

# **General practice activity in Australia 2007–08**

**Australian GP Statistics and Classification Centre**

The Australian Institute of Health and Welfare is Australia's national health and welfare statistics and information agency. The Institute's mission is *better information and statistics for better health and wellbeing*.

The Australian General Practice Statistics and Classification Centre (previously Unit) is a collaborating unit of the Australian Institute of Health and Welfare and the University of Sydney, situated within the Family Medicine Research Centre at Westmead Hospital. It fulfils the obligation of the Australian Institute of Health and Welfare to collect statistics regarding general practitioners, their patients and their patients' care.

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Australian General Practice Statistics and Classification Centre 2007. SAND abstracts from the BEACH program. Sydney: AIHW & University of Sydney. Viewed 25 October 2007, <[www.fmrc.org.au/publications/SAND\\_abstracts.htm](http://www.fmrc.org.au/publications/SAND_abstracts.htm)>.

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**BEACH**  
*Bettering the Evaluation  
And Care of Health*

**General practice activity in Australia  
2007–08**

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# Foreword

This 2007–08 BEACH (Bettering the Evaluation And Care of Health) report presents empirical data of Australian general practice: the quantification of patients consulting their family doctor, the health problems encountered, and the diagnostic and therapeutic interventions that were initiated. The rich and thick descriptive information presented here is vital for health care policy and for primary care development. For those acquainted with the BEACH project, the presentation of these data could be seen as ‘business as usual’: this is the 10th annual report since the project started exploring general practice performance in 1998. In that 10-year period, the research team of the Australian General Practice Statistics and Classification Centre, in their happy collaboration of the University of Sydney and the Australian Institute of Health and Welfare, have developed impressive expertise to collect and corroborate all this information. For that reason, I would like to stress – in congratulating the research team with this splendid jubilee publication – how unique and how important their work is. It is important for Australian health care and for Australian primary care, but the BEACH expertise has an impact well beyond the Australian borders.

General practitioners work in direct contact with local communities and respond to the specific health needs of the patients in their community. The 2007–08 BEACH data illustrate this, for example in reporting that more than a third of the workload in general practice is currently directed at patients with chronic diseases – in particular hypertension, depressive disorder, diabetes, lipid disorders and osteoarthritis. This exemplifies also the generic nature of general practice, dealing with all patient groups for all health problems in all stages. But to appreciate the role of general practice and primary care, it is important to understand *why* patients came to contact their family doctor in the first place and *how* the episode of care started. The report stresses the importance of risk factors and lifestyles in the daily work of general practitioners and practice nurses.

Essential in the BEACH project is the processing of health information over the recording of a mere diagnosis and procedure, and this is the international impact of this report. General practice has always been a feature of health care in local communities, but for a long time, the domain of the most common health problems encountered in society have remained the least studied. It required a thorough methodology, based on a comprehensive classification – the International Classification of Primary Care (ICPC), developed by the World Organization of Family Doctors (Wonca) – to open general practice for research and gain insight in its function. The leadership of the BEACH team have been instrumental in developing ICPC, and, on the other hand, the BEACH data demonstrate the richness of ICPC as an integral component of health informatics. That is where the 10 years of data collection in the context of Australian general practice has an impact well beyond its contribution to Australian health care.

Nothing beats empirical data in raising the appetite for more data, and the current classifications like ICPC are only the beginning of an integrated, comprehensive health informatics system. Improving the compatibility of ICPC as the primary care system with other major systems (International Classification of Diseases, ICD, Systematized Nomenclature of Medicine – Clinical Terms, SNOMED CT) is at this moment on the agenda. Wonca, through its International Classification Committee, is involved in this, and the BEACH experience will continue to make an invaluable contribution here.

In my judgement, the BEACH report presents the most convincing case of why such comprehensive general practice data are essential for health care policy, though possibly a bit hidden in all the information. For that reason, I would like to spell it out in concluding this foreword: of all health problems presented in general practice, less than 1 in 10 is referred. In other words, general practitioners, practice nurses and other members of the primary care team take the full care of more than 90% of all health problems that present to a general practitioner. This is the primary care lead in health care, and further improving population health requires a focus here. This report presents an invaluable basis for this.

Professor Chris van Weel MD, PhD, FRCGP

President

World Organization of Family Doctors (Wonca)

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We acknowledge the support of the Royal Australian College of General Practitioners, the Australian Medical Association, the Australian Divisions of General Practice, the Australian College of Rural and Remote Medicine, and the Consumers Health Forum, and the contribution of their representatives to the BEACH Advisory Board.

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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.

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# Abbreviations

ABS	Australian Bureau of Statistics
AGPSCC	Australian General Practice Statistics and Classification Centre, University of Sydney, a collaborating unit of the Australian Institute of Health and Welfare
AHS	allied health service
AIHW	Australian Institute of Health and Welfare
ASGC	Australian Standard Geographical Classification
ATC	Anatomical Therapeutic Chemical (classification)
BEACH	Bettering the Evaluation And Care of Health
BMI	body mass index
CAPS	Coding Atlas for Pharmaceutical Substances
CI	confidence interval (in this report 95% CI is used)
CRF/CKD	chronic renal failure/chronic kidney disease
CT	computerised tomography
DoHA	Australian Government Department of Health and Ageing
DVA	Australian Government Department of Veterans' Affairs
encs	encounters
ESR	erythrocyte sedimentation rate
EUC	electrolytes, urea and creatinine
FMRC	Family Medicine Research Centre
GP	general practitioner
GPSCU	General Practice Statistics and Classification Unit (now the Australian General Practice Statistics and Classification Centre, AGPSCC)
HbA1c	haemoglobin, type A1c
HDL	high-density lipoprotein
HIV	human immunodeficiency virus
ICPC	International Classification of Primary Care
ICPC-2	International Classification of Primary Care (Version 2)
ICPC-2 PLUS	a terminology classified according to ICPC-2
INR	International Normalised Ratio
LCL	lower confidence limit
MBS	Medicare Benefits Schedule
M,C&S	microscopy, culture and sensitivity
NDSHS	National Drug Strategy Household Survey

NESB	non-English-speaking background
NSAID	non-steroidal anti-inflammatory drug
OTC	over-the-counter (that is, 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)
RACGP	Royal Australian College of General Practitioners
RFE(s)	reason(s) for encounter (see Glossary)
RRMA	Rural, Remote and Metropolitan Areas
SAND	Supplementary Analysis of Nominated Data
SAS	Statistical Analysis System
TC	total cholesterol
UCL	upper confidence limit
WHO	World Health Organization
Wonca	World Organization of Family Doctors

# Executive summary

This report summarises results from the 10th year of the BEACH (Bettering the Evaluation And Care of Health) program, from April 2007 to March 2008, from a sample of 95,300 patient encounters with 953 general practitioners (GPs).

BEACH is a continuous cross-sectional national study of general practice activity in Australia that began in April 1998. A summary report containing 10 years of BEACH data *General practice activity in Australia 1998–99 to 2007–08: 10 year data tables* is available from [www.aihw.gov.au/publications/index.cfm/subject/19](http://www.aihw.gov.au/publications/index.cfm/subject/19) (AIHW catalogue number GEP 23).

## Method (chapters 2 and 3)

A random sample of GPs who claimed at least 375 general practice Medicare items of service in the previous 3 months is regularly drawn from Medicare claims data by the Australian Government Department of Health and Ageing. 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. Results are reported in terms of GP and patient characteristics, patient reasons for encounter, problems managed and management techniques used.

A section at the bottom of each encounter form investigates aspects of patient health or health care delivery not covered by the consultation-based data. All GPs are asked to provide start and finish times, and complete patient risk factor data at 40 of their 100 encounters, including self-reported height and weight (for calculation of body mass index), smoking status and alcohol consumption.

## The general practitioners (Chapter 4)

Of the 953 participating GPs:

- 63% were male, and 34% were aged 55 years or older
- almost 60% were in practices of fewer than five full-time equivalent GPs
- 74% had graduated in Australia
- 72% practised in major cities
- 50% were Fellows of the Royal Australian College of General Practitioners
- 86% worked in an accredited practice
- 71% worked in a practice that employed practice nurse(s)
- 74% worked 6–10 clinical sessions, and only 11% worked more than 10 sessions per week
- 45% provided their own or cooperative after-hours care
- 97% worked in a computerised practice, with computers used mainly for prescribing and billing purposes.

## **The encounters** (Chapter 5)

Data were available for 95,300 encounters (953 GPs x 100 encounters), which, after weighting, amounted to 95,898 encounters.

For 98.6% of encounters, the patient was seen by the GP (direct encounters). About 97% of these were claimable through the Medicare Benefits Schedule (MBS) or the Australian Government Department of Veterans' Affairs (DVA), the majority (82.1%) as standard surgery consultations and 9.9% as long surgery consultations. Short and prolonged surgery consultations, and home and residential aged care visits were relatively rare.

In a subsample of 29,956 MBS/DVA-claimable encounters containing start and finish times, mean consultation length was 15.1 minutes (95% CI: 14.8–15.3), the median length was 13.0 minutes.

## **The patients** (Chapter 6)

The patient was female at the majority (57.1%) of encounters. Patients aged less than 25 years accounted for 21.2% of encounters; 25–44 years for 23.4%; 45–64 years for 28.1% and 65 years and over for 27.3%.

The patient was new to the practice at 8.6% of encounters. Almost 42% of encounters were with patients who held a Commonwealth concession card, and at 0.9% of encounters the patient identified as an Aboriginal person or Torres Strait Islander.

There were 146,696 reasons for encounter (RFEs) recorded (153 RFEs per 100 encounters). RFEs of a general nature were most common (40.1 per 100 encounters), followed by respiratory (20.6 per 100), and musculoskeletal (15.4) and skin (15.4) problems. The 30 most common RFEs represented more than half the total, and 18 of these were symptoms or complaints (for example, cough, back complaints and rash). However, of the top five RFEs four were requests for check-ups, prescriptions, test results or immunisation.

## **Problems managed** (Chapter 7)

There were 145,078 problems managed (151 per 100 encounters), the number managed at encounter increasing steadily with patient age. More problems were managed at encounters with female (154.4 per 100 encounters), than with male patients (147.4).

Problems of the respiratory system (19.4 per 100 encounters) were most often managed, followed by those of a general and unspecified nature, cardiovascular problems and musculoskeletal problems.

The 30 most frequently managed problems accounted for more than half the total. The most common were: hypertension (9.9 per 100 encounters), check-ups (6.3), upper respiratory tract infection (6.2), immunisation (5.2) and depression (4.0).

Problems new to the patient (38.1% of the total), were led by upper respiratory tract infections (4.8 per 100 encounters), immunisation/vaccination (2.8) and acute bronchitis (1.7).

Chronic problems accounted for more than a third (34.6%) of all problems managed, the most common being non-gestational hypertension (18.8%), depressive disorder (7.5%), non-gestational diabetes (7.3%), lipid disorders (7.0%) and osteoarthritis (4.9%).

## **Overview of management** (Chapter 8)

At the 95,898 encounters, GPs undertook 211,029 management activities including medications, other treatments, referrals and admissions, and tests and investigations.

## **Medications (Chapter 9)**

Of the 98,439 medications recorded (103 per 100 encounters and 68 per 100 problems managed), 80.3% were prescribed, 9.9% GP supplied, and 9.8% advised for over-the-counter (OTC) purchase. Extrapolation to all GP Medicare-claimed encounters (2007–08), suggests 88 million prescriptions, 10.8 million GP-supplied medications and 10.8 million advised OTC purchases.

***Prescribed medications:*** There were 79,051 prescriptions recorded (82 per 100 encounters and 55 per 100 problems managed). The 30 most often prescribed accounted for 44.3% of the total. Of the top five, two were antibiotics, two were plain or combination paracetamol, and the fifth was atorvastatin. Where GPs specified 'number of repeats' (for 60,733 prescriptions), 34.5% had no repeats, and 33.8% had five repeats.

***Medications supplied by GPs:*** Vaccines accounted for about 70% of the 9,702 GP supplied medications, influenza virus vaccine and the Papillomavirus vaccine being most common.

***Medications advised for over-the-counter purchase:*** Of the 9,686 medications recommended for OTC purchase, analgesics made up almost one-third, led by paracetamol and ibuprofen.

## **Other treatments (Chapter 10)**

A total of 49,130 other treatments were recorded in the management of patient morbidity, at a rate of 51.2 per 100 encounters.

***Clinical treatments:*** There were 33,121 clinical treatments recorded (34.5 per 100 encounters), in the management of one in five (20.6%) problems. The most common were general advice and education (7.2 per 100 encounters), counselling about the problem under management (4.3), nutrition and weight counselling (4.2), advice about treatment (3.5) and psychological counselling (3.2).

***Procedural treatments:*** There were 16,009 procedures recorded (16.7 per 100 encounters) in the management of 10.3% of all problems. The most frequent were excisions/biopsies, (3.4 per 100 encounters), local injections (2.3), dressings (2.2) and physical medicine/ rehabilitation (1.3 per 100).

## **Referrals and admissions (Chapter 11)**

There were 12,008 referrals to other health services, (12.5 per 100 encounters) for 8.3% of all problems managed, most frequently to specialists (8.0 referrals per 100 encounters) and allied health services (3.4 per 100). Very few referrals were made to hospitals, emergency departments or other medical services.

The most common specialist referrals were to surgeons (11%), orthopaedic surgeons (9%), dermatologists (8%) and ophthalmologists (8%).

About 34% of referrals to allied health services were to physiotherapists, 19% to psychologists, 9% to podiatrists or chiropodists and 7% to dietitians or nutritionists.

## **Tests and investigations (Chapter 12)**

Pathology was ordered at 17.4% of encounters (for 13.1% of problems managed) and imaging was ordered at 8.3% of encounters (for 5.7% of problems managed).

***Pathology:*** The GPs recorded 41,375 orders for pathology tests/batteries of tests, at a rate of 43.2 per 100 encounters. Chemistry tests accounted for more than half of all pathology test orders, the most common being lipids (4.3 orders per 100 encounters), liver function (3.1), EUC (3.0), and glucose/glucose tolerance (2.5). The problems contributing most to pathology test orders were diabetes, hypertension, general check-ups and lipid disorders.

**Imaging:** There were 9,143 imaging test orders recorded, at a rate of 9.5 per 100 encounters. Diagnostic radiology accounted for half of all imaging test orders while ultrasound accounted for a further 35.2%. The problems contributing most to total imaging ordered were back complaint, osteoarthritis and fracture.

### **Practice nurse activity (Chapter 13)**

Practice nurses were involved in 5,712 GP-patient encounters (6.0% of all encounters), assisting in the management of 4.1% of problems. Only one-third (34.7%) of these encounters had a Medicare practice nurse item number recorded.

Practice nurses provided 6,283 other treatments, representing 11.9% of all other treatments recorded. The majority (84.7%) of these were procedural (28.9% of all procedures recorded), the most frequent being injections (mainly for immunisation/vaccinations) (40.4%) and dressing/pressure/compression (22.3%).

Clinical treatments accounted for only 7.0% of practice nurse activity, and nurses provided less than 2% of all clinical treatments. Most common were administrative work (25.7% of nurse clinical activity), general advice and education (18.6%), treatment advice (7.6%) and counselling about the problem under management (7.2%).

The most common other investigations performed by the nurse were electrical tracings (such as electrocardiogram) (56.8% of other investigations) and physical function tests (38.5%).

### **Patient risk factor substudies (Chapter 14)**

**Overweight and obesity in adults:** Sample size was 31,062 patients (aged 18 years and over) with 952 GPs. More than half (59.3%) the sample were overweight (35.4%); or obese (23.9%). Prevalence of overweight/obesity was higher among males (66.1%) than females (54.8), and most prevalent in those aged 45–74 years. Extrapolation to all patients who attended a GP at least once suggests 58.8% of the patient population are overweight (35.3%) or obese (23.5%).

**Overweight and obesity in children:** Sample size was 3,046 patients aged 2–17 years, with 801 GPs. Three in ten children (28.3%) were overweight (17.1%) or obese (11.2%). Prevalence did not differ among male and female children sampled.

**Smoking status:** Sample size was 31,652 adults (aged 18 years and over) with 952 GPs, 16.5% of whom were current daily smokers, 2.9% occasional smokers, and 27.9% previous smokers. Smoking was more prevalent among men (19.8%) than women (14.4%), and among younger adults. Extrapolation of these estimates to all patients who attended a GP at least once suggests 19.3% are daily smokers, 3.5% occasional, 25.7% previous, and 51.5% have never smoked.

**Alcohol consumption:** Sample size was 30,796 adults (aged 18 years and over) with 951 GPs. At-risk alcohol consumption levels were reported by 26.2%, being more prevalent among males (31.7%) than females (22.6%), and most prevalent in the 18–24 year age group. Extrapolation of these estimates to all patients who attended a GP at least once suggests that 29.3% of the patient population are at-risk drinkers.