



**Australian Government**

**Australian Institute of  
Health and Welfare**

*Better information and statistics  
for better health and wellbeing*

GENERAL PRACTICE SERIES

Number 26

# **General practice activity in Australia 1999–00 to 2008–09: 10 year data tables**

***BEACH***

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

**Helena Britt, Graeme C Miller, Jan Charles, Joan Henderson, Clare Bayram,  
Lisa Valenti, Ying Pan, Christopher Harrison, Salma Fahridin, Julie O'Halloran**

**December 2009**

A joint report by the University of Sydney and the Australian Institute of Health and Welfare

Cat. no. GEP 26

**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.**

© Australian Institute of Health and Welfare and the University of Sydney 2009

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced without prior written permission from the Australian Institute of Health and Welfare. Requests and enquiries concerning reproduction and rights should be directed to the Head, Media and Communications Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601.

This publication is part of the Australian Institute of Health and Welfare's General practice series, from the Australian General Practice Statistics and Classification Centre (AGPSCC), a collaborating unit of the Family Medicine Research Centre (FMRC) of the University of Sydney and the Australian Institute of Health and Welfare (AIHW). A complete list of the Institute's publications is available at the Institute's website <[www.aihw.gov.au](http://www.aihw.gov.au)>.

ISSN 1442-3022

ISBN 978 1 74024 973 7

### **Suggested report citation**

Britt H, Miller GC, Charles J, Henderson J, Bayram C, Valenti L, Pan Y, Harrison C, Fahridin S, O'Halloran J 2009. General practice activity in Australia 1999–00 to 2008–09: 10 year data tables. General practice series no. 26. Cat. no. GEP 26. Canberra: AIHW.

### **Keywords**

Australia, delivery of health care/statistics and numerical data, family practice/statistics and numerical data, health care surveys/methods.

### **Companion publication**

Britt H, Miller GC, Charles J, Henderson J, Bayram C, Pan Y, Valenti L, Harrison C, Fahridin S, O'Halloran J 2009. General practice activity in Australia, 2008–09. General practice series no. 25. Cat. no. GEP 25. Canberra: AIHW.

### **Australian Institute of Health and Welfare**

Board Chair

Hon. Peter Collins, AM, QC

Director

Penny Allbon

Any enquiries about or comments on this publication should be directed to:

The Australian General Practice Statistics and Classification Centre  
Sydney School of Public Health, University of Sydney  
Level 7, 16–18 Wentworth Street  
Parramatta NSW 2150  
Phone: +61 2 9845 8151; Fax: +61 2 9845 8155; Email: [gpstats@fmrc.org.au](mailto:gpstats@fmrc.org.au)

Published by the Australian Institute of Health and Welfare

**Please note that there is the potential for minor revisions of data in this report.  
Please check the online version at <[www.aihw.gov.au](http://www.aihw.gov.au)> for any amendments.**

# Contents

Acknowledgments.....	v
Abbreviations.....	vi
Symbols.....	vii
Executive summary .....	viii
<b>1 Introduction.....</b>	<b>1</b>
1.1 Background – general practice in Australia .....	2
<b>2 Methods .....</b>	<b>3</b>
2.1 Sampling methods .....	3
2.2 Recruitment methods .....	3
2.3 Data elements .....	4
2.4 The BEACH relational database .....	5
2.5 Supplementary Analysis of Nominated Data.....	6
2.6 Statistical methods .....	9
2.7 Changes over time .....	10
2.8 Extrapolated national estimates.....	10
2.9 Changes to data elements and reporting methods.....	12
2.10 Classification of data.....	13
2.11 Quality assurance.....	17
2.12 Validity and reliability .....	17
<b>3 The sample .....</b>	<b>19</b>
<b>4 The participating GPs.....</b>	<b>20</b>
<b>5 The encounters.....</b>	<b>26</b>
5.1 Content of the encounters .....	26
<b>6 The patients.....</b>	<b>32</b>
6.1 Age-sex distribution of patients at encounter .....	32
6.2 Other patient characteristics.....	32
6.3 Patient reasons for encounter .....	32
<b>7 Problems managed.....</b>	<b>43</b>
7.1 Number of problems managed .....	43
7.2 Distribution of problems managed by ICPC-2 component .....	44
7.3 Problems managed by ICPC-2 chapter and individual problems managed .....	44
7.4 Most common new problems.....	45
7.5 Most frequently managed chronic problems .....	45
<b>8 Overview of management .....</b>	<b>57</b>

<b>9 Medications</b> .....	<b>63</b>
9.1 Prescribed medications .....	63
9.2 Medications supplied by GPs.....	72
9.3 Medications advised for over-the-counter purchase .....	72
<b>10 Other treatments</b> .....	<b>75</b>
10.1 Clinical treatments .....	75
10.2 Procedures.....	76
<b>11 Referrals and admissions</b> .....	<b>84</b>
<b>12 Investigations</b> .....	<b>88</b>
12.1 Number of encounters where pathology or imaging was ordered .....	88
12.2 Pathology test orders by MBS groups.....	89
12.3 Imaging test orders by MBS group.....	89
<b>13 Practice nurse activity</b> .....	<b>94</b>
13.1 Overview of practice nurse activity.....	95
13.2 Distribution of practice nurse item numbers claimed at encounters.....	95
13.3 Treatments provided by practice nurses .....	96
13.4 Problems managed with practice nurse involvement .....	97
<b>14 Patient risk factors</b> .....	<b>100</b>
14.1 Body mass index .....	101
14.2 Smoking.....	101
14.3 Alcohol consumption .....	101
<b>References</b> .....	<b>106</b>
<b>Glossary</b> .....	<b>110</b>
<b>Appendices</b> .....	<b>113</b>
Appendix 1: Example of a 2008–09 recording form .....	113
Appendix 2: GP characteristics questionnaire, 2008–09 .....	115
Appendix 3: Dissemination of results from the BEACH program .....	116
Appendix 4: Code groups from ICPC-2 and ICPC-2 PLUS .....	134
Appendix 5: Chronic code groups from ICPC-2 and ICPC-2 PLUS .....	161
<b>List of tables</b> .....	<b>165</b>
<b>List of figures</b> .....	<b>167</b>

# Acknowledgments

The Australian General Practice Statistics and Classification Centre (formerly the General Practice Statistics and Classification Unit) wishes to thank the general practitioners who participated in BEACH (Bettering the Evaluation And Care of Health) since it began in April 1998. This report would not have been possible without their valued cooperation and effort in providing the data.

We also thank the following organisations for their financial support and their contribution to the ongoing development of the BEACH program since it began:

- AstraZeneca Pty Ltd (Australia) (1998–2009)
- Janssen-Cilag Pty Ltd (2000–2009)
- Merck, Sharp and Dohme (Australia) Pty Ltd (2002–2009)
- Pfizer Australia (2003–2009)
- National Prescribing Service Ltd (2005–2009)
- Australian Government Department of Health and Ageing (1998–2004, 2007–2009)
- Abbott Australasia (2006–2009)
- Sanofi-Aventis Australia Pty Ltd (2006–2009)
- Wyeth Australia Pty Ltd (2008–2009)
- Roche Products Pty Ltd (1998–2006)
- Aventis Pharma Pty Ltd (1998–2002)
- National Occupational Health and Safety Commission (1998–2000)
- Australian Government Department of Veterans' Affairs (1998–2000).

Some financial support for the program was also provided by:

- Australian Government Department of Veterans' Affairs (2004–2009)
- The Office of the Australian Safety and Compensation Council, Department of Employment and Workplace Relations (2004–2006).

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

The research team is grateful to Clare Bayram for her coordination and editing of this report, for the IT support of Timothy Chambers and the administrative support of Denise Barratt and Gervaise Woods, and for the valuable contribution of the general practitioner recruitment staff (Errol Henderson, Jan Fitzgerald and David Went) and data entry staff. We recognise the contribution of past members of the BEACH team. We appreciate the cooperation of the Primary and Ambulatory Care Division of the Australian Government Department of Health and Ageing in regularly supplying general practitioner random samples and national Medicare data.

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.

# Abbreviations

ABS	Australian Bureau of Statistics
ACE	angiotensin-converting enzymes
AIHW	Australian Institute of Health and Welfare
ASGC	Australian Standard Geographical Classification
ATC	Anatomical Therapeutic Chemical (classification)
AUDIT	Alcohol Use Disorders Identification Test
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)
CT	computerised tomography
DVA	Australian Government Department of Veterans' Affairs
encs	Encounters
FRACGP	Fellowship of the Royal Australian College of General Practitioners
GORD	gastro-oesophageal reflux disease
GP	general practitioner
HbA1c	haemoglobin, type A1c
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
MBS	Medicare Benefits Schedule
NHS	National Health Survey
NSAID	non-steroidal anti-inflammatory drug
OTC	over-the-counter (i.e. medications advised for over-the-counter purchase)
PBS	Pharmaceutical Benefits Scheme
PN	practice nurse
RACGP	Royal Australian College of General Practitioners
RFE	reason for encounter
SAND	Supplementary Analysis of Nominated Data
SAS	Statistical Analysis System
URTI	upper respiratory tract infection
WHO	World Health Organization

N/A	not applicable
NAv	not available
NEC	not elsewhere classified
<i>n</i>	number
NOS	not otherwise specified

## Symbols

↑/↓	indicates a statistically significant linear change
↑/↓	indicates a marginally significant linear change
§	indicates a non-linear significant or marginal change
—	indicates no change
<	less than
>	more than

# Executive summary

This report compares results from each of the last 10 years of the BEACH (Bettering the Evaluation And Care of Health) program, and highlights changes in the characteristics of general practitioners (GPs) and their patients, and in GP clinical activities in Australia over the decade 1999–00 to 2008–09.

BEACH is a continuous national study of general practice in which data are collected from a new sample each year of about 1,000 GPs. Each GP provides details for 100 consecutive GP–patient encounters. BEACH began in April 1998 and this report uses data collected between April 1999 and March 2009 inclusive, from about 9,900 GP participants, covering about 990,000 GP–patient encounters.

Changes in the population influence GP clinical work. Since 1999 the estimated population of Australia increased by 13.7% to 21.64 million in December 2008. More than 85% of the population visit a GP at least once in any year. From March 2008 to April 2009, there were about 112 million general practice consultations paid for by Medicare, up from 101 million in 1999–00; an average of 5.1 per person, a similar visit rate to 1999–00 (5.4 visits per head).

## The GPs

- The feminisation of the GP workforce is reflected in the growing proportion of GP BEACH participants who are female, increasing from 30% in 1999–00 to 33% in 2008–09.
- The GP workforce is ageing – those aged 55 years or more at the time they participated increased from 27% of the final sample in 1999–00 to 46% in 2008–09.
- Most GPs are in group practices and the average GP is working fewer hours.
- In 2008–09 about 40% of GPs hold specialist GP qualifications, an increase from 30% 10 years earlier.
- Almost 60% of GPs work in practices that do not provide their own or cooperative practice coverage of after-hours care compared with 40% in 2000.

## Why do the patients see their GP?

- In 1999–00 about half the GP–patient encounters were with people aged <45 years but with the ageing population and increased prevalence of diagnosed chronic disease, in 2008–09 patients aged 45+ years accounted for 60% of all GP–patient encounters.
- Compared with 1999–00 fewer patients went to their GP for only one reason.
- There were increases in patient requests for prescriptions, immunisations, blood tests, tests results, and administrative actions such as medical certificates. In 2008–09 patients also presented more often about their diabetes, depression and hypertension.
- In contrast, patient presentations of symptoms and complaints such as ear pain, throat complaints and headaches decreased by about a 25% over the 10 years.

## Have the problems that GPs manage changed?

- GPs managed increasing numbers of problems per encounter and this applied to both newly diagnosed problems and chronic conditions. We estimate 24.7 million more problems were managed at GP encounters in Australia in 2008–09 than in 1999–00.

- Respiratory problems were the most common type of problem managed throughout the decade but were managed less often in 2008–09 (21 per 100 encounters) than in 1999–00 (24 per 100). The decrease was mainly due to drops in upper respiratory tract infection, acute bronchitis, allergic rhinitis, tonsillitis and asthma. This suggests that nationally GPs managed 1.2 million fewer respiratory problems in 2008–09 than 10 years earlier.
- Hypertension was the most common individual problem managed throughout the decade but was managed with increasing frequency, resulting in 2.8 million more visits nationally in 2008–09 than in 1999–00. Other problems managed more often in 2008–09 than 10 years earlier included general check-ups, immunisations/vaccinations, depression, diabetes, cholesterol, osteoarthritis oesophageal disease, atrial fibrillation, pregnancy, and malignant skin neoplasms.

### **How has disease management changed?**

- The major change in management was a decrease in the number of prescribed medications (down from 64 to 56 per 100 problems managed by the GP). There was an increase in the number of medications supplied directly by the GP (from 5 to 7 per 100 problems managed) and these were mostly vaccinations. However the increase in GP-supplied medications did not fully counteract the decrease in prescriptions. Consequently there was a decrease from 75 to 69 per 100 problems managed for all medications prescribed, supplied or advised for over-the-counter purchase.
- The decrease in prescribing did not apply to all types of medications. Increased prescribing rates were apparent for some, particularly cholesterol-lowering agents and drugs for acid-related digestive problems.
- In 2008–09 GPs provided clinical treatments (such as advice, education and psychological counselling) at a similar rate to 1999–00, after a sudden decrease in these activities at the time of the introduction of practice nurse item numbers in 2004.
- GPs undertook more procedures in 2008–09 than 10 years earlier.
- GPs referred their patients more often, particularly to specialists, with a smaller increase in referrals to allied health services.
- The number of orders for pathology tests increased by more than 50%, from 30 test orders per 100 encounters to 46 per 100.
- There was also a significant but smaller increase in orders for imaging.
- Since first measured in 2005–06, practice nurse involvement in GP–patient encounters increased – they were involved in 6.4% of encounters (compared with 4.2% in 2005–06), but in all years only about 40% of these activities were claimable from Medicare. The increase in nurse activity was particularly notable in the number of INR blood tests and check-ups they did. In all years, they were most often involved in immunisations/vaccinations.

### **Patient risk factors**

- In adult patients aged 18 years and over, between 1999–00 and 2008–09 prevalence of overweight increased from 33% to 36%, obesity from 19% to 25%, daily smoking decreased from 19% to 15% and at-risk alcohol consumption remained static at 26%.
- In children aged 2–17 years prevalence of overweight and obesity remained static at about 11% obese and 17% overweight.

