between the patient and the GP but a service is provided (e.g. prescription, referral).
- *Direct:* Encounter where there is a face-to-face meeting of the patient and the GP.

Direct encounters can be further divided into:

Medicare-claimable

- A1 items of service: See *A1 Medicare items*
  - S*urgery consultations:* Encounters identified by any one of MBS item numbers 3, 23, 36, 44.
  - *Home visits:* Encounters identified by any one of MBS item numbers 4, 24, 37, 47.

  - *Hospital encounters:* Encounters identified by any one of MBS item numbers 19, 33, 40, 50.
  - *Residential aged care facility visits:* Encounters identified by any one of MBS item numbers 20, 35, 43, 51.
  - *Other institutional visits:* Encounters identified by any one of MBS item numbers 13, 25, 38, 40.
  - *Other MBS encounters:* Encounters identified by an MBS item number that does not identify place of encounter (see *A1 Medicare items*).
- *Workers compensation:* Encounters paid by workers compensation insurance.
- *Other paid:* Encounters paid from another source (e.g. state).

General practitioner (GP): A medical practitioner who provides primary comprehensive and continuing care to patients and their families within the community (Royal Australian College of General Practitioners).

Grouper: Multiple ICPC-2 or ICPC-2 PLUS codes which are grouped together for purposes of analysis.

Medication: Medication that is prescribed, advised for over-the-counter purchase or provided by the GP at the encounter.

Medication rates: The rate of use of all medications including medications that were prescribed, GP-supplied and advised for purchase over-the-counter (OTC).

Medication status:

- N*ew:* The medication prescribed/advised/provided at the encounter is being used for the management of the problem for the first time.
- C*ontinuation:* The medication prescribed/advised/provided at the encounter is a continuation or repeat of previous therapy for this problem.
- O*ld:* See *Continuation*

Morbidity: Any departure, subjective or objective, from a state of physiological wellbeing. In this sense, sickness, illness and morbid conditions are synonymous.

Patient status: The status of the patient to the practice.

- *New patient*: The patient has not been seen before in the practice.
- *Old patient:* The patient has attended the practice before.

Prescribed rates: The rate of use of prescribed medications (i.e. does not include medications that were GP-supplied or advised for purchase over-the-counter).

Problem managed: See *Diagnosis/problem*

Provider: A person to whom a patient has access when contacting the health care system.

Reasons for encounter (RFEs): The subjective reasons given by the patient for seeing or contacting the general practitioner. These can be expressed in terms of symptoms, diagnoses or the need for a service.

Recognised GP: A medical practitioner who is:

- vocationally recognised under Section 3F of the Health Insurance Act, *or*
- a holder of the Fellowship of the Royal Australian College of General Practitioners who participates in, and meets the requirements for, quality assurance and continuing medical education as defined in the RACGP Quality Assurance and Continuing Medical Education Program, *or*

- undertaking an approved placement in general practice as part of a training program for general practice leading to the award of the Fellowship of the Royal Australian College of General Practitioners or undertaking an approved placement in general practice as part of some other training program recognised by the RACGP as being of equivalent standard. (Medicare Benefits Schedule book, 1 November 1998).

Referral: The process by which the responsibility for part or all of the care of a patient is temporarily transferred to another health care provider. Only new referrals to specialists and allied health professionals, and for hospital and residential aged care facility admissions arising at a recorded encounter are included. Continuation referrals are not included. Multiple referrals can be recorded at any one encounter.

Rubric: The title of an individual code in ICPC-2.

Torres Strait Islander: The patient identifies himself or herself as a Torres Strait Islander person.

Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ATC	Anatomical Therapeutic Chemical (classification)
AUDIT	Alcohol Use Disorders Identification Test
BEACH	Bettering the Evaluation And Care of Health
BMI	Body mass index
BP	Blood pressure
C&S	Culture and sensitivity
CAPS	Coding Atlas for Pharmaceutical Substances
CI	Confidence interval (in this report 95% CI is used)
CNS	Central Nervous System
CT	Computerised tomography
CVS	Cardiovascular System
DoHA	Australian Department of Health and Ageing
ECG	Electrocardiogram
Enc	Encounter
ENT	Ear, nose and throat
ESR	Erythrocyte sedimentation rate
EUC	Electrolytes, urea and creatinine
FBC	Full blood count
FMRC	Family Medicine Research Centre, University of Sydney
FRACGP	Fellow of the Royal Australian College of General Practitioners
FWE	Full-time workload equivalent
GP	General practitioner
GPSCU	General Practice Statistics and Classification Unit, University of Sydney, a collaborating unit of the Australian Institute of Health and Welfare
HbA1c	Haemoglobin, type A1c
HIC	Health Insurance Commission
HIV	Human immunodeficiency virus
ICPC	International Classification of Primary Care
ICPC-2	International Classification of Primary Care (Version 2)
ICPC-2 PLUS	An extended vocabulary of terms classified according to ICPC-2
MBS	Medicare Benefits Schedule
MC&S	Microscopy, culture and sensitivity

MRI	Magnetic resonance imaging
NEC	Not elsewhere classified
NESB	The patient reports coming from a non-English-speaking background, i.e. a language other than English is spoken at home.
NOS	Not otherwise specified
NSAID	Non-steroidal anti-inflammatory drugs
NSW	New South Wales
NT	Northern Territory
OMP	Other medical practitioner
OTCs	Medications advised for over-the-counter purchase
PBS	Pharmaceutical Benefits Scheme
QA	Quality assurance (in this case the Quality Assurance Program of the Royal Australian College of General Practitioners)
Qld	Queensland
RACGP	Royal Australian College of General Practitioners
RAST	Radioallergosorbent Test
RFE(s)	Reason for encounter(s) (see Glossary)
RICE	Rest, ice, compression and elevation
RRMA	Rural, Remote and Metropolitan Area classification
SA	South Australia
SAND	Supplementary Analysis of Nominated Data
SAS	Statistical Analysis System
SRS	Simple random sample
Tas	Tasmania
URTI	Upper respiratory tract infection
Vic	Victoria
WA	Western Australia
WHO	World Health Organization
Wonca	World Organization of Family Doctors
–	Not applicable
. .	Not available

Appendices

Appendix 1: Example of a 2001–02 recording form

BEACH (Bettering the Evaluation And Care of Health) - Morbidity and Treatment Survey - National

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GP ID

Encounter Number	Date of encounter ___/___/___	Date of Birth ___/___/_ _ _ _	Sex M ☐ F ☐	Patient Postcode

START Time	Patient Reasons for Encounter
: AM / PM (please circle)	1. 2. 3.

	Yes / No
New Patient	☐ ☐
Health Care/Benefits Card	☐ ☐
Veterans Affairs Card	☐ ☐
NESB	☐ ☐
Aboriginal	☐ ☐
Torres Strait Islander	☐ ☐

PATIENT SEEN ☐
PATIENT NOT SEEN ☐

Item No: (if applicable)

VA paid ☐
Workers comp paid ☐
State/Other paid ☐
No charge ☐

Diagnosis/ Problem ①: Problem Status New ☐ Old ☐ Work related ☐

Drug Name for this problem	Strength of product	Dose and form	Frequency	No. of Rpts	OTC	GP Supply	Drug status New	Drug status Cont.
1.								
2.								
3.								
4.								

Procedures, other treatments, counselling this consult for this problem
1. 2.

Diagnosis/ Problem ②: Problem Status New ☐ Old ☐ Work related ☐

Drug Name for this problem	Strength of product	Dose and form	Frequency	No. of Rpts	OTC	GP Supply	Drug status New	Drug status Cont.
1.								
2.								
3.								
4.								

Procedures, other treatments, counselling this consult for this problem
1. 2.

Diagnosis/ Problem ③: Problem Status New ☐ Old ☐ Work related ☐

Drug Name for this problem	Strengthof product	Dose and form	Frequency	No. of Rpts	OTC	GP Supply	Drug status New	Drug status Cont.
1.								
2.								
3.								
4.								

Procedures, other treatments, counselling this consult for this problem
1. 2.

Diagnosis/ Problem ④: Problem Status New ☐ Old ☐ Work related ☐

Drug Name for this problem	Strength of product	Dose and form	Frequency	No. of Rpts	OTC	GP Supply	Drug status New	Drug status Cont.
1.								
2.								
3.								
4.								

Procedures, other treatments, counselling this consult for this problem
1. 2.

NEW REFERRALS, ADMISSIONS Problem(s)

1. _____ 1 2 3 4
2. _____ 1 2 3 4

IMAGING/Other tests Body site Problem(s)

1. _____ - _____ 1 2 3 4
2. _____ - _____ 1 2 3 4

PATHOLOGY Problem(s)

1. _____ 1 2 3 4
2. _____ 1 2 3 4
3. _____ 1 2 3 4

PATHOLOGY(cont) Problem(s)

4. _____ 1 2 3 4
5. _____ 1 2 3 4

Patient's
Height: ____ cm
Weight: ____ kg

To the patient if 18+:
How often do you have a drink containing alcohol?
Never ☐
Monthly or less ☐
Once a week/fortnight ☐
2-3 times a week ☐
4+ times a week ☐

How many 'standard' drinks do you have on a typical day when you are drinking? ____

How often do you have 6 or more standard drinks on one occasion?
Never ☐
Less than monthly ☐
Monthly ☐
Weekly ☐
Daily or almost daily ☐

To the patient if 18+:
Which best describes your smoking status?
Smoke daily ☐
Smoke occasionally ☐
Previous smoker ☐
Never smoked ☐

FINISH Time
: AM / PM (please circle)

BA4

Appendix 2: GP characteristics questionnaire for 2001–02

The University of Sydney
at Westmead Hospital

General Practice Statistics and Classification Unit
Family Medicine Research Centre

a collaborating unit of the
Australian Institute of Health and Welfare

AIHW

Doctor Identification Number

Please fill in boxes or circle answers where appropriate

1. Sex ..... **Male / Female**

2. Age .....

3. How many years have you spent in general practice? .....

4. How many general practitioners work with you at this practice? .....
(Practice = shared medical records)

5. What is the postcode of your major practice address? .....

6. Year of graduation .....

7. Place of graduation (primary medical degree):

Aust 1
NZ 2
Asia 3
UK / Ireland 4
Other:(specify) 5

8. General Practice training status (CSCT or RACGP training programme)?

Presently training 1
Completed training 2
Not Applicable 3

9. Do you hold FRACGP? ..... **Yes / No**

10. Number of general practice sessions you usually work per week? ....

11. Direct patient care hours worked per week?
(Please estimate the hours usually spent on service provision to patients including direct patient care, instructions, counselling etc and other related services such as writing referrals, prescriptions, phone calls etc.) .....

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12. Hours on call but not worked per week? .....

13. Over the past four weeks have you provided any patient care ....*(Please circle as many as apply)*

As a locum 1
In a deputising service 2
In a residential aged care facility 3
As a salaried/sessional hospital medical officer.....4

14. How do you routinely instruct pharmacists on the substitution of generic drugs?

Substitute allowed.....1
No substitute allowed 2

15. To what extent are computers used at your major practice address? (*Circle as many as apply)*

Not at all 1
Billing 2
Prescribing 3
Medical Records 4
Other Admin 5
Internet / Email 6

16. Is this practice accredited ? ..... **Yes / No**

17. What are the normal after-hours arrangements for your practice? *(Circle as many as apply)*

Practice does its own.....1
Co-operative with oth. practices.....2
Deputising service.....3
Referral to other service (eg A&E) 4
Other 5
None.....6

18. Is your major practice site a teaching practice?

for undergraduates..... 1
for GP registrars 2
No..... 3

Thank you for participating in the ***BEACH PROGRAM.***

Appendix 3: Australian population, GP workforce and GP Medicare services

Table A3.1: Overview of state and territory populations, GP workforce and general practice services provided

Variable	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Population (*n*)	6,575,217	4,804,726	3,628,946	1,901,159	1,511,728	471,795	319,317	197,768	19,413,240
Proportion of total population (%)[(i)]	33.9	24.7	18.7	9.8	7.8	2.4	1.6	1.0	100.0
Per cent of males (%)[(i)]	49.6	49.2	49.8	50.1	49.4	49.3	49.3	52.3	49.6
Median age[(i)]	36.4	36.2	35.5	35.5	38.2	38.1	33.8	30.3	36.1
General practitioners/Other Medical Practitioners									
Total GPs/OMPs (*n*)[(a) (ii)]	7,247	5,349	3,946	2,014	1,859	589	366	221	21,338
FWE GPs/OMPs[(ii)]	5,894.3	4,149.5	3,283.1	1,441.2	1,358.8	388.7	215.5	92.8	16,824.3
Proportion of FWE GPs/OMPs aged more than 55 years (%)[(ii)]	26.0	20.0	18.0	20.0	21.0	17.0	18.0	25.0	22.0
Proportion of female FWE GPs/OMPs (%)[(ii)]	25.0	24.0	25.0	25.0	23.0	27.0	34.0	33.0	25.0
Population per FWE GP/OMP	1,115.5	1,157.9	1,105.3	1,319.2	1,112.6	1,213.8	1,481.8	2,131.1	1,153.9
Medicare services									
A1 items of service processed (*n*)[(ii)]	32,142,044	22,078,244	16,258,671	7,815,831	7,253,016	2,100,794	1,133,074	466,021	89,247,695
A2 items of service processed (*n*)[(ii)]	2,238,737	1,907,064	1,192,538	479,808	356,136	57,411	46,757	41,902	6,320,353
Total A1 and A2 items of service processed (n)[(ii)]	*34,380,781*	*23,985,308*	*17,451,209*	*8,295,639*	*7,609,152*	*2,158,205*	*1,179,831*	*507,923*	*95,568,048*
Proportion of total services processed throughout Australia (%)[(ii)]	36.0	25.1	18.3	8.7	8.0	2.3	1.2	0.5	100.0
Per capita attendances	5.2	5.0	4.8	4.4	5.0	4.6	3.7	2.6	4.9

(a) Includes all GPs/OMPs who provided at least one Medicare service in the last 3 months of 2001.

Sources: (i) 2001 Census of Population and Housing, Australian Bureau of Statistics; (ii) Health Insurance Commission.

Note: Data where state was unknown have been removed. FWE—Full-time Workload Equivalent; GP—General practitioner; OMP—Other Medical Practitioner.

Appendix 4: Results by states and territories of Australia 1998–2003

Table A4.1: Characteristics of participating GPs by state/territory, crude rates (1998–2003)

	Per cent of GPs,[a] column specific								
GP characteristic	**NSW (*n*=1,892)**	**Vic (*n*=1,140)**	**Qld (*n*=933)**	**WA (*n*=412)**	**SA (*n*=381)**	**Tas (*n*=133)**	**ACT (*n*=78)**	**NT (*n*=52)**	**Australia (*n*=5,021)**
Per cent of sample	37.7	22.7	18.6	8.2	7.6	2.6	1.6	1.0	100.0
Sex									
Male	68.6	67.2	64.6	68.5	71.7	66.9	50.0	69.2	67.4
Female	31.5	32.8	35.4	31.6	28.4	33.1	50.0	30.8	32.6
Age (missing)	(8)	(2)	(4)	(2)	(1)	(0)	(1)	(0)	(18)
<35 years	6.2	7.6	7.1	10.2	8.2	7.5	5.2	7.7	7.2
35–44 years	26.3	33.0	33.9	29.5	32.1	34.6	24.7	26.9	30.1
45–54 years	35.4	32.3	33.2	33.2	34.5	33.8	53.3	30.8	34.2
55+ years	32.1	27.1	25.8	27.1	25.3	24.1	16.9	34.6	28.4
Years in general practice (missing)	(15)	(7)	(6)	(1)	(5)	(2)	(0)	(0)	(36)
<2 years	0.6	0.2	0.5	0.7	1.1	0.8	1.3	1.9	0.6
2–5 years	6.5	7.4	7.1	9.2	5.3	8.4	7.7	9.6	7.1
6–10 years	13.1	15.5	15.0	17.0	17.8	14.5	16.7	15.4	14.8
11–19 years	29.7	29.7	32.5	30.9	30.3	35.9	26.9	26.9	30.5
20+ years	50.1	47.1	44.9	42.1	45.5	40.5	47.4	46.2	47.1
Sessions per week (missing)	(23)	(14)	(16)	(1)	(3)	(0)	(1)	(0)	(58)
<6 per week	15.9	14.9	16.4	15.8	14.8	17.3	23.4	11.5	15.8
6–10 per week	66.2	69.2	65.8	70.6	67.2	77.4	74.0	73.1	67.7
11+ per week	17.9	15.9	17.9	13.6	18.0	5.3	2.6	15.4	16.5

(continued)

Table A4.1 (continued): Characteristics of participating GPs by state/territory, crude rates (1998–2003)

	Per cent of GPs,[(a)] column specific								
GP characteristic	**NSW (*n*=1,892)**	**Vic (*n*=1,140)**	**Qld (*n*=933)**	**WA (*n*=412)**	**SA (*n*=381)**	**Tas (*n*=133)**	**ACT (*n*=78)**	**NT (*n*=52)**	**Australia (*n*=5,021)**
Size of practice (missing)	(58)	(26)	(16)	(9)	(10)	(0)	(2)	(0)	(121)
Solo	21.9	14.6	14.0	13.6	13.2	12.0	5.3	17.3	16.9
2–4 GPs	40.9	34.5	41.0	41.7	31.0	39.8	61.8	51.9	39.2
5+ GPs	37.2	50.9	45.0	44.7	55.8	48.1	32.9	30.8	44.0
Place of graduation (missing)	(14)	(4)	(3)	(2)	(1)	(0)	(0)	(0)	(0)
Australia	70.6	79.8	77.0	65.4	81.2	65.4	78.2	75.0	74.3
United Kingdom	5.8	7.1	11.7	16.8	3.9	24.1	7.7	7.7	8.5
Asia	12.8	4.7	3.2	9.0	11.1	2.3	5.1	7.7	8.3
Europe	2.1	2.0	1.5	1.5	1.1	0.8	2.6	1.9	1.8
Africa	3.2	1.7	2.9	2.9	0.8	3.0	2.6	0.0	2.6
New Zealand	1.3	0.9	2.3	1.2	0.5	0.8	1.3	5.8	1.4
Other	4.1	3.8	1.4	3.2	1.0	3.8	2.6	1.9	3.2
Practice location									
Capital	68.9	71.3	50.6	75.0	75.9	51.9	98.7	67.3	67.1
Other metropolitan	11.4	3.3	14.1	. .	. .	. .	1.3	. .	7.7
Large rural	3.6	5.3	15.8	. .	1.8	16.5	. .	. .	6.1
Small rural	5.7	7.5	5.7	7.0	5.0	9.8	. .	. .	6.1
Other rural	10.0	12.5	11.3	11.7	16.8	21.8	. .	9.6	11.6
Remote central	. .	. .	0.8	4.1	0.0	. .	. .	11.5	0.6
Other remote, offshore	0.4	0.2	1.8	2.2	0.5	0.0	. .	11.5	0.9

(continued)

Table A4.1 (continued): Characteristics of participating GPs by state/territory, crude rates (1998–2003)

GP characteristic	NSW (*n*=1,892)	Vic (*n*=1,140)	Qld (*n*=933)	WA (*n*=412)	SA (*n*=381)	Tas (*n*=133)	ACT (*n*=78)	NT (*n*=52)	Australia (*n*=5,021)
	Per cent of GPs,[(a)] column specific								
GP Training Status (missing)	(83)	(51)	(50)	(9)	(8)	(4)	(2)	(1)	(208)
Currently in a vocational training program	2.5	1.6	3.5	3.2	2.1	2.3	5.3	2.0	2.5
Fellow of the RACGP	27.4	35.0	35.7	33.3	32.5	36.1	44.2	41.2	32.2
Own or cooperative after-hours arrangements	45.8	40.0	45.4	33.5	40.2	64.7	38.5	46.2	43.4

(a) Missing data removed.
. . Not available. No postcodes in this state classified to this RRMA grouping.
Note: GPs—General practitioners; RACGP—Royal Australian College of General Practitioners.

Table A4.2: The BEACH data set by state/territory, crude numbers (1998–2003)

Variable	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
General practitioners	1,892	1,140	933	412	381	133	78	52	5,021
Encounters	189,200	114,000	93,300	41,200	38,100	13,300	7,800	5,200	502,100
Reasons for encounter	289,522	171,624	137,290	60,862	56,027	19,309	11,711	7,580	753,925
Problems managed	281,554	170,735	136,129	61,185	55,569	19,545	11,159	7,749	743,625
Medications	211,409	121,709	95,320	41,931	38,176	13,649	7,194	5,438	534,826
Other treatments	94,991	58,695	49,728	20,378	18,442	7,027	3,508	2,848	255,617
Referrals	23,396	13,137	9,975	4,927	4,473	1,547	941	646	59,042
Number of encs 1999–2003[+]	**(*n*=153,000)**	**(*n*=90,400)**	**(*n*=74,800)**	**(*n*=33,900)**	**(*n*=30,600)**	**(*n*=11,100)**	**(*n*=6,000)**	**(*n*=3,900)**	**(*n*=403,700)**
Imaging[+]	15,711	8,625	7,950	3,564	2,468	960	687	421	40,386
Number of encs 2000–2003[++]	**(*n*=113,800)**	**(*n*=69,300)**	**(*n*=53,700)**	**(*n*=24,700)**	**(*n*=21,100)**	**(*n*=8,600)**	**(*n*=4,800)**	**(*n*=3,000)**	**(*n*=299,000)**
Pathology[++]	56,429	35,595	30,902	14,166	11,001	3,792	2,442	1,957	156,284

\+ Limited to April 1999 to March 2003 inclusive due to older imaging codes in Year 1.
++ Limited to April 2000 to March 2003 inclusive due to older pathology codes in Years 1 and 2.
Note: Encs—encounters.

Table A4.3a: Summary of morbidity and management by state/territory, crude rates (1998–2003)

Variable	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
General practitioners (*n*)	1,892	1,140	933	412	381	133	78	52	5,021
Encounters (*n*)	189,200	114,000	93,300	41,200	38,100	13,300	7,800	5,200	502,100
Reasons for encounter	153.0 (151.9–154.2)	150.6 (149.1–152.0)	147.2 (145.6–148.7)	147.7 (145.6–149.8)	147.1 (144.7–149.4)	145.2 (141.2–149.1)	150.1 (144.6–155.6)	145.8 (138.6–152.9)	150.2 (149.5–150.8)
Problems managed	148.8 (147.5–150.1)	149.8 (148.2–151.4)	145.9 (144.2–147.6)	148.5 (146.0–151.0)	145.9 (143.2–148.5)	147.0 (142.3–151.6)	143.1 (137.7–148.4)	149.0 (140.7–157.3)	148.1 (147.3–148.9)
New problems	51.5 (50.5–52.5)	51.0 (49.7–52.2)	52.6 (51.2–53.9)	50.2 (48.2–52.2)	49.8 (47.7–51.9)	46.3 (42.9–49.7)	45.2 (40.5–49.9)	58.6 (52.5–64.8)	51.2 (50.6–51.8)
Work-related*	3.4 (3.2–3.6)	3.6 (3.3–3.8)	2.7 (2.5–2.9)	3.6 (3.2–4.0)	3.7 (3.2–4.2)	3.6 (2.9–4.3)	3.2 (2.5–3.9)	6.7 (4.0–9.4)	3.4 (3.3–3.5)
Medications	111.7 (110.0–113.4)	106.8 (104.7–108.8)	102.2 (100.1–104.2)	101.8 (98.7–104.8)	100.2 (97.1–103.3)	102.6 (96.3–108.9)	92.2 (86.6–97.9)	104.6 (95.0–114.1)	106.5 (105.5–107.5)
Prescribed	94.6 (92.8–96.4)	90.4 (88.3–92.6)	84.7 (82.7–86.7)	83.2 (80.0–86.4)	82.4 (79.0–85.8)	86.6 (80.2–92.9)	79.4 (73.9–84.8)	88.5 (78.9–98.1)	89.4 (88.4–90.4)
Advised OTC	10.0 (9.5–10.4)	8.3 (7.9–8.8)	8.8 (8.2–9.3)	7.6 (6.9–8.2)	8.5 (7.6–9.4)	7.7 (6.4–8.9)	9.1 (7.1–11.2)	11.1 (8.6–13.6)	9.0 (8.7–9.2)
GP-supplied	7.2 (6.6–7.8)	8.0 (7.1–8.9)	8.7 (7.7–9.8)	11.0 (8.6–13.4)	9.4 (7.6–11.1)	8.4 (6.0–10.8)	3.7 (2.7–4.8)	4.9 (2.9–7.0)	8.1 (7.7–8.5)
Other treatments	50.2 (48.7–51.7)	51.5 (49.6–53.3)	53.3 (51.2–55.4)	49.5 (46.7–52.3)	48.4 (45.5–51.3)	52.8 (47.6–58.1)	45.0 (37.9–52.1)	54.8 (44.8–64.7)	50.9 (50.0–51.8)
Clinical	37.2 (35.9–38.6)	38.6 (36.9–40.2)	36.1 (34.3–37.9)	35.5 (33.0–37.9)	35.9 (33.2–38.6)	37.7 (33.4–42.1)	34.7 (28.5–40.9)	41.6 (32.8–50.4)	37.1 (36.3–37.9)
Procedural	13.0 (12.5–13.4)	13.0 (12.4–13.5)	17.2 (16.4–18.0)	14.0 (13.0–15.0)	12.5 (11.5–13.4)	15.1 (13.2–17.0)	10.3 (8.3–12.2)	13.2 (10.6–15.8)	13.8 (13.5–14.1)

(continued)

Table A4.3a (continued): Summary of morbidity and management by state/territory, crude rates (1998–2003)

Variable	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
Referrals	12.4 (12.0–12.7)	11.5 (11.1–11.9)	10.7 (10.2–11.2)	12.0 (11.3–12.6)	11.7 (11.0–12.4)	11.6 (10.5–12.8)	12.1 (10.3–13.8)	12.4 (10.8–14.0)	11.8 (11.6–12.0)
Specialist	8.7 (8.4–8.9)	7.6 (7.3–7.8)	7.2 (6.8–7.5)	8.0 (7.6–8.4)	7.5 (7.0–8.0)	7.3 (6.6–8.0)	7.8 (6.6–8.9)	7.6 (6.4–8.8)	7.9 (7.8–8.1)
Allied health services	2.9 (2.7–3.0)	3.0 (2.8–3.2)	2.5 (2.3–2.7)	3.0 (2.7–3.2)	3.2 (2.8–3.5)	3.6 (2.9–4.2)	3.6 (2.9–4.4)	3.7 (2.9–4.5)	2.9 (2.8–3.0)
Hospital	0.5 (0.5–0.6)	0.6 (0.6–0.7)	0.8 (0.7–0.9)	0.8 (0.6–0.9)	0.9 (0.7–1.0)	0.6 (0.4–0.7)	0.4 (0.2–0.6)	0.8 (0.4–1.1)	0.7 (0.6–0.7)
Emergency dept	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.0–0.2)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.0–0.3)	0.1 (0.1–0.1)
Other referral	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	0.2 (0.1–0.3)	0.2 (0.0–0.4)	0.2 (0.1–0.2)
Pathology[+]	31.9 (30.7–33.1)	34.0 (32.4–35.7)	35.9 (33.9–37.8)	39.2 (36.5–41.9)	31.2 (28.4–33.9)	30.3 (26.7–34.0)	35.0 (29.0–41.0)	41.8 (32.9–50.8)	33.8 (33.0–34.5)
Imaging[++]	8.5 (8.2–8.8)	7.7 (7.3–8.0)	8.8 (8.2–9.3)	8.8 (8.2–9.4)	6.4 (5.8–7.0)	7.4 (6.6–8.3)	9.4 (7.8–11.0)	7.8 (6.2–9.4)	8.2 (8.0–8.4)

(a) Figures will not total 100 as multiple events may occur at each encounter or for the management of each problem at encounter.
* Data on whether the problem managed was work-related were only collected in Years 1 to 4, April 1998 to March 2002 inclusive.
\+ Limited to April 2000 to March 2003 inclusive due to older pathology codes in Years 1 and 2. For number of encounters for each state/territory, refer to Table A4.2.
++ Limited to April 1999 to March 2003 inclusive due to older imaging codes in Year 1. For number of encounters for each state/territory, refer to Table A4.2.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). OTC—over-the-counter; GP—General practitioner; dept—department.

Table A4.3b: Summary of morbidity and management by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Variable	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
General practitioners (*n*)	1,892	1,140	933	412	381	133	78	52	5,021
Encounters (*n*)	187,544	112,971	92,549	40,892	37,776	13,186	7,719	5,128	497,765
Reasons for encounter	152.5 (151.4–153.7)	150.0 (148.6–151.4)	147.1 (145.6–148.6)	147.4 (145.2–149.5)	146.6 (144.3–149.0)	144.5 (140.6–148.4)	151.2 (145.6–156.8)	148.0 (140.1–155.9)	149.8 (149.1–150.5)
Problems managed	147.6 (146.3–148.8)	148.4 (146.8–150.0)	145.7 (144.0–147.4)	147.8 (145.3–150.3)	144.7 (142.1–147.2)	145.4 (140.8–149.9)	145.0 (139.4–150.6)	155.7 (145.4–166.1)	147.2 (146.5–148.0)
New problems	52.3 (51.3–53.3)	51.9 (50.6–53.1)	52.8 (51.4–54.2)	50.7 (48.7–52.7)	50.6 (48.4–52.8)	47.1 (43.7–50.6)	44.5 (39.8–49.2)	57.1 (50.9–63.3)	51.8 (51.2–52.4)
Work-related*	3.4 (3.2–3.7)	3.6 (3.3–3.8)	2.6 (2.4–2.8)	3.5 (3.1–3.9)	3.6 (3.1–4.1)	3.6 (2.9–4.3)	2.9 (2.3–3.6)	5.4 (3.3–7.5)	3.4 (3.2–3.5)
Medications	110.9 (109.3–112.6)	105.9 (103.9–107.9)	102.3 (100.3–104.3)	101.8 (98.7–104.8)	99.8 (96.7–102.9)	101.7 (95.5–107.9)	94.2 (88.2–100.3)	112.9 (101.3–124.5)	106.1 (105.1–107.1)
Prescribed	93.4 (91.6–95.1)	89.1 (87.0–91.2)	84.8 (82.8–86.8)	82.8 (79.7–86.0)	81.6 (78.2–84.9)	85.3 (79.1–91.4)	81.6 (75.6–87.5)	97.2 (85.5–109.0)	88.7 (87.7–89.7)
Advised OTC	10.3 (9.9–10.8)	8.7 (8.2–9.2)	8.9 (8.3–9.4)	7.8 (7.1–8.5)	8.8 (7.9–9.8)	8.0 (6.7–9.3)	8.9 (7.0–10.9)	10.6 (8.1–13.0)	9.3 (9.0–9.6)
GP-supplied	7.2 (6.6–7.8)	8.1 (7.1–9.0)	8.7 (7.6–9.7)	11.1 (8.7–13.4)	9.4 (7.7–11.1)	8.5 (6.2–10.7)	3.7 (2.7–4.7)	5.1 (2.9–7.3)	8.1 (7.7–8.6)
Other treatments	50.2 (48.7–51.7)	51.4 (49.6–53.3)	53.3 (51.2–55.4)	49.1 (46.4–51.9)	48.3 (45.4–51.2)	52.8 (47.5–58.0)	44.5 (37.4–51.5)	53.9 (43.4–64.5)	50.8 (50.0–51.7)
Clinical	37.4 (36.0–38.7)	38.7 (37.0–40.4)	36.1 (34.3–37.9)	35.3 (32.8–37.7)	36.0 (33.3–38.7)	37.9 (33.5–42.3)	34.2 (28.1–40.4)	41.1 (31.5–50.6)	37.2 (36.4–37.9)
Procedural	12.8 (12.4–13.3)	12.8 (12.2–13.3)	17.2 (16.4–18.0)	13.9 (12.9–14.9)	12.3 (11.4–13.3)	14.9 (13.1–16.7)	10.3 (8.2–12.3)	12.9 (10.4–15.3)	13.7 (13.4–14.0)

(continued)

Table A4.3b (continued): Summary of morbidity and management by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
Variable	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Referrals	12.3 (11.9–12.6)	11.4 (11.0–11.7)	10.7 (10.2–11.1)	11.8 (11.2–12.5)	11.6 (10.9–12.3)	11.6 (10.4–12.7)	12.2 (10.4–13.9)	12.5 (10.6–14.4)	11.7 (11.5–11.8)
Specialist	8.6 (8.4–8.8)	7.5 (7.2–7.7)	7.2 (6.8–7.5)	7.9 (7.5–8.3)	7.5 (7.0–7.9)	7.3 (6.6–8.0)	7.8 (6.6–9.0)	7.5 (6.2–8.7)	7.9 (7.7–8.0)
Allied health services	2.9 (2.7–3.0)	3.0 (2.8–3.1)	2.5 (2.3–2.7)	2.9 (2.6–3.2)	3.1 (2.8–3.4)	3.5 (2.9–4.1)	3.6 (2.9–4.4)	3.8 (2.6–5.0)	2.9 (2.8–2.9)
Hospital	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.8 (0.7–0.9)	0.8 (0.6–0.9)	0.8 (0.7–1.0)	0.5 (0.4–0.7)	0.4 (0.2–0.6)	0.8 (0.4–1.1)	0.6 (0.6–0.7)
Emergency dept	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.0–0.2)	0.1 (0.0–0.1)	0.2 (0.1–0.3)	0.1 (0.1–0.2)	0.2 (0.0–0.4)	0.1 (0.1–0.1)
Other referral	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	0.2 (0.1–0.3)	0.3 (0.0–0.5)	0.2 (0.1–0.2)
Pathology[+]	32.3 (30.9–33.8)	34.6 (32.6–36.5)	36.5 (34.2–38.9)	38.2 (34.9–41.5)	32.3 (28.7–35.8)	32.0 (27.1–36.9)	43.7 (35.5–52.0)	43.6 (32.8–54.4)	34.4 (33.4–35.3)
Imaging[++]	8.5 (8.2–8.7)	7.6 (7.2–7.9)	8.7 (8.2–9.2)	8.7 (8.1–9.3)	6.4 (5.8–7.0)	7.4 (6.6–8.2)	9.4 (7.8–11.0)	7.9 (6.2–9.6)	8.2 (8.0–8.3)

(a) Figures will not total 100 as multiple events may occur at each encounter or for the management of each problem at encounter.
* Data on whether the problem managed was work-related were only collected in Years 1 to 4, April 1998 to March 2002 inclusive.
\+ Limited to April 2000 to March 2003 inclusive due to older pathology codes in Years 1 and 2. For number of encounters for each state/territory, refer to Table A4.2.
++ Limited to April 1999 to March 2003 inclusive due to older imaging codes in Year 1. For number of encounters for each state/territory, refer to Table A4.2.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). OTC—over-the-counter; GP—General practitioner; dept—department.

Table A4.4a: Type of encounter by state/territory, crude rates (1998–2003)

Variable	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
	Per cent of encounters, 95% confidence interval, column specific								
Direct consultations	97.0 (96.7–97.2)	97.3 (97.0–97.5)	97.1 (96.8–97.4)	92.3 (96.8–97.8)	97.4 (97.0–97.9)	95.1 (93.8–96.4)	96.2 (94.8–97.6)	97.1 (95.8–98.4)	97.1 (96.9–97.2)
No charge	0.6 (0.5–0.8)	0.5 (0.4–0.6)	0.9 (0.8–1.1)	0.6 (0.5–0.7)	0.7 (0.6–0.9)	0.7 (0.5–1.0)	1.9 (0.0–3.9)	1.7 (1.0–2.4)	0.7 (0.6–0.8)
MBS items of service[(a)]	92.7 (92.2–93.2)	93.1 (92.5–93.6)	93.1 (92.4–93.9)	91.7 (90.4–93.0)	93.0 (92.2–93.9)	89.3 (86.4–92.1)	89.1 (85.2–93.1)	87.7 (83.9–91.5)	92.6 (92.3–92.9)
Short surgery consultations	1.1 (1.0–1.3)	1.0 (0.8–1.1)	1.4 (1.2–1.6)	1.2 (0.9–1.5)	1.3 (1.0–1.6)	1.4 (1.0–1.8)	1.6 (0.8–2.5)	2.3 (0.9–3.6)	1.2 (1.1–1.3)
Standard surgery consultations	75.6 (74.8–76.4)	74.7 (73.7–75.8)	75.1 (74.0–76.3)	76.3 (74.5–78.2)	74.8 (72.8–76.8)	72.8 (69.3–76.3)	75.2 (71.1–79.3)	73.0 (68.2–77.8)	75.2 (74.7–75.7)
Long surgery consultations	9.5 (9.0–10.0)	10.4 (9.8–11.0)	10.1 (9.4–10.7)	8.9 (7.9–9.9)	8.3 (7.4–9.1)	8.4 (7.0–9.8)	9.5 (7.5–11.5)	6.9 (4.4–9.4)	9.6 (9.3–9.9)
Prolonged surgery consultations	1.2 (0.9–1.4)	1.0 (0.7–1.3)	0.7 (0.6–0.9)	0.6 (0.4–0.7)	0.7 (0.2–1.3)	1.1 (0.0–2.3)	0.5 (0.2–0.9)	0.8 (0.2–1.5)	1.0 (0.8–1.1)
Home visits	2.0 (1.8–2.2)	2.0 (1.7–2.4)	1.0 (0.8–1.1)	1.2 (0.7–1.7)	1.9 (1.3–2.5)	2.1 (0.9–3.4)	0.9 (0.4–1.4)	1.7 (0.0–3.4)	1.7 (1.6–1.9)
Hospital	0.2 (0.2–0.3)	0.4 (0.2–0.5)	0.6 (0.4–0.9)	0.3 (0.1–0.5)	0.9 (0.5–1.3)	0.2 (0.0–0.3)	0.0	0.5 (0.0–1.3)	0.4 (0.3–0.5)
Residential aged care facilities	1.1 (0.9–1.2)	0.7 (0.6–0.8)	1.3 (0.9–1.7)	0.5 (0.3–0.8)	1.6 (0.8–2.3)	1.1 (0.7–1.4)	0.3 (0.1–0.6)	0.3 (0.0–0.7)	1.0 (0.9–1.1)
Other items	2.1 (1.8–2.4)	2.9 (2.5–3.3)	2.8 (2.3–3.2)	2.7 (2.0–3.4)	3.6 (2.5–4.7)	2.2 (1.3–3.1)	1.1 (0.4–1.9)	2.3 (1.6–3.0)	2.6 (2.4–2.7)
Workers compensation	2.0 (1.8–2.4)	2.1 (2.0–2.3)	1.1 (1.0–1.2)	2.1 (1.9–2.4)	2.4 (2.0–2.9)	2.4 (1.8–2.9)	2.5 (1.9–3.1)	3.4 (1.8–5.0)	1.9 (1.8–2.0)
Other paid (hospital, state, etc.)	1.6 (1.3–1.9)	1.6 (1.1–2.0)	2.0 (1.4–2.7)	2.9 (1.7–4.0)	1.2 (0.8–1.7)	2.7 (0.5–4.9)	2.7 (0.0–5.4)	4.3 (1.4–7.2)	1.8 (1.6–2.1)

(continued)

Table A4.4a (continued): Type of encounter by state/territory, crude rates (1998–2003)

Variable	Per cent of encounters, 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Indirect consultations	3.0 (2.8–3.3)	2.7 (2.5–3.0)	2.9 (2.6–3.2)	2.7 (2.2–3.2)	2.6 (2.1–3.0)	4.9 (3.6–6.2)	3.8 (2.4–5.2)	2.9 (1.6–4.2)	2.9 (2.8–3.1)
Missing (*n*)	14,122	8,023	5,707	3,252	2,819	1,079	932	426	36,360

(a) Includes encounters that were recorded as claimable from the Australian Department of Veterans' Affairs.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). MBS—Medicare Benefits Schedule.

Table A4.4b: Type of encounter by state/territory, patient age-standardised rates (1998–2003)

Variable	Per cent of encounters, 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Direct consultations	97.1 (96.8–97.3)	97.4 (97.1–97.6)	97.2 (96.9–97.5)	97.3 (96.8–97.8)	97.5 (97.1–98.0)	95.3 (94.1–96.5)	96.0 (94.5–97.5)	96.7 (95.4–98.1)	97.1 (97.0–97.3)
No charge	0.6 (0.5–0.8)	0.5 (0.4–0.6)	0.9 (0.8–1.1)	0.6 (0.5–0.7)	0.8 (0.6–0.9)	0.7 (0.5–1.0)	1.9 (0.0–4.0)	1.6 (0.9–2.2)	0.7 (0.6–0.8)
MBS items of service[(a)]	92.8 (92.3–93.3)	91.2 (92.7–93.7)	93.2 (92.4–93.9)	91.8 (90.5–93.2)	93.2 (92.3–94.0)	89.5 (86.7–92.3)	89.1 (85.1–93.1)	88.8 (85.6–92.0)	92.7 (92.4–93.0)
Short surgery consultations	1.1 (1.0–1.3)	1.0 (0.8–1.1)	1.4 (1.2–1.7)	1.2 (0.9–1.5)	1.3 (1.1–1.6)	1.5 (1.0–1.9)	1.6 (0.7–2.4)	2.1 (0.8–3.3)	1.2 (1.1–1.3)
Standard surgery consultations	76.1 (75.3–76.9)	75.5 (74.5–76.5)	75.4 (74.2–76.5)	76.7 (74.9–78.6)	75.4 (73.4–77.4)	73.4 (69.9–76.9)	74.7 (70.5–78.9)	71.8 (66.7–77.0)	75.7 (75.2–76.2)
Long surgery consultations	9.4 (8.9–9.8)	10.2 (9.6–10.8)	10.0 (9.4–10.7)	8.7 (7.7–9.7)	8.1 (7.2–9.0)	8.2 (6.9–9.6)	9.6 (7.5–11.6)	8.4 (5.0–11.9)	9.5 (9.2–9.8)
Prolonged surgery consultations	1.2 (0.9–1.4)	1.0 (0.7–1.2)	0.7 (0.6–0.9)	0.6 (0.4–0.7)	0.7 (0.2–1.3)	1.1 (0.0–2.3)	0.5 (0.2–0.8)	0.8 (0.2–1.4)	0.9 (0.8–1.1)
Home visits	1.9 (1.6–2.1)	1.9 (1.5–2.2)	1.0 (0.8–1.1)	1.2 (0.7–1.7)	1.9 (1.2–2.5)	2.1 (0.7–3.4)	1.1 (0.5–1.8)	2.0 (0.1–4.0)	1.6 (1.5–1.8)
Hospital	0.2 (0.1–0.3)	0.3 (0.2–0.4)	0.6 (0.4–0.9)	0.3 (0.1–0.5)	0.8 (0.4–1.2)	0.1 (0.0–0.2)	0.0	0.7 (0.0–1.9)	0.4 (0.3–0.4)

(continued)

Table A4.4b (continued): Type of encounter by state/territory, patient age-standardised rates (1998–2003)

Variable	Per cent of encounters, 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Residential aged care facilities	1.0 (0.8–1.1)	0.6 (0.5–0.7)	1.3 (0.9–1.7)	0.5 (0.3–0.8)	1.4 (0.7–2.0)	1.0 (0.6–1.3)	0.4 (0.1–0.8)	0.9 (0.0–2.2)	0.9 (0.8–1.1)
Other items	2.0 (1.7–2.3)	2.8 (2.4–3.1)	2.7 (2.3–3.2)	2.6 (1.9–3.3)	3.6 (2.4–4.8)	2.2 (1.3–3.0)	1.2 (0.3–2.0)	2.0 (1.4–2.6)	2.5 (2.3–2.7)
Workers compensation	2.0 (1.8–2.2)	2.1 (2.0–2.3)	1.0 (0.9–1.1)	2.1 (1.8–2.3)	2.4 (2.0–2.8)	2.4 (1.8–2.9)	2.3 (1.7–2.8)	2.8 (1.4–4.1)	1.9 (1.8–2.0)
Other paid (hospital, state, etc.)	1.6 (1.3–1.9)	1.5 (1.1–1.9)	2.0 (1.4–2.7)	2.8 (1.7–4.0)	1.2 (0.8–1.7)	2.7 (0.5–4.9)	2.7 (0.0–5.3)	3.6 (1.3–5.9)	1.8 (1.6–2.0)
Indirect consultations	3.0 (2.7–3.2)	2.6 (2.4–2.9)	2.8 (2.5–3.1)	2.7 (2.2–3.2)	2.5 (2.0–2.9)	4.7 (3.5–5.9)	4.0 (2.5–5.5)	3.3 (1.9–4.6)	2.9 (2.7–3.0)
Missing (*n*)	13,707	7,799	5,541	3,188	2,744	1,062	916	424	35,380

(a) Includes encounters that were recorded as claimable from the Australian Department of Veterans' Affairs.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). MBS—Medicare Benefits Schedule.

Table A4.5a: Characteristics of the patients at encounters by state/territory, crude rates (1998–2003)

Patient variable	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
	Per cent of encounters,[(a)] 95% confidence interval, column specific								
Sex (missing)	(2,105)	(1,333)	(989)	(483)	(403)	(178)	(117)	(44)	(5,652)
Males	41.6 (41.0–42.1)	39.6 (38.8–40.3)	40.6 (39.8–41.4)	41.0 (39.7–42.2)	41.9 (40.7–43.1)	39.9 (37.5–42.3)	39.4 (36.5–42.1)	45.3 (41.0–49.5)	40.9 (40.5–41.2)
Females	58.5 (57.9–59.0)	60.4 (59.7–61.2)	59.4 (58.6–60.2)	59.0 (57.8–60.3)	58.1 (56.9–59.3)	60.1 (57.7–62.5)	60.7 (57.9–63.5)	54.8 (50.5–59.0)	59.1 (58.8–59.5)
Age group (missing)	(1,645)	(1,037)	(771)	(308)	(326)	(114)	(81)	(72)	(4,354)
<1 year	2.2 (2.1–2.3)	1.9 (1.7–2.0)	2.4 (2.3–2.6)	2.0 (1.8–2.2)	1.8 (1.6–2.0)	2.0 (1.6–2.3)	2.4 (1.8–2.9)	2.2 (1.6–2.9)	2.1 (2.1–2.2)
1–4 years	5.1 (4.9–5.3)	4.5 (4.2–4.7)	5.1 (4.9–5.4)	4.7 (4.3–5.0)	4.7 (4.3–5.0)	3.9 (3.4–4.4)	5.4 (4.6–6.3)	6.7 (5.2–8.3)	4.9 (4.8–5.0)
5–14 years	6.3 (6.1–6.5)	6.2 (5.9–6.4)	7.0 (6.7–7.3)	6.3 (5.9–6.7)	6.4 (6.0–6.9)	6.2 (5.5–6.8)	7.4 (6.3–8.6)	7.5 (6.1–8.9)	6.4 (6.3–6.6)
15–24 years	9.4 (9.1–9.7)	9.9 (9.5–10.2)	10.3 (9.9–10.8)	10.4 (9.8–11.0)	9.9 (9.3–10.5)	10.5 (9.5–11.6)	12.7 (11.1–14.2)	10.2 (9.1–11.4)	9.9 (9.7–10.1)
25–44 years	25.6 (25.1–26.1)	26.3 (25.7–27.0)	25.6 (25.3–26.4)	26.3 (25.3–27.3)	25.9 (24.9–26.9)	24.8 (23.3–26.2)	28.2 (25.8–30.5)	34.7 (32.4–37.0)	25.9 (25.6–26.2)
45–64 years	25.5 (25.2–25.9)	25.2 (24.7–25.7)	25.9 (25.3–26.4)	26.4 (25.6–27.2)	25.6 (24.8–26.4)	26.3 (25.1–27.5)	25.6 (23.7–27.5)	28.4 (25.5–31.2)	25.7 (25.4–25.9)
65–74 years	12.5 (12.2–12.9)	12.5 (12.0–12.9)	11.4 (10.9–11.8)	11.9 (11.2–12.6)	12.2 (11.5–12.9)	12.4 (11.3–13.4)	9.1 (7.5–10.7)	6.4 (5.3–7.5)	12.1 (11.9–12.3)
75+ years	13.3 (12.8–13.9)	13.6 (13.0–14.3)	12.4 (11.6–13.1)	12.0 (11.0–12.9)	13.5 (12.3–14.7)	14.0 (12.5–15.4)	9.2 (7.1–11.3)	3.8 (2.8–4.8)	13.0 (12.7–13.3)
Other characteristics									
New patient to practice	9.2 (8.7–9.7)	8.3 (7.7–8.9)	11.1 (10.2–11.9)	8.2 (7.2–9.1)	8.4 (7.2–9.7)	6.4 (5.2–7.6)	10.7 (8.1–13.3)	16.1 (13.0–19.2)	9.2 (8.9–9.5)
Commonwealth Concession Card holder	36.9 (35.8–37.8)	40.3 (39.1–41.4)	40.6 (39.3–41.9)	39.5 (37.5–41.5)	45.9 (43.8–47.9)	50.1 (46.6–53.7)	26.0 (22.3–29.8)	23.8 (19.2–28.3)	39.3 (38.7–39.9)

(continued)

Table A4.5a (continued): Characteristics of the patients at encounters by state/territory, crude rates (1998–2003)

Patient variable	Per cent of encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Repatriation Health Card holder	3.5 (3.3–3.7)	3.3 (3.1–3.5)	3.9 (3.6–4.1)	2.9 (2.5–3.2)	3.1 (2.7–3.4)	4.9 (4.0–5.7)	2.9 (2.1–3.6)	1.4 (0.9–1.8)	3.4 (3.3–3.5)
Non-English-speaking background	12.2 (11.2–13.2)	9.9 (8.8–10.9)	4.0 (3.3–4.7)	6.1 (4.9–7.3)	6.1 (4.7–7.5)	1.3 (0.8–1.8)	5.1 (3.6–6.7)	12.9 (8.1–17.8)	8.8 (8.3–9.9)
Aboriginal person and/or Torres Strait Islander	0.8 (0.7–1.0)	0.3 (0.2–0.5)	1.6 (1.2–2.1)	2.6 (1.5–3.6)	1.0 (0.7–1.4)	0.6 (0.3–0.8)	0.4 (0.2–0.6)	8.6 (4.2–13.0)	1.1 (0.9–1.2)

(a) Missing data removed.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.5b: Characteristics of the patients at encounters by state/territory, patient age-standardised rates (1998–2003)

Patient variable	Per cent of encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Other characteristics									
New patient to practice	9.4 (8.9–9.9)	8.5 (7.8–9.1)	11.0 (10.2–11.9)	8.3 (7.3–9.2)	8.7 (7.4–10.0)	6.6 (5.3–7.8)	9.9 (7.5–12.4)	14.4 (11.5–17.3)	9.3 (9.0–9.6)
Commonwealth Concession Card holder	36.0 (35.0–37.0)	39.4 (38.2–40.6)	40.7 (39.3–42.0)	39.4 (37.4–41.3)	45.1 (43.0–47.2)	49.8 (46.2–53.4)	27.9 (24.1–31.7)	30.7 (25.5–35.9)	38.8 (38.2–39.4)
Repatriation Health Card holder	3.0 (2.9–3.2)	2.8 (2.6–3.0)	3.6 (3.3–3.9)	2.7 (2.4–3.1)	2.7 (2.4–3.0)	4.1 (3.4–4.8)	3.3 (2.5–4.2)	2.9 (2.1–3.7)	3.1 (3.0–3.2)
Non-English-speaking background	12.3 (11.3–13.4)	9.9 (8.8–11.0)	4.0 (3.4–4.7)	6.1 (4.9–7.3)	6.0 (4.6–7.4)	1.3 (0.8–1.7)	5.3 (3.7–6.9)	13.5 (8.5–18.5)	8.9 (8.3–9.4)
Aboriginal person and/or Torres Strait Islander	0.9 (0.7–1.0)	0.4 (0.2–0.5)	1.6 (1.2–2.1)	2.6 (1.6–3.7)	1.1 (0.7–1.5)	0.6 (0.3–0.8)	0.4 (0.2–0.6)	8.3 (4.0–12.5)	1.1 (1.0–1.3)

(a) Missing data removed.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.6a: Distribution of patient reasons for encounter across ICPC-2 chapter, by state/territory, crude rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Patient reasons for encounter	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
General & unspecified	31.4 (30.8–32.1)	30.5 (29.8–31.3)	31.8 (30.9–32.6)	30.5 (29.2–31.7)	29.9 (28.6–31.2)	32.8 (30.4–35.3)	29.5 (26.7–32.2)	32.3 (28.7–35.8)	31.1 (30.7–31.5)
Respiratory	23.9 (23.4–24.4)	23.3 (22.6–23.9)	21.1 (20.5–21.8)	20.5 (19.5–21.5)	22.3 (21.2–23.4)	19.1 (17.5–20.6)	25.4 (22.9–27.9)	20.3 (17.9–22.6)	22.7 (22.4–23.0)
Musculoskeletal	17.2 (16.8–17.6)	16.6 (16.1–17.1)	16.2 (15.5–16.9)	17.6 (16.7–18.5)	17.1 (16.2–18.0)	18.3 (16.6–20.1)	18.2 (14.8–21.5)	15.9 (13.8–18.0)	16.9 (16.7–17.2)
Skin	14.3 (14.0–14.6)	14.3 (13.9–14.7)	17.4 (16.9–18.0)	15.0 (14.4–15.5)	13.9 (13.4–14.5)	15.0 (13.0–17.0)	14.3 (12.9–15.7)	16.9 (15.3–18.5)	15.0 (14.8–15.2)
Circulatory	12.6 (12.2–13.0)	12.1 (11.7–12.6)	9.5 (9.1–10.0)	10.1 (9.4–10.7)	10.6 (9.9–11.2)	10.9 (9.6–12.2)	9.2 (7.7–10.7)	6.8 (5.1–8.4)	11.4 (11.2–11.6)
Digestive	10.9 (10.7–11.2)	10.4 (10.1–10.6)	9.8 (9.5–10.1)	10.1 (9.6–10.6)	10.0 (9.4–10.5)	9.0 (8.2–9.7)	10.5 (9.5–11.6)	11.1 (9.7–12.5)	10.4 (10.3–10.5)
Psychological	7.8 (7.4–8.2)	8.7 (8.2–9.2)	7.4 (7.0–7.8)	7.8 (7.2–8.3)	8.9 (8.0–9.8)	8.4 (7.1–9.7)	7.9 (6.5–9.3)	7.2 (5.8–8.5)	8.0 (7.8–8.2)
Female genital system	6.2 (5.9–6.5)	6.6 (6.1–7.0)	6.5 (6.0–7.0)	6.9 (6.3–7.5)	5.8 (5.2–6.4)	5.7 (4.8–6.7)	7.1 (5.8–8.4)	6.2 (4.5–7.9)	6.4 (6.2–6.6)
Endocrine & metabolic	6.1 (5.9–6.3)	6.3 (5.9–6.6)	5.3 (4.9–5.6)	6.3 (5.9–6.7)	5.9 (5.5–6.4)	5.4 (4.8–6.0)	5.2 (4.2–6.1)	4.9 (3.8–5.9)	6.0 (5.8–6.1)
Neurological	5.7 (5.5–5.9)	5.5 (5.3–5.8)	5.1 (4.9–5.3)	5.1 (4.8–5.4)	5.6 (5.2–6.0)	5.2 (4.6–5.7)	5.6 (4.8–6.3)	5.3 (4.5–6.0)	5.5 (5.4–5.6)
Ear	4.0 (3.9–4.1)	3.9 (3.7–4.0)	4.3 (4.1–4.5)	4.2 (4.0–4.5)	4.4 (4.1–4.6)	3.7 (3.3–4.2)	4.2 (3.5–4.8)	5.4 (4.6–6.2)	4.1 (4.0–4.2)
Pregnancy & family planning	3.6 (3.4–3.8)	4.0 (3.7–4.3)	4.2 (3.9–4.6)	4.4 (3.9–4.9)	3.3 (2.9–3.7)	3.5 (2.7–4.2)	4.5 (3.6–5.5)	4.9 (3.9–5.9)	3.9 (3.7–4.0)
Eye	2.8 (2.7–2.9)	2.6 (2.5–2.7)	2.5 (2.4–2.6)	2.9 (2.7–3.1)	2.9 (2.6–3.1)	2.0 (1.8–2.3)	2.7 (2.3–3.1)	2.6 (2.1–3.1)	2.7 (2.6–2.7)
Urology	2.6 (2.5–2.7)	2.6 (2.4–2.7)	2.4 (2.3–2.5)	2.5 (2.3–2.7)	2.5 (2.2–2.6)	2.5 (2.2–2.9)	2.5 (2.1–2.9)	2.4 (1.9–2.8)	2.5 (2.5–2.6)

(continued)

Table A4.6a (continued): Distribution of patient reasons for encounter across ICPC-2 chapter, by state/territory, crude rates (1998–2003)

Patient reasons for encounter	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Blood	1.8 (1.7–1.9)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.6 (1.4–1.8)	1.8 (1.6–2.0)	1.7 (1.4–2.0)	1.9 (1.4–2.3)	1.4 (0.9–1.8)	1.6 (1.5–1.6)
Social	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.2 (1.0–1.3)	1.0 (0.9–1.2)	1.3 (0.9–1.6)	1.2 (0.9–1.6)	0.7 (0.5–1.0)	1.0 (0.6–1.3)	1.1 (1.0–1.1)
Male genital system	1.0 (1.0–1.1)	0.9 (0.8–1.0)	1.1 (1.0–1.2)	1.3 (1.0–1.5)	1.0 (0.9–1.1)	0.8 (0.6–1.0)	0.9 (0.6–1.1)	1.4 (1.0–1.8)	1.0 (1.0–1.1)
Total RFEs (*n*)	**289,522**	**171,624**	**137,290**	**60,862**	**56,027**	**19,309**	**11,711**	**7,580**	**753,925**

(a) Figures do not total 100 as more than one RFE can be recorded at each encounter.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). RFEs—reasons for encounter.

Table A4.6b: Distribution of patient reasons for encounter across ICPC-2 chapter, by state/territory, patient age-standardised rates (1998–2003)

Patient reasons for encounter	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
General & unspecified	31.1 (30.4–31.7)	30.3 (29.5–31.0)	31.6 (30.7–32.4)	30.3 (29.1–31.6)	29.6 (28.3–30.9)	32.5 (30.2–34.8)	30.4 (27.5–33.3)	33.4 (29.3–37.5)	30.9 (30.5–31.2)
Respiratory	24.5 (24.0–25.1)	24.1 (23.4–24.8)	21.4 (20.8–22.1)	21.1 (20.0–22.1)	23.1 (22.0–24.3)	19.8 (18.2–21.3)	25.3 (22.9–27.8)	20.8 (18.5–23.2)	23.3 (23.0–23.6)
Musculoskeletal	17.1 (16.7–17.4)	16.3 (15.8–16.8)	16.2 (15.4–16.9)	17.4 (16.5–18.3)	16.8 (15.9–17.7)	18.0 (16.2–19.7)	18.1 (14.9–21.3)	16.2 (13.9–18.5)	16.8 (16.5–17.0)
Skin	14.4 (14.1–14.7)	14.4 (14.0–14.8)	17.5 (16.9–18.1)	15.1 (14.5–15.6)	14.0 (13.4–14.5)	15.2 (13.2–17.1)	14.1 (12.7–15.4)	16.4 (14.9–18.0)	15.0 (14.8–15.2)
Circulatory	12.0 (11.6–12.4)	11.5 (11.1–12.0)	9.5 (9.0–9.9)	9.9 (9.2–10.5)	10.0 (9.4–10.7)	10.1 (8.9–11.4)	10.5 (8.8–12.1)	8.8 (6.3–11.2)	11.0 (10.8–11.2)
Digestive	11.0 (10.8–11.3)	10.5 (10.2–10.7)	9.9 (9.6–10.2)	10.2 (9.7–10.6)	10.0 (9.4–10.6)	9.0 (8.2–9.8)	10.4 (9.4–11.4)	10.6 (9.2–12.0)	10.5 (10.3–10.6)
Psychological	7.7 (7.3–8.1)	8.5 (8.0–9.0)	7.3 (6.9–7.7)	7.6 (7.1–8.1)	8.7 (7.8–9.6)	8.3 (7.0–9.6)	7.9 (6.5–9.2)	7.2 (5.6–8.7)	7.9 (7.7–8.1)

(continued)

Table A4.6b (continued): Distribution of patient reasons for encounter across ICPC-2 chapter, by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Patient reasons for encounter	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Female genital system	6.2 (5.9–6.5)	6.5 (6.1–6.9)	6.5 (6.0–7.0)	6.7 (6.1–7.3)	5.8 (5.2–6.4)	5.7 (4.8–6.6)	6.7 (5.5–7.8)	5.4 (3.9–6.9)	6.3 (6.1–6.5)
Endocrine & metabolic	6.0 (5.8–6.2)	6.1 (5.8–6.5)	5.3 (4.9–5.6)	6.2 (5.8–6.6)	5.8 (5.4–6.2)	5.3 (4.7–5.8)	5.5 (4.4–6.6)	5.2 (4.1–6.3)	5.9 (5.7–6.0)
Neurological	5.7 (5.5–5.8)	5.5 (5.3–5.7)	5.1 (4.9–5.3)	5.0 (4.7–5.3)	5.5 (5.2–5.9)	5.2 (4.6–5.7)	5.5 (4.8–6.2)	5.7 (4.6–6.8)	5.5 (5.4–5.6)
Ear	4.2 (4.0–4.3)	4.1 (4.0–4.3)	4.4 (4.2–4.6)	4.5 (4.2–4.8)	4.6 (4.3–4.9)	4.0 (3.6–4.5)	4.1 (3.5–4.8)	4.1 (4.2–5.9)	4.3 (4.2–4.3)
Pregnancy & family planning	3.6 (3.4–3.7)	3.8 (3.5–4.1)	4.1 (3.8–4.4)	4.2 (3.7–4.6)	3.3 (2.9–3.6)	3.4 (2.7–4.1)	3.8 (3.0–4.6)	3.9 (3.1–4.7)	3.8 (3.6–3.9)
Eye	2.8 (2.7–2.9)	2.6 (2.5–2.7)	2.5 (2.4–2.6)	3.0 (2.8–3.2)	2.9 (2.7–3.1)	2.1 (1.8–2.3)	2.8 (2.4–3.2)	2.5 (2.0–3.1)	2.7 (2.6–2.7)
Urology	2.6 (2.5–2.7)	2.5 (2.4–2.6)	2.4 (2.3–2.5)	2.5 (2.3–2.7)	2.4 (2.2–2.6)	2.5 (2.2–2.8)	2.6 (2.1–3.0)	2.7 (1.9–3.4)	2.5 (2.5–2.6)
Blood	1.8 (1.7–1.9)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.6 (1.4–1.7)	1.7 (1.5–1.9)	1.6 (1.3–1.9)	2.0 (1.5–2.5)	1.6 (1.0–2.2)	1.6 (1.5–1.6)
Social	1.0 (0.9–1.1)	1.1 (1.0–1.1)	1.1 (1.0–1.3)	1.0 (0.9–1.1)	1.3 (0.9–1.6)	1.2 (0.9–1.6)	0.7 (0.5–0.9)	0.8 (0.5–1.1)	1.1 (1.0–1.1)
Male genital system	1.0 (1.0–1.1)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	1.3 (1.0–1.5)	1.0 (0.9–1.1)	0.8 (0.6–1.0)	0.9 (0.6–1.2)	1.7 (1.1–2.3)	1.0 (1.0–1.1)
Total RFEs (*n*)	**286,045**	**169,492**	**136,163**	**60,260**	**55,386**	**19,051**	**11,671**	**7,589**	**745,656**

(a) Figures do not total 100 as more than one RFE can be recorded at each encounter.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). RFEs—reasons for encounter.

Table A4.7a: Most frequent patient reasons for encounter by state/territory, crude rates (1998–2003)

Patient reasons for encounter	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Check-up—all*	14.4 (13.9–14.8)	15.5 (14.8–16.1)	15.0 (14.3–15.6)	14.2 (13.3–15.0)	13.6 (12.7–14.4)	13.9 (12.4–15.4)	12.0 (10.4–13.7)	14.1 (11.5–16.7)	14.6 (14.3–14.9)
Prescription—all*	10.1 (9.7–10.5)	9.4 (8.9–9.9)	9.7 (9.2–10.1)	10.6 (9.9–11.4)	10.2 (9.3–11.1)	11.4 (10.1–12.7)	8.6 (7.2–10.0)	8.1 (6.3–9.9)	9.9 (9.7–10.1)
Cough	6.7 (6.4–6.9)	6.1 (5.8–6.4)	5.6 (5.3–5.9)	5.3 (4.9–5.7)	5.9 (5.3–6.5)	5.1 (4.4–5.7)	6.5 (5.3–7.7)	6.6 (5.4–7.8)	6.1 (6.0–6.3)
Immunisation/vaccination—all*	4.7 (4.4–5.0)	4.4 (4.0–4.9)	4.9 (4.4–5.3)	4.8 (3.9–5.7)	3.5 (2.9–4.1)	4.9 (3.8–6.0)	4.8 (3.2–6.4)	2.1 (0.2–4.0)	4.6 (4.4–4.8)
Test results*	4.7 (4.5–5.0)	4.4 (4.1–4.6)	4.9 (4.6–5.1)	5.0 (4.6–5.5)	3.5 (3.1–3.9)	3.8 (3.0–4.5)	4.2 (3.2–5.3)	4.1 (2.6–5.6)	4.6 (4.4–4.7)
Back complaint*	3.6 (3.5–3.8)	3.5 (3.3–3.7)	3.4 (3.1–3.7)	3.6 (3.2–4.0)	3.5 (3.2–3.8)	3.8 (3.3–4.3)	3.3 (2.7–3.9)	3.2 (2.4–4.0)	3.5 (3.4–3.6)
Throat complaint	3.8 (3.7–4.0)	3.7 (3.5–3.9)	3.1 (2.9–3.3)	2.9 (2.6–3.2)	3.7 (3.3–4.0)	2.7 (2.2–3.1)	3.8 (3.0–4.6)	3.3 (2.6–3.9)	3.5 (3.4–3.6)
Rash*	2.7 (2.7–2.9)	2.7 (2.6–2.9)	2.7 (2.6–2.9)	2.7 (2.5–2.9)	2.6 (2.4–2.8)	2.7 (2.3–3.1)	3.1 (2.6–3.6)	3.3 (2.5–4.1)	2.7 (2.7–2.8)
Upper respiratory tract infection	2.3 (2.1–2.4)	2.7 (2.4–2.9)	2.2 (1.9–2.5)	2.1 (1.7–2.5)	2.4 (2.0–2.8)	1.7 (1.1–2.4)	3.2 (2.0–4.3)	1.6 (0.9–2.3)	2.3 (2.2–2.5)
Abdominal pain*	2.2 (2.1–2.3)	2.0 (1.9–2.2)	1.9 (1.8–2.0)	2.1 (1.9–2.3)	2.1 (1.8–2.3)	1.9 (1.6–2.2)	2.3 (1.9–2.8)	2.2 (1.7–2.7)	2.1 (2.0–2.1)
Depression*	2.0 (1.8–2.1)	2.2 (2.0–2.4)	2.0 (1.8–2.1)	2.2 (1.9–2.4)	2.2 (1.9–2.6)	2.0 (1.5–2.5)	2.5 (1.9–3.0)	1.6 (1.2–2.0)	2.1 (2.0–2.2)
Hypertension/high blood pressure*	2.4 (2.1–2.6)	2.1 (1.8–2.5)	1.6 (1.2–1.9)	1.8 (1.3–2.3)	1.8 (1.3–2.3)	1.8 (0.8–2.8)	2.0 (0.7–3.3)	1.0 (0.2–1.7)	2.0 (1.9–2.2)
Headache	2.2 (2.0–2.3)	1.9 (1.7–2.0)	1.8 (1.6–1.9)	1.8 (1.7–2.0)	1.9 (1.7–2.1)	1.7 (1.4–2.1)	2.3 (1.8–2.8)	2.0 (1.4–2.6)	2.0 (1.9–2.0)
Fever	2.2 (2.0–2.4)	1.7 (1.4–1.9)	1.9 (1.7–2.0)	1.5 (1.2–1.8)	1.7 (1.2–2.3)	1.2 (0.7–1.6)	2.0 (1.3–2.7)	3.0 (2.1–3.9)	1.9 (1.8–2.0)

(continued)

Table A4.7a (continued): Most frequent patient reasons for encounter by state/territory, crude rates (1998–2003)

Patient reasons for encounter	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Ear pain	1.7 (1.6–1.8)	1.5 (1.4–1.6)	1.9 (1.7–2.0)	1.7 (1.5–1.9)	1.7 (1.5–1.9)	1.4 (1.1–1.7)	1.7 (1.2–2.3)	3.0 (2.4–3.7)	1.7 (1.6–1.7)
Weakness/tiredness	1.5 (1.4–1.6)	1.7 (1.5–1.8)	1.7 (1.5–1.8)	1.7 (1.5–1.9)	1.6 (1.3–1.9)	1.4 (1.1–1.7)	1.7 (1.3–2.2)	1.8 (1.1–2.4)	1.6 (1.5–1.7)
Skin complaint	1.4 (1.2–1.6)	1.1 (1.0–1.2)	1.6 (1.4–1.8)	1.5 (1.3–1.7)	1.3 (1.1–1.5)	1.4 (1.1–1.8)	1.1 (0.6–1.6)	1.5 (1.0–2.0)	1.4 (1.3–1.5)
Knee complaint	1.5 (1.4–1.6)	1.3 (1.2–1.4)	1.1 (1.0–1.2)	1.5 (1.3–1.7)	1.4 (1.1–1.7)	1.5 (1.0–2.0)	1.8 (0.0–3.6)	1.4 (0.9–2.0)	1.4 (1.3–1.4)
Sneeze/nasal congestion	1.7 (1.5–1.9)	1.2 (1.0–1.4)	1.1 (0.9–1.3)	0.9 (0.6–1.2)	1.2 (0.8–1.5)	0.9 (0.4–1.3)	1.3 (0.6–2.0)	1.4 (0.5–2.4)	1.4 (1.2–1.5)
Diarrhoea	1.4 (1.3–1.5)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.2 (1.0–1.4)	1.4 (1.2–1.6)	0.9 (0.6–1.2)	1.5 (1.1–1.9)	2.3 (1.7–2.8)	1.3 (1.3–1.4)
Pain, chest NOS	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.2 (1.0–1.3)	1.1 (0.9–1.2)	1.0 (0.7–1.3)	1.2 (0.9–1.6)	1.5 (1.1–1.9)	1.2 (1.2–1.3)
Sleep disturbance	1.3 (1.2–1.4)	1.2 (1.1–1.4)	1.0 (0.9–1.1)	1.2 (0.9–1.5)	1.4 (1.1–1.7)	1.3 (0.9–1.7)	1.0 (0.5–1.4)	1.4 (0.9–1.9)	1.2 (1.1–1.3)
Administrative procedure NOS	1.1 (1.0–1.3)	1.3 (1.2–1.5)	1.1 (1.0–1.3)	1.1 (0.9–1.4)	1.3 (1.0–1.6)	1.3 (0.9–1.7)	1.3 (0.8–1.7)	1.5 (0.9–2.1)	1.2 (1.1–1.3)
Foot/toe complaint	1.2 (1.2–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.2 (1.0–1.3)	1.2 (0.8–1.7)	1.2 (0.7–1.6)	1.4 (1.0–1.9)	1.2 (1.2–1.2)
Vertigo/dizziness	1.3 (1.2–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.0 (0.9–1.2)	1.2 (1.0–1.4)	0.9 (0.6–1.2)	1.0 (0.6–1.3)	0.9 (0.4–1.4)	1.2 (1.1–1.2)
Asthma	1.1 (1.0–1.2)	1.2 (1.1–1.4)	1.2 (1.0–1.3)	1.0 (0.8–1.2)	1.2 (1.0–1.4)	0.8 (0.5–1.2)	1.2 (0.7–1.7)	1.2 (0.5–1.9)	1.1 (1.1–1.2)
Neck complaint	1.1 (1.0–1.2)	1.0 (0.8–1.1)	1.2 (0.9–1.4)	1.3 (1.0–1.5)	1.1 (0.9–1.3)	1.4 (0.9–1.8)	1.2 (0.9–1.4)	0.8 (0.3–1.2)	1.1 (1.0–1.2)
Swelling*	1.0 (0.9–1.1)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.3)	1.1 (0.9–1.3)	0.9 (0.6–1.2)	1.2 (0.8–1.5)	1.2 (0.8–1.6)	1.1 (1.1–1.2)

(continued)

Table A4.7a (continued): Most frequent patient reasons for encounter by state/territory, crude rates (1998–2003)

Patient reasons for encounter	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Shoulder complaint	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (0.9–1.2)	1.2 (1.0–1.4)	1.1 (0.9–1.3)	1.2 (0.8–1.6)	1.1 (0.3–1.8)	1.3 (0.8–1.7)	1.1 (1.0–1.2)
Anxiety*	1.1 (1.0–1.3)	1.3 (1.1–1.4)	0.9 (0.7–1.0)	0.8 (0.6–1.1)	1.3 (0.9–1.6)	1.2 (0.9–1.6)	0.9 (0.3–1.5)	0.7 (0.0–1.6)	1.1 (1.0–1.2)
Subtotal (n)	*156,691*	*93,644*	*74,829*	*33,008*	*30,136*	*9,852*	*6,312*	*4,126*	*412,625*
Total RFEs (*n*)	**289,522**	**171,624**	**137,290**	**60,862**	**56,027**	**19,309**	**11,711**	**7,580**	**753,925**

(a) Figures do not total 100 as more than one RFE can be recorded at each encounter.
* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). NOS—not otherwise specified; RFEs—reasons for encounter.

Table A4.7b: Most frequent patient reasons for encounter by state/territory, patient age-standardised rates (1998–2003)

Patient reasons for encounter	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Check-up—all*	14.0 (13.5–14.4)	14.9 (14.3–15.5)	14.8 (14.2–15.5)	13.9 (13.0–14.7)	13.2 (12.3–14.0)	13.4 (11.9–14.8)	12.4 (10.7–14.2)	14.7 (11.9–17.5)	14.2 (14.0–14.5)
Prescription—all*	9.8 (9.4–10.1)	9.1 (8.6–9.5)	9.6 (9.2–10.1)	10.4 (9.6–11.1)	9.9 (9.0–10.7)	10.9 (9.6–12.1)	9.3 (7.8–10.8)	9.5 (7.3–11.6)	9.7 (9.4–9.9)
Cough	6.9 (6.7–7.2)	6.5 (6.1–6.8)	5.8 (5.4–6.1)	5.6 (5.2–6.1)	6.3 (5.7–6.9)	5.4 (4.7–6.1)	6.5 (5.3–7.7)	6.4 (5.3–7.6)	6.4 (6.2–6.5)
Immunisation/vaccination—all*	4.8 (4.5–5.0)	4.6 (4.2–5.0)	4.9 (4.5–5.3)	5.0 (4.1–5.9)	3.6 (3.0–4.2)	5.1 (4.1–6.2)	5.1 (3.3–7.0)	2.6 (0.0–5.6)	4.7 (4.5–4.8)
Test results*	4.7 (4.4–4.9)	4.3 (4.0–4.6)	4.8 (4.5–5.1)	5.0 (4.5–5.4)	3.5 (3.1–3.9)	3.7 (3.3–4.3)	4.5 (3.3–5.6)	4.3 (2.7–5.9)	4.5 (4.4–4.6)
Throat complaint	4.1 (3.9–4.2)	3.9 (3.6–4.1)	3.2 (2.9–3.4)	3.0 (2.7–3.3)	3.9 (3.5–4.3)	2.8 (2.4–3.3)	3.6 (2.8–4.3)	3.2 (2.5–3.9)	3.7 (3.6–3.8)
Back complaint*	3.6 (3.5–3.7)	3.4 (3.3–3.6)	3.4 (3.0–3.7)	3.5 (3.1–3.9)	3.4 (3.1–3.7)	3.8 (3.3–4.3)	3.3 (2.7–3.9)	3.1 (2.3–4.0)	3.5 (3.4–3.6)
Rash*	2.8 (2.7–2.9)	2.9 (2.7–3.0)	2.8 (2.6–2.9)	2.8 (2.5–3.0)	2.7 (2.5–2.9)	2.8 (2.5–3.2)	3.0 (2.5–3.6)	3.2 (2.4–4.0)	2.8 (2.8–2.9)

(continued)

Table A4.7b (continued): Most frequent patient reasons for encounter by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Patient reasons for encounter	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Upper respiratory tract infection	2.4 (2.2–2.5)	2.9 (2.6–3.1)	2.3 (2.0–2.6)	2.2 (1.8–2.6)	2.6 (2.1–3.0)	1.9 (1.1–2.6)	3.0 (1.9–4.1)	1.6 (0.9–2.3)	2.4 (2.3–2.6)
Abdominal pain*	2.2 (2.1–2.3)	2.1 (2.0–2.2)	1.9 (1.8–2.0)	2.1 (1.9–2.3)	2.1 (1.8–2.3)	1.9 (1.6–2.2)	2.3 (1.8–2.7)	2.1 (1.5–2.6)	2.1 (2.0–2.2)
Fever	2.4 (2.1–2.6)	1.9 (1.6–2.1)	1.9 (1.7–2.1)	1.7 (1.4–2.0)	2.0 (1.4–2.5)	1.4 (0.8–1.9)	2.0 (1.3–2.7)	2.8 (1.9–3.6)	2.1 (1.9–2.2)
Depression*	1.9 (1.8–2.1)	2.2 (2.0–2.4)	2.0 (1.8–2.1)	2.1 (1.9–2.3)	2.2 (1.9–2.5)	2.0 (1.5–2.5)	2.4 (1.8–2.9)	1.5 (1.0–1.9)	2.0 (1.9–2.1)
Headache	2.2 (2.1–2.3)	1.9 (1.7–2.0)	1.8 (1.6–1.9)	1.8 (1.7–2.0)	1.9 (1.7–2.1)	1.8 (1.4–2.1)	2.2 (1.7–2.7)	2.0 (1.3–2.6)	2.0 (1.9–2.0)
Hypertension/high blood pressure*	2.3 (2.0–2.5)	2.0 (1.7–2.4)	1.6 (1.2–1.9)	1.7 (1.2–2.2)	1.7 (1.2–2.2)	1.7 (0.8–2.6)	2.2 (0.7–3.7)	1.4 (0.0–2.9)	2.0 (1.8–2.1)
Ear pain	1.8 (1.7–1.9)	1.6 (1.5–1.8)	2.0 (1.8–2.1)	1.9 (1.7–2.1)	1.9 (1.7–2.1)	1.6 (1.2–1.9)	1.7 (1.2–2.2)	2.8 (2.2–3.4)	1.8 (1.7–1.9)
Weakness/tiredness	1.5 (1.4–1.6)	1.6 (1.5–1.8)	1.7 (1.5–1.8)	1.6 (1.4–1.8)	1.6 (1.3–1.8)	1.4 (1.0–1.7)	1.7 (1.3–2.1)	1.9 (1.2–2.6)	1.6 (1.5–1.7)
Sneeze/nasal congestion	1.8 (1.6–2.0)	1.3 (1.0–1.6)	1.2 (0.9–1.4)	1.0 (0.6–1.3)	1.3 (0.9–1.7)	0.9 (0.5–1.4)	1.2 (0.5–1.9)	1.4 (0.5–2.3)	1.4 (1.3–1.5)
Diarrhoea	1.5 (1.4–1.5)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.3 (1.0–1.4)	1.4 (1.2–1.6)	0.9 (0.6–1.3)	1.5 (1.1–1.9)	2.3 (1.6–3.0)	1.4 (1.3–1.4)
Skin complaint	1.4 (1.2–1.6)	1.1 (1.0–1.2)	1.6 (1.4–1.8)	1.5 (1.3–1.7)	1.3 (1.1–1.5)	1.4 (1.1–1.8)	1.1 (0.6–1.6)	1.5 (1.0–2.1)	1.4 (1.3–1.5)
Knee complaint	1.4 (1.3–1.5)	1.3 (1.1–1.4)	1.1 (1.0–1.2)	1.5 (1.3–1.7)	1.4 (1.1–1.6)	1.5 (1.0–2.0)	1.7 (0.1–3.4)	1.7 (0.8–2.5)	1.3 (1.3–1.4)
Pain, chest NOS	1.3 (1.2–1.3)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.1 (1.0–1.3)	1.1 (0.9–1.2)	1.0 (0.7–1.3)	1.3 (0.9–1.6)	1.5 (1.0–2.1)	1.2 (1.2–1.3)
Foot/toe complaint	1.2 (1.2–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.2 (1.0–1.3)	1.2 (0.8–1.7)	1.2 (0.8–1.7)	1.3 (0.8–1.7)	1.2 (1.2–1.2)
Sleep disturbance	1.3 (1.1–1.4)	1.2 (1.1–1.3)	1.0 (0.8–1.1)	1.2 (0.9–1.5)	1.4 (1.1–1.7)	1.2 (0.8–1.6)	1.0 (0.5–1.6)	1.5 (0.9–2.1)	1.2 (1.1–1.3)

(continued)

Table A4.7b (continued): Most frequent patient reasons for encounter by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
Patient reasons for encounter	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Administrative procedure NOS	1.1 (1.0–1.2)	1.3 (1.2–1.5)	1.1 (1.0–1.3)	1.1 (0.8–1.3)	1.3 (1.0–1.6)	1.3 (0.9–1.7)	1.3 (0.8–1.8)	1.4 (0.7–2.0)	1.2 (1.1–1.3)
Asthma	1.1 (1.0–1.2)	1.3 (1.1–1.4)	1.2 (1.0–1.3)	1.0 (0.8–1.3)	1.2 (1.0–1.4)	0.9 (0.5–1.2)	1.2 (0.7–1.7)	1.2 (0.5–1.9)	1.2 (1.1–1.2)
Vertigo/dizziness	1.2 (1.2–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.0 (0.8–1.2)	1.2 (1.0–1.3)	0.9 (0.5–1.2)	1.0 (0.7–1.3)	1.3 (0.2–2.4)	1.2 (1.1–1.2)
Vomiting	1.2 (1.1–1.3)	1.1 (1.0–1.3)	1.1 (0.9–1.2)	1.0 (0.7–1.3)	1.2 (0.8–1.6)	0.9 (0.5–1.2)	0.9 (0.6–1.2)	1.4 (1.0–1.7)	1.1 (1.1–1.2)
Neck complaint	1.1 (1.1–1.2)	1.0 (0.8–1.1)	1.2 (0.9–1.4)	1.2 (1.0–1.4)	1.1 (0.9–1.3)	1.4 (0.9–1.8)	1.2 (0.9–1.4)	0.8 (0.3–1.3)	1.1 (1.0–1.2)
Swelling*	1.0 (1.0–1.1)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.3)	1.1 (0.9–1.2)	0.9 (0.6–1.2)	1.2 (0.8–1.5)	1.1 (0.7–1.6)	1.1 (1.1–1.2)
Shoulder complaint	1.1 (1.0–1.2)	1.1 (0.9–1.2)	1.1 (0.9–1.2)	1.2 (1.0–1.3)	1.1 (0.9–1.3)	1.2 (0.8–1.6)	1.1 (0.4–1.9)	1.4 (0.8–1.9)	1.1 (1.0–1.1)
Subtotal (n)	*155,169*	*92,884*	*74,669*	*32,889*	*29,975*	*10,143*	*6,329*	*4,243*	*410,273*
Total RFEs (*n*)	**286,045**	**169,492**	**136,163**	**60,260**	**55,386**	**19,051**	**11,671**	**7,589**	**745,656**

(a) Figures do not total 100 as more than one RFE can be recorded at each encounter.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). NOS—not otherwise specified; RFEs—reasons for encounter.

Table A4.8a: Number of problems managed at an encounter by state/territory, crude rates (1998–2003)

Number of problems managed at encounter	Per cent of encounters, 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
One problem	64.5 (63.7–65.2)	63.7 (62.8–64.6)	66.2 (65.2–67.2)	64.5 (63.0–66.0)	66.0 (64.4–67.6)	65.6 (62.8–68.3)	67.4 (63.8–71.0)	64.2 (59.5–68.9)	64.8 (64.4–65.3)
Two problems	24.7 (24.3–25.2)	25.3 (24.7–25.8)	23.8 (23.2–24.4)	24.8 (23.9–25.7)	24.2 (23.2–25.2)	24.3 (22.7–25.9)	23.8 (21.3–26.3)	25.2 (22.6–27.8)	24.6 (24.4–24.9)
Three problems	8.3 (8.1–8.6)	8.5 (8.2–8.9)	7.9 (7.5–8.3)	8.5 (7.9–9.1)	7.8 (7.2–8.4)	7.8 (6.7–8.9)	7.1 (5.8–8.4)	8.0 (6.1–9.9)	8.2 (8.1–8.4)
Four problems	2.5 (2.3–2.7)	2.5 (2.3–2.7)	2.1 (1.9–2.3)	2.2 (1.9–2.6)	2.1 (1.8–2.4)	2.4 (1.8–3.0)	1.7 (1.2–2.2)	2.6 (1.3–3.9)	2.3 (2.2–2.4)

Table A4.8b: Number of problems managed at an encounter by state/territory, patient age-standardised rates (1998–2003)

Number of problems managed at encounter	Per cent of encounters, 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
One problem	65.2 (64.5–65.9)	64.5 (63.6–65.5)	66.3 (65.3–67.3)	64.9 (63.4–66.4)	66.8 (65.2–68.4)	66.6 (63.9–69.3)	66.3 (62.6–70.0)	60.7 (55.2–66.1)	65.4 (64.9–65.8)
Two problems	24.4 (24.0–24.8)	24.9 (24.3–25.4)	23.7 (23.2–24.3)	24.6 (23.7–25.5)	23.8 (22.8–24.8)	23.7 (22.1–25.2)	24.2 (21.7–26.7)	26.6 (23.8–29.4)	24.3 (24.1–24.6)
Three problems	8.1 (7.8–8.4)	8.3 (7.9–8.6)	7.9 (7.5–8.3)	8.3 (7.7–8.9)	7.5 (6.9–8.1)	7.5 (6.5–8.6)	7.7 (6.3–9.1)	9.2 (6.6–11.7)	8.1 (7.9–8.2)
Four problems	2.4 (2.2–2.5)	2.4 (2.1–2.6)	2.1 (1.9–2.3)	2.2 (1.9–2.5)	2.0 (1.7–2.3)	2.2 (1.6–2.8)	1.8 (1.3–2.4)	3.6 (1.8–5.4)	2.3 (2.2–2.4)

Table A4.9a: Distribution of problems managed across ICPC-2 chapter, by state/territory, crude rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Problem managed	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Respiratory	22.2 (21.8–22.6)	22.3 (21.8–22.9)	20.7 (20.1–21.3)	20.4 (19.5–21.3)	21.6 (20.7–22.5)	18.8 (17.4–20.2)	24.1 (22.0–26.3)	21.1 (18.8–23.3)	21.7 (21.4–21.9)
Musculoskeletal	17.5 (17.1–17.9)	16.8 (16.3–17.3)	16.8 (16.0–17.5)	18.0 (17.2–18.9)	18.1 (17.1–19.1)	20.0 (18.4–21.5)	17.8 (14.8–20.8)	16.3 (14.4–18.3)	17.4 (17.1–17.6)
Skin	15.9 (15.6–16.2)	16.0 (15.6–16.4)	19.1 (18.5–19.7)	16.9 (16.3–17.5)	15.5 (14.8–16.0)	16.7 (14.6–18.7)	14.9 (13.5–16.2)	19.2 (17.7–20.7)	16.6 (16.4–16.8)
Circulatory	17.9 (17.4–18.4)	17.7 (17.0–18.3)	14.3 (13.7–14.8)	15.3 (14.4–16.2)	15.7 (14.8–16.6)	17.1 (15.4–18.7)	12.9 (10.8–14.9)	12.4 (9.9–14.8)	16.6 (16.3–16.9)
General & unspecified	14.7 (14.4–15.1)	14.8 (14.3–15.3)	15.9 (15.4–16.5)	14.9 (14.1–15.6)	14.5 (13.7–15.3)	15.7 (14.3–17.1)	16.4 (14.7–18.1)	16.0 (13.8–18.1)	15.0 (14.8–15.3)
Psychological	10.8 (10.4–11.3)	12.4 (11.9–13.0)	10.6 (10.1–11.1)	11.0 (10.3–11.7)	12.5 (11.5–13.5)	13.1 (11.6–14.6)	9.6 (8.2–11.0)	11.3 (9.2–13.3)	11.3 (11.1–11.6)
Digestive	10.5 (10.3–10.7)	10.0 (9.8–10.3)	9.7 (9.4–10.0)	10.0 (9.5–10.4)	9.5 (9.0–9.9)	9.1 (8.4–9.7)	9.3 (8.4–10.3)	10.0 (8.9–11.0)	10.0 (9.9–10.2)
Endocrine & metabolic	10.3 (10.0–10.6)	10.2 (9.8–10.6)	8.8 (8.4–9.3)	10.8 (10.2–11.4)	9.9 (9.3–10.4)	8.9 (8.1–9.7)	7.9 (6.7–9.1)	9.9 (7.9–11.9)	9.9 (9.8–10.1)
Female genital system	7.1 (6.8–7.4)	7.4 (6.9–7.8)	7.5 (6.9–8.0)	7.9 (7.3–8.6)	6.9 (6.3–7.6)	6.6 (5.6–7.6)	7.7 (6.5–8.9)	7.8 (5.8–9.7)	7.3 (7.1–7.5)
Pregnancy & family planning	4.0 (3.8–4.2)	4.4 (4.1–4.7)	4.8 (4.5–5.1)	5.0 (4.5–5.5)	3.7 (3.3–4.1)	4.1 (3.2–4.9)	5.2 (4.1–6.2)	6.0 (4.8–7.1)	4.3 (4.2–4.5)
Ear	4.2 (4.1–4.3)	4.2 (4.0–4.3)	3.9 (3.7–4.0)	4.5 (4.2–4.7)	4.5 (4.3–4.8)	3.9 (3.5–4.4)	4.2 (3.5–4.9)	5.8 (5.0–6.6)	4.3 (4.2–4.4)
Neurological	4.0 (3.8–4.1)	4.2 (4.0–4.4)	3.9 (3.7–4.0)	3.9 (3.7–4.2)	4.2 (3.9–4.5)	4.4 (3.9–4.9)	4.0 (3.5–4.4)	3.6 (3.0–4.1)	4.0 (3.9–4.1)
Urology	3.0 (2.9–3.1)	3.0 (2.9–3.1)	2.9 (2.7–3.0)	2.9 (2.7–3.1)	2.8 (2.6–3.0)	3.1 (2.8–3.5)	2.7 (2.3–3.2)	3.2 (2.5–3.8)	3.0 (2.9–3.0)
Eye	2.7 (2.7–2.8)	2.6 (2.5–2.7)	2.6 (2.5–2.7)	2.9 (2.7–3.1)	2.7 (2.5–2.9)	2.1 (1.9–2.4)	2.6 (2.2–3.0)	2.4 (1.8–2.8)	2.7 (2.6–2.7)

(continued)

Table A4.9a (continued): Distribution of problems managed across ICPC-2 chapter, by state/territory, crude rates (1998–2003)

Problem managed	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
Blood	1.7 (1.6–1.9)	1.6 (1.5–1.7)	1.5 (1.4–1.6)	1.5 (1.3–1.6)	1.5 (1.4–1.7)	1.3 (1.1–1.5)	1.7 (1.2–2.1)	1.3 (0.9–1.6)	1.6 (1.5–1.7)
Male genital system	1.4 (1.3–1.5)	1.2 (1.1–1.3)	1.4 (1.3–1.6)	1.7 (1.4–2.0)	1.4 (1.2–1.5)	1.2 (1.0–1.4)	1.2 (0.9–1.5)	1.8 (1.4–2.3)	1.4 (1.3–1.4)
Social problems	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.0 (0.8–1.1)	1.0 (0.8–1.1)	1.0 (0.7–1.2)	1.0 (0.6–1.3)	0.9 (0.6–1.3)	1.3 (0.5–2.0)	0.9 (0.9–1.0)
Total problems (*n*)	**281,554**	**170,735**	**136,129**	**61,185**	**55,569**	**19,545**	**11,159**	**7,749**	**743,625**

(a) Figures do not total 100 as more than one problem can be managed at each encounter.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.9b: Distribution of problems managed across ICPC-2 chapter, by state/territory, patient age-standardised rates (1998–2003)

Problem managed	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
Respiratory	22.7 (22.3–23.2)	23.0 (22.4–23.6)	21.0 (20.4–21.6)	20.9 (20.0–21.8)	22.3 (21.4–23.3)	19.4 (18.1–20.8)	24.1 (21.9–26.2)	22.1 (19.7–24.6)	22.2 (21.9–22.5)
Musculoskeletal	17.2 (16.8–17.6)	16.5 (16.0–16.9)	16.7 (16.0–17.4)	17.7 (16.9–18.6)	17.7 (16.7–18.6)	19.4 (17.9–21.0)	18.1 (15.3–20.9)	17.2 (15.1–19.3)	17.1 (16.8–17.3)
Skin	16.0 (15.6–16.3)	16.1 (15.7–16.5)	19.2 (18.6–19.8)	17.0 (16.4–17.6)	15.5 (14.8–16.0)	16.7 (14.7–18.7)	14.7 (13.4–16.1)	18.7 (17.0–20.4)	16.7 (16.4–16.9)
Circulatory	16.9 (16.4–17.4)	16.6 (16.1–17.2)	14.1 (13.6–14.7)	15.0 (14.1–15.9)	14.8 (14.0–15.7)	15.8 (14.3–17.3)	14.7 (12.4–17.0)	17.1 (13.1–21.1)	16.0 (15.7–16.2)
General & unspecified	14.7 (14.3–15.1)	14.9 (14.4–15.4)	15.8 (15.2–16.3)	14.9 (14.2–15.7)	14.6 (13.8–15.3)	15.9 (14.5–17.2)	16.5 (14.7–18.3)	16.1 (13.7–18.5)	15.0 (14.8–15.3)
Psychological	10.6 (10.2–11.1)	12.1 (11.5–12.7)	10.5 (10.0–11.0)	10.7 (10.1–11.4)	12.2 (11.1–13.2)	12.9 (11.3–14.4)	9.7 (8.3–11.1)	11.9 (9.6–14.1)	11.1 (10.9–11.4)
Digestive	10.4 (10.2–10.6)	10.0 (9.8–10.2)	9.7 (9.4–9.9)	10.0 (9.6–10.4)	9.4 (9.0–9.9)	9.0 (8.3–9.6)	9.5 (8.5–10.5)	9.9 (8.7–11.0)	10.0 (9.9–10.1)
Endocrine & metabolic	10.0 (9.8–10.3)	10.0 (9.6–10.4)	8.8 (8.4–9.3)	10.6 (10.0–11.2)	9.6 (9.0–10.2)	8.6 (7.8–9.4)	8.4 (7.1–9.8)	11.0 (8.5–13.4)	9.8 (9.6–9.9)

(continued)

Table A4.9b (continued): Distribution of problems managed across ICPC-2 chapter, by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Problem managed	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Female genital system	7.1 (6.8–7.4)	7.3 (6.9–7.8)	7.4 (6.9–8.0)	7.7 (7.1–8.4)	6.9 (6.3–7.5)	6.5 (5.5–7.5)	7.3 (6.1–8.5)	7.2 (5.4–9.0)	7.3 (7.1–7.4)
Ear	4.3 (4.2–4.5)	4.4 (4.2–4.6)	4.7 (4.5–4.9)	4.8 (4.5–5.0)	4.8 (4.5–5.1)	4.3 (3.8–4.8)	4.2 (3.5–4.9)	5.6 (4.8–6.5)	4.5 (4.4–4.6)
Pregnancy & family planning	4.0 (3.8–4.2)	4.2 (3.9–4.5)	4.6 (4.3–5.0)	4.7 (4.3–5.2)	3.6 (3.2–4.0)	4.0 (3.2–4.9)	4.3 (3.4–5.2)	4.7 (3.7–5.6)	4.2 (4.1–4.3)
Neurological	3.9 (3.8–4.1)	4.1 (3.9–4.3)	3.9 (3.7–4.0)	3.9 (3.6–4.1)	4.1 (3.8–4.4)	4.4 (3.9–4.9)	4.0 (3.5–4.5)	3.5 (2.9–4.1)	4.0 (3.9–4.1)
Urology	3.0 (2.9–3.1)	2.9 (2.8–3.0)	2.9 (2.7–3.0)	2.9 (2.7–3.1)	2.7 (2.5–2.9)	3.1 (2.7–3.4)	2.8 (2.4–3.3)	3.5 (2.7–4.3)	2.9 (2.9–3.0)
Eye	2.7 (2.6–2.8)	2.6 (2.5–2.7)	2.6 (2.4–2.7)	3.0 (2.8–3.2)	2.7 (2.5–2.9)	2.2 (1.9–2.4)	2.7 (2.3–3.2)	2.5 (1.9–3.1)	2.7 (2.6–2.7)
Blood	1.7 (1.5–1.8)	1.5 (1.4–1.6)	1.5 (1.4–1.6)	1.5 (1.3–1.6)	1.5 (1.3–1.6)	1.3 (1.0–1.5)	1.8 (1.3–2.2)	1.5 (1.1–2.0)	1.6 (1.5–1.6)
Male genital system	1.4 (1.3–1.4)	1.2 (1.1–1.3)	1.4 (1.3–1.6)	1.7 (1.4–2.0)	1.3 (1.2–1.5)	1.2 (0.9–1.4)	1.3 (0.9–1.6)	2.3 (1.6–2.9)	1.4 (1.3–1.4)
Social problems	0.8 (0.7–0.9)	1.0 (0.9–1.0)	1.0 (0.8–1.1)	0.9 (0.8–1.1)	1.0 (0.7–1.2)	0.9 (0.6–1.3)	0.9 (0.6–1.3)	1.1 (0.5–1.8)	0.9 (0.8–1.0)
Total problems (*n*)	**276,796**	**167,658**	**134,865**	**60,437**	**54,642**	**19,171**	**11,194**	**7,986**	**732,749**

(a) Figures do not total 100 as more than one problem can be managed at each encounter.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.10a: Most frequently managed problems by state/territory, crude rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Problem managed	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Hypertension*	9.7 (9.4–10.1)	9.5 (9.0–9.9)	7.2 (6.8–7.6)	8.0 (7.4–8.6)	8.0 (7.4–8.5)	9.1 (7.9–10.2)	6.6 (5.4–7.9)	6.8 (5.2–8.3)	8.8 (8.6–9.0)
Upper respiratory tract infection	6.4 (6.2–6.7)	6.2 (5.9–6.5)	5.6 (5.3–5.9)	5.3 (4.8–5.7)	6.1 (5.5–6.6)	4.2 (3.6–4.7)	7.1 (5.8–8.4)	5.9 (4.8–7.0)	6.0 (5.9–6.2)
Immunisation/vaccination—all*	5.0 (4.7–5.2)	4.7 (4.4–5.1)	5.0 (4.7–5.4)	5.1 (4.3–5.8)	3.8 (3.3–4.3)	5.1 (4.0–6.3)	4.9 (3.5–6.3)	2.5 (1.2–3.8)	4.8 (4.6–5.0)
Depression*	3.5 (3.3–3.7)	4.1 (3.9–4.3)	3.8 (3.6–4.0)	3.9 (3.6–4.2)	4.0 (3.6–4.4)	4.2 (3.7–4.8)	3.7 (3.1–4.4)	3.4 (2.7–4.2)	3.8 (3.7–3.9)
Asthma	2.8 (2.7–2.9)	3.1 (2.9–3.2)	3.0 (2.8–3.2)	2.6 (2.4–2.8)	3.1 (2.8–3.3)	2.4 (2.0–2.7)	2.6 (2.2–3.0)	3.3 (2.2–4.4)	2.9 (2.8–3.0)
Diabetes—all*	2.8 (2.7–2.9)	3.0 (2.8–3.2)	2.5 (2.3–2.6)	2.9 (2.6–3.1)	2.9 (2.7–3.2)	2.5 (2.1–2.9)	1.9 (1.3–2.4)	3.7 (2.6–4.8)	2.8 (2.7–2.9)
Lipid disorder	3.2 (3.1–3.3)	2.8 (2.6–3.0)	2.0 (1.9–2.1)	2.9 (2.7–3.2)	2.7 (2.4–3.0)	2.4 (2.0–2.8)	2.1 (1.6–2.6)	2.0 (1.2–2.8)	2.8 (2.7–2.9)
Acute bronchitis/bronchiolitis	2.7 (2.5–2.8)	3.1 (2.9–3.3)	2.8 (2.6–2.9)	2.4 (2.1–2.7)	2.8 (2.5–3.1)	2.5 (2.1–2.9)	2.4 (1.7–3.1)	2.8 (2.0–3.6)	2.8 (2.7–2.8)
Back complaint*	2.6 (2.4–2.7)	2.7 (2.5–2.8)	2.6 (2.3–3.0)	2.7 (2.4–3.0)	2.7 (2.4–2.9)	3.4 (2.9–3.9)	2.6 (2.0–3.1)	2.8 (2.1–3.6)	2.6 (2.5–2.7)
Osteoarthritis*	2.6 (2.4–2.7)	2.3 (2.1–2.4)	2.2 (2.1–2.4)	2.7 (2.4–3.0)	2.5 (2.1–2.8)	3.2 (2.7–3.7)	1.9 (1.4–2.4)	1.7 (1.2–2.2)	2.4 (2.4–2.5)
Female genital check-up/Pap smear*	1.9 (1.8–2.1)	2.2 (2.0–2.4)	2.1 (1.8–2.3)	2.3 (1.9–2.6)	1.8 (1.5–2.1)	1.6 (1.2–2.0)	2.1 (1.6–2.6)	2.2 (1.3–3.1)	2.0 (1.9–2.1)
General check-up*	1.7 (1.6–1.8)	1.8 (1.6–1.9)	2.0 (1.8–2.2)	2.2 (1.9–2.5)	2.2 (2.0–2.4)	2.0 (1.7–2.3)	1.6 (1.2–2.0)	3.5 (2.4–4.5)	1.9 (1.8–1.9)
Contact dermatitis	1.9 (1.8–2.0)	2.0 (1.9–2.1)	1.6 (1.5–1.6)	1.8 (1.7–2.0)	1.9 (1.8–2.1)	2.0 (1.7–2.4)	1.9 (1.6–2.3)	1.7 (1.2–2.1)	1.9 (1.8–1.9)
Prescription—all*	1.7 (1.6–1.9)	1.8 (1.6–2.0)	2.1 (1.8–2.3)	2.0 (1.7–2.3)	1.7 (1.4–2.0)	2.2 (1.6–2.7)	2.1 (1.5–2.7)	1.2 (0.6–1.7)	1.8 (1.8–1.9)

(continued)

Table A4.10a (continued): Most frequently managed problems by state/territory, crude rates (1998–2003)

Problem managed	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Sprain/strain*	1.7 (1.6–1.8)	1.8 (1.7–1.9)	1.8 (1.6–1.9)	1.7 (1.5–1.9)	2.1 (1.8–2.3)	1.8 (1.5–2.2)	1.9 (1.4–2.4)	1.6 (1.0–2.1)	1.8 (1.7–1.8)
Anxiety*	1.7 (1.6–1.8)	2.0 (1.9–2.2)	1.5 (1.4–1.7)	1.4 (1.2–1.6)	2.1 (1.8–2.3)	2.3 (1.9–2.6)	1.1 (0.8–1.4)	1.3 (0.9–1.8)	1.7 (1.7–1.8)
Urinary tract infection*	1.7 (1.6–1.8)	1.7 (1.6–1.8)	1.6 (1.5–1.7)	1.7 (1.6–1.9)	1.7 (1.6–1.9)	1.8 (1.6–2.0)	1.8 (1.5–2.1)	1.7 (1.3–2.1)	1.7 (1.7–1.7)
Oesophageal disease	1.8 (1.8–1.9)	1.4 (1.3–1.5)	1.7 (1.6–1.8)	1.5 (1.3–1.6)	1.7 (1.5–1.8)	2.0 (1.6–2.3)	1.4 (1.0–1.8)	1.5 (1.0–1.9)	1.7 (1.6–1.7)
Sleep disturbance	1.7 (1.6–1.8)	1.6 (1.5–1.7)	1.4 (1.3–1.5)	1.6 (1.4–1.8)	1.8 (1.6–2.1)	1.9 (1.5–2.3)	1.1 (0.8–1.5)	1.3 (0.9–1.7)	1.6 (1.6–1.7)
Menopausal symptom/complaint	1.5 (1.5–1.6)	1.5 (1.3–1.6)	1.6 (1.5–1.8)	1.8 (1.6–2.1)	1.8 (1.6–2.0)	1.5 (1.2–1.8)	1.7 (1.3–2.0)	1.6 (1.1–2.0)	1.6 (1.5–1.6)
Sinusitis acute/chronic	1.5 (1.4–1.5)	1.3 (1.2–1.4)	1.5 (1.4–1.6)	1.5 (1.3–1.6)	1.4 (1.3–1.6)	1.3 (1.0–1.5)	2.0 (1.5–2.5)	1.6 (1.2–2.1)	1.4 (1.4–1.5)
Acute otitis media/myringitis	1.4 (1.3–1.4)	1.3 (1.2–1.4)	1.5 (1.4–1.6)	1.5 (1.3–1.6)	1.6 (1.4–1.8)	1.3 (1.0–1.6)	2.0 (1.4–2.5)	2.0 (1.5–2.4)	1.4 (1.4–1.5)
Viral disease, other/NOS	1.4 (1.3–1.5)	1.4 (1.3–1.6)	1.3 (1.1–1.4)	1.2 (1.0–1.4)	1.5 (1.3–1.7)	1.2 (0.9–1.5)	1.9 (1.2–2.5)	2.0 (1.3–2.6)	1.4 (1.3–1.4)
Ischaemic heart disease*	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.3 (1.2–1.4)	1.3 (1.1–1.4)	1.2 (1.0–1.4)	1.4 (1.0–1.7)	1.0 (0.7–1.4)	1.1 (0.7–1.6)	1.4 (1.3–1.4)
Cardiac check-up*	1.3 (1.2–1.4)	1.6 (1.4–1.7)	1.1 (1.0–1.3)	1.1 (0.9–1.3)	1.3 (1.1–1.6)	1.4 (0.9–1.7)	1.3 (0.8–1.8)	0.6 (0.2–1.0)	1.3 (1.3–1.4)
Tonsillitis*	1.1 (1.1–1.2)	1.3 (1.2–1.4)	1.2 (1.1.–1.3)	1.0 (0.8–1.1)	1.2 (1.1–1.4)	1.1 (0.9–1.3)	1.5 (1.2–1.8)	1.4 (1.1–1.8)	1.2 (1.1–1.2)
Solar keratosis/sunburn	1.0 (0.9–1.1)	0.9 (0.8–0.9)	1.8 (1.6–2.0)	1.1 (1.0–1.3)	0.9 (0.8–1.1)	1.1 (0.7–1.5)	0.9 (0.5–1.2)	1.1 (0.8–1.5)	1.1 (1.1–1.2)
Fracture*	1.0 (1.0–1.1)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.0 (0.9–1.1)	1.1 (0.9–1.2)	0.8 (0.6–1.0)	1.1 (0.8–1.5)	1.4 (0.9–1.9)	1.1 (1.0–1.1)

(continued)

Table A4.10a (continued): Most frequently managed problems by state/territory, crude rates (1998–2003)

Problem managed	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Gastroenteritis, presumed infection	1.0 (1.0–1.1)	1.1 (1.0–1.2)	0.8 (0.8–0.9)	0.9 (0.8–1.0)	1.2 (1.1–1.4)	0.8 (0.6–0.9)	1.0 (0.7–1.3)	1.3 (0.8–1.8)	1.0 (1.0–1.0)
Test results*	1.0 (0.9–1.1)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.9–1.2)	0.7 (0.6–0.8)	0.8 (0.6–1.1)	0.8 (0.5–1.0)	0.4 (0.1–0.6)	1.0 (0.9–1.0)
Subtotal (n)	*133,643*	*81,545*	*62,185*	*28,028*	*25,998*	*9,174*	*5,128*	*3,389*	*349,559*
Total problems (*n*)	**281,554**	**170,735**	**136,129**	**61,185**	**55,569**	**19,545**	**11,159**	**7,749**	**743,625**

(a) Figures do not total 100 as more than one problem can be managed at each encounter.
* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). NOS—not otherwise specified.

Table A4.10b: Most frequently managed problems by state/territory, patient age-standardised rates (1998–2003)

Problem managed	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Hypertension*	9.3 (9.0–9.6)	9.0 (8.6–9.4)	7.2 (6.8–7.5)	7.8 (7.2–8.4)	7.6 (7.0–8.1)	8.4 (7.3–9.5)	7.5 (6.1–8.9)	8.7 (6.3–11.0)	8.5 (8.3–8.7)
Upper respiratory tract infection	6.7 (6.5–7.0)	6.7 (6.3–7.0)	5.7 (5.4–6.1)	5.5 (5.1–6.0)	6.6 (5.9–7.1)	4.6 (4.0–5.2)	6.8 (5.6–8.0)	5.7 (4.6–6.8)	6.4 (6.2–6.5)
Immunisation/vaccination—all*	5.0 (4.7–5.3)	4.9 (4.4–5.3)	5.1 (4.6–5.5)	5.2 (4.3–6.1)	3.9 (3.3–4.5)	5.4 (4.2–6.5)	5.2 (3.3–7.1)	3.1 (0.0–6.1)	4.9 (4.7–5.1)
Depression*	3.4 (3.3–3.6)	4.0 (3.8–4.3)	3.8 (3.6–4.0)	3.8 (3.5–4.1)	3.9 (3.5–4.3)	4.1 (3.6–4.7)	3.6 (3.0–4.2)	3.6 (2.8–4.4)	3.7 (3.6–3.8)
Asthma	2.9 (2.8–3.0)	3.2 (3.0–3.4)	3.1 (2.9–3.2)	2.7 (2.4–2.9)	3.2 (2.9–3.5)	2.5 (2.1–2.8)	2.5 (2.1–2.9)	3.4 (2.2–4.5)	3.0 (2.9–3.1)
Acute bronchitis/bronchiolitis	2.7 (2.5–2.8)	3.2 (3.0–3.4)	2.8 (2.6–3.0)	2.4 (2.1–2.8)	2.9 (2.5–3.2)	2.6 (2.1–3.1)	2.4 (1.5–3.3)	2.8 (1.7–3.8)	2.8 (2.7–2.9)
Lipid disorder	3.1 (3.0–3.2)	2.8 (2.6–2.9)	2.0 (1.8–2.2)	2.9 (2.6–3.2)	2.7 (2.3–3.0)	2.3 (1.9–2.7)	2.4 (1.7–3.0)	2.4 (1.1–3.6)	2.7 (2.6–2.8)

(continued)

Table A4.10b (continued): Most frequently managed problems by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Problem managed	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Diabetes—all*	2.7 (2.6–2.8)	2.9 (2.7–3.0)	2.5 (2.3–2.6)	2.8 (2.5–3.1)	2.9 (2.6–3.1)	2.4 (2.0–2.8)	2.1 (1.3–2.8)	4.4 (3.0–5.8)	2.7 (2.6–2.8)
Back complaint*	2.5 (2.4–2.7)	2.6 (2.4–2.8)	2.6 (2.2–3.0)	2.6 (2.3–3.0)	2.6 (2.4–2.9)	3.4 (2.8–3.9)	2.6 (2.0–3.1)	2.6 (1.8–3.3)	2.6 (2.5–2.7)
Osteoarthritis*	2.4 (2.3–2.5)	2.1 (2.0–2.3)	2.2 (2.0–2.4)	2.6 (2.3–2.9)	2.3 (1.9–2.7)	3.0 (2.4–3.5)	2.1 (1.3–2.9)	2.6 (1.5–3.7)	2.3 (2.2–2.4)
Female genital check-up/Pap smear*	1.9 (1.7–2.2)	2.1 (1.8–2.4)	2.0 (1.7–2.4)	2.2 (1.7–2.6)	1.8 (1.3–2.3)	1.6 (0.9–2.3)	2.0 (1.4–2.5)	2.1 (0.8–3.4)	2.0 (1.9–2.1)
Dermatitis, contact/allergic	1.9 (1.8–2.0)	2.0 (1.9–2.1)	1.6 (1.4–1.7)	1.9 (1.7–2.0)	2.0 (1.8–2.1)	2.0 (1.6–2.5)	1.9 (1.5–2.2)	1.7 (1.0–2.4)	1.9 (1.8–1.9)
General check-up*	1.7 (1.5–1.8)	1.8 (1.5–2.0)	2.0 (1.8–2.1)	2.2 (1.8–2.5)	2.1 (1.9–2.4)	1.9 (1.6–2.2)	1.7 (1.0–2.3)	3.4 (2.4–4.3)	1.8 (1.7–1.9)
Prescription—all*	1.7 (1.5–1.9)	1.7 (1.5–2.0)	2.0 (1.7–2.4)	2.0 (1.5–2.5)	1.6 (1.2–2.1)	2.0 (1.2–2.9)	2.2 (1.4–3.0)	1.4 (0.3–2.4)	1.8 (1.7–1.9)
Sprain/strain*	1.7 (1.6–1.8)	1.8 (1.6–2.0)	1.8 (1.6–2.0)	1.7 (1.3–2.0)	2.1 (1.8–2.4)	1.9 (1.4–2.3)	1.9 (1.3–2.4)	1.3 (0.7–1.9)	1.8 (1.7–1.9)
Anxiety*	1.6 (1.5–1.8)	2.0 (1.8–2.1)	1.5 (1.4–1.7)	1.4 (1.2–1.6)	2.1 (1.7–2.3)	2.2 (1.8–2.5)	1.1 (0.7–1.6)	1.4 (0.7–2.1)	1.7 (1.6–1.8)
Urinary tract infection*	1.7 (1.6–1.7)	1.7 (1.6–1.8)	1.6 (1.5–1.7)	1.7 (1.6–1.9)	1.7 (1.5–1.8)	1.8 (1.5–2.0)	1.8 (1.4–2.2)	1.8 (1.1–2.5)	1.7 (1.6–1.7)
Oesophageal disease	1.8 (1.7–1.9)	1.4 (1.3–1.5)	1.7 (1.5–1.8)	1.4 (1.2–1.6)	1.6 (1.4–1.8)	1.9 (1.5–2.3)	1.6 (1.0–2.2)	1.7 (1.0–2.4)	1.6 (1.6–1.7)
Menopausal symptom/complaint	1.5 (1.4–1.7)	1.5 (1.3–1.7)	1.7 (1.5–1.9)	1.8 (1.5–2.1)	1.8 (1.5–2.0)	1.5 (1.1–1.8)	1.7 (1.3–2.1)	1.6 (1.0–2.2)	1.6 (1.5–1.7)
Acute otitis media/myringitis	1.5 (1.4–1.6)	1.6 (1.4–1.7)	1.6 (1.4–1.8)	1.7 (1.4–2.0)	1.8 (1.5–2.1)	1.6 (1.1–2.1)	1.9 (1.2–2.6)	1.8 (1.4–2.3)	1.6 (1.5–1.7)
Sleep disturbance	1.6 (1.5–1.7)	1.5 (1.4–1.7)	1.4 (1.2–1.6)	1.6 (1.3–1.8)	1.8 (1.5–2.0)	1.8 (1.4–2.2)	1.3 (0.7–1.9)	1.8 (0.9–2.6)	1.6 (1.5–1.6)

(continued)

Table A4.10b (continued): Most frequently managed problems by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Problem managed	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Viral disease, other/NOS	1.5 (1.3–1.7)	1.6 (1.3–1.8)	1.3 (1.1–1.5)	1.3 (0.9–1.6)	1.6 (1.2–1.9)	1.3 (0.7–1.8)	1.8 (0.9–2.7)	1.8 (1.0–2.5)	1.5 (1.3–1.6)
Sinusitis acute/chronic	1.5 (1.4–1.6)	1.3 (1.2–1.5)	1.5 (1.3–1.6)	1.5 (1.3–1.7)	1.4 (1.2–1.6)	1.3 (0.9–1.6)	1.9 (1.4–2.4)	1.5 (1.0–2.0)	1.5 (1.4–1.5)
Ischaemic heart disease*	1.4 (1.2–1.5)	1.3 (1.1–1.5)	1.3 (1.1–1.4)	1.2 (1.0–1.4)	1.1 (0.9–1.4)	1.2 (0.8–1.6)	1.3 (0.5–2.0)	2.0 (0.5–3.5)	1.3 (1.2–1.4)
Tonsillitis*	1.2 (1.1–1.4)	1.4 (1.2–1.6)	1.2 (1.1–1.4)	1.1 (0.8–1.3)	1.3 (1.1–1.6)	1.3 (0.9–1.6)	1.4 (1.0–1.8)	1.3 (0.9–1.7)	1.3 (1.2–1.4)
Cardiac check-up*	1.2 (1.0–1.4)	1.5 (1.2–1.7)	1.1 (0.8–1.4)	1.1 (0.7–1.5)	1.3 (0.8–1.7)	1.3 (0.6–1.9)	1.4 (0.4–2.5)	0.8 (0.0–2.8)	1.3 (1.1–1.4)
Fracture*	1.0 (0.8–1.2)	1.1 (1.0–1.2)	1.2 (1.0–1.4)	1.0 (0.8–1.2)	1.1 (0.8–1.3)	0.8 (0.5–1.1)	1.1 (0.6–1.5)	1.4 (0.7–2.0)	1.1 (1.0–1.1)
Solar keratosis/sunburn	0.9 (0.8–1.1)	0.8 (0.7–0.9)	1.8 (1.5–2.0)	1.1 (0.9–1.3)	0.9 (0.7–1.1)	1.0 (0.3–1.7)	1.0 (0.3–1.6)	1.2 (0.5–1.9)	1.1 (1.0–1.2)
Gastroenteritis, presumed infection	1.0 (0.9–1.2)	1.1 (1.0–1.3)	0.8 (0.7–1.0)	0.9 (0.7–1.1)	1.3 (1.0–1.5)	0.8 (0.4–1.1)	1.0 (0.5–1.4)	1.2 (0.5–2.0)	1.0 (1.0–1.1)
Test results*	1.0 (0.8–1.2)	0.9 (0.7–1.1)	1.0 (0.8–1.2)	1.0 (0.7–1.3)	0.7 (0.4–0.9)	0.8 (0.2–1.4)	0.8 (0.2–1.4)	0.4 (0.0–1.4)	0.9 (0.8–1.0)
Subtotal (n)	*131,621*	*80,631*	*62,131*	*27,839*	*26,214*	*8,958*	*5,228*	*3,572*	*346,036*
Total problems (*n*)	**276,796**	**167,658**	**134,865**	**60,437**	**54,642**	**19,171**	**11,194**	**7,986**	**732,749**

(a) Figures do not total 100 as more than one problem can be managed at each encounter.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). NOS—not otherwise specified.

Table A4.11a: Most frequently managed new problems by state/territory, crude rates (1998–2003)

New problem managed	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Upper respiratory tract infection	4.5 (4.3–4.7)	4.4 (4.1–4.7)	4.0 (3.7–4.3)	3.6 (3.1–3.9)	4.4 (3.8–4.9)	2.9 (2.4–3.3)	4.5 (3.3–5.7)	4.0 (3.1–4.9)	4.2 (4.1–4.4)
Immunisation/vaccination—all*	2.4 (2.1–2.7)	2.3 (1.9–2.7)	2.5 (2.1–2.9)	2.3 (1.4–3.1)	1.9 (1.2–2.6)	2.0 (0.9–3.0)	1.8 (0.3–3.3)	1.1 (0.1–2.0)	2.3 (2.1–2.5)
Acute bronchitis/bronchiolitis	1.6 (1.5–1.7)	2.0 (1.8–2.1)	1.7 (1.6–1.9)	1.5 (1.2–1.7)	1.7 (1.4–2.0)	1.6 (1.1–2.0)	1.2 (0.2–2.1)	2.0 (1.1–2.8)	1.7 (1.6–1.8)
Sprain/strain*	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.8–1.2)	0.9 (0.6–1.1)	1.1 (0.8–1.3)	0.9 (0.5–1.3)	0.9 (0.3–1.5)	0.8 (0.3–1.2)	1.0 (0.9–1.0)
Urinary tract infection*	1.0 (0.9–1.0)	1.0 (0.9–1.1)	0.8 (0.6–1.0)	0.9 (0.7–1.0)	0.9 (0.8–1.1)	1.0 (0.8–1.3)	0.9 (0.5–1.3)	1.0 (0.5–1.4)	0.9 (0.9–1.0)
Viral disease, other/NOS	1.0 (0.8–1.1)	1.0 (0.7–1.2)	0.8 (0.6–1.0)	0.8 (0.4–1.2)	1.1 (0.7–1.4)	0.8 (0.2–1.4)	1.2 (0.2–2.2)	1.5 (0.7–2.3)	0.9 (0.8–1.0)
Acute otitis media/myringitis	0.9 (0.8–1.0)	0.9 (0.7–1.0)	1.0 (0.9–1.1)	0.9 (0.6–1.1)	1.0 (0.7–1.2)	0.8 (0.5–1.1)	1.1 (0.4–1.7)	1.3 (0.9–1.7)	0.9 (0.8–1.0)
Sinusitis acute/chronic	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.9 (0.8–1.1)	0.8 (0.7–1.0)	0.9 (0.7–1.1)	0.8 (0.5–1.1)	0.9 (0.5–1.2)	1.0 (0.3–1.6)	0.9 (0.8–0.9)
Tonsillitis*	0.8 (0.7–0.9)	0.9 (0.7–1.0)	0.8 (0.6–1.0)	0.6 (0.4–0.9)	0.8 (0.6–1.1)	0.7 (0.4–1.0)	0.9 (0.4–1.4)	1.0 (0.5–1.5)	0.8 (0.7–0.9)
Dermatitis, contact/allergic	0.8 (0.8–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.8 (0.6–0.9)	0.8 (0.6–0.9)	0.8 (0.5–1.1)	0.6 (0.2–1.1)	0.5 (0.0–1.1)	0.8 (0.7–0.8)
Solar keratosis/sunburn+	0.4 (0.2–0.6)	0.4 (0.2–0.5)	0.8+ (0.5–1.1)	0.5 (0.3–0.7)	0.4 (0.1–0.7)	0.4 (0.0–0.7)	0.2 (0.0–0.9)	0.4 (0.0–0.8)	0.5 (0.4–0.6)
Gastroenteritis, presumed infection+	0.7 (0.6–0.8)	0.8 (0.6–0.9)	0.6 (0.4–0.8)	0.6 (0.4–0.9)	0.9+ (0.6–1.2)	0.5 (0.2–0.9)	0.7+ (0.2–1.2)	1.1+ (0.2–1.9)	0.7 (0.6–0.8)
General check-up*+	0.6 (0.4–0.8)	0.6 (0.4–0.8)	0.8 (0.5–1.0)	0.9+ (0.5–1.2)	0.9+ (0.5–1.2)	0.7 (0.4–0.9)	0.5 (0.0–1.1)	2.0+ (0.7–3.4)	0.7 (0.6–0.8)

(continued)

Table A4.11a (continued): Most frequently managed new problems by state/territory, crude rates (1998–2003)

New problem managed	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Back complaint*+	0.6 (0.5–0.7)	0.6 (0.4–0.7)	0.6 (0.4–0.8)	0.7 (0.4–1.0)	0.5 (0.4–0.7)	0.8+ (0.5–1.1)	0.5 (0.0–0.9)	0.5 (0.0–1.3)	0.6 (0.5–0.6)
Otitis externa+	0.4 (0.3–0.5)	0.3 (0.2–0.4)	0.6 (0.4–0.7)	0.4 (0.2–0.6)	0.4 (0.2–0.6)	0.2 (0.0–0.5)	0.2 (0.0–0.7)	1.2+ (0.7–1.7)	0.4 (0.4–0.5)
Subtotal (n)	*32,934*	*19,989*	*16,498*	*6,575*	*6,669*	*1,968*	*1,250*	*1,009*	*86,892*
Total new problems (*n*)	**97,502**	**58,905**	**49,034**	**20,683**	**18,976**	**6,160**	**3,528**	**3,049**	**257,027**

(a) Figures do not total 100 as more than one problem can be managed at each encounter.
* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).
\+ Indicates a problem managed in the ten most frequently managed new problems for a state, not included in the ten most frequently managed new problems for Australia.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). NOS—not otherwise specified.

Table A4.11b: Most frequently managed new problems by state/territory, patient age-standardised rates (1998–2003)

New problem managed	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Upper respiratory tract infection	4.7 (4.5–5.0)	4.7 (4.4–5.0)	4.1 (3.8–4.4)	3.7 (3.3–4.2)	4.7 (4.1–5.2)	3.2 (2.7–3.7)	4.3 (3.1–5.4)	3.8 (2.9–4.7)	4.5 (4.3–4.6)
Immunisation/vaccination—all*	2.4 (2.1–2.7)	2.4 (2.0–2.8)	2.5 (2.1–2.9)	2.3 (1.5–3.2)	1.9 (1.3–2.6)	2.0 (1.0–3.0)	1.9 (0.2–3.7)	1.1 (0.0–2.2)	2.3 (2.1–2.5)
Acute bronchitis/bronchiolitis	1.7 (1.5–1.8)	2.0 (1.8–2.2)	1.8 (1.6–1.9)	1.5 (1.2–1.8)	1.8 (1.5–2.1)	1.6 (1.2–2.1)	1.1 (0.2–2.0)	2.0 (1.0–3.0)	1.7 (1.7–1.8)
Acute otitis media/myringitis	1.0 (0.9–1.1)	1.0 (0.9–1.2)	1.1 (0.9–1.2)	1.0 (0.7–1.2)	1.1 (0.8–1.4)	1.0 (0.6–1.4)	1.0 (0.4–1.7)	1.2 (0.8–1.6)	1.0 (0.9–1.1)
Viral disease, other/NOS	1.0 (0.8–1.2)	1.1 (0.8–1.3)	0.8 (0.7–1.0)	0.9 (0.5–1.2)	1.1 (0.8–1.5)	0.8 (0.2–1.4)	1.2 (0.2–2.2)	1.3 (0.6–2.1)	1.0 (0.9–1.1)
Sprain/strain*	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.8–1.2)	0.8 (0.6–1.1)	1.1 (0.8–1.3)	0.9 (0.5–1.3)	0.9 (0.3–1.5)	0.7 (0.3–1.1)	1.0 (0.9–1.0)
Urinary tract infection*	0.9 (0.9–1.0)	1.0 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.7–1.0)	0.9 (0.8–1.1)	1.0 (0.8–1.2)	0.9 (0.5–1.3)	0.9 (0.3–1.5)	0.9 (0.9–1.0)

(continued)

Table A4.11b (continued): Most frequently managed new problems by state/territory, patient age-standardised rates (1998–2003)

New problem managed	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Tonsillitis*	0.9 (0.7–1.0)	1.0 (0.8–1.2)	0.8 (0.7–1.0)	0.7 (0.4–0.9)	0.9 (0.7–1.2)	0.8 (0.5–1.1)	0.8 (0.3–1.3)	0.9 (0.5–1.4)	0.9 (0.8–0.9)
Sinusitis acute/chronic	0.9 (0.8–1.0)	0.8 (0.7–1.0)	0.9 (0.8–1.1)	0.8 (0.6–1.0)	0.9 (0.7–1.1)	0.8 (0.5–1.1)	0.9 (0.5–1.2)	0.9 (0.3–1.5)	0.9 (0.8–0.9)
Dermatitis, contact/allergic	0.9 (0.8–0.9)	0.9 (0.7–1.0)	0.7 (0.6–0.8)	0.8 (0.6–0.9)	0.8 (0.6–1.0)	0.8 (0.5–1.1)	0.6 (0.1–1.0)	0.5 (0.0–1.0)	0.8 (0.8–0.9)
Gastroenteritis, presumed infection+	0.7 (0.6–0.8)	0.8+ (0.7–1.0)	0.6 (0.4–0.8)	0.6 (0.4–0.9)	0.9+ (0.6–1.2)	0.6 (0.2–0.9)	0.6+ (0.2–1.1)	1.0 (0.2–1.8)	0.7 (0.7–0.8)
Solar keratosis/sunburn+	0.4 (0.2–0.6)	0.3 (0.2–0.5)	0.8+ (0.5–1.1)	0.5 (0.3–0.7)	0.4 (0.1–0.6)	0.3 (0.0–0.7)	0.3 (0.0–1.0)	0.4 (0.0–0.9)	0.5 (0.4–0.6)
General check-up*+	0.6 (0.4–0.8)	0.6 (0.4–0.8)	0.7 (0.5–0.9)	0.8+ (0.5–1.2)	0.8 (0.5–1.2)	0.6 (0.3–0.9)	0.5 (0.0–1.2)	1.7 (0.6–2.9)	0.7 (0.6–0.8)
Otitis externa+	0.5 (0.3–0.6)	0.3 (0.2–0.4)	0.6 (0.4–0.7)	0.5 (0.2–0.7)	0.2 (0.0–0.5)	0.2 (0.0–0.5)	0.2 (0.0–0.7)	1.1+ (0.6–1.6)	0.4 (0.4–0.5)
Gastrointestinal infection+	0.4 (0.3–0.6)	0.3 (0.1–0.5)	0.5 (0.3–0.6)	0.4 (0.0–0.8)	0.2 (0.0–0.8)	0.2 (0.0–0.8)	0.4 (0.0–1.0)	1.0+ (0.1–1.8)	0.4 (0.3–0.5)
Boil/carbuncle+	0.3 (0.2–0.4)	0.2 (0.1–0.4)	0.3 (0.2–0.5)	0.3 (0.1–0.5)	0.2 (0.0–0.5)	0.3 (0.0–0.6)	0.3 (0.0–0.6)	0.9+ (0.2–1.7)	0.3 (0.2–0.4)
Subtotal (n)	*33,951*	*19,800*	*16,755*	*6,745*	*6,866*	*2,002*	*1,231*	*997*	*89,262*
Total new problems (*n*)	**98,051**	**58,603**	**48,882**	**20,729**	**19,116**	**6,215**	**3,436**	**2,927**	**257,958**

(a) Figures do not total 100 as more than one problem can be managed at each encounter.
* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).
\+ Indicates a problem managed in the ten most frequently managed new problems for a state, not included in the ten most frequently managed new problems for Australia.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). NOS—not otherwise specified.

Table A4.12a: Summary of management by state/territory, per 100 problems managed, crude rates (1998–2003)

	Rate per 100 problems,[a] 95% confidence interval, column specific								
Management type	**NSW (*n*=281,554)**	**Vic (*n*=170,735)**	**Qld (*n*=136,129)**	**WA (*n*=611,85)**	**SA (*n*=555,69)**	**Tas (*n*=195,45)**	**ACT (*n*=111,59)**	**NT (*n*=7,749)**	**Australia (*n*=743,625)**
Medications	75.1 (74.1–76.1)	71.3 (70.1–72.5)	70.0 (68.8–71.3)	68.5 (66.6–70.5)	68.7 (66.6–70.8)	69.8 (66.1–73.6)	64.5 (61.4–67.5)	70.2 (63.5–76.8)	71.9 (71.3–72.5)
Prescribed	63.6 (62.5–64.6)	60.4 (59.1–61.7)	58.0 (56.7–59.3)	56.0 (54.0–58.0)	56.5 (54.2–58.7)	58.9 (54.9–63.0)	55.5 (52.1–58.8)	59.4 (52.9–65.9)	60.4 (59.8–61.0)
Advised OTC	6.7 (6.4–7.0)	5.6 (5.2–5.9)	6.0 (5.6–6.4)	5.1 (4.6–5.6)	5.8 (5.2–6.4)	5.2 (4.4–6.0)	6.4 (5.0–7.7)	7.5 (5.8–9.1)	6.1 (5.9–6.2)
GP- supplied	4.8 (4.4–5.2)	5.4 (4.7–6.0)	6.0 (5.3–6.7)	7.4 (5.8–9.0)	6.4 (5.2–7.6)	5.7 (4.1–7.3)	2.6 (1.9–3.3)	3.3 (1.9–4.7)	5.5 (5.2–5.8)
Other treatments	33.7 (32.8–34.7)	34.4 (33.2–35.5)	36.5 (35.2–37.8)	33.3 (31.6–35.1)	33.2 (31.3–35.1)	36.0 (32.8–39.1)	31.4 (26.9–36.0)	36.8 (30.8–42.7)	34.4 (33.8–34.9)
Clinical	25.0 (24.2–25.9)	25.7 (24.7–26.8)	24.7 (23.6–25.9)	23.9 (22.3–25.5)	24.6 (22.9–26.4)	25.7 (23.0–28.4)	24.3 (20.2–28.3)	27.9 (22.6–33.2)	25.1 (24.6–25.5)
Procedural	8.7 (8.4–9.0)	8.6 (8.3–9.0)	11.8 (11.2–12.4)	9.4 (8.8–10.1)	8.6 (7.9–9.2)	10.3 (9.0–11.5)	7.2 (5.8–8.5)	8.9 (7.1–10.6)	9.3 (9.1–9.5)
Referrals	5.1 (4.8–5.3)	4.8 (4.5–5.1)	4.3 (4.0–4.7)	5.1 (4.6–5.7)	4.4 (3.9–4.9)	5.2 (4.3–6.1)	5.4 (4.1–6.7)	5.4 (4.0–6.8)	4.8 (4.7–5.0)
Specialist	3.4 (3.3–3.6)	3.0 (2.8–3.2)	2.8 (2.5–3.0)	3.3 (3.0–3.7)	2.8 (2.4–3.1)	3.2 (2.6–3.8)	3.3 (2.5–4.1)	3.4 (2.5–4.3)	3.2 (3.1–3.3)
Allied health	1.0 (1.0–1.1)	1.1 (1.0–1.2)	0.9 (0.8–1.0)	1.1 (0.9–1.3)	1.1 (0.9–1.3)	1.4 (1.0–1.8)	1.6 (1.1–2.1)	1.3 (0.7–1.8)	1.0 (1.0–1.1)
Hospital	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.1–0.3)	0.1 (0.0–0.2)	0.2 (0.0–0.4)	0.2 (0.2–0.2)
Emergency department	—	0.1 (0.0–0.1)	—	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)
Other referral	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.2 (0.0–0.3)	0.1 (0.1–0.1)

(continued)

Table A4.12a (continued): Summary of management by state/territory, per 100 problems managed, crude rates (1998–2003)

Management type	NSW (*n*=281,554)	Vic (*n*=170,735)	Qld (*n*=136,129)	WA (*n*=61,185)	SA (*n*=55,569)	Tas (*n*=19,545)	ACT (*n*=11,159)	NT (*n*=7,749)	Australia (*n*=743,625)
	Rate per 100 problems,[(a)] 95% confidence interval, column specific								
Number of problems 2000–2003[+]	**(*n*=168,375)**	**(*n*=103,778)**	**(*n*=78,130)**	**(*n*=36,625)**	**(*n*=30,824)**	**(*n*=12,565)**	**(*n*=6,941)**	**(*n*=4,628)**	**(*n*=441,866)**
Pathology[+]	21.5 (20.8–22.2)	22.7 (21.7–23.7)	24.6 (23.4–25.9)	26.3 (24.6–28.1)	21.3 (19.6–23.0)	20.8 (18.6–23.0)	24.1 (20.7–27.4)	27.2 (21.9–32.4)	22.8 (22.3–23.3)
Number of problems 1999–2003[++]	**(*n*=227,621)**	**(*n*=135,589)**	**(*n*=109,438)**	**(*n*=50,151)**	**(*n*=44,734)**	**(*n*=16,406)**	**(*n*=8,662)**	**(*n*=5,841)**	**(*n*=598,442)**
Imaging[++]	5.7 (5.5–5.9)	5.1 (4.9–5.3)	6.0 (5.6–6.3)	6.0 (5.6–6.4)	4.4 (4.0–4.8)	5.0 (4.5–5.6)	6.5 (5.5–7.6)	5.2 (4.2–6.3)	5.5 (5.4–5.7)

(a) Figures will not total 100 as multiple events may occur for the management of each problem at encounter.
— <0.05 per 100 problems.
\+ Limited to April 2000 to March 2003 inclusive due to older pathology codes in Years 1 and 2.
++ Limited to April 1999 to March 2003 inclusive due to older imaging codes in Year 1.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). OTC—over-the-counter; GP—General practitioner.

Table A4.12b: Summary of management by state/territory, per 100 problems managed, patient age-standardised rates (1998–2003)

Management type	NSW (*n*=276,796)	Vic (*n*=167,658)	Qld (*n*=134,865)	WA (*n*=60,437)	SA (*n*=54,642)	Tas (*n*=19,171)	ACT (*n*=11,194)	NT (*n*=7,986)	Australia (*n*=732,749)
	Rate per 100 problems,[(a)] 95% confidence interval, column specific								
Medications	75.2 (74.2–76.1)	71.4 (70.2–72.5)	70.2 (68.9–71.4)	68.8 (66.9–70.8)	69.0 (66.9–71.1)	70.0 (66.2–73.7)	65.0 (61.8–68.2)	72.5 (65.3–79.6)	72.1 (71.5–72.7)
Prescribed	63.3 (62.2–64.3)	60.1 (58.8–61.4)	58.2 (56.9–59.5)	56.0 (54.1–58.0)	56.4 (54.1–58.6)	58.7 (54.7–62.6)	56.3 (52.7–59.8)	62.4 (55.3–69.6)	60.3 (59.6–60.9)
Advised OTC	7.0 (6.7–7.3)	5.9 (5.5–6.2)	6.1 (5.7–6.5)	5.3 (4.8–5.8)	6.1 (5.5–6.8)	5.5 (4.6–6.4)	6.2 (4.9–7.5)	6.8 (5.2–8.4)	6.3 (6.1–6.5)
GP-supplied	4.9 (4.5–5.3)	5.4 (4.8–6.0)	6.0 (5.2–6.7)	7.5 (5.9–9.1)	6.5 (5.3–7.7)	5.8 (4.3–7.3)	2.6 (1.9–3.3)	3.3 (1.8–4.7)	5.5 (5.2–5.8)
Other treatments	34.0 (33.1–34.9)	34.7 (33.5–35.8)	36.6 (35.2–37.9)	33.3 (31.5–35.0)	33.4 (31.5–35.3)	36.3 (33.1–39.5)	30.7 (26.2–35.2)	34.6 (28.5–40.7)	34.5 (34.0–35.1)
Clinical	25.3 (24.5–26.1)	26.1 (25.0–27.1)	24.8 (23.6–25.9)	23.9 (22.3–25.4)	24.9 (23.1–26.6)	26.1 (23.3–28.8)	23.6 (19.7–27.5)	26.4 (20.9–31.9)	25.2 (24.7–25.7)
Procedural	8.7 (8.4–9.0)	8.6 (8.2–9.0)	11.8 (11.2–12.4)	9.4 (8.7–10.0)	8.5 (7.9–9.2)	10.3 (9.0–11.5)	7.1 (5.7–8.5)	8.3 (6.6–9.9)	9.3 (9.1–9.5)

(continued)

Table A4.12b (continued): Summary of management by state/territory, per 100 problems managed, patient age-standardised rates (1998–2003)

	Rate per 100 problems,[(a)] 95% confidence interval, column specific								
Management type	**NSW (*n*=276,796)**	**Vic (*n*=167,658)**	**Qld (*n*=134,865)**	**WA (*n*=60,437)**	**SA (*n*=54,642)**	**Tas (*n*=19,171)**	**ACT (*n*=11,194)**	**NT (*n*=7,986)**	**Australia (*n*=732,749)**
Referrals	4.8 (4.6–5.0)	4.5 (4.2–4.7)	4.0 (3.7–4.3)	4.8 (4.3–5.3)	4.2 (3.7–4.7)	5.0 (4.1–5.9)	5.1 (3.9–6.3)	5.0 (3.6–6.4)	4.5 (4.4–4.7)
Specialist	3.4 (3.3–3.6)	3.0 (2.8–3.2)	2.8 (2.5–3.0)	3.3 (2.9–3.6)	2.8 (2.4–3.1)	3.2 (2.6–3.8)	3.3 (2.5–4.1)	3.2 (2.4–4.1)	3.1 (3.0–3.2)
Allied health	1.0 (1.0–1.1)	1.1 (1.0–1.2)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	1.1 (0.9–1.3)	1.4 (1.0–1.8)	4.6 (1.1–2.0)	1.3 (0.7–1.9)	1.0 (1.0–1.1)
Hospital	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.1–0.3)	0.1 (0.0–0.2)	0.2 (0.0–0.4)	0.2 (0.2–0.2)
Emergency department	0.1 (0.0–0.1)	0.1 (0.0–0.1)	—	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.1 (0.0–0.1)
Other referral	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.9 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.2 (0.0–0.3)	0.1 (0.1–0.1)
Number of problems 2000–2003[+]	**(*n*=108,944)**	**(*n*=67,238)**	**(*n*=56,226)**	**(*n*=23,179)**	**(*n*=19,104)**	**(*n*=7,633)**	**(*n*=3,941)**	**(*n*=3,626)**	**(*n*=289,890)**
Pathology[+]	22.1 (21.2–23.0)	23.1 (21.9–24.3)	25.3 (23.7–26.8)	26.0 (23.9–28.0)	22.2 (19.9–24.4)	21.9 (19.1–24.7)	28.4 (24.0–32.9)	26.6 (19.9–33.3)	23.4 (22.8–24.0)
Number of problems 1999–2003[++]	**(*n*=223,729)**	**(*n*=133,201)**	**(*n*=108,392)**	**(*n*=49,543)**	**(*n*=43,911)**	**(*n*=16,072)**	**(*n*=8,689)**	**(*n*=6,100)**	**(*n*=589,636)**
Imaging[++]	5.7 (5.6–5.9)	5.1 (4.9–5.3)	6.0 (5.6–6.3)	5.9 (5.5–6.3)	4.4 (4.0–4.8)	5.1 (4.5–5.6)	6.4 (5.4–7.5)	5.0 (4.0–6.1)	5.5 (5.4–5.7)

(a) Figures will not total 100 as multiple events may occur for the management of each problem at encounter.
— <0.05 per 100 problems.
+ Limited to April 2000 to March 2003 inclusive due to older pathology codes in Years 1 and 2.
++ Limited to April 1999 to March 2003 inclusive due to older imaging codes in Year 1.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). OTC—over-the-counter; GP—General practitioner.

Table A4.13a: Encounters by state/territory at which management was recorded, crude rates (1998–2003)

Management type	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
	Per cent of total encounters,[a] 95% confidence interval, column specific								
At least one management type	**92.3 (91.9–92.6)**	**91.7 (91.3–92.1)**	**91.2 (90.7–91.7)**	**91.1 (90.2–91.8)**	**91.1 (90.3–92.0)**	**91.7 (90.5–92.8)**	**88.8 (86.5–91.0)**	**91.8 (89.8–93.7)**	**91.7 (91.5–91.9)**
At least one medication or other treatment	**83.7 (83.2–84.1)**	**83.4 (82.8–83.9)**	**82.6 (81.9–83.2)**	**81.6 (80.5–82.6)**	**82.0 (81.0–83.1)**	**82.8 (81.2–84.4)**	**78.8 (76.2–81.3)**	**83.0 (80.5–85.5)**	**83.0 (82.7–83.3)**
At least one medication	**68.4 (67.8–69.0)**	**66.4 (65.7–67.1)**	**64.5 (63.7–65.3)**	**64.9 (63.8–66.1)**	**64.6 (63.4–65.9)**	**65.1 (63.0–67.2)**	**62.5 (59.8–65.1)**	**66.1 (62.5–69.7)**	**66.5 (66.1–66.8)**
At least one prescription	59.5 (58.8–60.2)	57.5 (56.6–58.4)	55.3 (54.4–56.3)	54.8 (53.2–56.3)	54.3 (52.6–56.0)	56.4 (53.7–59.0)	55.4 (52.5–58.2)	57.6 (53.4–61.8)	57.3 (56.9–57.7)
At least one OTC advised	8.7 (8.4–9.1)	7.5 (7.1–7.9)	7.8 (7.3–8.3)	6.8 (6.2–7.4)	7.6 (6.9–8.4)	6.9 (5.8–7.9)	8.1 (6.4–9.8)	10.0 (7.8–12.2)	8.0 (7.8–8.2)
At least one GP-supplied	5.4 (5.0–5.8)	6.0 (5.4–6.6)	6.3 (5.6–6.9)	7.8 (6.4–9.1)	7.2 (6.0–8.4)	6.4 (4.9–7.9)	3.2 (2.3–4.1)	4.1 (2.4–5.7)	6.0 (5.7–6.3)
At least one other treatment	**38.1 (37.3–39.0)**	**39.5 (38.3–40.6)**	**40.8 (39.6–42.0)**	**38.3 (36.5–40.0)**	**37.9 (36.0–39.9)**	**40.7 (37.4–44.0)**	**34.8 (30.2–39.5)**	**40.4 (34.7–46.1)**	**39.0 (38.4–39.5)**
At least one clinical treatment	29.0 (28.1–29.8)	30.2 (29.1–31.3)	28.7 (27.5–29.8)	28.1 (26.4–29.9)	28.7 (26.9–30.6)	30.2 (27.1–33.2)	27.7 (23.4–32.0)	31.4 (25.9–36.9)	29.2 (28.6–29.7)
At least one therapeutic procedure	11.8 (11.4–12.2)	11.8 (11.4–12.3)	15.5 (14.8–16.2)	12.7 (11.9–13.5)	11.6 (10.7–12.4)	13.8 (12.2–15.4)	9.5 (7.7–11.2)	11.8 (9.9–13.7)	12.6 (12.3–12.8)
At least one referral	**11.7 (11.4–12.0)**	**11.2 (10.8–11.5)**	**10.3 (9.8–10.7)**	**11.6 (11.0–12.1)**	**11.2 (10.5–11.8)**	**11.2 (10.2–12.2)**	**11.4 (9.8–12.9)**	**12.0 (10.6–13.4)**	**11.2 (11.1–11.4)**
At least one referral to a specialist	4.9 (4.7–5.1)	4.4 (4.1–4.7)	3.9 (3.6–4.2)	4.8 (4.3–5.3)	3.9 (3.4–4.4)	4.5 (3.7–5.4)	4.5 (3.4–5.6)	5.0 (3.6–6.4)	4.5 (4.4–4.6)
At least one referral to allied health	1.5 (1.4–1.6)	1.6 (1.4–1.7)	12 (1.1–1.4)	1.6 (1.4–1.8)	1.5 (1.3–1.8)	2.0 (1.4–2.6)	2.2 (1.5–2.9)	1.9 (1.1–2.6)	1.5 (1.4–1.6)
At least one referral to hospital	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.2–0.5)	0.4 (0.3–0.5)	0.3 (0.2–0.4)	0.1 (0.0–0.2)	0.3 (0.1–0.6)	0.3 (0.3–0.3)
At least one referral to emergency department	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.1 (0.1–0.1)

(continued)

Table A4.13a (continued): Encounters by state/territory at which management was recorded, crude rates (1998–2003)

Management type	Per cent of total encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
At least one referral NOS	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.2 (0.0–0.4)	0.2 (0.1–0.2)
At least one investigation	**20.3 (19.9–20.7)**	**19.7 (19.2–20.3)**	**21.4 (20.7–22.1)**	**21.8 (20.9–22.6)**	**19.2 (18.2–20.1)**	**20.4 (18.9–21.9)**	**20.8 (18.9–22.7)**	**23.6 (20.8–26.3)**	**20.4 (20.2–20.7)**
At least one pathology order	14.4 (14.1–14.8)	14.5 (14.0–15.0)	15.8 (15.2–16.4)	16.0 (15.2–16.7)	14.5 (13.7–15.3)	15.1 (13.8–16.5)	14.6 (13.0–16.2)	18.3 (15.7–20.9)	14.9 (14.7–15.1)
At least one imaging order	7.4 (7.2–7.6)	6.8 (6.5–7.0)	7.5 (7.1–7.9)	7.7 (7.3–8.2)	5.8 (5.3–6.3)	6.5 (5.9–7.1)	8.1 (6.9–9.3)	7.4 (6.2–8.7)	7.2 (7.0–7.3)

(a) Figures will not total 100 as multiple events may occur at each encounter or for the management of each problem at encounter.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). OTC—over-the-counter; GP—General practitioner; NOS—not otherwise specified.

Table A4.13b: Encounters by state/territory at which management was recorded, patient age-standardised rates (1998–2003)

Management type	Per cent of total encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
At least one management type	**92.4 (92.0–92.7)**	**91.7 (91.3–92.2)**	**91.3 (90.8–91.8)**	**91.1 (90.2–91.9)**	**91.2 (90.3–92.0)**	**91.7 (90.6–92.8)**	**89.0 (86.8–91.2)**	**92.1 (90.0–94.2)**	**91.8 (91.5–92.0)**
At least one medication or other treatment	**83.8 (83.3–84.2)**	**83.5 (82.9–84.1)**	**82.7 (82.1–83.4)**	**81.7 (80.6–82.7)**	**82.1 (81.1–83.2)**	**82.8 (81.2–84.4)**	**79.0 (76.5–81.5)**	**83.8 (81.0–86.5)**	**83.1 (82.8–83.4)**
At least one medication	**68.4 (67.8–69.0)**	**66.4 (65.7–67.1)**	**64.7 (63.9–65.4)**	**65.1 (63.9–66.2)**	**64.7 (63.5–65.9)**	**65.0 (62.9–67.1)**	**62.9 (60.2–65.6)**	**68.0 (64.1–71.9)**	**66.5 (66.2–66.9)**
At least one prescription	59.2 (58.5–59.9)	57.2 (56.3–58.1)	55.5 (54.5–56.4)	54.7 (53.1–56.3)	51.2 (52.5–55.8)	56.0 (53.4–58.6)	55.9 (53.0–58.8)	60.0 (55.6–64.3)	57.2 (56.7–57.6)
At least one OTC advised	9.1 (8.7–9.5)	7.9 (7.4–8.3)	7.9 (7.4–8.4)	7.1 (6.4–7.7)	7.9 (7.2–8.7)	7.1 (6.0–8.3)	7.9 (6.3–9.5)	9.5 (7.4–11.7)	8.3 (8.0–8.5)
At least one GP-supplied	5.4 (5.0–5.8)	6.0 (5.4–6.6)	6.3 (5.6–6.9)	7.8 (6.5–9.2)	7.2 (6.0–8.4)	6.4 (4.9–7.8)	3.2 (2.3–4.1)	4.2 (2.4–5.9)	6.0 (5.7–6.3)
At least one other treatment	**38.2 (37.3–39.1)**	**39.5 (38.4–40.7)**	**40.8 (39.6–42.0)**	**38.1 (36.3–39.9)**	**37.9 (36.0–39.9)**	**40.7 (37.4–44.0)**	**34.4 (29.8–39.0)**	**39.4 (33.7–45.2)**	**39.0 (38.4–39.5)**

(continued)

Table A4.13b (continued): Encounters by state/territory at which management was recorded, patient age-standardised rates (1998–2003)

Management type	Per cent of total encounters[(a)] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
At least one clinical treatment	29.1 (28.2–30.0)	30.4 (29.3–31.5)	28.7 (27.5–29.8)	28.1 (26.3–29.8)	28.9 (27.0–30.8)	30.3 (27.2–33.4)	27.3 (23.0–31.5)	30.7 (25.2–36.3)	29.2 (28.7–29.8)
At least one therapeutic procedure	11.7 (11.3–12.1)	11.7 (11.2–12.2)	15.5 (14.8–16.1)	12.6 (11.8–13.4)	11.4 (10.6–12.2)	13.6 (12.0–15.2)	9.5 (7.7–11.3)	11.6 (9.6–13.5)	12.5 (12.2–12.7)
At least one referral	**11.6 (11.3–11.9)**	**11.0 (10.7–11.3)**	**10.2 (9.8–10.7)**	**11.4 (10.9–12.0)**	**11.0 (10.4–11.6)**	**11.1 (10.1–12.2)**	**11.4 (9.9–13.0)**	**12.0 (10.3–13.6)**	**11.1 (11.0–11.3)**
At least one referral to a specialist	4.9 (4.6–5.1)	4.3 (4.1–4.6)	3.9 (3.6–4.2)	4.7 (4.2–5.2)	3.9 (3.4–4.4)	4.5 (3.7–5.3)	4.6 (3.4–5.7)	4.9 (3.5–6.3)	4.5 (4.3–4.6)
At least one referral to allied health	1.5 (1.4–1.6)	1.5 (1.4–1.7)	1.2 (1.1–1.4)	1.6 (1.3–1.8)	1.5 (1.2–1.7)	2.0 (1.4–2.6)	2.2 (1.5–2.9)	2.0 (1.0–3.0)	1.5 (1.4–1.5)
At least one referral to hospital	0.3 (0.2–0.3)	0.3 (0.3–0.3)	0.4 (0.3–0.4)	0.4 (0.2–0.5)	0.4 (0.3–0.5)	0.3 (0.1–0.4)	0.1 (0.0–0.3)	0.3 (0.1–0.6)	0.3 (0.3–0.3)
At least one referral to emergency department	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.2 (0.1–0.2)	0.1 (0.0–0.2)	0.1 (0.0–0.3)	0.1 (0.1–0.1)
At least one referral NOS	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.3 (0.0–0.5)	0.2 (0.1–0.2)
At least one investigation	**20.1 (19.7–20.5)**	**19.4 (18.9–19.9)**	**21.4 (20.7–22.0)**	**21.4 (20.5–22.2)**	**18.9 (17.9–19.8)**	**20.0 (18.5–21.5)**	**20.7 (18.8–22.6)**	**23.5 (20.7–26.2)**	**20.2 (20.0–20.5)**
At least one pathology order	14.3 (13.9–14.6)	14.3 (13.8–14.7)	15.8 (15.2–16.3)	15.7 (14.9–16.4)	14.2 (13.4–15.0)	14.8 (13.4–16.1)	14.5 (13.0–16.1)	18.3 (15.7–20.9)	14.7 (14.5–14.9)
At least one imaging order	7.4 (7.2–7.6)	6.7 (6.4–6.9)	7.5 (7.1–7.8)	7.6 (7.1–8.0)	5.8 (5.3–6.3)	6.5 (5.8–7.1)	8.1 (6.9–9.3)	7.4 (6.2–8.6)	7.1 (7.0–7.2)

(a) Figures will not total 100 as multiple events may occur at each encounter or for the management of each problem at encounter.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). OTC—over-the-counter; GP—General practitioner; NOS—not otherwise specified.

Table A4.14a: Distribution of medications prescribed by group and subgroup, by state/territory, crude rates (1998–2003)

Group/subgroup	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Antibiotics	**15.2 (14.9–15.6)**	**15.0 (14.5–15.5)**	**15.1 (14.6–15.6)**	**13.1 (12.4–13.8)**	**13.7 (12.9–14.5)**	**12.9 (11.8–13.9)**	**16.3 (14.4–18.2)**	**19.3 (16.3–22.3)**	**14.9 (14.6–15.1)**
Broad-spectrum penicillin	5.3 (5.1–5.5)	5.3 (5.0–5.5)	5.2 (4.9–5.5)	4.6 (4.2–5.1)	4.8 (4.3–5.3)	3.5 (3.0–4.1)	5.1 (4.0–6.1)	6.1 (4.7–7.4)	5.1 (5.0–5.3)
Other antibiotics	3.2 (3.1–3.4)	3.2 (3.0–3.4)	3.2 (3.1–3.4)	2.5 (2.3–2.7)	3.1 (2.9–3.4)	3.5 (3.0–4.1)	3.9 (3.1–4.7)	2.8 (2.0–3.5)	3.2 (3.1–3.3)
Penicillin	2.2 (2.1–2.3)	2.4 (2.2–2.6)	2.2 (2.0–2.4)	2.3 (2.1–2.6)	1.9 (1.7–2.1)	1.9 (1.6–2.2)	2.2 (1.7–2.7)	4.7 (3.6–5.9)	2.2 (2.2–2.3)
Cephalosporins	2.0 (1.9–2.1)	1.8 (1.6–1.9)	1.9 (1.7–2.0)	1.4 (1.2–1.6)	1.7 (1.4–1.9)	1.7 (1.3–2.2)	2.1 (1.4–2.8)	1.5 (0.9–2.1)	1.8 (1.8–1.9)
Tetracyclines	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.0 (0.8–1.1)	1.1 (1.0–1.3)	1.0 (0.8–1.2)	1.1 (0.7–1.4)	1.7 (1.0–2.3)	1.1 (1.1–1.2)
Anti-infectives	0.8 (0.7–1.0)	0.6 (0.6–0.7)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.6 (0.4–0.7)	1.1 (0.7–1.6)	1.4 (0.9–1.8)	0.7 (0.7–0.8)
Cardiovascular	**15.5 (14.9–16.1)**	**14.3 (13.6–15.0)**	**11.1 (10.5–11.7)**	**12.4 (11.4–13.3)**	**11.7 (10.7–12.7)**	**12.8 (11.0–14.6)**	**10.3 (8.5–12.0)**	**10.7 (7.8–13.7)**	**13.7 (13.3–14.0)**
Anti-hypertensives	8.4 (8.1–8.7)	7.9 (7.5–8.4)	5.8 (5.4–6.1)	6.3 (5.7–6.8)	6.1 (5.5–6.6)	7.2 (6.2–8.3)	5.7 (4.6–6.9)	5.8 (4.2–7.4)	7.4 (7.2–7.5)
Other CVS drugs	2.9 (2.7–3.0)	2.4 (2.3–2.6)	1.9 (1.7–2.0)	2.6 (2.4–2.8)	2.1 (1.9–2.4)	2.2 (1.9–2.6)	2.0 (1.5–2.5)	1.9 (1.2–2.5)	2.5 (2.4–2.5)
Beta-blockers	1.8 (1.7–1.9)	1.6 (1.5–1.8)	1.5 (1.4–1.7)	1.8 (1.5–2.0)	1.6 (1.4–1.8)	1.6 (1.3–1.9)	0.9 (0.6–1.1)	1.4 (0.9–1.9)	1.7 (1.6–1.7)
Anti-angina	1.3 (1.3–1.4)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.0 (0.8–1.1)	0.9 (0.7–1.1)	0.8 (0.5–1.0)	1.0 (0.5–1.4)	1.2 (1.1–1.2)
CNS	**11.4 (11.0–11.8)**	**10.3 (9.9–10.8)**	**10.1 (9.6–10.5)**	**10.1 (9.3–10.8)**	**10.8 (9.9–11.6)**	**12.3 (10.8–13.8)**	**8.0 (6.9–9.0)**	**10.1 (8.1–12.1)**	**10.7 (10.5–10.9)**
Simple analgesics	4.8 (4.6–5.1)	3.9 (3.7–4.2)	3.7 (3.4–3.9)	3.9 (3.5–4.2)	3.6 (3.2–4.1)	4.9 (4.0–5.8)	2.6 (1.9–3.2)	2.1 (1.6–2.7)	4.2 (4.1–4.3)

(continued)

Table A4.14a (continued): Distribution of medications prescribed by group and subgroup, by state/territory, crude rates (1998–2003)

Group/subgroup	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Compound analgesics	2.7 (2.6–2.8)	2.7 (2.5–2.8)	2.5 (2.3–2.7)	2.8 (2.5–3.1)	3.2 (2.9–3.5)	2.8 (2.4–3.2)	2.3 (1.8–2.7)	3.6 (2.7–4.5)	2.7 (2.6–2.8)
Narcotic analgesics	1.6 (1.4–1.8)	1.6 (1.4–1.9)	1.6 (1.4–1.8)	1.5 (1.2–1.8)	1.9 (1.5–2.3)	2.6 (2.0–3.3)	1.3 (0.9–1.7)	2.1 (1.2–3.0)	1.7 (1.5–1.8)
Anti-emetic/anti-nauseants	1.5 (1.4–1.5)	1.3 (1.2–1.4)	1.5 (1.4–1.7)	1.3 (1.1–1.4)	1.4 (1.2–1.5)	1.2 (0.9–1.4)	1.1 (0.8–1.5)	1.4 (1.0–1.9)	1.4 (1.4–1.5)
Psychological	**7.2 (6.9–7.4)**	**8.3 (7.9–8.7)**	**7.6 (7.3–7.9)**	**7.4 (6.8–7.9)**	**8.3 (7.5–9.0)**	**9.2 (8.1–10.2)**	**6.4 (5.5–7.2)**	**6.4 (5.1–7.6)**	**7.6 (7.5–7.8)**
Anti-depressants	2.9 (2.7–3.0)	3.2 (3.0–3.3)	3.3 (3.1–3.5)	3.2 (2.9–3.4)	3.0 (2.7–3.3)	3.5 (3.0–4.1)	3.1 (2.6–3.6)	2.7 (2.1–3.2)	3.1 (3.0–3.2)
Anti-anxiety agents	1.9 (1.8–2.0)	2.4 (2.2–2.5)	2.0 (1.8–2.1)	1.6 (1.4–1.9)	2.3 (2.0–2.6)	2.7 (2.3–3.2)	1.2 (0.8–1.6)	1.4 (0.8–1.9)	2.0 (2.0–2.1)
Sedatives/hypnotics	1.8 (1.7–1.9)	2.1 (2.0–2.2)	1.8 (1.6–1.9)	2.2 (1.9–2.4)	2.2 (1.9–2.4)	2.4 (2.0–2.7)	1.5 (1.1–1.9)	1.9 (1.4–2.4)	1.9 (1.9–2.0)
Musculoskeletal	**6.2 (6.0–6.4)**	**5.8 (5.5–6.0)**	**5.3 (5.0–5.5)**	**6.0 (5.6–6.4)**	**4.9 (4.6–5.3)**	**5.4 (4.8–6.0)**	**5.0 (4.1–5.8)**	**6.5 (5.1–7.9)**	**5.8 (5.7–5.9)**
NSAID	5.1 (4.9–5.2)	4.8 (4.6–5.0)	4.5 (4.3–4.7)	5.0 (4.7–5.4)	4.2 (3.8–4.5)	5.0 (4.1–5.1)	4.4 (3.6–5.2)	5.5 (4.3–6.7)	4.8 (4.7–4.9)
Hormones	**6.1 (5.9–6.3)**	**5.9 (5.7–6.2)**	**5.9 (5.6–6.2)**	**6.1 (5.6–6.5)**	**5.9 (5.4–6.3)**	**5.8 (5.0–6.7)**	**5.2 (4.4–5.9)**	**6.6 (5.4–7.9)**	**6.0 (5.9–6.1)**
Sex hormones/anabolic agents	2.1 (2.0–2.2)	2.0 (1.9–2.1)	2.5 (2.3–2.7)	2.5 (2.3–2.8)	2.3 (2.0–2.6)	2.4 (2.0–2.7)	2.5 (2.0–3.0)	2.5 (1.8–3.2)	2.2 (2.2–2.3)
Hypoglycaemic agents	2.1 (1.9–2.2)	2.0 (1.8–2.2)	1.5 (1.3–1.6)	1.7 (1.5–1.9)	1.9 (1.6–2.1)	1.5 (1.1–1.9)	1.1 (0.8–1.5)	2.2 (1.4–3.0)	1.9 (1.8–1.9)
Cortico-steroids	1.3 (1.2–1.3)	1.4 (1.3–1.5)	1.2 (1.1–1.3)	1.0 (0.9–1.2)	1.1 (1.0–1.3)	1.5 (1.2–1.7)	0.9 (0.5–1.3)	1.3 (0.8–1.8)	1.3 (1.2–1.3)
Respiratory	**6.7 (6.4–6.9)**	**5.9 (5.6–6.2)**	**5.9 (5.6–6.2)**	**4.4 (4.0–4.8)**	**5.7 (5.1–6.3)**	**4.2 (3.6–4.9)**	**5.1 (4.2–6.0)**	**5.8 (3.5–8.0)**	**6.0 (5.9–6.2)**

(continued)

Table A4.14a (continued): Distribution of medications prescribed by group and subgroup, by state/territory, crude rates (1998–2003)

Group/subgroup	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Bronchodilator/spasm relaxants	3.2 (3.1–3.4)	3.1 (2.9–3.2)	3.1 (2.9–3.3)	1.9 (1.7–2.1)	3.2 (2.8–3.5)	2.4 (2.0–2.8)	2.4 (1.8–2.9)	2.8 (1.6–3.9)	3.0 (2.9–3.1)
Asthma preventives	2.4 (2.3–2.5)	2.1 (1.9–2.2)	2.2 (2.0–2.3)	1.9 (1.7–2.1)	2.0 (1.8–2.2)	1.6 (1.3–1.9)	2.2 (1.8–2.6)	2.6 (1.6–3.6)	2.2 (2.1–2.3)
Allergy, immune system	**4.9 (4.7–5.2)**	**4.7 (4.3–5.0)**	**4.9 (4.5–5.3)**	**4.9 (4.2–5.6)**	**3.7 (3.2–4.2)**	**4.7 (3.6–5.7)**	**5.2 (3.8–6.5)**	**3.7 (1.9–5.5)**	**4.8 (4.6–4.9)**
Immunisation	4.1 (3.9–4.3)	4.0 (3.7–4.4)	4.3 (4.0–4.7)	4.3 (3.6–5.0)	3.2 (2.7–3.6)	4.3 (3.2–5.3)	4.5 (3.1–5.8)	2.9 (1.2–4.5)	4.1 (3.9–4.2)
Skin	**4.6 (4.5–4.8)**	**4.3 (4.2–4.5)**	**3.9 (3.7–4.1)**	**3.9 (3.6–4.1)**	**3.6 (3.4–3.9)**	**4.9 (3.1–6.7)**	**4.0 (3.4–4.5)**	**4.5 (3.6–5.3)**	**4.3 (4.2–4.4)**
Topical steroids	2.9 (2.8–3.0)	3.0 (2.8–3.1)	2.2 (2.1–2.4)	2.5 (2.3–2.7)	2.6 (2.4–2.8)	3.2 (2.2–4.2)	2.3 (1.9–2.8)	2.6 (2.0–3.2)	2.7 (2.7–2.8)
Digestive	**4.6 (4.4–4.7)**	**3.9 (3.8–4.1)**	**3.6 (3.4–3.8)**	**3.5 (3.3–3.8)**	**3.4 (3.2–3.7)**	**3.9 (3.4–4.4)**	**3.2 (2.6–3.8)**	**3.3 (2.4–4.1)**	**4.0 (3.9–4.1)**
Anti-ulcerants	2.5 (2.4–2.6)	2.3 (2.1–2.4)	2.1 (2.0–2.2)	2.1 (1.9–2.3)	1.9 (1.7–2.0)	2.4 (2.0–2.7)	1.7 (1.3–2.1)	2.0 (1.5–2.6)	2.3 (2.2–2.3)
Blood	**1.9 (1.8–2.0)**	**1.8 (1.7–2.0)**	**1.6 (1.4–1.7)**	**1.7 (1.6–1.9)**	**1.6 (1.5–1.8)**	**1.5 (1.2–1.8)**	**1.5 (1.0–1.9)**	**1.2 (0.6–1.7)**	**1.8 (1.7–1.8)**
Other blood drugs	1.0 (1.0–1.1)	0.9 (0.8–0.9)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	1.0 (0.8–1.1)	0.9 (0.6–1.1)	0.7 (0.5–1.0)	0.8 (0.3–1.2)	0.9 (0.9–0.9)
Ear, nose topical	**2.2 (2.1–2.3)**	**1.8 (1.7–1.9)**	**2.2 (2.1–2.3)**	**2.2 (2.0–2.4)**	**1.6 (1.5–1.8)**	**1.5 (1.3–1.7)**	**2.1 (1.4–2.8)**	**3.4 (2.5–4.3)**	**2.1 (2.0–2.1)**
Topical nasal	1.3 (1.2–1.3)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.3)	0.9 (0.7–1.0)	0.8 (0.6–1.0)	1.6 (0.9–2.2)	1.1 (0.8–1.5)	1.1 (1.1–1.2)
Topical otic	0.9 (0.8–1.0)	0.8 (0.7–0.8)	1.1 (1.0–1.2)	1.0 (0.9–1.2)	0.8 (0.7–0.9)	0.7 (0.6–0.9)	0.5 (0.3–0.7)	2.3 (1.6–2.9)	0.9 (0.9–0.9)

(continued)

Table A4.14a (continued): Distribution of medications prescribed by group and subgroup, by state/territory, crude rates (1998–2003)

Group/subgroup	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Urogenital	**2.1 (2.0–2.2)**	**2.4 (2.3–2.6)**	**1.7 (1.6–1.8)**	**1.9 (1.7–2.1)**	**2.0 (1.8–2.2)**	**2.1 (1.7–2.5)**	**1.3 (1.0–1.6)**	**1.7 (1.2–2.1)**	**2.1 (2.0–2.1)**
Diuretics	1.5 (1.4–1.6)	1.8 (1.7–1.9)	1.2 (1.0–1.2)	1.4 (1.2–1.6)	1.5 (1.3–1.7)	1.5 (1.1–1.9)	0.9 (0.6–1.2)	1.2 (0.8–1.6)	1.5 (1.4–1.5)
Contraceptives	**1.6 (1.5–1.7)**	**1.8 (1.7–1.9)**	**2.1 (2.0–2.3)**	**1.9 (1.7–2.2)**	**1.7 (1.5–1.9)**	**1.9 (1.5–2.2)**	**2.7 (2.1–3.2)**	**2.3 (1.9–2.8)**	**1.8 (1.8–1.9)**
Contraceptive oral/systemic	1.6 (1.5–1.7)	1.8 (1.7–1.9)	2.1 (1.9–2.2)	1.9 (1.7–2.1)	1.7 (1.5–1.9)	1.9 (1.5–2.2)	2.7 (2.1–3.2)	2.3 (1.9–2.8)	1.8 (1.7–1.9)
Nutrition, metabolism	**1.7 (1.5–1.8)**	**1.6 (1.4–1.7)**	**1.2 (1.1–1.3)**	**1.3 (1.1–1.5)**	**1.1 (0.9–1.4)**	**1.1 (0.8–1.3)**	**1.3 (0.9–1.6)**	**0.8 (0.5–1.1)**	**1.5 (1.4–1.5)**
Eye medications	**1.7 (1.6–1.8)**	**1.5 (1.4–1.6)**	**1.5 (1.4–1.6)**	**1.6 (1.4–1.8)**	**1.5 (1.3–1.6)**	**1.3 (1.1–1.5)**	**1.5 (1.2–1.8)**	**1.6 (1.3–2.0)**	**1.6 (1.5–1.6)**
Anti-infectives eye	1.0 (1.0–1.1)	1.0 (0.9–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.9 (0.8–1.1)	0.8 (0.6–1.0)	1.1 (0.8–1.4)	1.1 (0.8–1.4)	1.0 (1.0–1.0)
Miscellaneous	**0.4 (0.4–0.5)**	**0.5 (0.4–0.7)**	**0.5 (0.4–0.5)**	**0.4 (0.2–0.6)**	**0.4 (0.3–0.6)**	**0.3 (0.2–0.4)**	**0.4 (0.2–0.6)**	**0.3 (0.2–0.5)**	**0.5 (0.4–0.5)**
Anti-neoplastics	**0.4 (0.4–0.4)**	**0.3 (0.3–0.4)**	**0.3 (0.3–0.4)**	**0.3 (0.3–0.4)**	**0.3 (0.2–0.3)**	**0.7 (0.5–0.9)**	**0.2 (0.1–0.3)**	**0.3 (0.1–0.5)**	**0.4 (0.3–0.4)**
Surgical preparations	**0.1 (0.1–0.2)**	**0.1 (0.1–0.2)**	**0.1 (0.1–0.2)**	**0.1 (0.1–0.2)**	**0.2 (0.0–0.5)**	**0.1 (0.0–0.1)**	**0.1 (0.0–0.2)**	**0.1 (0.0–0.3)**	**0.1 (0.1–0.2)**
Diagnostic agents	**0.1 (0.1–0.1)**	**0.1 (0.1–0.1)**	**0.1 (0.1–0.1)**	**—**	**0.1 (0.1–0.1)**	**—**	**—**	**—**	**0.1 (0.1–0.1)**

(a) Figures will not add to 100 because multiple prescriptions could be written at each encounter and only the most frequently prescribed medications are included in this table.

— <0.05 per 100 encounters. Confidence intervals could not be calculated due to small sample size.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). CVS—cardiovascular system; CNS—central nervous system; NSAID—non-steroidal anti-inflammatory drug.

Table A4.14b: Distribution of medications prescribed by group and subgroup, by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Group/subgroup	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Antibiotics	**15.6 (15.2–16.0)**	**15.5 (15.0–16.0)**	**15.3 (14.8–15.9)**	**13.4 (12.7–14.2)**	**14.2 (13.4–15.0)**	**13.5 (12.4–14.5)**	**15.8 (13.9–17.6)**	**18.7 (15.6–21.8)**	**15.2 (15.0–15.5)**
Broad-spectrum penicillin	5.5 (5.3–5.7)	5.6 (5.3–5.9)	5.4 (5.1–5.7)	4.9 (4.4–5.3)	5.1 (4.6–5.6)	3.9 (3.3–4.5)	5.0 (4.0–6.0)	5.8 (4.6–7.1)	5.4 (5.3–5.5)
Other antibiotics	3.3 (3.1–3.4)	3.2 (3.0–3.4)	3.3 (3.1–3.5)	2.5 (2.3–2.8)	3.2 (2.9–3.8)	3.6 (3.1–4.1)	3.8 (3.0–4.6)	2.7 (2.0–3.5)	3.2 (3.1–3.3)
Penicillin	2.2 (2.1–2.3)	2.5 (2.3–2.6)	2.2 (2.1–2.4)	2.4 (2.1–2.6)	2.0 (1.7–2.2)	2.0 (1.6–2.4)	2.1 (1.6–2.5)	4.8 (3.5–6.0)	2.3 (2.2–2.4)
Cephalosporins	2.1 (1.9–2.2)	1.8 (1.6–2.0)	1.9 (1.7–2.1)	1.5 (1.2–1.7)	1.7 (1.4–2.0)	1.8 (1.4–2.3)	2.1 (1.4–2.8)	1.3 (0.8–1.9)	1.9 (1.8–2.0)
Tetracyclines	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.0 (0.8–1.1)	1.1 (1.0–1.3)	1.0 (0.7–1.2)	1.0 (0.7–1.3)	1.7 (1.1–2.4)	1.1 (1.1–1.2)
Anti-infectives	0.8 (0.7–1.0)	0.6 (0.6–0.7)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	0.5 (0.4–0.5)	0.6 (0.4–0.8)	1.1 (0.7–1.5)	1.2 (0.8–1.6)	0.7 (0.7–0.8)
Cardiovascular	**14.7 (14.2–15.3)**	**13.5 (12.8–14.2)**	**11.0 (10.5–11.6)**	**12.1 (11.2–13.1)**	**11.1 (10.2–12.0)**	**11.9 (10.2–13.6)**	**11.7 (9.7–13.8)**	**15.4 (10.5–20.3)**	**13.2 (12.8–13.5)**
Anti-hypertensives	8.0 (7.7–8.3)	7.5 (7.1–7.9)	5.7 (5.4–6.1)	6.1 (5.6–6.6)	5.8 (5.3–6.3)	6.7 (5.7–7.7)	6.6 (5.3–7.9)	8.3 (5.6–10.9)	7.1 (6.9–7.3)
Other CVS drugs	2.8 (2.6–2.9)	2.4 (2.2–2.5)	1.9 (1.7–2.0)	2.5 (2.3–2.8)	2.1 (1.9–2.3)	2.1 (1.8–2.4)	2.3 (1.7–2.8)	2.5 (1.6–3.4)	2.4 (2.3–2.5)
Beta-blockers	1.7 (1.6–1.8)	1.6 (1.4–1.7)	1.6 (1.4–1.7)	1.7 (1.5–1.9)	1.5 (1.4–1.7)	1.5 (1.2–1.8)	1.0 (0.7–1.3)	1.7 (1.0–2.3)	1.6 (1.6–1.7)
Anti-angina	1.3 (1.2–1.3)	1.0 (0.9–1.1)	1.1 (1.0–1.1)	1.0 (0.8–1.1)	0.9 (0.8–1.1)	0.8 (0.6–1.0)	1.0 (0.6–1.3)	1.9 (0.9–2.8)	1.1 (1.1–1.1)
CNS	**11.2 (10.8–11.6)**	**10.1 (9.7–10.6)**	**10.0 (9.5–10.5)**	**10.0 (9.2–10.7)**	**10.6 (9.7–11.4)**	**12.1 (10.6–13.6)**	**8.2 (7.1–9.2)**	**10.9 (8.8–12.9)**	**10.6 (10.3–10.8)**
Simple analgesics	4.8 (4.5–5.0)	3.9 (3.7–4.2)	3.7 (3.4–3.9)	3.9 (3.6–4.3)	3.6 (3.1–4.1)	4.9 (3.9–5.8)	2.8 (2.1–3.5)	2.7 (1.9–3.5)	4.2 (4.0–4.3)

(continued)

Table A4.14b (continued): Distribution of medications prescribed by group and subgroup, by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Group/subgroup	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Compound analgesics	2.6 (2.5–2.8)	2.6 (2.5–2.8)	2.5 (2.3–2.7)	2.7 (2.4–3.0)	3.1 (2.8–3.4)	2.8 (2.4–3.2)	2.3 (1.8–2.7)	3.6 (2.7–4.5)	2.7 (2.6–2.7)
Narcotic analgesics	1.6 (1.4–1.8)	1.6 (1.3–1.8)	1.6 (1.4–1.8)	1.5 (1.1–1.8)	1.9 (1.5–2.3)	2.6 (1.9–3.2)	1.3 (0.9–1.7)	2.0 (1.2–2.8)	1.6 (1.5–1.7)
Anti-emetic/anti-nauseants	1.4 (1.4–1.5)	1.3 (1.2–1.4)	1.5 (1.4–1.6)	1.3 (1.1–1.4)	1.3 (1.2–1.5)	1.1 (0.9–1.4)	1.1 (0.8–1.4)	1.7 (1.1–2.4)	1.4 (1.3–1.4)
Psychological	**7.0 (6.7–7.3)**	**8.0 (7.6–8.4)**	**7.5 (7.2–7.9)**	**7.2 (6.6–7.7)**	**8.0 (7.3–8.6)**	**8.9 (7.8–9.9)**	**6.5 (5.6–7.3)**	**6.9 (5.6–8.3)**	**7.4 (7.3–7.6)**
Anti-depressants	2.8 (2.7–3.0)	3.1 (2.9–3.3)	3.3 (3.1–3.5)	3.1 (2.8–3.3)	2.9 (2.6–3.2)	3.5 (2.9–4.0)	3.0 (2.5–3.5)	2.9 (2.3–3.5)	3.0 (2.9–3.1)
Anti-anxiety agents	1.8 (1.7–1.9)	2.3 (2.1–2.4)	2.0 (1.8–2.1)	1.6 (1.3–1.8)	2.2 (1.9–2.5)	2.6 (2.2–3.0)	1.2 (0.8–1.6)	1.3 (0.8–1.9)	2.0 (1.9–2.0)
Sedatives/hypnotics	1.7 (1.6–1.8)	2.0 (1.9–2.1)	1.8 (1.6–1.9)	2.1 (1.9–2.4)	2.1 (1.8–2.3)	2.2 (1.9–2.6)	1.6 (1.2–2.1)	2.4 (1.6–3.1)	1.9 (1.8–1.9)
Respiratory	**6.8 (6.5–7.1)**	**6.0 (5.7–6.3)**	**6.0 (5.6–6.3)**	**4.5 (4.1–4.9)**	**5.8 (5.2–6.4)**	**4.3 (3.6–5.0)**	**5.2 (4.2–6.1)**	**6.5 (4.2–8.8)**	**6.1 (6.0–6.3)**
Bronchodilator/spasm relaxants	3.3 (3.2–3.4)	3.1 (2.9–3.3)	3.2 (3.0–3.4)	1.9 (1.7–2.1)	3.2 (2.8–3.6)	2.4 (2.0–2.8)	2.4 (1.8–3.0)	3.1 (1.9–4.4)	3.1 (3.0–3.2)
Asthma preventives	2.4 (2.3–2.5)	2.1 (2.0–2.2)	2.2 (2.0–2.3)	1.9 (1.7–2.1)	2.0 (1.8–2.2)	1.6 (1.3–1.9)	2.2 (1.8–2.7)	2.9 (1.9–3.9)	2.2 (2.2–2.3)
Hormones	**6.0 (5.8–6.2)**	**5.8 (5.6–6.1)**	**5.9 (5.6–6.2)**	**6.0 (5.6–6.4)**	**5.8 (5.4–6.3)**	**5.7 (4.8–6.5)**	**5.4 (4.6–6.2)**	**7.3 (5.9–8.7)**	**5.9 (5.8–6.0)**
Sex hormones/anabolic agents	2.1 (2.0–2.2)	2.0 (1.9–2.1)	2.5 (2.3–2.7)	2.5 (2.2–2.7)	2.3 (2.0–2.5)	2.3 (2.0–2.7)	2.5 (2.0–3.0)	2.5 (1.8–3.3)	2.2 (2.1–2.3)
Hypoglycaemic agents	2.0 (1.9–2.1)	1.9 (1.8–2.1)	1.5 (1.3–1.6)	1.7 (1.4–1.9)	1.8 (1.5–2.1)	1.4 (1.0–1.8)	1.2 (0.8–1.6)	2.7 (1.7–3.6)	1.8 (1.7–1.9)
Cortico-steroids	1.2 (1.2–1.3)	1.4 (1.3–1.5)	1.2 (1.1–1.3)	1.0 (0.9–1.2)	1.1 (1.0–1.2)	1.4 (1.1–1.7)	1.0 (0.6–1.4)	1.4 (0.9–1.9)	1.2 (1.2–1.3)

(continued)

Table A4.14b (continued): Distribution of medications prescribed by group and subgroup, by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Group/subgroup	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Musculoskeletal	**6.1 (5.9–6.3)**	**5.6 (5.3–5.8)**	**5.3 (5.0–5.5)**	**5.9 (5.5–6.3)**	**4.8 (4.5–5.2)**	**5.3 (4.7–5.8)**	**5.1 (4.2–6.0)**	**6.9 (5.2–8.5)**	**5.7 (5.6–5.8)**
NSAID	5.0 (4.8–5.1)	4.7 (4.4–4.9)	4.5 (4.3–4.7)	4.9 (4.5–5.2)	4.1 (3.8–4.4)	4.5 (4.0–5.0)	4.4 (3.7–5.2)	5.9 (4.4–7.3)	4.7 (4.6–4.8)
Allergy, immune system	**5.0 (4.7–5.2)**	**4.8 (4.5–5.2)**	**4.9 (4.6–5.3)**	**5.0 (4.3–5.7)**	**3.9 (3.4–4.4)**	**4.9 (3.8–6.0)**	**5.4 (3.9–7.0)**	**3.9 (2.1–5.7)**	**4.9 (4.7–5.0)**
Immunisation	4.1 (3.9–4.4)	4.2 (3.8–4.5)	4.3 (4.0–4.7)	4.5 (3.8–5.1)	3.4 (2.9–3.8)	4.5 (3.4–5.5)	4.7 (3.2–6.3)	3.0 (1.3–4.7)	4.2 (4.0–4.3)
Skin	**4.7 (4.5–4.8)**	**4.4 (4.2–4.6)**	**3.9 (3.7–4.1)**	**3.9 (3.7–4.2)**	**3.7 (3.4–3.9)**	**5.0 (3.2–6.7)**	**3.8 (3.2–4.4)**	**4.4 (3.5–5.4)**	**4.3 (4.2–4.4)**
Topical steroids	2.9 (2.8–3.0)	3.0 (2.9–3.1)	2.3 (2.1–2.4)	2.5 (2.4–2.7)	2.6 (2.4–2.8)	3.3 (2.2–4.3)	2.3 (1.8–2.7)	2.6 (2.0–3.2)	2.8 (2.7–2.8)
Digestive	**4.4 (4.3–4.6)**	**3.8 (3.6–4.0)**	**4.0 (3.4–3.8)**	**3.5 (3.2–3.7)**	**3.4 (3.1–3.6)**	**3.7 (3.2–4.2)**	**3.4 (2.8–4.1)**	**3.8 (2.7–4.8)**	**3.9 (3.8–4.0)**
Anti-ulcerants	2.4 (2.3–2.5)	2.2 (2.0–2.3)	2.1 (2.0–2.2)	2.1 (1.9–2.2)	1.8 (1.6–2.0)	2.3 (1.9–2.6)	1.9 (1.4–2.3)	2.3 (1.7–3.0)	2.2 (2.1–2.2)
Ear, nose topical	**2.2 (2.1–2.3)**	**1.8 (1.7–1.9)**	**2.3 (2.1–2.4)**	**2.2 (2.0–2.4)**	**1.7 (1.5–1.8)**	**1.5 (1.3–1.8)**	**2.0 (1.4–2.7)**	**3.2 (2.3–4.1)**	**2.1 (2.0–2.1)**
Topical nasal	1.3 (1.2–1.4)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.3)	0.9 (0.7–1.0)	0.8 (0.6–1.0)	1.5 (0.9–2.1)	1.1 (0.7–1.4)	1.1 (1.1–1.2)
Topical otic	0.9 (0.9–1.0)	0.8 (0.7–0.9)	1.1 (1.0–1.2)	1.1 (0.9–1.2)	0.8 (0.7–0.9)	0.8 (0.6–0.9)	0.5 (0.3–0.7)	2.2 (1.5–2.8)	0.9 (0.9–1.0)
Urogenital	**2.0 (1.9–2.1)**	**2.3 (2.1–2.4)**	**1.7 (1.5–1.8)**	**1.9 (1.7–2.1)**	**1.9 (1.7–2.1)**	**2.0 (1.6–2.3)**	**1.5 (1.1–1.9)**	**2.2 (1.5–3.0)**	**2.0 (1.9–2.0)**
Diuretics	1.4 (1.3–1.5)	1.7 (1.5–1.8)	1.1 (1.0–1.2)	1.4 (1.2–1.6)	1.4 (1.2–1.6)	1.4 (1.0–1.7)	1.1 (0.7–1.5)	1.7 (1.1–2.3)	1.4 (1.3–1.4)

(continued)

Table A4.14b (continued): Distribution of medications prescribed by group and subgroup, by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Group/subgroup	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Contraceptives	**1.6 (1.5–1.7)**	**1.8 (1.6–1.9)**	**2.1 (1.9–2.2)**	**1.9 (1.7–2.1)**	**1.7 (1.5–1.9)**	**1.8 (1.5–2.2)**	**2.2 (1.8–2.7)**	**1.9 (1.5–2.4)**	**1.8 (1.7–1.8)**
Contraceptive oral/systemic	1.6 (1.5–1.7)	1.7 (1.6–1.9)	2.0 (1.9–2.2)	1.9 (1.6–2.1)	1.7 (1.5–1.9)	1.8 (1.5–2.2)	2.2 (1.8–2.7)	1.9 (1.5–2.4)	1.8 (1.7–1.8)
Blood	**1.8 (1.7–1.9)**	**1.7 (1.5–1.8)**	**1.5 (1.4–1.7)**	**1.7 (1.5–1.9)**	**1.5 (1.4–1.7)**	**1.4 (1.1–1.7)**	**1.7 (1.2–2.2)**	**1.8 (0.7–2.9)**	**1.7 (1.6–1.7)**
Other blood drugs	1.0 (0.9–1.0)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.8 (0.6–1.0)	0.9 (0.6–1.2)	1.2 (0.3–2.1)	0.9 (0.8–0.9)
Eye medications	**1.7 (1.6–1.8)**	**1.5 (1.4–1.6)**	**1.5 (1.4–1.6)**	**1.7 (1.5–1.8)**	**1.5 (1.3–1.6)**	**1.3 (1.1–1.5)**	**1.6 (1.2–1.9)**	**1.7 (1.3–2.1)**	**1.6 (1.5–1.6)**
Anti-infectives eye	1.1 (1.0–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	1.0 (0.9–1.1)	0.9 (0.7–1.1)	1.1 (0.8–1.4)	1.0 (0.7–1.4)	1.0 (1.0–1.0)
Nutrition, metabolism	**1.6 (1.5–1.7)**	**1.5 (1.4–1.7)**	**1.2 (1.1–1.3)**	**1.3 (1.1–1.4)**	**1.1 (0.8–1.3)**	**1.0 (0.8–1.2)**	**1.4 (1.0–1.8)**	**0.9 (0.6–1.3)**	**1.4 (1.3–1.5)**
Miscellaneous	**0.4 (0.4–0.5)**	**0.5 (0.4–0.7)**	**0.5 (0.4–0.5)**	**0.4 (0.2–0.6)**	**0.4 (0.3–0.5)**	**0.3 (0.2–0.4)**	**0.4 (0.2–0.6)**	**0.3 (0.1–0.5)**	**0.5 (0.4–0.5)**
Anti-neoplastics	**0.4 (0.3–0.4)**	**0.3 (0.3–0.4)**	**0.3 (0.3–0.4)**	**0.3 (0.2–0.4)**	**0.3 (0.2–0.3)**	**0.6 (0.4–0.8)**	**0.3 (0.1–0.4)**	**0.3 (0.1–0.5)**	**0.4 (0.3–0.4)**
Surgical preparations	**0.1 (0.1–0.1)**	**0.1 (0.1–0.2)**	**0.1 (0.1–0.2)**	**0.1 (0.1–0.2)**	**0.2 (0.0–0.5)**	**0.1 (0.0–0.1)**	**0.1 (0.0–0.2)**	**0.2 (0.0–0.3)**	**0.1 (0.1–0.2)**
Diagnostic agents	**0.1 (0.1–0.1)**	**0.1 (0.1–0.1)**	**0.1 (0.1–0.1)**	**—**	**0.1 (0.1–0.1)**	**—**	**—**	**—**	**0.1 (0.1–0.1)**

(a) Figures will not add to 100 because multiple prescriptions could be written at each encounter and only the most frequently prescribed medications are included in this table.

— <0.05 per 100 encounters. Confidence intervals could not be calculated due to small sample size.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). CVS—cardiovascular system; CNS—central nervous system; NSAID—non-steroidal anti-inflammatory drug.

Table A4.15a: Most frequently prescribed medications by state/territory, crude rates (1998–2003)

Generic medication	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Paracetamol	4.0 (3.8–4.2)	3.1 (2.8–3.3)	2.9 (2.7–3.1)	3.1 (2.7–3.4)	2.9 (2.5–3.4)	3.9 (3.1–4.6)	2.0 (1.4–2.6)	1.4 (0.9–1.9)	3.4 (3.2–3.5)
Amoxycillin	3.1 (2.9–3.2)	3.2 (2.9–3.4)	2.7 (2.5–2.9)	2.5 (2.2–2.8)	2.6 (2.2–2.8)	2.3 (1.8–2.7)	2.4 (1.8–2.9)	2.3 (1.6–2.9)	2.9 (2.8–3.0)
Paracetamol/codeine	2.1 (2.0–2.2)	2.2 (2.1–2.4)	2.0 (1.9–2.1)	2.4 (2.1–2.6)	2.4 (2.1–2.6)	2.6 (2.2–2.9)	1.7 (1.3–2.1)	3.1 (2.3–4.0)	2.2 (2.1–2.2)
Salbutamol	2.0 (1.9–2.1)	2.2 (2.0–2.3)	2.0 (1.9–2.2)	1.3 (1.1–1.4)	2.1 (1.8–2.3)	1.7 (1.4–2.0)	1.4 (1.0–1.8)	2.3 (1.2–3.4)	2.0 (1.9–2.0)
Cephalexin	2.2 (2.1–2.3)	1.7 (1.6–1.8)	2.0 (1.8–2.1)	1.7 (1.5–1.9)	1.8 (1.6–2.0)	1.4 (1.1–1.8)	1.7 (1.3–2.0)	2.3 (1.5–3.0)	1.9 (1.9–2.0)
Roxithromycin	1.7 (1.5–1.7)	1.6 (1.4–1.7)	1.4 (1.3–1.5)	1.2 (1.1–1.4)	1.8 (1.6–2.0)	1.6 (1.3–1.9)	2.2 (1.6–2.7)	1.1 (0.7–1.5)	1.6 (1.5–1.6)
Amoxycillin/potassium clavulanate	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.7 (1.6–1.9)	1.6 (1.4–1.8)	1.5 (1.3–1.7)	0.9 (0.7–1.2)	1.5 (0.9–2.1)	3.0 (1.8–4.1)	1.5 (1.5–1.6)
Influenza virus vaccine	1.5 (1.3–1.6)	1.7 (1.4–1.9)	1.4 (1.2–1.6)	2.0 (1.4–2.5)	1.2 (0.9–1.5)	1.5 (0.8–2.3)	2.0 (1.0–3.0)	1.0 (0.1–1.9)	1.5 (1.4–1.6)
Temazepam	1.3 (1.2–1.4)	1.6 (1.5–1.7)	1.2 (1.1–1.3)	1.7 (1.4–1.9)	1.6 (1.4–1.8)	1.6 (1.3–1.9)	1.2 (0.9–1.6)	1.3 (0.9–1.7)	1.4 (1.4–1.5)
Cefaclor monohydrate	1.3 (1.2–1.4)	1.4 (1.3–1.6)	1.4 (1.2–1.6)	0.9 (0.7–1.1)	1.3 (1.1–1.5)	1.1 (0.8–1.4)	2.2 (1.6–2.9)	1.1 (0.6–1.7)	1.3 (1.3–1.4)
Levonorgestrel/ethinyloestradiol	1.1 (1.0–1.2)	1.4 (1.3–1.4)	1.4 (1.3–1.5)	1.5 (1.3–1.6)	1.2 (1.1–1.4)	1.3 (1.0–1.5)	1.8 (1.4–2.2)	1.7 (1.2–2.1)	1.3 (1.2–1.3)
Diclofenac sodium systemic	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.2 (1.0–1.4)	1.2 (1.0–1.4)	1.3 (1.0–1.5)	1.0 (0.7–1.4)	2.2 (1.4–3.0)	1.1 (1.1–1.2)
Diazepam	1.0 (0.9–1.1)	1.3 (1.2–1.4)	1.0 (0.9–1.1)	0.9 (0.7–1.1)	1.2 (1.0–1.4)	1.5 (1.2–1.8)	0.7 (0.4–1.0)	0.9 (0.5–1.2)	1.1 (1.0–1.1)

(continued)

Table A4.15a (continued): Most frequently prescribed medications by state/territory, crude rates (1998–2003)

Generic medication	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Celecoxib	1.1 (1.0–1.1)	1.0 (0.9–1.1)	0.9 (0.7–0.9)	0.9 (0.8–1.1)	0.8 (0.6–0.9)	1.0 (0.7–1.3)	1.2 (0.7–1.7)	0.5 (0.2–0.8)	1.0 (0.9–1.0)
Atenolol	1.0 (0.9–1.0)	1.0 (0.9–1.0)	1.0 (0.9–1.1)	0.9 (0.8–1.1)	1.1 (1.0–1.3)	0.8 (0.6–1.0)	0.4 (0.2–0.5)	0.9 (0.5–1.2)	0.9 (0.9–1.0)
Doxycycline	1.0 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.8 (0.6–0.9)	1.0 (0.8–1.1)	0.8 (0.6–1.0)	0.8 (0.5–1.2)	1.6 (0.9–2.2)	0.9 (0.9–1.0)
Simvastatin	1.0 (1.0–1.1)	1.0 (0.9–1.0)	0.6 (0.5–0.7)	1.0 (0.8–1.1)	0.8 (0.7–1.0)	1.0 (0.8–1.2)	0.8 (0.5–1.0)	0.6 (0.3–1.0)	0.9 (0.9–0.9)
Betamethasone topical	0.8 (0.8–0.9)	1.1 (1.0–1.2)	0.6 (0.6–0.7)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.0 (0.7–1.4)	0.5 (0.4–0.7)	1.0 (0.6–1.4)	0.9 (0.8–0.9)
Atorvastatin	1.0 (0.9–1.1)	0.8 (0.7–0.8)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.7 (0.5–0.8)	0.7 (0.5–1.0)	0.6 (0.3–1.0)	0.9 (0.8–0.9)
Chloramphenicol eye	0.9 (0.8–0.9)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.6 (0.4–0.7)	1.0 (0.7–1.3)	1.0 (0.7–1.3)	0.8 (0.8–0.9)
Ranitidine	0.8 (0.8–0.9)	0.9 (0.8–1.0)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–1.0)	0.7 (0.6–0.9)	0.6 (0.4–0.7)	1.0 (0.6–1.5)	0.8 (0.8–0.9)
Frusemide (furosemide)	0.9 (0.8–0.9)	0.9 (0.8–1.0)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.9 (0.7–1.0)	0.7 (0.5–1.0)	0.5 (0.3–0.7)	0.7 (0.4–0.9)	0.8 (0.8–0.9)
Metformin	0.9 (0.8–0.9)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	0.8 (0.7–0.9)	0.7 (0.6–0.9)	0.6 (0.4–0.7)	0.5 (0.3–0.6)	0.9 (0.5–1.3)	0.8 (0.7–0.8)
Aspirin	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	1.0 (0.7–1.3)	0.5 (0.3–0.8)	0.7 (0.3–1.0)	0.8 (0.7–0.8)
Warfarin sodium	0.9 (0.8–0.9)	0.8 (0.7–0.8)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.6–1.0)	0.6 (0.3–0.8)	0.7 (0.2–1.1)	0.8 (0.7–0.8)
Oxazepam	0.7 (0.6–0.7)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	0.9 (0.8–1.1)	0.9 (0.7–1.1)	0.3 (0.2–0.5)	0.4 (0.2–0.7)	0.7 (0.7–0.8)
Erythromycin	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.9 (0.8–1.0)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.8 (0.6–1.0)	1.0 (0.4–1.6)	1.0 (0.4–1.5)	0.7 (0.7–0.8)

(continued)

Table A4.15a (continued): Most frequently prescribed medications by state/territory, crude rates (1998–2003)

Generic medication	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Irbesartan	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.7 (0.5–0.9)	0.6 (0.4–0.9)	0.7 (0.3–1.0)	0.7 (0.7–0.8)
Amlodipine	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.7 (0.7–0.8)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.5 (0.3–0.7)	0.3 (0.2–0.5)	0.5 (0.3–0.7)	0.7 (0.7–0.7)
Prochlorperazine	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	0.7 (0.5–0.7)	0.7 (0.6–0.8)	0.5 (0.4–0.7)	0.5 (0.3–0.6)	0.4 (0.1–0.7)	0.7 (0.7–0.7)
Subtotal (n)	*72,756*	*43,443*	*28,367*	*14,233*	*13,720*	*4,745*	*2,545*	*1,903*	*185,730*
Total prescribed medications (*n*)	**178,962**	**103,086**	**78,993**	**34,282**	**31,382**	**11,516**	**6,189**	**4,603**	**449,013**

(a) Figures will not add to 100 because multiple prescriptions could be written at each encounter and only the most frequently prescribed medications are included in this table.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.15b: Most frequently prescribed medications by state/territory, patient age-standardised rates (1998–2003)

Generic medication	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Paracetamol	4.0 (3.8–4.2)	3.1 (2.9–3.3)	2.9 (2.7–3.2)	3.1 (2.8–3.4)	3.0 (2.5–3.4)	3.9 (3.1–4.7)	2.2 (1.6–2.8)	1.7 (1.1–2.3)	3.4 (3.3–3.5)
Amoxycillin	3.3 (3.1–3.4)	3.4 (3.2–3.6)	2.8 (2.6–3.0)	2.7 (2.3–3.0)	2.8 (2.4–3.1)	2.5 (2.0–3.0)	2.3 (1.7–2.9)	2.2 (1.5–2.8)	3.1 (3.0–3.2)
Paracetamol/codeine	2.1 (2.0–2.2)	2.2 (2.0–2.3)	2.0 (1.9–2.1)	2.3 (2.1–2.6)	2.3 (2.1–2.5)	2.5 (2.1–2.9)	1.7 (1.3–2.1)	3.2 (2.3–4.0)	2.2 (2.1–2.2)
Salbutamol	2.1 (2.0–2.2)	2.2 (2.1–2.4)	2.1 (1.9–2.2)	1.3 (1.2–1.5)	2.1 (1.9–2.4)	1.7 (1.4–2.0)	1.4 (1.0–1.8)	2.5 (1.4–3.6)	2.0 (2.0–2.1)
Cephalexin	2.2 (2.1–2.3)	1.7 (1.6–1.8)	2.0 (1.9–2.1)	1.8 (1.6–2.0)	1.8 (1.6–2.0)	1.5 (1.1–1.8)	1.6 (1.3–2.0)	2.3 (1.5–3.1)	2.0 (1.9–2.0)
Amoxycillin/potassium clavulanate	1.6 (1.5–1.7)	1.4 (1.3–1.5)	1.8 (1.6–1.9)	1.7 (1.5–1.9)	1.6 (1.3–1.8)	1.0 (0.7–1.2)	1.5 (0.9–2.0)	2.8 (1.8–3.9)	1.6 (1.5–1.6)

(continued)

Table A4.15b (continued): Most frequently prescribed medications by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Generic medication	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Roxithromycin	1.7 (1.6–1.8)	1.6 (1.4–1.7)	1.4 (1.3–1.5)	1.2 (1.1–1.4)	1.8 (1.6–2.0)	1.6 (1.3–1.9)	2.1 (1.5–2.7)	1.1 (0.7–1.5)	1.6 (1.5–1.6)
Influenza virus vaccine	1.4 (1.2–1.6)	1.6 (1.4–1.8)	1.4 (1.2–1.6)	2.0 (1.4–2.5)	1.2 (0.8–1.4)	1.4 (0.8–2.1)	2.3 (1.1–3.5)	1.5 (0.1–2.9)	1.5 (1.4–1.6)
Cefaclor monohydrate	1.4 (1.3–1.5)	1.6 (1.4–1.7)	1.5 (1.3–1.6)	1.0 (0.8–1.2)	1.4 (1.2–1.7)	1.2 (0.9–1.5)	2.2 (1.6–2.9)	1.1 (0.6–1.6)	1.4 (1.3–1.5)
Temazepam	1.2 (1.2–1.3)	1.5 (1.4–1.6)	1.2 (1.1–1.3)	1.6 (1.4–1.8)	1.5 (1.4–1.7)	1.5 (1.3–1.8)	1.4 (1.0–1.7)	1.6 (1.0–2.2)	1.4 (1.3–1.4)
Levonorgestrel/ethinyloestradiol	1.1 (1.1–1.2)	1.3 (1.2–1.4)	1.4 (1.3–1.5)	1.4 (1.2–1.6)	1.2 (1.1–1.4)	1.3 (1.0–1.5)	1.5 (1.1–1.8)	1.4 (1.0–1.8)	1.3 (1.2–1.3)
Diclofenac sodium systemic	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.2 (1.0–1.3)	1.2 (1.0–1.3)	1.3 (1.0–1.5)	1.0 (0.7–1.3)	2.2 (1.4–2.9)	1.1 (1.1–1.2)
Diazepam	1.0 (0.9–1.0)	1.3 (1.2–1.4)	1.0 (0.9–1.1)	0.9 (0.7–1.0)	1.2 (1.0–1.4)	1.5 (1.2–1.8)	0.7 (0.4–1.0)	0.8 (0.4–1.2)	1.1 (1.0–1.1)
Celecoxib	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.9 (0.7–1.0)	0.9 (0.7–1.1)	0.7 (0.6–0.9)	0.9 (0.7–1.2)	1.3 (0.8–1.8)	0.6 (0.2–1.1)	0.9 (0.9–1.0)
Atenolol	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	0.8 (0.6–0.9)	0.4 (0.2–0.6)	1.1 (0.6–1.5)	0.9 (0.9–1.0)
Doxycycline	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.8 (0.6–0.9)	1.0 (0.8–1.1)	0.8 (0.5–1.0)	0.8 (0.5–1.1)	1.6 (1.0–2.3)	0.9 (0.9–1.0)
Simvastatin	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.6 (0.5–0.7)	0.9 (0.8–1.1)	0.8 (0.7–0.9)	0.9 (0.7–1.1)	0.9 (0.6–1.2)	0.9 (0.4–1.3)	0.9 (0.8–0.9)
Betamethasone topical	0.8 (0.8–0.9)	1.1 (1.0–1.2)	0.6 (0.6–0.7)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.0 (0.7–1.3)	0.5 (0.4–0.7)	1.0 (0.6–1.4)	0.9 (0.8–0.9)
Chloramphenicol eye	0.9 (0.9–1.0)	0.8 (0.8–0.9)	0.7 (0.7–0.8)	0.9 (0.8–1.1)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	1.0 (0.8–1.3)	0.9 (0.6–1.2)	0.9 (0.8–0.9)
Atorvastatin	1.0 (0.9–1.0)	0.7 (0.7–0.8)	0.8 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.7 (0.5–0.8)	0.9 (0.6–1.1)	0.8 (0.4–1.2)	0.8 (0.8–0.9)

(continued)

Table A4.15b (continued): Most frequently prescribed medications by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Generic medication	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Ranitidine	0.8 (0.8–0.9)	0.9 (0.8–0.9)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.5–0.9)	0.7 (0.4–0.9)	1.2 (0.7–1.7)	0.8 (0.8–0.8)
Frusemide (furosemide)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.7 (0.5–0.9)	0.7 (0.4–0.9)	1.1 (0.6–1.6)	0.8 (0.7–0.8)
Erythromycin	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.8 (0.6–1.0)	1.0 (0.4–1.6)	0.9 (0.4–1.4)	0.8 (0.7–0.8)
Metformin	0.8 (0.8–0.9)	0.8 (0.7–0.8)	0.6 (0.6–0.7)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.5 (0.4–0.7)	0.5 (0.3–0.7)	1.1 (0.6–1.5)	0.8 (0.7–0.8)
Aspirin	0.8 (0.7–0.8)	0.8 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.6–0.9)	0.6 (0.5–0.7)	0.9 (0.7–1.2)	0.6 (0.3–0.9)	1.0 (0.4–1.5)	0.7 (0.7–0.8)
Warfarin sodium	0.8 (0.8–0.9)	0.7 (0.6–0.7)	0.6 (0.5–0.7)	0.7 (0.6–0.7)	0.8 (0.7–0.9)	0.7 (0.5–0.9)	0.7 (0.4–1.0)	1.2 (0.3–2.0)	0.7 (0.7–0.8)
Oxazepam	0.6 (0.6–0.7)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	0.9 (0.7–1.0)	0.8 (0.6–1.0)	0.3 (0.2–0.5)	0.5 (0.2–0.7)	0.7 (0.7–0.7)
Irbesartan	0.7 (0.7–0.8)	0.8 (0.7–0.8)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.7 (0.5–0.9)	0.7 (0.5–0.9)	1.0 (0.5–1.6)	0.7 (0.7–0.7)
Amlodipine	0.8 (0.7–0.8)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.5 (0.3–0.6)	0.4 (0.2–0.5)	0.8 (0.3–1.2)	0.7 (0.7–0.7)
Prochlorperazine	0.7 (0.7–0.8)	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.5 (0.4–0.7)	0.4 (0.3–0.6)	0.5 (0.1–0.9)	0.7 (0.6–0.7)
Subtotal (n)	*71,609*	*42,695*	*32,279*	*14,140*	*13,537*	*4,659*	*2,596*	*2,070*	*183,585*
Total prescribed medications (*n*)	**175,111**	**100,699**	**78,439**	**33,871**	**30,815**	**11,243**	**6,298**	**4,986**	**441,462**

(a) Figures will not add to 100 because multiple prescriptions could be written at each encounter and only the most frequently prescribed medications are included in this table.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.16a: Most frequent clinical treatments by state/territory, crude rates (1998–2003)

Treatment	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Advice/education*	5.0 (4.6–5.3)	6.4 (5.8–7.0)	5.7 (5.0–6.4)	6.0 (5.1–6.8)	5.3 (4.4–6.2)	6.5 (4.9–8.1)	5.3 (2.9–7.7)	7.4 (4.0–10.7)	5.6 (5.3–5.9)
Advice/education—treatment*	5.6 (5.2–5.9)	5.0 (4.6–5.4)	5.8 (5.3–6.4)	4.8 (4.2–5.5)	5.3 (4.6–6.1)	5.3 (4.2–6.4)	4.8 (3.2–6.3)	6.2 (3.6–8.7)	5.4 (5.2–5.6)
Counselling/advice—nutrition/weight*	5.2 (4.9–5.5)	4.9 (4.5–5.2)	4.3 (3.9–4.7)	4.7 (4.1–5.2)	4.3 (3.8–4.7)	3.9 (2.9–5.0)	3.7 (2.6–4.8)	4.0 (2.6–5.3)	4.8 (4.6–4.9)
Counselling—problem*	4.6 (4.2–5.0)	4.2 (3.7–4.6)	4.4 (3.8–4.9)	4.0 (3.2–4.7)	4.4 (3.7–5.2)	4.8 (3.6–5.9)	4.5 (2.6–6.5)	3.8 (2.8–4.9)	4.4 (4.2–4.6)
Counselling—psychological*	3.1 (2.8–3.3)	3.6 (3.3–3.9)	2.7 (2.5–2.9)	2.6 (2.3–2.9)	3.5 (2.9–4.2)	3.3 (2.6–4.1)	2.5 (1.8–3.2)	2.6 (1.8–3.5)	3.1 (3.0–3.3)
Advice/education—medication*	2.8 (2.6–3.0)	3.1 (2.8–3.3)	3.0 (2.7–3.3)	2.7 (2.4–3.0)	2.9 (2.5–3.3)	3.3 (2.6–4.0)	2.3 (1.5–3.0)	2.6 (1.1–4.2)	2.9 (2.8–3.0)
Counselling/advice—exercise*	2.1 (1.9–2.2)	1.8 (1.6–2.1)	1.6 (1.3–1.9)	1.9 (1.5–2.2)	1.3 (1.1–1.6)	1.3 (1.0–1.7)	2.3 (1.4–3.2)	2.1 (1.1–3.1)	1.8 (1.7–1.9)
Reassurance, support	1.6 (1.4–1.7)	1.9 (1.7–2.1)	1.4 (1.3–1.6)	1.6 (1.3–1.8)	1.3 (1.0–1.5)	1.2 (0.9–1.5)	1.7 (1.0–2.5)	1.5 (0.7–2.3)	1.6 (1.5–1.7)
Other admin/document*	1.3 (1.2–1.4)	1.7 (1.5–1.8)	1.3 (1.2–1.4)	1.3 (1.1–1.4)	1.3 (1.1–1.5)	1.7 (1.3–2.1)	1.3 (0.9–1.7)	2.2 (1.3–3.0)	1.4 (1.3–1.5)
Sickness certificate	1.0 (0.8–1.1)	1.2 (1.0–1.3)	0.7 (0.6–0.8)	0.7 (0.6–0.9)	1.3 (1.0–1.5)	1.1 (0.7–1.4)	1.2 (0.6–1.7)	1.4 (0.6–2.1)	1.0 (0.9–1.0)
Counselling/advice—smoking*	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.9 (0.6–1.1)	0.6 (0.2–0.9)	1.9 (1.1–2.6)	0.7 (0.7–0.8)
Observe/wait*	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.7 (0.5–0.9)	0.7 (0.4–0.9)	0.5 (0.3–0.8)	0.6 (0.2–1.0)	0.6 (0.2–1.0)	0.6 (0.5–0.6)
Counselling/advice—health/body*	0.5 (0.5–0.6)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.7)	0.6 (0.4–0.8)	0.5 (0.3–0.7)	1.2 (0.0–2.3)	1.1 (0.0–2.2)	0.5 (0.5–0.6)
Counselling/advice—alcohol*	0.4 (0.4–0.4)	0.4 (0.4–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.2–0.6)	0.3 (0.1–0.4)	0.8 (0.4–1.2)	0.4 (0.4–0.4)

(continued)

Table A4.16a (continued): Most frequent clinical treatments by state/territory, crude rates (1998–2003)

Treatment	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
	NSW (*n*=189,200)	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Counselling/advice—lifestyle*	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.3 (0.1–0.5)	0.4 (0.1–0.7)	1.0 (0.4–1.6)	0.4 (0.4–0.4)
Counselling/advice—prevention*	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.3 (0.2–0.5)	0.4 (0.2–0.6)	0.2 (0.1–0.4)	0.4 (0.2–0.5)	0.4 (0.3–0.4)
Family planning*	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.2–0.4)	0.4 (0.2–0.5)	0.6 (0.3–0.9)	0.4 (0.3–0.4)
Counselling/advice—relaxation*	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.5 (0.3–0.7)	0.3 (0.2–0.5)	0.2 (0.1–0.4)	0.3 (0.3–0.4)
Counselling/advice—relationship*	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.2–0.6)	0.3 (0.2–0.4)	0.4 (0.2–0.6)	0.4 (0.2–0.5)	0.3 (0.3–0.4)
Counselling/advice—drug abuse*	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.2 (0.1–0.2)	0.2 (0.1–0.3)	0.2 (0.1–0.3)	0.2 (0.0–0.4)	0.1 (0.0–0.2)	0.2 (0.0–0.3)	0.3 (0.2–0.3)
Subtotal (n)	*69,179*	*43,298*	*33,059*	*14,314*	*13,492*	*4,921*	*2,664*	*2,129*	*183,056*
Total clinical treatments (n)	*70,466*	*43,950*	*33,674*	*14,606*	*13,683*	*5,020*	*2,707*	*2,162*	*186,268*
Total other treatments (*n*)	**94,991**	**58,695**	**49,728**	**20,378**	**18,442**	**7,027**	**3,508**	**2,848**	**255,617**

(a) Figures do not total 100 as more than one treatment can be recorded at each encounter.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).

Note: Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.16b: Most frequent clinical treatments by state/territory, patient age-standardised rates (1998–2003)

Treatment	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Advice/education*	5.0 (4.6–5.4)	6.6 (5.9–7.2)	5.7 (5.1–6.4)	6.1 (5.2–6.9)	5.4 (4.7–6.3)	6.6 (5.0–8.2)	5.2 (2.8–7.5)	7.7 (3.9–11.5)	5.7 (5.4–5.9)
Advice/education—treatment*	5.7 (5.3–6.0)	5.1 (4.7–5.6)	5.9 (5.3–6.4)	4.9 (4.3–5.6)	5.5 (4.7–6.3)	5.5 (4.3–6.6)	4.7 (3.1–6.2)	5.8 (3.3–8.2)	5.5 (5.3–5.7)
Counselling/advice—nutrition/weight*	5.2 (4.9–5.5)	4.9 (4.5–5.2)	4.3 (3.9–4.7)	5.0 (4.1–5.1)	4.3 (3.8–4.8)	3.9 (2.8–4.9)	3.8 (2.7–4.9)	4.1 (2.7–5.5)	4.8 (4.6–4.9)
Counselling—problem*	4.6 (4.2–5.0)	4.2 (3.7–4.6)	4.3 (3.8–4.9)	3.9 (3.2–4.6)	4.4 (3.6–5.1)	4.8 (3.6–5.9)	4.6 (2.6–6.5)	3.8 (2.7–4.8)	4.4 (4.1–4.6)
Counselling—psychological*	3.1 (2.8–3.3)	3.5 (3.2–3.8)	2.7 (2.5–2.9)	2.5 (2.2–2.8)	3.5 (2.8–4.2)	3.3 (2.5–4.0)	2.4 (1.7–3.1)	2.4 (1.6–3.1)	3.1 (2.9–3.2)
Advice/education—medication*	2.7 (2.5–2.9)	3.0 (2.7–3.2)	3.0 (2.7–3.2)	2.7 (2.4–3.0)	2.8 (2.4–3.2)	3.2 (2.5–3.9)	2.4 (1.6–3.1)	3.0 (1.4–4.5)	2.8 (2.7–3.0)
Counselling/advice—exercise*	2.0 (1.9–2.2)	1.8 (1.6–2.0)	1.6 (1.3–1.9)	1.8 (1.5–2.1)	1.3 (1.1–1.6)	1.3 (1.0–1.7)	2.4 (1.4–3.2)	2.3 (1.1–3.5)	1.8 (1.7–1.9)
Reassurance, support	1.6 (1.4–1.7)	2.0 (1.8–2.2)	1.4 (1.3–1.6)	1.6 (1.3–1.8)	1.3 (1.1–1.5)	1.2 (0.9–1.6)	1.8 (1.0–2.5)	1.6 (0.6–2.6)	1.6 (1.5–1.7)
Other admin/document*	1.3 (1.2–1.4)	1.6 (1.5–1.8)	1.3 (1.2–1.4)	1.2 (1.1–1.4)	1.3 (1.1–1.5)	1.7 (1.3–2.0)	1.2 (0.8–1.6)	2.0 (1.3–2.8)	1.4 (1.3–1.5)
Sickness certificate	1.0 (0.9–1.1)	1.1 (1.0–1.3)	0.7 (0.6–0.8)	0.7 (0.5–0.8)	1.3 (1.0–1.6)	1.1 (0.7–1.4)	1.0 (0.5–1.6)	1.2 (0.6–1.8)	1.0 (0.9–1.0)
Counselling/advice—smoking*	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.9 (0.6–1.1)	0.5 (0.2–0.8)	1.8 (1.1–2.6)	0.7 (0.7–0.8)
Observe/wait*	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.7 (0.5–0.9)	0.7 (0.4–0.9)	0.5 (0.3–0.8)	0.6 (0.2–1.0)	0.6 (0.2–1.0)	0.6 (0.5–0.6)
Counselling/advice—health/body*	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.7)	0.6 (0.4–0.8)	0.5 (0.3–0.8)	1.2 (0.1–2.3)	1.1 (0.0–2.2)	0.5 (0.5–0.6)
Counselling/advice—alcohol*	0.4 (0.4–0.4)	0.4 (0.4–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.2–0.6)	0.3 (0.1–0.4)	0.7 (0.4–1.1)	0.4 (0.4–0.4)

(continued)

Table A4.16b (continued): Most frequent clinical treatments by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
Treatment	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Counselling/advice—lifestyle*	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.3 (0.1–0.5)	0.4 (0.1–0.7)	1.0 (0.3–1.6)	0.4 (0.4–0.4)
Counselling/advice—prevention*	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.3 (0.2–0.5)	0.4 (0.2–0.6)	0.2 (0.1–0.4)	0.3 (0.1–0.5)	0.4 (0.3–0.4)
Counselling/advice—relationship*	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.2–0.6)	0.3 (0.2–0.4)	0.4 (0.2–0.7)	0.3 (0.2–0.4)	0.3 (0.3–0.4)
Family planning*	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.2–0.4)	0.4 (0.3–0.4)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.5 (0.2–0.7)	0.3 (0.3–0.4)
Counselling/advice—relaxation*	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	0.2 (0.0–0.3)	0.3 (0.3–0.4)
Counselling/advice—drug abuse*	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.2 (0.1–0.2)	0.2 (0.1–0.3)	0.2 (0.1–0.3)	0.2 (0.0–0.4)	0.1 (0.0–0.1)	0.2 (0.0–0.3)	0.3 (0.2–0.3)
Subtotal (n)	*68,768*	*43,059*	*32,793*	*14,135*	*13,409*	*4,896*	*2,600*	*2,078*	*181,738*
Total clinical treatments (n)	*70,053*	*43,709*	*33,393*	*14,420*	*13,601*	*4,996*	*2,641*	*2,107*	*184,919*
Total other treatments (*n*)	**94,131**	**58,116**	**49,300**	**20,094**	**18,253**	**6,961**	**3,434**	**2,766**	**253,055**

(a) Figures do not total 100 as more than one treatment can be recorded at each encounter.
* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).
Note: Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.17a: Most frequent procedural treatments by state/territory, crude rates (1998–2003)

	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
Treatment	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Excision/removal tissue/biopsy/ destruction/debridement/cauterisation*	2.4 (2.2–2.6)	2.6 (2.4–2.7)	4.1 (3.8–4.3)	3.0 (2.7–3.2)	2.3 (2.1–2.5)	3.1 (2.5–3.8)	1.7 (1.3–2.1)	3.0 (2.3–3.7)	2.8 (2.7–2.9)
Dressing/pressure/compression/ tamponade*	1.8 (1.7–1.9)	2.0 (1.8–2.1)	2.3 (2.2–2.5)	1.8 (1.6–2.0)	1.8 (1.6–2.1)	2.0 (1.6–2.4)	1.3 (0.9–1.6)	1.4 (0.9–1.8)	1.9 (1.9–2.0)
Physical medicine/rehabilitation*	2.0 (1.9–2.2)	1.7 (1.5–1.9)	2.2 (1.8–2.6)	1.6 (1.3–1.9)	1.6 (1.3–1.9)	2.4 (1.5–3.2)	2.3 (1.2–3.4)	1.1 (0.5–1.6)	1.9 (1.8–2.0)
Other therapeutic procedures/surgery NEC*	1.2 (1.0–1.3)	1.1 (0.9–1.3)	1.3 (1.1–1.6)	1.1 (0.8–1.3)	1.4 (0.8–2.0)	1.5 (1.0–2.1)	1.0 (0.2–1.7)	0.5 (0.2–0.8)	1.2 (1.1–1.3)
Local injection/infiltration*	1.1 (0.9–1.2)	1.1 (0.9–1.3)	1.4 (1.1–1.6)	1.5 (1.1–2.0)	0.8 (0.6–0.9)	1.3 (0.8–1.9)	0.6 (0.0–1.4)	0.8 (0.0–1.6)	1.1 (1.0–1.2)
Incision/drainage/flushing/aspiration/ removal body fluid*	1.0 (1.0–1.1)	1.0 (0.9–1.1)	1.2 (1.1–1.3)	1.2 (1.1–1.4)	1.2 (1.0–1.4)	1.0 (0.7–1.2)	0.6 (0.4–0.8)	1.3 (0.9–1.8)	1.1 (1.0–1.1)
Pap smear	0.9 (0.8–1.0)	1.1 (1.0–1.2)	1.2 (1.1–1.4)	1.1 (0.9–1.3)	0.9 (0.7–1.0)	1.1 (0.7–1.4)	1.0 (0.6–1.3)	1.6 (0.9–2.4)	1.1 (1.0–1.1)
Repair/fixation-suture/cast/prosthetic device (apply/remove)*	0.8 (0.8–0.9)	0.9 (0.8–1.0)	1.4 (1.2–1.5)	0.9 (0.8–1.0)	1.0 (0.9–1.2)	0.9 (0.7–1.1)	0.6 (0.4–0.8)	1.0 (0.6–1.4)	1.0 (0.9–1.0)
Physical function test*	0.5 (0.4–0.5)	0.3 (0.2–0.3)	0.5 (0.4–0.6)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	0.4 (0.2–0.5)	0.5 (0.2–0.7)	1.3 (0.0–2.9)	0.4 (0.4–0.5)
Electrical tracings*	0.4 (0.3–0.4)	0.2 (0.2–0.3)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.3 (0.2–0.5)	0.2 (0.1–0.2)	0.4 (0.2–0.6)	0.4 (0.3–0.4)
Subtotal (n)	*22,808*	*13,624*	*15,009*	*5,390*	*4,435*	*1,849*	*748*	*640*	*64,503*
Total procedural treatments (n)	*24,525*	*14,745*	*16,054*	*5,772*	*4,759*	*2,007*	*801*	*686*	*69,349*
Total other treatments (*n*)	**94,991**	**58,695**	**49,728**	**20,378**	**18,442**	**20,378**	**3,508**	**2,848**	**255,617**

(a) Figures do not total 100 as more than one procedure can be described for each problem. Only procedures accounting for >=0.5% of other treatments are included.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). NEC—not elsewhere classified.

Table A4.17b: Most frequent procedural treatments by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Treatment	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Excision/removal tissue/biopsy/ destruction/debridement/cauterisation*	2.4 (2.2–2.5)	2.5 (2.4–2.7)	4.1 (3.8–4.4)	3.0 (2.7–3.2)	2.3 (2.0–2.5)	3.1 (2.4–3.7)	1.7 (1.3–2.2)	2.9 (2.1–3.6)	2.8 (2.7–2.9)
Dressing/pressure/compression/ tamponade*	1.8 (1.7–1.9)	1.9 (1.7–2.0)	2.3 (2.2–2.5)	1.8 (1.6–2.0)	1.8 (1.5–2.0)	2.0 (1.6–2.4)	1.3 (0.9–1.7)	1.4 (0.9–2.0)	1.9 (1.8–2.0)
Physical medicine/rehabilitation*	2.0 (1.8–2.2)	1.7 (1.5–1.9)	2.2 (1.8–2.6)	1.6 (1.3–1.9)	1.6 (1.3–1.9)	2.3 (1.5–3.2)	2.2 (1.2–3.2)	1.1 (0.6–1.6)	1.9 (1.8–2.0)
Other therapeutic procedures/surgery NEC*	1.2 (1.0–1.3)	1.1 (0.9–1.3)	1.3 (1.1–1.6)	1.1 (0.8–1.3)	1.4 (0.8–2.0)	1.5 (1.0–2.1)	1.0 (0.2–1.9)	0.5 (0.2–0.7)	1.2 (1.1–1.3)
Local injection/infiltration*	1.1 (0.9–1.2)	1.1 (0.9–1.2)	1.3 (1.1–1.6)	1.5 (1.0–1.9)	0.8 (0.6–0.9)	1.3 (0.8–1.8)	0.7 (0.0–1.7)	0.9 (0.0–2.1)	1.1 (1.0–1.2)
Incision/drainage/flushing/aspiration/ removal body fluid*	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.2 (1.2–1.3)	1.2 (1.1–1.4)	1.2 (1.0–1.3)	0.9 (0.7–1.2)	0.6 (0.4–0.8)	1.2 (0.8–1.7)	1.1 (1.0–1.1)
Pap smear	0.9 (0.9–1.0)	1.1 (1.0–1.2)	1.2 (1.1–1.4)	1.1 (0.9–1.3)	0.8 (0.7–1.0)	1.1 (0.7–1.4)	0.9 (0.5–1.2)	1.5 (0.7–2.2)	1.0 (1.0–1.1)
Repair/fixation-suture/cast/prosthetic device (apply/remove)*	0.8 (0.8–0.9)	0.9 (0.8–1.0)	1.4 (1.2–1.5)	0.9 (0.8–1.0)	1.0 (0.8–1.2)	0.9 (0.7–1.1)	0.6 (0.4–0.8)	0.8 (0.5–1.2)	1.0 (0.9–1.0)
Physical function test*	0.5 (0.4–0.5)	0.3 (0.2–0.3)	0.5 (0.4–0.6)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	0.3 (0.2–0.5)	0.4 (0.2–0.6)	1.1 (0.0–2.4)	0.4 (0.4–0.5)
Electrical tracings*	0.3 (0.3–0.4)	0.2 (0.2–0.3)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.2 (0.1–0.2)	0.5 (0.2–0.8)	0.3 (0.3–0.4)
Subtotal (n)	*22,400*	*13,328*	*14,887*	*5,300*	*4,336*	*1,810*	*741*	*611*	*63,413*
Total procedural treatments (n)	*24,078*	*14,407*	*15,907*	*5,674*	*4,653*	*1,965*	*793*	*660*	*68,136*
Total other treatments (*n*)	**94,131**	**58,116**	**49,300**	**20,094**	**18,253**	**6,961**	**3,434**	**2,766**	**253,055**

(a) Figures do not total 100 as more than one procedure can be described for each problem. Only procedures accounting for >=0.5% of other treatments are included.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). NEC—not elsewhere classified.

Table A4.18a: Most frequent referrals to specialists and allied health professionals by state/territory, crude rates (1998–2003)

Professional to whom patient referred	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Medical specialist	**8.7 (8.4–8.9)**	**7.6 (7.3–7.8)**	**7.2 (6.8–7.5)**	**8.0 (7.6–8.4)**	**7.5 (7.0–8.0)**	**7.3 (6.6–8.0)**	**7.7 (6.6–8.9)**	**7.6 (6.4–8.8)**	**7.9 (7.8–8.1)**
Referral; surgeon	0.9 (0.8–0.9)	0.9 (0.8–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.6–1.0)	0.5 (0.3–0.7)	1.5 (1.1–1.9)	0.8 (0.8–0.9)
Referral; ophthalmologist	0.8 (0.8–0.9)	0.7 (0.7–0.8)	0.7 (0.6–0.7)	0.9 (0.8–1.0)	0.7 (0.6–0.8)	0.5 (0.4–0.7)	0.6 (0.3–0.9)	0.4 (0.2–0.6)	0.8 (0.7–0.8)
Referral; orthopaedic surgeon	0.7 (0.7–0.8)	0.7 (0.6–0.7)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.6–0.9)	0.7 (0.5–0.8)	0.6 (0.3–0.9)	0.8 (0.5–1.1)	0.7 (0.7–0.7)
Referral; dermatologist	0.8 (0.7–0.8)	0.6 (0.6–0.7)	0.4 (0.4–0.5)	0.7 (0.6–0.7)	0.6 (0.5–0.7)	0.5 (0.3–0.6)	0.6 (0.4–0.9)	0.4 (0.2–0.6)	0.6 (0.6–0.7)
Referral; gynaecologist	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.7 (0.6–0.8)	0.5 (0.5–0.6)	0.6 (0.4–0.7)	0.5 (0.3–0.7)	0.9 (0.5–1.2)	0.6 (0.6–0.7)
Referral; ENT	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.6 (0.4–0.9)	0.5 (0.3–0.7)	0.5 (0.5–0.5)
Referral; cardiologist	0.5 (0.5–0.6)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.5 (0.4–0.5)	0.4 (0.2–0.5)	0.4 (0.2–0.5)	0.4 (0.2–0.6)	0.4 (0.4–0.4)
Referral; gastroenterologist	0.5 (0.4–0.5)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.5 (0.4–0.7)	0.1 (0.0–0.2)	0.4 (0.4–0.4)
Referral; urologist	0.3 (0.3–0.3)	0.3 (0.3–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.2–0.5)	0.2 (0.1–0.4)	0.1 (0.0–0.2)	0.3 (0.3–0.3)
Referral; psychiatrist	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.3–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.3 (0.1–0.5)	0.4 (0.2–0.5)	0.3 (0.3–0.3)
Subtotal: top ten specialist referrals (n)	*11,435*	*5,898*	*4,447*	*2,229*	*2,045*	*653*	*387*	*277*	*27,371*

(continued)

Table A4.18a (continued): Most frequent referrals to specialists and allied health professionals by state/territory, crude rates (1998–2003)

Professional to whom patient referred	Rate per 100 encounters,[a] 95% confidence interval, column specific								
	NSW (*n*=189,200)	Vic (*n*=114,000)	Qld (*n*=93,300)	WA (*n*=41,200)	SA (*n*=38,100)	Tas (*n*=13,300)	ACT (*n*=7,800)	NT (*n*=5,200)	Australia (*n*=502,100)
Allied health and other professionals	**2.9 (2.7–3.0)**	**3.0 (2.8–3.2)**	**2.5 (2.3–2.7)**	**3.0 (2.7–3.2)**	**3.2 (2.8–3.5)**	**3.6 (2.9–4.2)**	**3.6 (2.9–4.4)**	**3.7 (2.8–4.5)**	**2.9 (2.8–3.0)**
Referral; physiotherapy	1.1 (1.0–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	1.3 (1.1–1.5)	1.6 (1.3–2.0)	1.1 (0.8–1.5)	1.3 (0.9–1.6)	1.1 (1.0–1.1)
Referral; health professional	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.1–0.3)	0.2 (0.1–0.4)	0.2 (0.1–0.4)	0.2 (0.2–0.2)
Referral; podiatrist/chiropodist	0.1 (0.1–0.2)	0.2 (0.2–0.2)	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.4)	0.4 (0.2–0.5)	0.3 (0.1–0.4)	0.2 (0.2–0.2)
Referral; psychologist	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.3 (0.2–0.4)	0.2 (0.1–0.4)	0.2 (0.1–0.4)	0.2 (0.2–0.2)
Referral; dietitian/nutrition	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	0.2 (0.0–0.3)	0.2 (0.0–0.3)	0.2 (0.1–0.2)
Referral; dentist	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.3)	0.3 (0.1–0.5)	0.2 (0.1–0.2)
Referral (for); ECG	0.1 (0.1–0.1)	0.2 (0.2–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.1 (0.1–0.2)
Referral; acoustic testing	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.2)	0.1 (0.0–0.2)	0.1 (0.0–0.3)	0.1 (0.1–0.1)
Referral; counsellor	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.1 (0.0–0.1)	0.1 (0.1–0.1)
Referral; optometrist	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.1 (0.0–0.1)	—	0.1 (0.1–0.1)
Subtotal: top ten allied health referrals (n)	*4,257*	*2,685*	*1,876*	*963*	*936*	*393*	*212*	*143*	*11,465*
Total specialist & allied health refs (*n*)	**21,856**	**12,057**	**9,022**	**4,508**	**4,063**	**1,441**	**887**	**586**	**54,420**

(a) Figures do not total 100 as more than one referral can be recorded at each encounter.

— <0.05 per 100 encounters.

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). ENT—ear, nose and throat; ECG—electrocardiogram; refs—referrals.

Table A4.18b: Most frequent referrals to specialists and allied health professionals by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Professional to whom patient referred	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Medical specialist	**8.6 (8.4–8.8)**	**7.5 (7.2–7.7)**	**7.2 (6.8–7.5)**	**7.9 (7.5–8.3)**	**7.5 (7.0–7.9)**	**7.3 (6.6–8.0)**	**7.8 (6.6–9.0)**	**7.5 (6.2–8.7)**	**7.9 (7.7–8.0)**
Referral; surgeon	0.9 (0.8–0.9)	0.8 (0.8–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.6–1.0)	0.5 (0.3–0.7)	1.6 (1.1–2.0)	0.8 (0.8–0.8)
Referral; ophthalmologist	0.8 (0.8–0.8)	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.9 (0.8–1.0)	0.7 (0.6–0.7)	0.5 (0.4–0.7)	0.7 (0.4–1.0)	0.5 (0.2–0.8)	0.7 (0.7–0.8)
Referral; orthopaedic surgeon	0.7 (0.7–0.8)	0.7 (0.6–0.7)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.6–0.9)	0.7 (0.5–0.8)	0.6 (0.3–0.9)	0.8 (0.4–1.2)	0.7 (0.7–0.7)
Referral; dermatologist	0.8 (0.7–0.8)	0.6 (0.6–0.7)	0.4 (0.4–0.5)	0.7 (0.6–0.7)	0.6 (0.5–0.7)	0.5 (0.3–0.6)	0.6 (0.4–0.8)	0.3 (0.1–0.5)	0.6 (0.6–0.7)
Referral; gynaecologist	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.7 (0.6–0.7)	0.5 (0.4–0.6)	0.6 (0.4–0.7)	0.5 (0.3–0.7)	0.7 (0.4–0.9)	0.6 (0.6–0.6)
Referral; ENT	0.6 (0.5–0.6)	0.5 (0.5–0.5)	0.5 (0.4–0.5)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.4–0.7)	0.6 (0.4–0.9)	0.5 (0.3–0.8)	0.5 (0.5–0.6)
Referral; cardiologist	0.5 (0.5–0.6)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.4 (0.4–0.5)	0.4 (0.2–0.5)	0.4 (0.3–0.6)	0.4 (0.2–0.7)	0.4 (0.4–0.4)
Referral; gastroenterologist	0.5 (0.4–0.5)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.3 (0.2–0.5)	0.5 (0.3–0.7)	0.1 (0.0–0.2)	0.4 (0.4–0.4)
Referral; urologist	0.3 (0.3–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.5)	0.3 (0.1–0.4)	0.1 (0.0–0.2)	0.3 (0.3–0.3)
Referral; psychiatrist	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.3–0.3)	0.2 (0.2–0.2)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.3 (0.1–0.4)	0.3 (0.1–0.5)	0.3 (0.3–0.3)
Subtotal: top ten specialist referrals (n)	*11,208*	*5,768*	*4,414*	*2,180*	*2,007*	*638*	*385*	*276*	*26,875*

(continued)

Table A4.18b (continued): Most frequent referrals to specialists and allied health professionals by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Professional to whom patient referred	**NSW (*n*=189,200)**	**Vic (*n*=114,000)**	**Qld (*n*=93,300)**	**WA (*n*=41,200)**	**SA (*n*=38,100)**	**Tas (*n*=13,300)**	**ACT (*n*=7,800)**	**NT (*n*=5,200)**	**Australia (*n*=502,100)**
Allied health and other professionals	**2.9 (2.7–3.0)**	**3.0 (2.8–3.1)**	**2.5 (2.3–2.7)**	**2.9 (2.6–3.2)**	**3.1 (2.8–3.4)**	**3.5 (2.9–4.1)**	**3.6 (2.9–4.4)**	**3.8 (2.6–5.0)**	**2.9 (2.8–2.9)**
Referral; physiotherapy	1.1 (1.0–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	1.3 (1.1–1.4)	1.6 (1.2–1.9)	1.1 (0.8–1.5)	1.1 (0.7–1.5)	1.1 (1.0–1.1)
Referral; health professional	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.3 (0.2–0.3)	0.2 (0.1–0.3)	0.2 (0.1–0.3)	0.2 (0.1–0.4)	0.2 (0.1–0.3)	0.2 (0.2–0.2)
Referral; psychologist	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.3 (0.2–0.4)	0.2 (0.1–0.3)	0.2 (0.1–0.3)	0.2 (0.2–0.2)
Referral; podiatrist/chiropodist	0.1 (0.1–0.2)	0.2 (0.2–0.2)	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.4)	0.4 (0.2–0.5)	0.3 (0.1–0.5)	0.2 (0.2–0.2)
Referral; dietitian/nutrition	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	0.2 (0.0–0.3)	0.2 (0.0–0.3)	0.2 (0.1–0.2)
Referral; dentist	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.3)	0.3 (0.1–0.4)	0.2 (0.1–0.2)
Referral; (for); ECG	0.1 (0.1–0.1)	0.2 (0.2–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.2 (0.0–0.3)	0.1 (0.1–0.1)
Referral; acoustic testing	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.2)	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.1 (0.1–0.1)
Referral; counsellor	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	0.1 *	0.1 (0.1–0.1)
Referral; optometrist	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	—	0.1 (0.1–0.1)
Subtotal: top ten allied health referrals (n)	*4,212*	*2,611*	*1,859*	*941*	*907*	*385*	*211*	*130*	*11,257*
Total specialist & allied health refs (*n*)	**21,464**	**11,775**	**8,932**	**4,413**	**3,981**	**1,421**	**884**	**580**	**53,452**

(a) Figures do not total 100 as more than one referral can be recorded at each encounter.
* Frequency too small to calculate confidence interval.
— <0.05 per 100 encounters.
Note: Shading indicates a significant difference between a state/territory and Australia (total sample). ENT—ear, nose and throat; ECG—electrocardiogram; refs—referrals.

Table A4.19a: Distribution of pathology orders across MBS pathology groups by state/territory, crude rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Pathology test ordered	**NSW (*n*=113,800)**	**Vic (*n*=69,300)**	**Qld (*n*=53,700)**	**WA (*n*=24,700)**	**SA (*n*=21,100)**	**Tas (*n*=8,600)**	**ACT (*n*=4,800)**	**NT (*n*=3,000)**	**Australia (*n*=299,000)**
Chemistry	**16.7 (16.0–17.4)**	**18.9 (17.8–20.0)**	**17.0 (16.0–18.1)**	**21.6 (19.9–23.4)**	**16.6 (14.9–18.3)**	**16.0 (13.6–18.5)**	**17.9 (14.3–21.5)**	**22.4 (16.7–28.2)**	**17.7 (17.2–18.2)**
Lipids*	3.3 (3.1–3.5)	3.9 (3.6–4.2)	2.6 (2.3–2.8)	4.0 (3.5–4.5)	3.3 (2.9–3.7)	3.8 (3.0–4.6)	3.2 (2.3–4.1)	4.7 (3.1–6.3)	3.4 (3.2–3.5)
EUC*	2.2 (2.0–2.4)	3.1 (2.9–3.3)	0.9 (0.8–1.1)	2.9 (2.5–3.3)	1.5 (1.1–1.9)	2.8 (2.1–3.5)	1.9 (1.3–2.6)	2.5 (1.5–3.5)	2.2 (2.1–2.3)
Liver function*	2.4 (2.2–2.5)	2.5 (2.3–2.7)	1.0 (0.9–1.2)	2.6 (2.2–2.9)	2.7 (2.2–3.2)	2.3 (1.9–2.7)	2.2 (1.5–2.8)	2.1 (1.2–2.9)	2.2 (2.1–2.3)
Glucose—all*	2.2 (2.1–2.4)	2.9 (2.6–3.1)	0.9 (0.8–1.0)	3.4 (3.0–3.8)	1.3 (1.1–1.6)	2.1 (1.6–2.5)	2.1 (1.4–2.8)	3.1 (2.0–4.2)	2.2 (2.1–2.3)
Thyroid function*	1.5 (1.4–1.6)	1.7 (1.6–1.9)	2.3 (2.1–2.5)	2.4 (2.2–2.7)	1.7 (1.4–2.0)	1.3 (1.1–1.6)	2.1 (1.6–2.6)	2.0 (1.1–3.0)	1.8 (1.7–1.9)
Multi-biochemical analysis*	0.9 (0.8–1.1)	0.1 (0.1–0.2)	4.1 (3.7–4.5)	—	1.2 (0.9–1.5)	0.1 (0.0–0.1)	0.8 (0.1–1.5)	0.6 (0.0–1.3)	1.2 (1.1–1.3)
Haematology	**6.1 (5.9–6.4)**	**6.4 (6.0–6.8)**	**7.4 (6.9–7.9)**	**6.7 (6.0–7.3)**	**6.2 (5.4–6.8)**	**5.9 (5.0–6.7)**	**6.9 (5.0–8.8)**	**6.2 (4.6–7.8)**	**6.5 (6.3–6.7)**
Full blood count	4.1 (3.9–4.3)	4.5 (4.2–4.8)	5.5 (5.1–5.8)	4.7 (4.2–5.2)	3.9 (3.4–4.4)	3.6 (3.1–4.1)	4.8 (3.6–5.9)	4.4 (3.2–5.5)	4.5 (4.3–4.6)
Erythrocyte sedimentation rate	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.2 (1.0–1.3)	0.7 (0.6–0.9)	1.0 (0.8–1.2)	0.9 (0.6–1.1)	1.5 (0.6–2.3)	1.0 (0.3–1.6)	1.0 (1.0–1.1)
Microbiology	**4.8 (4.5–5.1)**	**4.9 (4.5–5.2)**	**6.7 (6.1–7.2)**	**6.1 (5.5–6.8)**	**4.3 (3.7–4.9)**	**4.5 (3.6–5.3)**	**5.5 (4.2–6.7)**	**7.1 (5.2–8.9)**	**5.3 (5.1–5.4)**
Urine MC&S*	1.6 (1.5–1.7)	1.9 (1.7–2.0)	1.9 (1.7–2.1)	1.8 (1.6–2.0)	1.4 (1.2–1.6)	1.6 (1.3–1.9)	1.8 (1.3–2.2)	1.8 (1.2–2.4)	1.7 (1.7–1.8)
Cytology	**1.8 (1.6–2.0)**	**2.2 (1.9–2.4)**	**2.3 (2.0–2.5)**	**2.4 (2.0–2.8)**	**1.7 (1.4–2.1)**	**2.0 (1.4–2.7)**	**2.1 (1.4–2.8)**	**3.2 (1.7–4.7)**	**2.0 (1.9–2.1)**
Pap smear*	1.8 (1.6–1.9)	2.1 (1.8–2.4)	2.2 (1.9–2.5)	2.3 (1.9–2.8)	1.7 (1.3–2.1)	2.0 (1.4–2.6)	2.0 (1.4–2.7)	3.0 (1.5–4.5)	2.0 (1.9–2.1)

(continued)

Table A4.19a (continued): Distribution of pathology orders across MBS pathology groups by state/territory, crude rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Pathology test ordered	NSW (*n*=113,800)	Vic (*n*=69,300)	Qld (*n*=53,700)	WA (*n*=24,700)	SA (*n*=21,100)	Tas (*n*=8,600)	ACT (*n*=4,800)	NT (*n*=3,000)	Australia (*n*=299,000)
Other NEC	1.0 (0.9–1.1)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.8 (0.7–1.0)	1.2 (0.9–1.5)	0.7 (0.5–1.0)	1.0 (0.4–1.6)	1.0 (0.4–1.6)	0.8 (0.8–0.9)
Infertility/pregnancy	0.3 (0.3–0.3)	0.2 (0.2–0.3)	0.4 (0.3–0.5)	0.3 (0.2–0.4)	0.2 (0.1–0.2)	0.2 (0.1–0.3)	0.3 (0.1–0.5)	0.5 (0.1–0.9)	0.3 (0.3–0.3)
Tissue pathology	0.5 (0.4–0.6)	0.3 (0.3–0.4)	0.9 (0.8–1.0)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.5 (0.2–0.8)	0.3 (0.1–0.5)	0.6 (0.3–1.0)	0.5 (0.5–0.6)
Immunology	0.6 (0.5–0.6)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.7)	0.4 (0.3–0.5)	0.5 (0.3–0.6)	0.8 (0.4–1.1)	0.9 (0.4–1.3)	0.5 (0.5–0.5)
Simple basic tests	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	0.1 (0.0–0.2)	—	0.1 (0.1–0.1)
Total pathology tests (*n*)	36,211	23,535	19,234	9,641	6,560	2,611	1,671	1,258	100,721

(a) Figures do not total 100 as more than one pathology test can be ordered at each encounter and for each problem.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).

— <0.05 per 100 encounters.

Note: Limited to April 2000 to March 2003 inclusive due to older pathology codes in Years 1 and 2. Only those tests with a rate >=1.0 per 100 encounters for Australia are included. Shading indicates a significant difference between a state/territory and Australia (total sample). EUC—electrolytes, urea & creatinine; MC&S—microscopy, culture & sensitivity; NEC—not elsewhere classified.

Table A4.19b: Distribution of pathology orders across MBS pathology groups by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Pathology test ordered	**NSW (*n*=74,488)**	**Vic (*n*=44,993)**	**Qld (*n*=38,862)**	**WA (*n*=15,754)**	**SA (*n*=13,122)**	**Tas (*n*=5,232)**	**ACT (*n*=2,563)**	**NT (*n*=2,212)**	**Australia (*n*=197,226)**
Chemistry	**17.1 (16.2–18.0)**	**19.3 (18.0–20.5)**	**17.7 (16.4–19.0)**	**21.7 (19.6–23.8)**	**17.7 (15.5–19.9)**	**16.8 (13.3–20.2)**	**23.0 (18.1–28.0)**	**25.3 (18.1–32.6)**	**18.3 (17.7–18.8)**
Lipids*	3.1 (2.9–3.4)	3.8 (3.5–4.1)	2.7 (2.4–3.0)	4.0 (3.5–4.5)	3.4 (2.9–3.9)	3.9 (2.7–5.1)	3.7 (2.5–4.8)	5.8 (3.5–8.0)	3.3 (3.2–3.5)
EUC*	2.3 (2.1–2.5)	3.2 (2.9–3.5)	1.0 (0.8–1.2)	2.9 (2.4–3.4)	1.6 (1.1–2.1)	3.0 (2.0–3.9)	2.8 (1.8–3.7)	2.8 (1.5–4.1)	2.3 (2.1–2.4)
Liver function*	2.4 (2.2–2.6)	2.6 (2.4–2.9)	1.0 (0.8–1.2)	2.4 (2.1–2.8)	2.8 (2.2–3.4)	2.4 (1.8–2.9)	2.9 (1.8–3.9)	2.1 (1.0–3.1)	2.2 (2.1–2.3)
Glucose—all*	2.2 (2.0–2.4)	2.8 (2.6–3.1)	1.0 (0.8–1.1)	3.3 (2.9–3.8)	1.6 (1.2–2.0)	2.0 (1.5–2.6)	3.1 (1.9–4.3)	3.3 (2.0–4.5)	2.2 (2.1–2.3)
Thyroid function*	1.6 (1.5–1.7)	1.8 (1.6–2.0)	2.4 (2.2–2.7)	2.4 (2.0–2.7)	1.8 (1.4–2.1)	1.5 (1.2–1.8)	2.3 (1.6–2.9)	2.4 (1.1–3.7)	1.9 (1.8–2.0)
Multi-biochemical analysis*	0.9 (0.8–1.0)	0.1 (0.1–0.2)	4.2 (3.7–4.7)	—	1.3 (0.9–1.6)	—	1.1 (0.0–2.4)	0.6 (0.0–1.5)	1.3 (1.2–1.4)
Haematology	**6.2 (5.8–6.5)**	**6.5 (6.0–6.9)**	**7.5 (6.9–8.1)**	**6.5 (5.7–7.3)**	**6.2 (5.3–7.0)**	**6.2 (5.1–7.3)**	**9.7 (6.5–12.9)**	**6.1 (4.2–8.1)**	**6.6 (6.4–6.8)**
Full blood count	4.1 (3.9–4.3)	4.6 (4.3–5.0)	5.7 (5.2–6.2)	4.6 (4.0–5.2)	3.8 (3.2–4.3)	3.9 (3.2–4.5)	6.6 (4.9–8.4)	4.3 (2.6–5.9)	4.6 (4.4–4.7)
Erythrocyte sedimentation rate	1.0 (0.9–1.1)	1.1 (1.0–1.3)	1.1 (1.0–1.3)	0.8 (0.6–1.0)	1.0 (0.7–1.2)	0.9 (0.6–1.2)	2.2 (0.6–3.8)	0.8 (0.1–1.5)	1.1 (1.0–1.1)
Microbiology	**5.0 (4.7–5.4)**	**5.0 (4.6–5.4)**	**6.7 (6.1–7.4)**	**5.6 (4.9–6.3)**	**4.5 (3.7–5.2)**	**4.9 (3.8–6.0)**	**6.3 (4.5–8.0)**	**6.3 (4.1–8.4)**	**5.4 (5.2–5.6)**
Urine MC&S*	1.6 (1.5–1.7)	2.0 (1.8–2.1)	1.9 (1.7–2.1)	1.7 (1.4–2.0)	1.4 (1.1–1.6)	1.8 (1.4–2.2)	2.0 (1.3–2.6)	1.5 (0.7–2.3)	1.8 (1.7–1.8)
Cytology	**1.8 (1.6–2.0)**	**2.3 (2.0–2.6)**	**2.3 (1.9–2.6)**	**2.2 (1.7–2.6)**	**1.8 (1.4–2.3)**	**2.2 (1.4–3.0)**	**1.8 (0.8–2.8)**	**3.5 (1.7–5.4)**	**2.1 (1.9–2.2)**
Pap smear*	1.7 (1.5–1.9)	2.3 (1.9–2.6)	2.2 (1.8–2.5)	2.1 (1.7–2.6)	1.8 (1.3–2.2)	2.2 (1.4–3.0)	1.8 (0.8–2.7)	3.3 (1.5–5.2)	2.0 (1.9–2.1)

(continued)

Table A4.19b (continued): Distribution of pathology orders across MBS pathology groups by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
Pathology test ordered	NSW (*n*=74,488)	Vic (*n*=44,993)	Qld (*n*=38,862)	WA (*n*=15,754)	SA (*n*=13,122)	Tas (*n*=5,232)	ACT (*n*=2,563)	NT (*n*=2,212)	Australia (*n*=197,226)
Other NEC	0.9 (0.8–1.1)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.8 (0.6–1.0)	1.0 (0.6–1.3)	0.6 (0.3–1.0)	1.1 (0.3–2.0)	0.6 (0.1–1.1)	0.8 (0.7–0.8)
Infertility/pregnancy	0.3 (0.3–0.4)	0.2 (0.2–0.3)	0.3 (0.2–0.4)	0.2 (0.1–0.3)	0.2 (0.1–0.2)	0.2 (0.1–0.4)	0.4 (0.1–0.6)	0.6 (0.1–1.0)	0.3 (0.2–0.3)
Tissue pathology	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.9 (0.7–1.0)	0.5 (0.4–0.7)	0.4 (0.2–0.5)	0.5 (0.2–0.8)	0.4 (0.1–0.7)	0.4 (0.1–0.7)	0.5 (0.4–0.6)
Immunology	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.5 (0.3–0.6)	0.5 (0.3–0.7)	0.5 (0.3–0.7)	0.9 (0.3–1.4)	0.8 (0.3–1.2)	0.5 (0.4–0.5)
Simple basic tests	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (01–0.2)	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.2 (0.0–0.4)	—	0.1 (0.1–0.1)
Total pathology tests (*n*)	24,082	15,543	14,197	6,015	4,235	1,674	1,121	964	67,831

(a) Figures do not total 100 as more than one pathology test can be ordered at each encounter and for each problem.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 5).

— <0.05 per 100 encounters.

Note: Limited to April 2000 to March 2003 inclusive due to older pathology codes in Years 1 and 2. Only those tests with a rate >=1.0 per 100 encounters for Australia are included. Shading indicates a significant difference between a state/territory and Australia (total sample). EUC—electrolytes, urea & creatinine; MC&S—microscopy, culture & sensitivity; NEC—not elsewhere classified.

Table A4.20a: Most frequent imaging tests ordered, by MBS group and most frequent tests, by state/territory, crude rates (1998–2003)

	Rate per 100 encounters,[a] 95% confidence interval, column specific								
Imaging test ordered	**NSW (*n*=153,000)**	**Vic (*n*=90,400)**	**Qld (*n*=74,800)**	**WA (*n*=33,900)**	**SA (*n*=30,600)**	**Tas (*n*=11,100)**	**ACT (*n*=6,000)**	**NT (*n*=3,900)**	**Australia (*n*=403,700)**
Diagnostic radiology	**5.2 (5.1–5.4)**	**4.6 (4.3–4.8)**	**5.3 (5.0–5.7)**	**5.2 (4.8–5.7)**	**4.2 (3.7–4.6)**	**4.4 (3.8–5.0)**	**5.1 (4.0–6.2)**	**4.5 (3.4–5.6)**	**5.0 (4.9–5.1)**
X-ray; chest	1.1 (1.0–1.1)	0.9 (0.9–1.0)	1.2 (1.1–1.4)	1.1 (1.0–1.3)	0.8 (0.6–0.9)	0.9 (0.6–1.1)	1.1 (0.8–1.4)	1.2 (0.7–1.7)	1.1 (1.0–1.1)
Ultrasound	**2.4 (2.3–2.5)**	**2.3 (2.2–2.5)**	**2.6 (2.4–2.8)**	**2.8 (2.6–3.0)**	**1.7 (1.5–1.9)**	**2.3 (2.0–2.7)**	**3.1 (2.5–3.7)**	**2.9 (2.2–3.6)**	**2.4 (2.4–2.5)**
Ultrasound; pelvis	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.6 (0.4–0.7)	0.6 (0.5–0.7)	0.3 (0.2–0.4)	0.5 (0.3–0.6)	0.9 (0.5–1.2)	0.5 (0.1–0.8)	0.5 (0.5–0.5)
Computerised tomography	**0.8 (0.7–0.8)**	**0.7 (0.6–0.8)**	**0.8 (0.7–0.9)**	**0.7 (0.6–0.8)**	**0.6 (0.5–0.7)**	**0.6 (0.5–0.8)**	**0.9 (0.6–1.1)**	**0.3 (0.1–0.5)**	**0.7 (0.7–0.8)**
Total imaging tests (*n*)	**12,993**	**6,936**	**6,541**	**2,992**	**1,958**	**826**	**564**	**305**	**33,115**

(a) Figures do not total 100 as more than one imaging test can be ordered at each encounter and for each problem.

Note: Limited to April 1999 to March 2003 inclusive due to older imaging codes in Year 1. Only those tests >=0.5 per 100 encounters for Australia are included. Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.20b: Most frequent imaging tests ordered, by MBS group and most frequent tests, by state/territory, patient age-standardised rates (1998–2003)

	Rate per 100 encounters,[(a)] 95% confidence interval, column specific								
Imaging test ordered	**NSW (*n*=151,641)**	**Vic (*n*=89,639)**	**Qld (*n*=74,173)**	**WA (*n*=33,653)**	**SA (*n*=30,284)**	**Tas (*n*=10,989)**	**ACT (*n*=5,930)**	**NT (*n*=3,885)**	**Australia (*n*=400,194)**
Diagnostic radiology	**5.2 (5.1–5.4)**	**4.5 (4.3–4.8)**	**5.3 (5.0–5.7)**	**5.2 (4.7–5.6)**	**4.1 (3.7–4.6)**	**4.4 (3.8–5.0)**	**5.2 (4.1–6.3)**	**4.7 (3.4–5.9)**	**5.0 (4.9–5.1)**
X-ray; chest	1.1 (1.0–1.1)	0.9 (0.8–1.0)	1.2 (1.1–1.4)	1.1 (1.0–1.3)	0.7 (0.6–0.9)	0.9 (0.6–1.2)	1.2 (0.8–1.5)	1.3 (0.7–1.8)	1.0 (1.0–1.1)
Ultrasound	**2.4 (2.3–2.5)**	**2.3 (2.1–2.4)**	**2.6 (2.4–2.8)**	**2.7 (2.5–3.0)**	**1.7 (1.5–1.8)**	**2.3 (1.9–2.7)**	**3.0 (2.4–3.6)**	**2.8 (2.2–3.5)**	**2.4 (2.3–2.5)**
Ultrasound; pelvis	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.6 (0.4–0.7)	0.5 (0.4–0.6)	0.3 (0.2–0.4)	0.5 (0.3–0.6)	0.8 (0.5–1.1)	0.4 (0.1–0.7)	0.5 (0.5–0.5)
Computerised tomography	**0.7 (0.7–0.8)**	**0.7 (0.6–0.7)**	**0.8 (0.7–0.9)**	**0.7 (0.6–0.8)**	**0.6 (0.5–0.6)**	**0.6 (0.5–0.8)**	**0.9 (0.6–1.2)**	**0.4 (0.1–0.6)**	**0.7 (0.7–0.7)**
Total imaging tests (*n*)	**12,842**	**6,785**	**6,472**	**2,924**	**1,924**	**812**	**559**	**307**	**32,626**

(a) Figures do not total 100 as more than one imaging test can be ordered at each encounter and for each problem.

Note: Limited to April 1999 to March 2003 inclusive due to older imaging codes in Year 1. Only those tests >=0.5 per 100 encounters for Australia are included. Shading indicates a significant difference between a state/territory and Australia (total sample).

Table A4.21: Patient risk factors by state/territory, crude rates (1998–2003)

	Per cent of patients, 95% confidence interval, column specific								
Risk factor	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Australia**
BMI adults (18+ years) (*n*)	**(59,957)**	**(36,712)**	**(29,231)**	**(13,321)**	**(12,252)**	**(4,198)**	**(2,378)**	**(1,618)**	**(159,667)**
Underweight	8.2 (7.9–8.5)	7.5 (7.2–7.9)	9.2 (8.8–9.7)	7.5 (7.0–8.1)	7.3 (6.7–7.9)	7.5 (6.5–8.5)	8.5 (7.2–9.8)	8.9 (7.4–10.4)	8.1 (7.9–8.3)
Normal	39.3 (38.7–39.9)	38.4 (37.7–39.2)	37.7 (37.0–38.5)	37.5 (36.4–38.6)	36.7 (35.6–37.8)	37.3 (35.3–39.3)	39.8 (37.3–42.2)	40.4 (37.7–43.2)	38.4 (38.1–38.8)
Overweight	33.4 (32.9–33.9)	33.5 (32.9–34.1)	32.9 (32.2–33.6)	34.4 (33.5–35.4)	34.0 (33.1–35.0)	35.4 (33.7–37.2)	32.1 (29.6–34.6)	31.3 (28.7–34.0)	33.5 (33.2–33.7)
Obese	19.2 (18.7–19.7)	20.6 (20.0–21.2)	20.2 (19.5–20.9)	20.5 (19.5–21.5)	22.0 (21.0–23.1)	19.7 (18.0–21.5)	19.6 (17.6–21.6)	19.3 (17.5–21.2)	20.0 (19.7–20.3)
BMI children (2–17 years) (*n*)	**(7,164)**	**(4,191)**	**(3,948)**	**(1,625)**	**(1,508)**	**(494)**	**(313)**	**(221)**	**(19,464)**
Underweight/normal	68.0 (66.7–69.4)	67.1 (65.4–68.8)	71.8 (70.1–73.5)	71.0 (68.3–73.7)	69.6 (66.6–72.5)	67.4 (62.9–71.9)	70.9 (65.5–76.4)	75.6 (68.1–83.0)	69.1 (68.3–69.9)
Overweight	18.2 (17.2–19.2)	18.7 (17.4–19.9)	16.8 (15.6–18.0)	16.2 (14.3–18.2)	18.2 (16.1–20.3)	18.6 (14.2–22.1)	16.9 (12.4–21.5)	14.9 (9.9–20.0)	17.8 (17.2–18.4)
Obese	13.8 (12.8–14.8)	14.3 (13.0–15.6)	11.4 (10.1–12.7)	12.7 (10.7–14.8)	12.2 (10.2–14.2)	14.0 (10.7–17.2)	12.1 (8.6–15.7)	9.5 (4.7–14.4)	13.1 (12.5–13.7)
Alcohol consumption (18+ years) (*n*)	**(59,079)**	**(36,150)**	**(28,897)**	**(13,042)**	**(12,108)**	**(4,174)**	**(2,323)**	**(1,607)**	**(157,380)**
Non-drinker	32.8 (32.0–33.7)	31.2 (30.2–32.1)	30.9 (29.9–32.0)	27.9 (26.5–29.3)	29.4 (27.9–30.9)	28.6 (26.2–31.1)	26.0 (22.6–29.3)	26.1 (22.1–30.2)	31.1 (30.7–31.6)
Responsible	43.4 (42.7–44.0)	45.2 (44.4–46.0)	42.3 (41.4–43.2)	44.2 (43.0–45.5)	44.9 (43.6–46.3)	46.2 (43.8–48.6)	50.4 (47.3–53.5)	34.0 (30.5–37.5)	43.9 (43.5–44.3)
At-risk drinker	23.8 (23.2–24.4)	23.7 (22.9–24.4)	26.7 (25.9–27.6)	28.9 (26.6–29.1)	25.7 (24.4–27.0)	25.2 (23.1–27.2)	23.6 (20.8–26.4)	39.9 (35.5–44.3)	25.0 (24.6–25.4)

(continued)

Table A4.21 (continued): Patient risk factors by state/territory, crude rates (1998–2003)

	Per cent of patients, 95% confidence interval, column specific								
Risk factor	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Australia**
Smoking status (18+ years) (*n*)	**(59,796)**	**(36,482)**	**(29,428)**	**(13,211)**	**(12,316)**	**(4,285)**	**(2,399)**	**(1,572)**	**(159,489)**
Never	51.0 (50.2–51.7)	49.6 (48.7–50.5)	49.1 (48.1–50.1)	47.5 (46.0–48.9)	47.7 (46.2–49.1)	44.9 (42.4–47.3)	50.6 (47.6–53.6)	38.9 (34.9–42.9)	49.5 (49.0–49.9)
Previous	26.5 (25.9–27.1)	27.0 (26.3–27.7)	27.9 (27.1–28.6)	29.0 (27.8–30.1)	28.0 (26.8–29.3)	28.7 (26.6–30.8)	28.9 (26.2–31.7)	26.8 (23.3–30.4)	27.3 (26.9–27.6)
Occasional	4.9 (4.6–5.2)	4.9 (4.5–5.2)	4.2 (3.8–4.5)	4.5 (4.1–5.0)	4.5 (4.0–5.1)	4.2 (3.4–5.0)	4.0 (3.1–5.0)	5.3 (3.8–6.8)	4.7 (4.5–4.8)
Daily	17.7 (17.1–18.2)	18.6 (17.9–19.3)	18.9 (18.1–19.6)	19.0 (17.9–20.2)	19.7 (18.5–21.0)	22.2 (20.1–24.4)	16.4 (14.4–18.5)	28.9 (25.0–32.9)	18.6 (18.3–18.9)

Note: Shading indicates a significant difference between a state/territory and Australia (total sample). BMI—body mass index.

Appendix 5: Code groups from ICPC-2 and ICPC-2 PLUS

Table A5.1: Code groups from ICPC-2 and ICPC-2 PLUS

Group	ICPC-2 rubric	ICPC-2 PLUS code	ICPC/ICPC-2 PLUS label
REASONS FOR ENCOUNTER AND PROBLEMS MANAGED			
Abdominal pain	D01		Pain/cramps; abdominal general
	D06		Pain; abdominal localised; other
Abnormal test results	A91		Abnormal results investigations NOS
	B84		Abnormal white cells
	U98		Abnormal urine test NOS
	X86		Abnormal Pap smear
Anaemia	B80		Iron deficiency anaemia
	B81		Anaemia; vitamin B12/folate deficiency
	B82		Anaemia other/unspecified
Anxiety	P01		Feeling anxious/nervous/tense
	P74		Anxiety disorder/anxiety state
Arthritis		L70009	Arthritis; pyogenic
		L70010	Arthritis; viral
		L81003	Arthritis; traumatic
		L83010	Arthritis; spine cervical
		L84003	Arthritis; spine
		L84023	Arthritis; spine thoracic
		L84024	Arthritis; spine lumbar
		L84025	Arthritis; lumbosacral
		L84026	Arthritis; sacroiliac
		L89004	Arthritis; hip
		L90004	Arthritis; knee
		L91007	Arthritis; degenerative
		L91009	Arthritis
		L91010	Arthritis; acute
		L91011	Arthritis; allergic
		L91012	Polyarthritis
		L91013	Arthritis; hands/finger(s)
		L91014	Arthritis; wrist
		L92006	Arthritis; shoulder
		S91002	Arthritis; psoriatic
		T99063	Arthritis; crystal (excl. gout)

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Group	ICPC-2 rubric	ICPC-2 PLUS code	ICPC/ICPC-2 PLUS label
Reasons for encounter and problems managed (continued)			
Back complaint	L02		Back symptom/complaint
	L03		Low back symptom/complaint
	L86		Back syndrome with radiating pain
Check-up—all	–30		Medical examination/health evaluation, complete
	–31		Medical examination/health evaluation, partial
	X37		Pap smear
Check-up—ICPC chapter	A30; A31		General
	B30; B31		Blood
	D30; D31		Digestive
	F30; F31		Eye
	H30; H31		Ear
	K30; K31		Cardiovascular
	L30; L31		Musculoskeletal
	N30; N31		Neurological
	P30; P31		Psychological
	R30; R31		Respiratory
	S30; S31		Skin
	T30; T31		Endocrine
	U30; U31		Urology
	W30; W31		Prenatal/postnatal
	X30; X31; X37		Female genital
	Y30; Y31		Male genital
	Z30; Z31		Social
Depression	P03		Feeling depressed
	P76		Depressive disorder
Diabetes—non-gestational	T89		Diabetes; insulin-dependent
	T90		Diabetes; non-insulin-dependent
Diabetes—all	T89		Diabetes; insulin-dependent
	T90		Diabetes; non-insulin-dependent
	W85		Gestational diabetes

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Group	ICPC-2 rubric	ICPC-2 PLUS code	ICPC/ICPC-2 PLUS label
Reasons for encounter and problems managed (continued)			
Fracture	L72		Fracture; radius/ulna
	L73		Fracture; tibia/fibia
	L74		Fracture; hand/foot bone
	L75		Fracture; femur
	L76		Fracture; other
		L84019	Fracture; compression; spine
		L99017	Fracture; non-union
		L99018	Fracture; pathological
		L99019	Fracture; malunion
		L99095	Fracture; stress
		N54005	Decompression; fracture; skull
		N80012	Fracture; skull (base)
		N80013	Fracture; skull
		N80014	Injury; head; fracture
Hypertension/high BP (RFEs)	K85		Elevated blood pressure without hypertension
	K86		Uncomplicated hypertension
	K87		Hypertension with involvement of target organs
		W81002	Hypertension; pre-eclamptic
		W81003	Hypertension in pregnancy
Hypertension (problems)	K86		Uncomplicated hypertension
	K87		Hypertension with involvement of target organs
		W81002	Hypertension; pre-eclamptic
		W81003	Hypertension in pregnancy
Immunisation	A44		Preventive immunisation/medication–general/unspecified
		D44002	Immunisation; typhoid
		D44003	Immunisation; mumps
		D44004	Immunisation; digestive
		D44007	Immunisation; hepatitis
		D44009	Immunisation; hepatitis A
		D44010	Immunisation; hepatitis B
		D44016	Medication; prevent; hepatitis
		D44018	Immunisation; hepatitis A & B
	N44		Preventive immunisation/medication; neurological
	R44		Preventive immunisation/medication; respiratory

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Group	ICPC-2 rubric	ICPC-2 PLUS code	ICPC/ICPC-2 PLUS label
Reasons for encounter and problems managed (continued)			
Ischaemic heart disease	K74		Ischaemic heart disease without angina
	K76		Ischaemic heart disease with angina
Menstrual problems	X02		Pain; menstrual
	X03		Pain; intermenstrual
	X05		Menstruation; absent/scanty
	X06		Menstruation; excessive
	X07		Menstruation; irregular/frequent
	X08		Intermenstrual bleeding
	X09		Premenstrual symptoms/complaint
	X10		Postponement of menstruation
Oral contraception	W10		Contraception; postcoital
	W11		Oral contraceptive
	W50		Medication; reproductive system
Osteoarthritis		L83011	Osteoarthritis; spine; cervical
		L84004	Osteoarthritis; spine
		L84009	Osteoarthritis; spine; thoracic
		L84010	Osteoarthritis; spine; lumbar
		L84011	Osteoarthritis; lumbosacral
		L84012	Osteoarthritis; sacroiliac
		L89001	Osteoarthritis; hip
		L90001	Osteoarthritis; knee
		L91001	Osteoarthritis; degenerative
		L91003	Osteoarthritis
		L91008	Heberdens nodes
		L91015	Osteoarthritis; wrist
		L92007	Osteoarthritis; shoulder
Pregnancy	W01		Question of pregnancy
	W78		Pregnancy
	W79		Unwanted pregnancy
Prescription	–50		Medication prescription/request/renewal/injection
Rash	S06		Localised redness/erythema/rash of skin
	S07		Generalised/multiple redness/erythema/rash of skin
Rheumatoid arthritis	L88		Rheumatoid arthritis
Sprain/strain		L19014	Strain; muscle(s)
	L77		Sprain/strain; ankle
	L78		Sprain/strain; knee
	L79		Sprain/strain; joint NOS

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Group	ICPC-2 rubric	ICPC-2 PLUS code	ICPC/ICPC-2 PLUS label
Reasons for encounter and problems managed (continued)			
Sprain/strain (continued)		L83023	Sprain; neck
		L83024	Strain; neck
		L83025	Whiplash injury; neck old
		L84020	Sprain; back
		L84021	Strain; back
Swelling (skin)	S04		Localised swelling/papules/lump/mass/skin/tissue
	S05		Generalised swelling/papules/lumps/mass/ skin/tissue
Test results	–60		Results test/procedures
	–61		Results examinations/test/record/letter other provider
Tonsillitis	R76		Tonsillitis; acute
	R90		Hypertrophy; tonsils/adenoids
Urinary tract infection	U70		Pyelonephritis/pyelitis
	U71		Cystitis/urinary infection other
CLINICAL TREATMENTS			
Advice/education		A45002	Advice/education
		B45002	Advice/education; blood
		D45002	Advice/education; digestive
		F45002	Advice/education; eye
		H45002	Advice/education; ear
		K45002	Advice/education; cardiovascular
		L45002	Advice/education; musculoskeletal
		N45002	Advice/education; neurological
		P45001	Advice/education; psychological
		R45002	Advice/education; respiratory
		S45002	Advice/education; skin
		T45002	Advice/education; endocrine/metabolic
		U45002	Advice/education; urology
		W45004	Advice/education; reproductive
		X45002	Advice/education; genital; female
		Y45002	Advice/education; genital; male
		Z45002	Advice/education; social
Advice/education—medication		A45015	Advice/education; medication
		A48003	Review; medication
		A48005	Increased; drug dosage
		A48006	Decreased; drug dosage
		A48007	Change (in); drug dosage
		A48008	Stop medication
		A48009	Recommend medication

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Clinical treatments (continued)		
Advice/education—medication (continued)	A48010	Change (in); medication
	A48011	Medical; request; refusal
Advice/education—treatment	A45016	Advice/education; treatment
	A45019	Advice; time off work
	A45020	Advice; rest/fluids
	A45021	Advice; naturopathic treatment
	A48004	Review; treatment
	S45004	Advice/education; RICE
	T45004	Advice/education; diabetes
	T45009	Advice; home glucose monitoring
Counselling/advice—alcohol	P45005	Advice/education; alcohol
	P58009	Counselling; alcohol
Counselling/advice—exercise	A45004	Advice/education; exercise
	A58005	Counselling; exercise
Counselling/advice—drug abuse	P45006	Advice/education; illicit drugs
	P58010	Counselling; drug abuse
	P58020	Rehabilitation; drug
	P58021	Rehabilitation; alcohol
Counselling/advice—health/body	A45005	Advice/education; health
	A45009	Health promotion
	A45010	Information; health
	A45011	Health promotion; injury
	A45018	Advice/education; body
	A45026	Advice/education; hygiene
	A58006	Counselling; health
	A98001	Health maintenance
Counselling/advice—lifestyle	P45008	Advice/education; lifestyle
	P58012	Counselling; lifestyle
Counselling/advice—nutrition/weight	A45006	Advice/education; diet
	T45005	Advice/education; nutritional
	T45007	Advice/education; weight management
	T58002	Counselling; weight management
Counselling/advice—prevention	A45025	Advice/education; immunisation
	A58007	Counselling; prevention
	X45004	Advice/education; breast self exam
	Z45005	Advice/education; environment

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Clinical treatments (continued)		
Counselling/advice—relationship	Z45006	Advice/education; parenting
	Z45007	Advice/education; mothering
	Z45008	Advice/education; fathering
	Z58001	Counselling; conjugal(partner)
	Z58003	Counselling; marriage/rship
	Z58006	Counselling; parenting
	Z58007	Counselling; mothering
	Z58008	Counselling; fathering
	Z58009	Counselling; family
Counselling/advice—relaxation	P45007	Advice/education; relaxation
	P58011	Counselling; relaxation
	P58017	Counselling; stress management
Counselling/advice—smoking	P45004	Advice/education; smoking
	P58008	Counselling; smoking
Counselling—problem	A58002	Counselling; problem
	A58003	Counselling; individual
	B58001	Counselling; problem; blood/blood-forming
	D58001	Counselling; problem; digestive
	F58001	Counselling; problem; eye
	H58001	Counselling; problem; ear
	K58001	Counselling; problem; cardiovascular
	L58001	Counselling; problem; musculoskeletal
	N58001	Counselling; problem; neurological
	R58001	Counselling; problem; respiratory
	S58001	Counselling; problem; skin
	T58001	Counselling; problem; endocrine/metabolic
	U58001	Counselling; problem; urology
	W58003	Counselling; problem; reproductive
	X58001	Counselling; problem; genital; female
	X58003	Counselling; sexual; physical; female
	Y58001	Counselling; problem; genital; male
	Y58003	Counselling; sexual; physical; male
	Z58002	Counselling; problem; social
Counselling—psychological	P58001	Counselling; psychiatric
	P58002	Psychotherapy
	P58004	Counselling; psychological
	P58005	Counselling; sexual; psychological
	P58006	Counselling; individual; psychological
	P58007	Counselling; bereavement
	P58013	Counselling; anger

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Clinical treatments (continued)		
Counselling—psychological (continued)	P58014	Counselling; self-esteem
	P58015	Counselling; assertiveness
	P58018	Therapy; group
	P58019	Cognitive behavioural therapy
Family planning	A98002	Counselling; genetic female
	A98003	Counselling; genetic male
	W14002	Family planning; female
	W45006	Advice/education; preconceptual
	W45007	Advice/education; contraception
	W45008	Advice/education; family plan; female
	W58001	Counselling; abortion
	W58005	Counselling; terminate pregnancy
	W58007	Counselling; preconceptual
	W58012	Counselling; sterilisation; female
	W58013	Counselling; family planning; female
	Y14001	Family planning; male
	Y45006	Advice/education; family plan; male
	Y45007	Advice/education; contraception; female
	Y58005	Counselling; sterilisation; male
	Y58006	Counselling; family planning; male
Observe/wait	A45001	Observe/wait
	B45001	Observe/wait; blood
	D45001	Observe/wait; digestive
	F45001	Observe/wait; eye
	H45001	Observe/wait; ear
	K45001	Observe/wait; cardiovascular
	L45001	Observe/wait; musculoskeletal
	N45001	Observe/wait; neurological
	P45002	Observe/wait; psychological
	R45001	Observe/wait; respiratory
	S45001	Observe/wait; skin
	T45001	Observe/wait; endocr/metabol
	U45001	Observe/wait; urology
	W45003	Observe/wait; reproductive
	X45001	Observe/wait; genital; female
	Y45001	Observe/wait; genital; male
	Z45001	Observe/wait; social
Other admin/document	–62 (excluding sickness certificate A62008)	

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Clinical treatments (continued)		
Reassurance, support	A58010	Reassurance/support
Sickness certificate	A62008	Admin; certificate; sickness
PROCEDURES		
Excision/removal tissue/biopsy/ destruction/debridement/cauterisation	–52	
Repair/fixation–suture/cast/prosthetic device (apply/remove)	–54	
Local injection/infiltration	–55	
Dressing/pressure/compression/ tamponade	–56	
Physical therapy/rehabilitation	–57	
Other procedures/minor surgery NEC	–59	
CLINICAL MEASUREMENTS		
Electrical tracings	–42	
Pap smear	X37001	Pap smear
	X37003	Test; cytology; genital; female
Physical function test	–39	
Urine test	A35001	Test; urine
	A35002	Urinalysis
	B35001	Test; urine; blood
	D35001	Test; urine; digestive
	P35001	Test; urine; psychological
	T35001	Test; urine; endocrine/metabolic
	U35002	Test; urine; urology
	W35001	Test; urine; reproductive
	Y35001	Test; urine; genital; male
REFERRALS		
Allied health services	–66	Referral to other provider/nurse/therapist/ social worker
	–68 excluding A68011; Z68003 and Z68004	Other referrals NEC
	Z67002	Referral; respite care

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Referrals (continued)		
Specialist	–67 excluding A67010; A67011; A67015; P67005 and Z67002	Referral to physician/specialist/clinic/hospital
	A68009	Referral; oncologist
Emergency department	A67011	Referral; A & E
Hospital	A67010	Referral; hospital
	A67015	Referral; hospice
	P67005	Referral; hospital; psychiatrist
Other referrals	A68011	Referral
	Z68003	Referral; financial/legal services
	Z68004	Referral; police
PATHOLOGY TEST ORDERS		
Chemistry		
Amylase	D34004	Test; amylase
B12	B34015	Test; B12
	D34009	Test; Schillings
C reactive protein	A34005	Test; C reactive protein
Calcium/phosphate	A34006	Test; calcium
	A34013	Test; phosphate
	A34024	Test; calcium phosphate
Cardiac enzymes	D34005	Test; aspartate aminotransferas
	K34003	Test; cardiac enzymes
	K34004	Test; creatine kinase
Chemistry; other	A33023	Test; alpha fetoprotein
	A33026	Test; cancer antigen 125
	A33027	Test; cancer antigen 15.3
	A33028	Test; cancer antigen 19.9
	A33029	Test; carcinoembryonic antigen
	A33041	Test; cancer antigen
	A34015	Test; protein
	A34018	Vitamin assay
	A34019	Test; lead
	A34020	Test; blood gas analysis
	A34022	Test; mineral
	A34023	Test; zinc
	A34025	Test; DHEAS

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
Chemistry; other (continued)	A34030	Test; biochemistry
	A34031	Test; blood alcohol
	A34032	Test; prolactin
	A34033	Test; testosterone
	A34037	Test; Glutathione S-transferase
	A34038	Test; magnesium
	A35004	Test; urine sodium
	A35007	Test; urine; albumin
	A35008	Test; albumin creatine ratio
	B34023	Test; transferrin
	D34002	Test; alanine aminotransferase
	D35002	Test; 5-HIAA
	K34001	Test; blood; digitalis
	K34006	Test; amino acids
	K34007	Test; troponin
	N34001	Test; blood; phenylhydantoin
	P34003	Test; methadone
	T34018	Test; androgens
	T34019	Test; insulin
	T34021	Test; C peptide
	T34029	Test; aldosterone
	T34030	Test; parathyroid hormone
	T35002	Test; catecholamines
	W38002	Amniocentesis
Drug screen	A34002	Drug assay
	A34026	Blood drug screen
	A34027	Blood screen
	A35003	Drug screen
	A35005	Urine drug screen
	K34005	Test; digoxin
	N34003	Test; phenytoin
	N34004	Test; valproate
	N34005	Test; carbamazepine
	P34002	Test; lithium

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
EUC	A34007	Test; chloride
	A34008	Test; electrolytes
	A34010	Test; EUC
	A34014	Test; potassium
	A34017	Test; sodium
	A34029	Test; U&E
	A34034	Test; E&C
	U34002	Test; creatinine
	U34003	Test; urea
HbA1c	T34010	Test; HbA1c
	T34017	Test; fructosamine
	T34022	Test; HBA1
Ferritin	B34016	Test; ferritin
	B34019	Test; iron studies
Folic acid	B34017	Test; folic acid
	B34024	Test; folate
Glucose/tolerance	T34005	Test; glucose
	T34009	Test; glucose tolerance
	T34023	Test; glucose (fasting/random)
	T34025	Test; glucose; fasting
	T34026	Test; glucose; random
Hormone assay	A34003	Hormone assay
	D33015	Test; Anti gliadin antibody
	T34007	Test; cortisol
	W34005	Test; HCG
	W34006	Test; B HCG level (titre/quant)
	X34002	Test; LH
	X34003	Test; progesterone
	X34004	Test; oestradiol
	X34005	Test; FSH
	X34006	Test; SHBG; female
	X34007	Test; free androgen index; female
	Y34004	Test; SHBG; male
	Y34005	Test; free androgen index; male
Lactose intolerance	D38002	Test; lactose intolerance

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
Lipids	T34004	Test; lipids profile
	T34006	Test; cholesterol
	T34011	Test; cholesterol HDL
	T34013	Test; cholesterol LDL
	T34016	Test; triglycerides
	T34020	Test; free fatty acids
	T34024	Test; chol/trig
Liver function	A34004	Test; albumin
	D34003	Test; alkaline phosphatase
	D34006	Test; bilirubin
	D34007	Test; gGT
	D34008	Test; liver function
	T34012	Test; LDH
Multi-biochemical analysis	A34012	Test; multi-biochemical analysis
	A34021	Test; E & LFT
Prostate specific antigen	Y34002	Test; acid phosphatase
	Y34003	Test; prostate specific antigen
Thyroid function	T34015	Test; thyroid function
	T34027	Test; thyroxine
	T34028	Test; tsh
Urate/uric acid	U34004	Test; urate/uric acid
Cytopathology		
Cytology	A37002	Test; cytology
	B37003	Test; cytology; blood
	D37002	Test; cytology; digestive
	F37002	Test; cytology; eye
	H37002	Test; cytology; ear
	K37002	Test; cytology; cardiovascular
	L37002	Test; cytology; musculoskeletal
	N37002	Test; cytology; neurological
	R37002	Test; cytology; respiratory
	R37003	Test; sputum cytology
	S37002	Test; cytology; skin
	T37002	Test; cytology; endocr/metabol
	U37002	Test; cytology; urology
Cytology (continued)	W37002	Test; cytology; reproduction
	Y37002	Test; cytology; genital; male

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
Pap smear	X37001	Pap smear
	X37003	Test; cytology; genital; female
	X37004	Vault smear
Haematology		
Blood grouping & typing	B33001	Test; Coombs
	B33002	Test; blood grouping & typing
	B33009	Test; blood group
	B33013	Test; blood; cross match
Blood; other	A33042	Test; lymphocyte type & count
	A34035	Test; blood film
	A34036	Test; blood thick film
	B33003	RH; antibody titer
	B34005	Test; blood; platelets
	B34007	Test; blood; sickle cell
	B34021	Test; reticulocyte count
	B34031	Test; haemoglobin epg
	B34032	Test; packed cell volume
	B34033	Test; blood; blood
	B37001	Exam; bone marrow
Coagulation	B34003	Test; coagulation time
	B34006	Test; part thromboplastin time
	B34009	Test; prothrombin time
	B34014	Test; APTT
	B34022	Test; thrombin time
	B34025	Test; INR
	B34026	Test; fibrinogen
	B34028	Test; bleeding time
	B34029	Test; coagulation screen
	K34008	Test; D-Dimer
ESR	A34009	Test; ESR
Full blood count	A34011	Test; full blood count
Haemoglobin	B34018	Test; haemoglobin

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
Histopathology		
Histology; skin	S37001	Test; histopathology; skin
Histology; other	A37001	Test; histopathology
	B37002	Test; histopathology; blood
	D37001	Test; histopathology; digestive
	F37001	Test; histopathology; eye
	H37001	Test; histopathology; ear
	K37001	Test; histopathology; cardiovas
	L37001	Test; histopathology; musculosk
	N37001	Test; histopathology; neuro
	R37001	Test; histopathology; respirat
	T37001	Test; histopathology; endo/meta
	U37001	Test; histopathology; urology
	W37001	Test; histopathology; reproduct
	X37002	Test; histopathology; genital; female
	Y37001	Test; histopathology; genital; male
Immunology		
Anti-nuclear antibodies	L33004	Test; anti-nuclear antibodies
Immunology; other	A32001	Test; sensitivity
	A33005	Test; immunology
	A33011	Test; HLA
	A33024	Test; bone marrow surface mark
	A33025	Test; serum electrophoresis
	A38004	Test; DNA
	B33005	Test; immunology; blood
	B33007	Test; immunoglobulins
	B33011	Test; IgE
	B34027	Test; FBC for surface markers
	B34030	Test; intrinsic factor
	D32001	Test; sensitivity; digestive
	D33004	Test; immunology; digestive
	D33014	Test; endomysial antibody
	D33028	Test; mitochondrial antibodies
	F33002	Test; immunology; eye
	H33002	Test; immunology; ear
	K33002	Test; immunology; cardiovascular

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
Immunology; other (continued)	K33003	Test; ANCA
	L33003	Test; immunology; musculoskel
	L34001	Test; lupus erythemat; cell prep
	N33002	Test; immunology; neurological
	R32004	Test; sensitivity; respiratory
	R33004	Test; immunology; respiratory
	S32001	Test; sensitivity; skin
	S33002	Test; immunology; skin
	S33004	Test; skin patch
	T33002	Test; immunology; endoc/metabol
	U33003	Test; immunology; urology
	W33007	Test; immunology; reproductive
	X33002	Test; immunology; genital; female
	Y33002	Test; immunology; genital; male
RAST	A34016	Test; RAST
Rheumatoid factor	L33001	Test; rheumatoid factor
Infertility/pregnancy	W33001	Test; urine; pregnancy
	W33002	Test; pregnancy
	W34002	Test; blood; pregnancy
	W34003	Test; antenatal
	W34007	Test; pregnancy screen
	W35003	Test; urine; HCG
	Y38002	Test; sperm count
	Y38003	Test; semen examination
Microbiology		
Antibody	A33003	Test; antibody
Cervical swab	X33004	Test; cervical swab M&C
Chlamydia	A33006	Test; chlamydia
	A33034	Test; chlamydia direct immunofl
	X33006	Test; viral culture; genital; female
Ear swab and C&S	H33003	Test; ear swab M&C
Faeces MC&S	D33002	Stool(s); culture
	D33008	Test; faeces M&C
	D36001	Test; faeces; cyst/ova/parasite
Fungal ID/sensitivity	A33008	Test; fungal ID/sensitivity
	A33030	Test; skin scraping fungal M&C

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
Hepatitis serology	D33005	Test; hepatitis A serology
	D33006	Test; hepatitis B serology
	D33007	Test; hepatitis C serology
	D33013	Test; hepatitis serology
	D33018	Test; hepatitis A antibody
	D33019	Test; hepatitis B antibody
	D33020	Test; hepatitis D antibody
	D33021	Test; hepatitis E antibody
	D33022	Test; hepatitis A antigen
	D33023	Test; hepatitis C antigen
	D33024	Test; hepatitis D antigen
	D33025	Test; hepatitis E antigen
	D33026	Test; hepatitis antibody
	D33027	Test; hepatitis antigen
HIV	A33021	Test; cytomegalovirus serology
	B33006	Test; HIV
	B33008	Test; AIDS screen
	B33012	Test; HIV viral load
H pylori	D33009	Test; H Pylori
Microbiology; other	A33004	Test; microbiology
	A33007	Test; culture and sensitivity
	A33012	Test; mycoplasma serology
	A33013	Test; parvovirus serology
	A33015	Test; Barmah forest virus
	A33016	Test; Antistreptolysin O Titre
	A33017	Test; herpes simplex culture
	A33019	Test; herpes simplex serology
	A33020	Test; toxoplasmosis serology
	A33033	Test; swab M&C
	A33035	Test; serology
	A33036	Antibodies screen
	A33038	Test; rapid plasma regain
	A33039	Test; viral swab M&C
	A33040	Test; viral serology
	A33043	Test; HPV
	A33044	Test; Brucella

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
Microbiology; other (continued)	A33045	Test; fungal M&C
	A33046	Test; measles virus antibodies
	A33047	Test; Rickettsial serology
	A34028	Test; blood culture
	A34039	Test; Q fever
	B33004	Test; microbiology; blood
	B33010	Test; serum immunoglobulins
	D33003	Test; microbiology; digestive
	D33010	Test; hepatitis D serology
	D33011	Test; hepatitis E serology
	D33012	Test; rotavirus
	D33016	Test; hepatitis C antibody
	D33017	Test; hepatitis B antigen
	F33001	Test; microbiology; eye
	F33003	Test; eye swab M&C
	H33001	Test; microbiology; ear
	K33001	Test; microbiology; cardiovascul
	L33002	Test; microbiology; musculoskel
	N33001	Test; microbiology; neurological
	R33001	Culture; tuberculosis
	R33002	Culture; throat
	R33003	Test; microbiology; respiratory
	R33009	Test; influenza serology
	R33010	Test; Legionnaires antibodies
	R33011	Test; RSV
	S33001	Test; microbiology; skin
	S33005	Test; varicella zoster serology
	S33006	Test; varicella zoster culture
	S33007	Test; nail M&C
	T33001	Test; microbiology; endoc/metabo
	U33002	Test; microbiology; urology
	W34004	Test; antenatal serology
	W33006	Test; microbiology; reproductive
	X33001	Test; microbiology; genital; female
	X33003	Culture; gonococcal; female
	Y33001	Test; microbiology; genital; male
	Y33003	Culture; gonococcal; male

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
Microbiology; other (continued)	Y33004	Test; viral culture; genital; male
	Y33005	Test; urethral/penile swab
Monospot	A33002	Test; monospot
	A33014	Test; Paul Bunnell
	A33031	Test; Epstein Barr virus serol
	A33032	Test; Epstein Barr virus
Nose swab C&S	R33008	Test; nose swab M&C
Pertussis	R33007	Test; pertussis
Ross River fever	A33009	Test; Ross River Fever
Rubella	A33001	Test; rubella
Skin swab C&S	S33003	Test; skin swab M&C
Sputum C&S	R33005	Test; sputum M&C
Throat swab C&S	R33006	Test; throat swab M&C
Urine MC&S	U33001	Test; culture; urine
	U33004	Test; urine M&C
Vaginal swab and C&S	X33005	Test; vaginal swab M&C
Venereal disease	A33010	Test; venereal disease
	A33022	Test; syphilis serology
Simple test; other	R32002	Test; tuberculin
	B35001	Test; urine; blood
	D36003	Test; occult blood
	R32001	Test; Mantoux
Other NEC		
Blood test	A34001	Test; blood
Urine test	A35001	Test; urine
Urinalysis	A35002	Urinalysis
Faeces test	A36001	Test; faeces
Other pathology test NEC	A35006	Test; urine; FWT
	A38001	Test; other lab
	A38002	Pathology
	A38003	Test; genetic
	A38005	Test; disease screen
	B38001	Test; other lab; blood
	D34001	Test; blood; digestive
	D35001	Test; urine; digestive
	D36002	Test; faeces; digestive
	D38001	Test; other lab; digestive

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Pathology test orders (continued)		
Other pathology test NEC (continued)	F34001	Test; blood; eye
	F38001	Test; other lab; eye
	H34001	Test; blood; ear
	H38001	Test; other lab; ear
	K34002	Test; blood; cardiovascular
	K38001	Test; other lab; cardiovascular
	L34003	Test; blood; musculoskeletal
	L38001	Test; other lab; musculoskeletal
	N34002	Test; blood; neurological
	N38001	Test; other lab; neurological
	P34001	Test; blood; psychological
	P35001	Test; urine; psychological
	P38001	Test; other lab; psychological
	R34001	Test; blood; respiratory
	R38001	Test; other lab; respiratory
	S34001	Test; blood; skin
	S38001	Test; other lab; skin
	T34002	Test; blood; endocr/metabolic
	T35001	Test; urine; endocrine/metabolic
	T38001	Test; other lab; endocr/metabol
	U34001	Test; blood; urology
	U35002	Test; urine; urology
	U38001	Test; other lab; urology
	W34001	Test; blood; reproductive
	W35001	Test; urine; reproductive
	W38001	Test; other lab; reproductive
	X34001	Test; blood; genital; female
	X35001	Test; urine; genital; female
	X38001	Test; other lab; genital; female
	Y34001	Test; blood; genital; male
	Y35001	Test; urine; genital; male
	Y38001	Test; other lab; genital; male
	Z38001	Test; other lab; social
IMAGING TEST ORDERS (MBS)		
Diagnostic radiology	A41001	Radiology; diagnostic
	A41002	X-ray; chest
	A41006	X-ray; abdomen

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Treatment group	ICPC-2 PLUS code	ICPC-2 PLUS label
Imaging test orders (continued)		
Diagnostic radiology (continued)	A41007	Imaging other
	A41010	Radiology
	A41014	Test; imaging; contrast/special
	B41001	Radiology; diagnostic; blood
	D41001	GI series
	D41003	Radiology; diagnostic; digestive
	D41006	X-ray; oesophagus
	D41007	X-ray; biliary ducts
	D41008	X-ray; digestive tract
	D41009	X-ray; mouth
	D41012	X-ray; dental
	D41015	Barium enema
	D41016	Barium meal
	D41017	Barium swallow
	F41001	Radiology; diagnostic; eye
	F41002	X-ray; eye
	H41001	Radiology; diagnostic; ear
	H41002	X-ray; ear
	K41002	Radiology; diagnostic; cardiovas
	K41003	Cardiogram
	K41005	Angiography; coronary
	K41006	Angiography; femoral
	K41007	Angiography; cerebral
	K41011	Angiogram
	K41012	Angiogram; coronary
	K41013	Angiogram; cerebral
	K41014	Angiogram; femoral
	L41001	Arthrogram
	L41002	Scan; bone(s)
	L41003	X-ray; bone(s)
	L41004	Plain x-ray; bone(s)
	L41005	Radiology; diagnostic; musculo
	L41013	X-ray; elbow
	L41014	X-ray; hand
	L41015	X-ray; wrist
	L41016	X-ray; knee
	L41017	X-ray; hip

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Group	ICPC-2 PLUS code	ICPC-2 PLUS label
Imaging test orders (continued)		
Diagnostic radiology (continued)	L41018	X-ray; neck
	L41019	X-ray; pelvis
	L41020	X-ray; shoulder
	L41021	X-ray; lumbosacral
	L41022	X-ray; cervical
	L41023	X-ray; thoracic
	L41024	X-ray; spinal
	L41025	X-ray; joint(s)
	L41026	X-ray; foot/feet
	L41027	X-ray; ankle
	L41028	X-ray; leg
	L41029	X-ray; ribs
	L41030	X-ray; face
	L41032	X-ray; arm
	L41033	X-ray; spine; lumbar
	L41034	X-ray; spine; sacrum
	L41035	X-ray; spine; coccyx
	L41036	X-ray; finger(s)/thumb
	L41037	X-ray; toe(s)
	L41038	X-ray; heel
	L41039	X-ray; tibia/fibula
	L41040	X-ray; femur
	L41041	X-ray; radius/ulna
	L41042	X-ray; clavicle
	L41043	X-ray; humerus
	L41044	X-ray; jaw
	L41045	X-ray; temporomandibular joint
	L41060	X-ray; spine; cervicothoracic
	L41061	X-ray; spine; sacrococcygeal
	L41062	X-ray; spine; thoracolumbar
	L41063	X-ray; back
	L41064	X-ray; back lower
	L41065	X-ray; forearm
	L41066	X-ray; leg lower
	L41067	X-ray; metacarpal
	L41068	X-ray; metatarsal
	L43003	Test; bone density

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Group	ICPC-2 PLUS code	ICPC-2 PLUS label
Imaging test orders (continued)		
Diagnostic radiology (continued)	N41001	Radiology; diagnostic neurolog
	N41004	X-ray; skull
	P41001	Radiology; diagnostic; psychol
	R41001	Radiology; diagnostic; respirat
	R41002	X-ray; sinus
	R41003	X-ray; nose
	S41001	Radiology; diagnostic; skin
	T41001	Radiology; diagnostic; endo/meta
	T41003	X-ray; endo/metabolic
	U41001	Pyelogram; intravenous
	U41002	Pyelogram; retrograde
	U41005	Radiology; diagnostic; urology
	U41007	X-ray; urinary tract
	U41008	X-ray; kidney/ureter/bladder
	W41002	Radiology; diagnostic; reprod
	W41003	X-ray; uterus
	X41001	Mammography; female
	X41002	Mammography; request; female
	X41003	Thermography; breast
	X41005	Radiology; diagnostic; genital; female
	X41007	X-ray; breast; female
	Y41001	Radiology; diagnostic; genital; male
Ultrasound	A41012	Ultrasound
	A41015	Ultrasound; abdomen
	A41017	Ultrasound; chest
	A41021	Ultrasound; inguinal
	A41022	Ultrasound; abdomen; upper
	A41023	Ultrasound; abdomen; lower
	B41002	Ultrasound; spleen
	D41013	Ultrasound; gallbladder
	D41014	Ultrasound; liver
	K41001	Echocardiography
	K41016	Ultrasound; cardiac
	K43003	Test; Doppler
	K43004	Test; Doppler carotid
	K43005	Scan; duplex
	L41046	Ultrasound; neck

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Group	ICPC-2 PLUS code	ICPC-2 PLUS label
Imaging test orders (continued)		
Ultrasound (continued)	L41047	Ultrasound; pelvis
	L41048	Ultrasound; shoulder
	L41049	Ultrasound; spine
	L41050	Ultrasound; knee
	L41051	Ultrasound; elbow
	L41070	Ultrasound; wrist
	L41071	Ultrasound; ankle
	L41072	Ultrasound; groin
	L41073	Ultrasound; back
	L41074	Ultrasound; back lower
	L41075	Ultrasound; hand/finger(s)
	L41076	Ultrasound; foot/toe(s)
	L41078	Ultrasound; arm
	L41079	Ultrasound; leg
	N41005	Ultrasound; brain
	N41007	Ultrasound; head
	T41004	Ultrasound; thyroid
	U41009	Ultrasound; renal tract
	U41010	Ultrasound; kidney
	W41004	Ultrasound; obstetric
	X41009	Ultrasound; breast; female
	X41011	Ultrasound; uterus (not preg)
	Y41005	Ultrasound; prostate
	Y41006	Ultrasound; scrotum
	Y41008	Ultrasound; breast; male
Computerised tomography	A41013	CT scan
	A41016	CT scan; abdomen
	A41018	CT scan; chest
	A41019	CT scan; abdomen; upper
	A41020	CT scan; abdomen; lower
	D41018	CT scan; liver
	K41017	CT scan; cardiac
	L41052	CT scan; neck
	L41053	CT scan; pelvis
	L41054	CT scan; spine
	L41055	CT scan; spine; cervical
	L41056	CT scan; spine; thoracic

(continued)

Table A5.1 (continued): Code groups from ICPC-2 and ICPC-2 PLUS

Group	ICPC-2 PLUS code	ICPC-2 PLUS label
Imaging test orders (continued)		
Computerised tomography (continued)	L41057	CT scan; spine; lumbar
	L41058	CT scan; spine; lumbosacral
	L41059	CT scan; spine; sacrum
	L41069	CT scan; spine; thoracolumbar
	L41077	CT scan; spine; cervicothoracic
	L41080	CT scan; leg
	N41006	CT scan; brain
	N41008	CT scan; head
	R41004	CT scan; sinus
	X41010	CT scan; breast; female
	Y41007	CT scan; breast; male
Nuclear medicine	A41009	Nuclear medicine
	A41011	Isotope scan
	K41015	Scan; thallium heart
	R41005	Scan; VQ (lung)
Magnetic resonance imaging	A41008	MRI

Note: NOS—not otherwise specified; NEC—not elsewhere classified; A & E—accident and emergency; '–code'—signifies that the concept includes all of the specified code across all chapters of ICPC-2 (excluding the Z social chapter).