

# **General practice activity in Australia 2002–03**

**GP Statistics and Classification Unit**

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# BEACH

## *Bettering the Evaluation and Care of Health*

# General practice activity in Australia 2002-03

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

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# Foreword

Forty years on! And what a milestone!

Having participated in the first National Morbidity Survey of Australian general practice in 1962-63, and been involved with all the subsequent ones, it is wonderful to be able to introduce the 5<sup>th</sup> annual report of General Practice Activity in Australia 2002-03. Here is a story of persistence by many people over many years leading to great progress in an important endeavour.

Since the first survey the participant numbers are greater and more representative, the information is much more comprehensive, and the analysis more sophisticated. The first survey was conducted by NH&MRC with 85 participating general practitioners; the RACGP surveys from 1969 to 1974 had several hundred participants each year, and the University of Sydney AMTS (Australian Morbidity and Treatment Survey) of 1990-91 had 495. Now over 1000 GPs each year provide a statistically appropriate source of data for BEACH. The continuity of the BEACH surveys since 1998 adds a dimension that was not always possible in previous years and allows us to consider changes as they are occurring, such as the increasing rate of management of lipid disorders and diabetes reported here.

This survey includes far more information than could be considered in earlier ones. The first survey reported only upon patient age and sex and problems treated, though it did have both a longitudinal element and an indication of outcome, which it is still not feasible to capture within current constraints. Now, as well as problems managed, we have more demographic detail, reasons for encounter, investigations, treatments and referrals provided, and additional health related information, leading to a wealth of data for consideration.

Some recent developments are noteworthy. All encounters, including indirect as well as direct, and all locations, are now specified. Information about medications now includes those recommended for over-the-counter purchase as well as those prescribed, and includes prescribed daily doses. Great technical improvements have been made. A more specific coding system (ICPC-2 PLUS) allows more reliable classification of the terms recorded by the general practitioners. Better statistical techniques are now available and have been applied to deal with the effect of the cluster sampling method and adjust for confounding factors in analyses. Weighting of data makes it even more representative.

The report provides an overview of general practice in Australia, but goes beyond that. We learn for example, that children account for 14% of encounters and the elderly 24%, that the most common individual problems managed were hypertension and upper respiratory infection, and that the most frequently prescribed medication was antibiotics. It also provides information about less common aspects of general practice. As examples, the pattern of morbidity managed for indigenous people differs from that in the total sample, with more diabetes and infections; and the most frequent treatment procedure undertaken is excision. Most importantly, there is a wealth of information about almost any topic that is available for special analysis for those who need it, as I found when I used this facility to report on the management of dementia in general practice.

Of particular interest are the Supplementary Analysis of Nominated Data (SAND) sub-studies of aspects of patient health not necessarily related to the particular problems treated at the encounter. These cover a wide range of topics, such as smoking status, alcohol consumption and body mass index (BMI), which are so important in relation to health promotion and prevention.

That the BEACH survey continues each year shows its proven worth. What is even more important is the evidence of learning by doing that it demonstrates, as the project develops from year to year. We can all look forward to further refinements in subsequent years, hopefully including some indication of patient health outcomes for at least some subgroups.

The introduction to the report of the first survey of 40 years ago stated: "The diligence and interest of the participating doctors has provided an outstanding example of co-operative effort on the part of busy practitioners, without whose help such a survey could not be undertaken". I can do no better than repeat and reinforce that, but also include the talented team of BEACH researchers in my commendation.

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Discipline of General Practice  
University of Sydney

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# Summary

## Background

This report provides an overview of results from the fifth year of the BEACH (Bettering the Evaluation and Care of Health) program, a continuous study of general practice activity. It also investigates changes in morbidity and management demonstrated over the five years since the program began in March 1998. Summaries of results for each year and for the total five years are provided in Appendix 4.

## Method

A random sample of GPs who claimed at least 375 general practice Medicare items of service in the previous three 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.

In the 2002–03 BEACH data year, a random sample of 1,008 GPs from across Australia provided details of 100,800 GP–patient encounters. Results are reported 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. Other substudies covered in the fifth year of BEACH are reported elsewhere (<http://www.fmrc.org.au/beach-pubs.htm#6>).

## The participating general practitioners

The 1,008 participants represented 28.9% of those with whom contact could be established. Males made up 64.8% of participants and GPs aged 45 years or older accounted for 66.1%. Most (77.9%) had been in general practice for more than ten years. The majority (72.0%) had graduated in Australia and two-thirds (64.7%) practised in capital cities. More than one-third (35.5%) were Fellows of the Royal Australian College of General Practitioners (RACGP), 39.5% had completed the RACGP Training Program, and 2.9% were currently in the Training Program. Less than one in seven (13.7%) were in solo practice, and three-quarters (79.3%) worked in an accredited practice. More than half the practices (55.2%) provided their own after-hours services or worked through a co-operative arrangement with other practices. Hours spent in direct patient care per week were between 41 and 60 hours for 42.8% of these GPs and 21–40 hours for 41.6%. Computers were used in 97.1% of practices, mainly for prescribing (79.6%) and billing (73.5%) purposes.

A comparison of characteristics of participating GPs with those of GPs who declined showed that GPs aged less than 35 years were under-represented in the final BEACH GP sample. Post-stratification weighting adjusted for this difference. Participants were also marginally less 'busy' in terms of A1 Medicare item number claims in the previous quarter. The weighting incorporated the differential activity level of each GP to increase the precision of national estimates.

## **The encounters**

After post-stratification weighting for age (stratified by sex) and activity level, there were 100,987 encounters included in the analysis. Comparison of the age–sex distribution of patients at the Medicare-claimable encounters with that of encounters in the Medicare data demonstrated excellent precision of the final encounter sample. Most encounters (98.4%) were direct encounters (patient seen). The vast majority (95.0%) of these were claimable from Medicare or the Department of Veterans' Affairs, and 82.9% were standard surgery consultations. The encounters involved 152,341 reasons for encounter (RFEs), 146,336 problems managed, 104,813 medications, 52,292 non-pharmacological treatments, 11,254 referrals, 33,234 pathology test orders and 8,678 orders for imaging.

## **The patients**

Children accounted for 13.6% of the encounters, 10.1% were with young adults, and 24.2% with elderly patients. The patient was female at 57.8% of encounters, held a Commonwealth health care card at 40.4%, and came from a non-English-speaking background at 10.6% of encounters. Patients identified themselves as an Aboriginal person and/or a Torres Strait Islander at 1.0% of encounters.

Patient RFEs were recorded at a rate of 151 per 100 encounters. Approximately half the RFEs related to the respiratory, musculoskeletal and skin, circulatory and digestive systems. RFEs were most commonly described in terms of symptoms and complaints. Requests for a prescription, a check-up or for immunisation/vaccination were common, followed by RFEs largely of a symptomatic nature.

## **Problems managed**

Problems were managed at a rate of 144.9 per 100 encounters. Those relating to the respiratory system, musculoskeletal system and skin accounted for almost 40% of all problems managed. The most common individual problems were hypertension (8.9 per 100 encounters), upper respiratory tract infection (URTI) (6.4 per 100), immunisation/vaccination (4.6 per 100), depression (3.5 per 100) and lipid disorder (3.0 per 100). Together, these represented almost 20% of all problems managed.

## **Management**

There was no specific treatment recorded for 8.7% of problems managed. The most common treatment was medication alone (33.8% of problems), followed by medication plus clinical treatments (12.1%) and then by clinical treatment alone (7.2%). There has been an increase in the combined use of a medication and clinical treatment, with a decrease in the individual use of these managements over the last five years.

### *Medications*

There were 104 medications recorded per 100 encounters, or 72 per 100 problems. These medications could be prescribed (81.3% of all medications), advised for over-the-counter purchase (9.8%) or supplied by the GP (9.0%).

Prescribed medications: medications were prescribed at a rate of 84.3 per 100 encounters or 58.2 per 100 problems managed, at least one being prescribed at 54.9% of encounters and for 47.2% of problems managed. Medication groups most frequently prescribed were antibiotics (16.4% of all prescriptions), cardiovascular (15.5%), central nervous system (12.5%), psychological (8.3%), musculoskeletal (6.8%) and respiratory (6.3%). The most commonly

prescribed generic medications were paracetamol (3.7% of all prescriptions), amoxicillin (3.7%), the paracetamol-codeine combination (2.4%) and cephalexin (2.3%).

Other medications: medications most often recommended for over-the-counter purchase were paracetamol, ibuprofen, loratadine and diclofenac topical. The medications most often supplied by the GP were the influenza and polio vaccines, rofecoxib and amoxicillin.

#### *Non-pharmacological treatments*

These were classified as clinical and procedural. At least one non-pharmacological treatment was provided for 30.9% of problems. Clinical treatments were more frequent (37.2 per 100 encounters or 25.7 per 100 problems) than procedures (14.6 and 10.1 respectively). General advice and education (6.9 per 100 encounters) was the most common clinical treatment, followed by counselling about the problem managed. The most frequent procedure was excision or removal of tissue (2.9 per 100).

#### *Referrals, admissions, tests and investigations*

At least one referral was given at 10.6% of encounters for 7.7% of problems. Referrals to medical specialists arose at a rate of 7.7 per 100 encounters, the most frequent being to orthopaedic surgeons. Referrals to allied health professionals were made at a rate of 2.5 per 100 encounters, the majority being to physiotherapists. Admissions to hospital and referrals to the emergency department were rare. Diabetes, pregnancy, malignant neoplasms of the skin and osteoarthritis were the problems most often referred to a specialist; back complaints, sprains/strains and depression were those most commonly referred to an allied health professional.

Pathology was ordered for more than one in ten problems (at a rate of 32.9 tests per 100 encounters). Blood chemistry accounted for more than half the tests ordered, but a full blood count was the most commonly ordered individual test. Problems for which pathology was most often ordered were hypertension, diabetes and lipid disorders. Imaging was ordered for one in twenty problems, at a rate of 8.6 per 100 encounters. Plain x-rays accounted for almost two-thirds of these, chest x-rays being the most common. Back complaints, fractures and osteoarthritis were the problems for which imaging was most frequently ordered.

### **Changes over time**

Multiple regression was used to identify significant trends since 1998–99. The analysis demonstrated increased management rates of endocrine and metabolic problems (lipid disorders and diabetes in particular), with decreased management rates of respiratory problems (particularly asthma and acute bronchitis), ear problems, and problems related to the blood and blood-forming organs. There were measured decreases in overall prescribing rates for antibiotics and respiratory medications. Prescribing rates for simple and compound analgesics decreased over time, however there was a significant increase in prescription rates of narcotic analgesics. Increases in clinical treatment rates were apparent, however the provision of lifestyle counselling and advice fell in 2002–03 from the high levels observed in the previous year.

### **Selected topics – changes over time**

The rate of non-steroidal anti-inflammatory drugs (NSAIDs) prescribed/supplied or advised over-the-counter rose significantly over the period 1999–00 to 2000–01, but remained relatively steady over the next two years 2001–02 to 2002–03 with no further increase in medication rates. The increase in NSAIDs was explained by the rapid uptake of Cox-2

inhibitors between 1999–00 and 2000–01. It appears that the level of Cox-2 inhibitor prescribed or supplied by the GP has reached a plateau with no further increase in the rates of Cox-2 inhibitors observed since 2000–01. The pattern of NSAID medication rates was similar for both arthritis and other musculoskeletal problems, although the uptake of Cox-2 inhibitors was more pronounced for arthritis.

There was no change in the management rate of upper respiratory tract infection (URTI). However, there has been a decrease in antibiotic prescribing for URTI problems, except for broad spectrum penicillin which in 2002–03 rose back to the level observed in 1998–99.

### **Patient health risk factors**

**Body mass index:** Of 32,367 adult respondents (aged 18+ years), more than half were considered obese (20.9%) or overweight (33.8%). Men were more likely to be overweight or obese (61.4%) than women (50.4%). Approximately 8% were underweight. There was a significant increase in prevalence of obesity over the 5 years from 1998–99 (18.4%) to 2002–03 (20.9). BMI was calculated for 3,579 children aged 2–17 years. Overall, 14.1% of these children were considered obese and a further 18.1% were overweight.

**Smoking:** Of the 32,651 responding adult patients (aged 18+ years), 17.2% were daily smokers, 4.1% were occasional smokers and 27.2% were previous smokers. Males were more likely to report daily smoking (20.4%) than females (15.2%).

**Alcohol consumption:** 'At-risk' levels of alcohol intake were reported by 26.2% of the 32,140 adult respondents. Male patients were more likely to be 'at-risk' drinkers (32.9%) than women (22.1%). Prevalence of 'at-risk' drinking decreased with increasing age for both sexes.

**Risk factor profile:** Smoking status, alcohol consumption and body mass index were available for 31,152 adult patients. Almost half of these patients had one of these three risk factors, 19.6% had two and 3.6% had all three.

### **Encounters with Indigenous people**

In 2002–03 there were 1,375 encounters (1.4% of all encounters) at which patients identified themselves as an Aboriginal or Torres Strait Islander person. From 1998 to 2003, there were 5,476 such encounters (unweighted), representing 1.1% of the total, seen by 1,354 GPs (27% of the sample). These patients were significantly younger than the total sample, were more often new patients to the practice and more likely to hold a Commonwealth health care card. Their encounters represented 0.5% of those in capital cities but 18.2% of those in remote centres and 9.3% of those in other remote areas. The pattern of morbidity at these encounters was significantly different from that of the total sample. In particular, there were significantly higher management rates of diabetes, asthma, acute bronchitis, otitis media, pregnancy, tonsillitis and boil/carbuncle.

These patients received significantly more medications than those at all encounters, with high rates of GP-supplied medications and low rates of advised over-the-counter drugs. Pathology ordering rates were also significantly higher at these Indigenous encounters than at total encounters. The substudies of some adult patient risk factors demonstrated that almost two-thirds of the Indigenous respondents were obese or overweight, 45.2% reported smoking daily, and almost 40% reported consuming 'at-risk' levels of alcohol.

### **Conclusion**

This report has described the contribution made by general practice to the healthcare of the Australian community, and the usefulness of a continuous data source for the measurement of changes in practice over time.