THE UNIVERSITY OF SYDNEY

A decade of Australian general practice activity

2002–03 to 2011–12

Family Medicine Research Centre

Helena Britt, Graeme C Miller, Janice Charles, Joan Henderson, Lisa Valenti, Christopher Harrison, Carmen Zhang, Timothy Chambers, Allan J Pollack, Clare Bayram, Julie O'Halloran, Ying Pan

GENERAL PRACTICE SERIES **N°32**

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Number 32

A decade of Australian general practice activity 2002–03 to 2011–12

BEACH
Bettering the Evaluation and Care of Health

Helena Britt, Graeme C Miller, Janice Charles, Joan Henderson, Lisa Valenti, Christopher Harrison, Carmen Zhang, Timothy Chambers, Allan J Pollack, Clare Bayram, Julie O'Halloran, Ying Pan

November 2012

Sydney University Press

Published 2012 by Sydney University Press
SYDNEY UNIVERSITY PRESS
University of Sydney Library
sydney.edu.au/sup

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This publication is part of the General practice series based on results from the BEACH program conducted by the Family Medicine Research Centre. A complete list of the Centre's publications is available from the FMRC's website <www.fmrc.org.au>.

ISSN 1442-3022
ISBN 978-1-74332-020-4 pbk
ISBN 978-1-74332-021-1 online

Suggested citation
Britt H, Miller GC, Charles J, Henderson J, Valenti L, Harrison C, Zhang C, Chamber T, Pollack AJ, Bayram C, O'Halloran J, Pan Y. A decade of Australian general practice activity 2002–03 to 2011–12. General practice series no. 32. Sydney: Sydney University Press, 2012.

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, Henderson J, Charles J, Valenti L, Harrison C, Bayram C, Zhang C, Pollack AJ, O'Halloran J, Pan Y. General practice activity in Australia 2011–12. General practice series no. 31. Sydney. Sydney University Press, 2012.
Available at <hdl.handle.net/2123/7771>

Cover design by Miguel Yamin, the University Publishing Service

Printed in Australia

Acknowledgments

The Family Medicine Research Centre wishes to thank the general practitioners who participated in BEACH 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:

- Australian Government Department of Health and Ageing (1998–2004, 2007–2012)
- AstraZeneca Pty Ltd (Australia) (1998–2012)
- Merck, Sharp and Dohme (Australia) Pty Ltd (2002–2012)
- Pfizer Australia (2003–2012)
- Novartis Pharmaceuticals Australia Pty Ltd (2009–2012)
- CSL Biotherapies Pty Ltd (2010–2012)
- GlaxoSmithKline Australia Pty Ltd (2010–2012)
- Sanofi-Aventis Australia Pty Ltd (2006–2012)
- Bayer Australia Ltd (2010–2011)
- Janssen-Cilag Pty Ltd (2000–2010)
- Abbott Australasia Pty Ltd (2006–2010)
- Wyeth Australia Pty Ltd (2008–2010)
- National Prescribing Service Ltd (2005–2009)
- Roche Products Pty Ltd (1998–2006)

Some financial support for the program was also provided by:

- Australian Government Department of Veterans' Affairs (2004–2012)
- 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.

We thank Professor Richard Madden, Faculty of Health Sciences, University of Sydney for his independent review of this publication, and Clare Bayram for her assistance in editing this report. The research team is grateful for 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 earlier contribution of past members of the BEACH team. We appreciate the cooperation of the Australian Government Department of Health and Ageing in regularly supplying general practitioner random samples and national Medicare statistics.

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Summary

This book presents ten years of data from the BEACH (Bettering the Evaluation and Care of Health) program, and reports changes that have occurred over the decade 2002–03 to 2011–12, in the characteristics of GPs and the patients they see, the problems they manage and the treatments they provide. A companion report, *General practice activity in Australia 2011–12*, describes the 2011–12 annual results in more detail, available at <hdl.handle.net/2123/7771>.[1]

BEACH is a continuous cross-sectional national study that began in April 1998. Every year each of about 1,000 randomly selected GPs records details of 100 consecutive encounters on structured paper recording forms, and provides information about themselves and their practice. The database now holds data for 1.38 million records from 13,815 participating GPs.

BEACH is the only continuous randomised study of general practice activity in the world, and the only national program that provides direct linkage of management (such as prescriptions, referrals, investigations) to the problem under management.

GPs are the first port of call in the Australian healthcare system. In the 2011–12 financial year the universal health insurance scheme (Medicare) paid (in part or in whole) for about 123.9 million claimed general practice service items (excluding practice nurse items),[2] at an average of about 5.36 GP visits per head of population or 6.55 visits per person who visited at least once.

This report is based on information from 9,802 participating GPs, about 980,200 GP–patient encounters. Smaller studies are undertaken with subsamples of the BEACH encounters. Results for substudies on patient body mass index, smoking status and alcohol consumption are included in this report.

The GP participants and their practises

Between 2002–03 and 2011–12:

- the feminisation of the general practice workforce was reflected in the growing proportion of GP participants who were female rising from 35% to 41%.
- reflecting the ageing of the GP workforce, the proportion of participants aged 35–44 years decreased from 27% to 19%, and the proportion aged 55 years and over increased from 31% to 41%. This was paralleled with an increase in the proportion who had worked in general practice for 20 years or more, from 50.4% to 58.4%.
- hours spent in direct patient care decreased—the proportion of GPs working 21–40 hours per week increased from 42% to 53%, while the proportion working 41–60 hours decreased from 43% to 32%, and 60 hours or more decreased from 4% to 1%.
- the proportion of GPs who had gained their primary medical degree in Australia, decreased from 72% to 67.2%. There were also significant changes in the geographic distribution of country of graduation among those trained overseas.
- there was a significant increase (from 23% to 27% in 2011–12) in the proportion of participants who provide some consultations in a language other than English.
- the proportion of participants in solo practice, and the proportion in smaller practices (of 2–4 individual GPs) significantly decreased, while the proportion in larger practices of 5–9 individuals increased (from 36% to 42%), and with ten or more from 12% to 21%.

- there was a significant reduction in the proportion of GPs working in practices that provide their own after-hours services (from 43% to 31%), and/or in those providing such services in cooperation with other practices (from 17% to 13%).

Since BEACH started surveying use of computers in 2004–05, the proportion of GPs indicating they use a computer to some extent in clinical steadily increased from 89% to 96%.

The patients at encounters

Between 2002–03 and 2011–12:

- the proportion of BEACH encounters with patients aged 45 years and over increased from 51% to 57%.
- the proportion of encounters with patients who: were new to the practice decreased from 10% to 8%); held a Commonwealth concession card was relatively stable; held a repatriation health card decreased by about a third, from 4% to 2%.
- there was a significant increase in the number of patient reasons for encounters, from 151 to 155 per 100 encounters, a decrease in the rate of RFEs described as symptoms and complaints, and increases in patient presentations for medications, tests and test results.

Problems managed at encounters

GPs managed more problems at encounters in 2011–12 (154 per 100 encounters) than in 2002–03 (145 per 100), suggesting 48 million more problems managed by GPs nationally in 2011–12 than a decade earlier. This was reflected in a significant increase in the management rate of chronic conditions, from 49 to 56 per 100 encounters, suggesting about 20.6 million more GP contacts with chronic problems nationally in 2011–12 than ten years earlier.

Between 2002–03 and 2011–12 among the most common individual problems, there were significant increases in the management rate of:

- depression, from 3.5 to 4.4 per 100 encounters
- diabetes, from 2.9 to 4.2 per 100 encounters in, suggesting about 2.3 million more occasions of its management in 2011–12 than a decade earlier
- general check-up, from 1.9 to 2.8 per 100 encounters
- lipid disorder, from 3.0 to 3.5 per 100 encounters, suggesting about 1.4 million more occasions of lipid disorder management in 2012 than ten years earlier.

Management actions

Medications

Between 2002–03 and 2011–12, there was no significant change in total (including prescribed, GP–supplied, and advised for over-the-counter purchase) medication rates per 100 problems managed or per 100 encounters.

Prescribing rates per 100 problems managed remained steady (58 per 100 problems in 2002–03 and 57 per 100 in 2011–12). However the increasing number of GP encounters over the decade, led to an extrapolated national effect of 24.6 million more prescriptions given nationally by GPs in 2011–12 than a decade earlier.

There were some significant increases in GP prescribing rate per 100 problems managed for a specific drug groups including: agents acting on the renin-angiotensin system (from 3.4 to 4.5 per 100 problems managed); psychoanaleptics (from 2.1 to 2.7 per 100); lipid modifying agents (from 1.6 to 2.6 per 100). The last of these had a national effect of about 2.6 million more prescriptions for lipid modifying agents in 2011–12 than in 2002–03.

There were also some significant decreases in the prescribing rate per 100 problems managed of some medications including: drugs for obstructive airway disease (from 3.2 to 2.4 per 100 problems), suggesting about 75,000 fewer prescriptions for drugs in this group were given in 2011–12; anti-inflammatory and antirheumatic products (from 3.3 to 2.0); sex hormones and modulators of the genital system (from 2.6 to 1.6); vaccines(from 2.9 to 0.8); and diuretics (from 1.1 to 0.7) suggesting 200,000 fewer diuretic prescriptions nationally in 2011–12 than in 2002–03.

There were significant decreases in the proportions of prescribed medications with no repeats and with two, three, or four repeats ordered and a significant increase in the proportion for which five repeats were recorded, from 27% in 2002–03 to 36% in 2011–12.

There was no change in the rate of GP-supplied medications per 100 problems managed (6.4 per 100 in 2002–03 and 6.3 per 100 in 2011–12. The majority were vaccines.

The rates of advised over-the-counter purchase for individual and total medications were largely steady between 2002–03 and 2011–12, exceptions being a significant increase in unspecified simple analgesics, and a fourfold increase in vitamin D which began in 2008–09.

Clinical treatments

The rate at which clinical treatments were provided by the GP or by a practice nurse (PN) or an Aboriginal health worker (AHW) in association with the GP–patient encounter did not differ in 2002–03 and 2011–12 but there were major changes within the decade.

Overall, there was no significant change in the total proportion of problems managed with clinical treatments. However, there was a significant increase in the rate of clinical treatments given in management of diabetes (from 0.8 per 100 encounters in 2002–03 to 1.1 in 2011–12).

The clinical treatment provision rate remained steady from 2002–03 to 2004–05. Following the introduction of practice nurse (PN) and Aboriginal health worker (AHW) Medicare item numbers in 2004, there was a sudden, significant decrease in the clinical treatment rate at GP–patient encounters. From 2006–07 onwards, it slowly increased to reach 24.0 clinical treatments per 100 problems in 2011–12, the same level as that provided ten years earlier. However, the 2005–06 decreased rates of counselling/advice about nutrition and weight, and about exercise, failed to recover. We estimate 140,000 fewer occasions of the former and 86,000 fewer of the latter in 2011–12 than in 2002–03.

Procedures

The procedural rate per 100 encounters increased significantly from 14.6 per 100 encounters in 2002–03 to 16.9 per 100 in 2011–12. We estimate that in 2011–12 there were 6.6 million more procedures undertaken by GPs nationally than a decade earlier.

There were significant increases in rates of some specific types of procedures including local injections/infiltration (excluding immunisations), and a significant decrease in use of physical medicine/rehabilitation. There was also a significant increase in the procedural rate in management of atrial fibrillation (associated with increased INR point of care testing).

Practice nurse/Aboriginal health worker involvement

As a proportion of all encounters, those involving a PN/AHW almost doubled from 4.2% in 2005–06 to peak at 9.0% in 2009–10 then significantly decreased to 7.4% in 2011–12. The proportion of problems managed with a PN/AHW involvement also increased from 2.8% in 2005–06 to peak to 6.1% in 2009–10 with no further change by 2011–12 (5.0%).

In 2005–06 GPs recorded at least one PN/AHW Medicare item number at 39% of encounters with recorded PN/AHW activity. This increased to 46% by 2009–10, and then decreased to 40% in 2010–11. In 2011–12, which includes three months of data recorded after the change in practice nurse funding structure, the proportion further decreased to 27%.

The rate at which procedures (including tests) were undertaken by PNs/AHWs more than doubled from 4.0 per 100 encounters in 2005–06 to 9.2 per 100 in 2009–10, but decreased in 2011–12 to 7.2 per 100. PNs/AHWs did 23% of the recorded procedures in 2005–06 rising to 38% in 2010–11, with no statistical change in 2011–12.

While their provision of clinical treatments (such as advice and health education) remained infrequent, there was a significant increase from 0.2 clinical treatments per 100 encounters in 2005–06 to 0.9 per 100 in 2011–12.

Last year local injections/infiltrations had reverted to the 2005–06 level of 41 per 100 practice nurse involved encounters. In 2011–12 the rate decreased further to 36 per 100. This may be linked to the removal of the Medicare item number for immunisations in January 2012. Check-ups by PNs/AHWs at GP encounters doubled over the study period. International normalised ratio (INR) blood testing frequency more than tripled.

There were significant increases in the rate at which PNs/AHWs were involved in management of check-ups, diabetes, atrial fibrillation/flutter and urinary tract infections.

Referrals

Over the ten years there was a significant increase in the proportion of problems that were referred to other health providers, at least one referral being made in 7.7% of problems managed in 2002–03 to 9.3% of problems managed in 2011–12.

Referrals to medical specialists remained relatively stable at 5.3 in 2002–03 and 5.6 per 100 problems managed in 2011–12, with a small but significant increase in referrals to cardiologists, and a significant decrease in referrals to gynaecologists. However, referrals to allied health services almost doubled, from 1.7 to 3.0 per 100 problems managed. This was reflected in significant increases in referral rates per 100 problems, to psychologists, podiatrists or chiropodists, dietitians or nutritionists, and dentists.

Tests and investigations

Between 2002–03 and 2011–12:

- there was an increase in the likelihood of ordering a least one pathology test from 11% to 14% of problems managed and an increase in the likelihood of at least one order at encounter from 15% of encounters to 18%, which suggests that pathology was ordered at about 8 million more encounters nationally in 2011–12 than a decade earlier
- the rate of pathology orders increased from 33 to 47 per 100 encounters which suggests about 26 million more test/batteries ordered in 2011–12 than in 2002–03, the largest increase being in the order rate for chemical pathology (from 12 to 18 per 100 problems managed), haematology (from 4.3 to 5.5) and microbiology (3.5 to 4.0 per 100)
- the proportion of all problems managed, for which imaging was ordered rose from 5.3% to 5.8%. Further, the number of imaging tests ordered increased from 5.9 tests per 100 problems managed to 6.6 per 100. We estimate imaging was ordered at about 3.3 million more encounters nationally in 2011–12 than ten years earlier
- total imaging orders per 100 encounters also increased significantly from 8.6 per 100 encounters in 2002–03 to 10.1 in 2011–12, suggesting there were 4 million more imaging orders in 2011–12 than in 2002–03.

Substudies of patient risk factors

Body mass index:
Adults (*n* = 30,000–32,000 per year): Between 2002–03 and 2011–12 prevalence of overweight and obesity in adults (18+ years) increased from 55% to 62%. Prevalence of obesity rose from 21% to 27% and the increase was apparent in males and females. Prevalence of overweight was relatively steady at 34–36%, prevalence of normal weight decreased from 42% to 36%.

Children (*n* = 3,000–4,000): Prevalence of overweight and obesity in children (aged 2–17 years) remained static from 2002–03 to 2011–12, with 11–12% of children being obese and about 18% being overweight.

Smoking (*n* = 31,000–34,000 per year): Among adults (18+ years) there were decreases in prevalence of current daily smoking (17% to 15%) and occasional smoking (4.1% to 2.5%). Rates of daily smoking were significantly higher among male patients than female patients in all years, decreasing to 18.0% of males and 12.6% of females in 2011–12.

Alcohol consumption (*n* = 30,000–34,000 per year): Among adults (18+ years), between 2002–03 and 2011–12 the prevalence of at-risk drinking remained static at about 25–26% of adult patients. However among male patients prevalence decreased from 33% to 29%, and prevalence of non-drinking increased significantly from 21% to 24% among males.

Risk profile in adults (*n* = 29,000–32,000 per year): Between 2002–03 and 2011–12 there was a significant decrease in the proportion of adults with none of these risk factors, from 29% to 25%, while the proportion with one risk factor increased significantly from 48% to 52%. There was no change in the proportion with two or three risk factors among either men or women.

1 Introduction

This report is the 32nd book in the general practice series from the Bettering the Evaluation of Care and Health (BEACH) program. It includes summary results from the most recent ten years of the program, from 2002–03 to 2011–12 inclusive.

BEACH is a continuous national study of general practice activity in which ever-changing random samples of about 1,000 general practitioners (GPs) participate in a year. Each participating GP records details of 100 consecutive GP–patient encounters with consenting patients. BEACH is run by the Family Medicine Research Centre (FMRC) at the University of Sydney. The program is supported financially by government instrumentalities and private industry (see Acknowledgments).

BEACH began in April 1998, and at the end of its 14th year (March 2012) its database included records for 1.381 million GP–patient encounters from 13,815 participating GPs, representing about 8,800 individual GPs, almost half the sample frame from which the GP samples are drawn. Annual results from the BEACH study are published each year. The most recent annual report is *General practice activity in Australia 2011–12*,[1] available at <hdl.handle.net/2123/7771>.

From April 1998 to March 2011 the BEACH program was conducted by the FMRC, University of Sydney, in collaboration with the Australian Institute of Health and Welfare (AIHW), under the *AIHW Act*. The 2011–12 survey was conducted by the FMRC.

This book brings the most recent ten years of data together to identify changes that occurred over the decade 2002–03 to 2011–12 in the characteristics of GPs, the patients they see, the problems managed and the treatments they provide. This report is based on information from 9,802 participating GPs, about almost 1 million GP–patient encounters.

The structure of this report follows the usual approach of the annual BEACH reports. Ten years of results are provided about the GPs, the patients and the problems managed, followed by an overview of management, and specific chapters for each type of management action. Changes in prevalence of some patient risk factors are also presented.

Each chapter contains an overview of the section (including definitions where relevant), and a brief description of the major findings, followed by the results tables. In the tables, statistically significant changes between 2002–03 and 2011–12 are marked. The national effect of significant change can be estimated by extrapolating the BEACH results to all GP Medicare claimed encounters. The method adopted for extrapolation of the effect of a change is described in Section 2.9. Examples of extrapolation of a measured change are also provided in each of chapters 5 to 12 inclusive. The reader can apply this method to any significant change in the BEACH data presented in terms of rate per 100 encounters, to gain an estimate of the size of the national effect of this change.

In this report, changes over time in (for example) GP management actions for a specific problem, or changes in the problems managed for a selected group of patients, are not generally investigated. However, this type of specific analysis for morbidities classed in the National Health Priority Areas[3] was published in July 2009 in *General practice in Australia, health priorities and policies 1998 to 2008*.[4]

1.1 Background

In June 2011, the population of Australia was estimated to be 22.6 million people.[5]

Like the rest of the developed world, Australia has an ageing population. Between June 1991 and June 2011, the proportion of the population that was aged 65 years and over increased from 11.3% to 13.7%, and this included a doubling of the proportion aged 85 years or more, from 0.9% to 1.8% of total population. The proportion aged less than 15 years decreased from 21.9% to 18.8%. The median age (the age at which half the population is older and half is younger) increased by 4.7 years over the two decades, from 32.4 years at 30 June 1990 to 37.1 years at 30 June 2011. Over the next several decades, population ageing is projected to have significant implications for Australia, including for health.[6] As life expectancy improves, people are living longer with disease, so that a greater part of the GP workload will involve management of older patients with multiple chronic diseases.

Australia's health expenditure in 2009–10 was $121.4 billion, an average $5,479 per Australian, and accounted for 9.4% of GDP. Governments funded 69.9%, with the remainder (30.1%) being paid by the non-government sector.[7] Government expenditure on general practice services (including those of the practice nurses) was almost $5.6 billion dollars in the 2011–12 financial year.[8]

GPs are usually the first port of call in the Australian healthcare system. Payment for GP visits is largely on a fee-for-service system, there being no patient lists or registration. People are free to see multiple practitioners and visit multiple practices of their choice. There is a universal medical insurance scheme (managed by Medicare Australia), which covers all or most of a person's costs for a GP visit.

In 2009 in Australia, there were 25,707 practising primary care practitioners (vocationally recognised GPs and other medical practitioners), making up 24,614 full-time equivalents (based on a 40 hour week), or 112.1 per 100,000 people.[9] While more recent labor force data have been published,[10] the national figures reported to not include data from Queensland and Western Australia, so are not quoted here.

In the April 2011 – March 2012 year, about 83% of the Australian population claimed at least one GP service from Medicare (personal communication, Department of Health and Ageing (DoHA), April 2012) and Medicare paid rebates for about 122.5 million claimed general practice service items (excluding practice nurse items),[2] at an average of about 5.36 GP visits per head of population or 6.55 visits per person who visited at least once.

A decade earlier, in the 2002–03 financial year, total Medicare claims for GP–patient encounters numbered 96.9 million,[8] an average attendance rate of 4.9 per head of population. Cost of these GP services to Medicare rose from $2.8 billion in 2002–03, to $5.5 billion in 2011–12 with a further $34.3 million spent on practice nurse services (a total of $5.6 billion), representing 31.5% of total Medicare costs in that year.[8]

While Medicare statistics provide information about frequencies and costs of visits claimed from Medicare for GP services, they cannot tell us about the content of these visits. The BEACH program fills this gap.

BEACH gives us some understanding of the content of GP–patient encounters and of the services and treatments that general practice provides. The BEACH program aims to:

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

Users of the BEACH data might wish to consolidate information from multiple national data sources. Integration of data from multiple sources can provide a more comprehensive picture of the health and health care of the Australian community. It is therefore important that readers are aware of how the BEACH data differ from those drawn from other sources. A summary of differences between those data collected in BEACH and those in the Medicare Benefits Schedule, the Pharmaceutical Benefits Scheme and the National Health Survey is available in *General practice activity in Australia 2011–12* (Section 1.3).[1] The BEACH program has generated many papers on a wide variety of topics in journals and professional magazines. A full list is available at <sydney.edu.au/medicine/fmrc/>.

2 Methods

In summary:

- each year, BEACH involves a new random sample of about 1,000 GPs
- each GP records details about 100 doctor–patient encounters of all types
- the GP sample is a rolling (ever-changing) sample, with about 20 GPs participating in any one week, 50 weeks a year (with two weeks break over Christmas)
- each GP can be selected only once per Quality Improvement & Continuing Professional Development (QI & CPD) Program triennium (that is, once in each three-year period)
- the encounter information is recorded by the GPs on structured paper encounter forms (Appendix 1)
- GP participants also complete a questionnaire about themselves and their practice (Appendix 2).

2.1 Sampling methods

The source population includes all vocationally registered GPs and all general practice registrars who claimed a minimum of 375 Medicare general practice items of service in the most recently available three-month Medicare data period (which equates to 1,500 such claims in a year). This 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 Medicare statistics section of the DoHA updates the sample frame from the Medicare records quarterly from the Medicare claims data, then removes from the sample frame any GPs already randomly sampled in the current triennium, and draws a new sample from those remaining in the sample frame. This ensures the timely addition of new entries to the profession, and timely exclusion of those GPs who have stopped practising, or have already participated or been approached in the current triennium.

2.2 Recruitment methods

The randomly selected GPs are approached by letter, posted to the address provided by DoHA.

- Over the following ten days, the telephone numbers generated from the Medicare data are checked using the electronic white and yellow pages. This is necessary because many of the telephone numbers provided from the Medicare data are incorrect.
- The GPs are then telephoned in the order they were approached and, referring to the approach letter, asked whether they will participate.
- This initial telephone contact with the practice often indicates that the selected GP has moved elsewhere, but is still in practice. Where new address and/or telephone number can be obtained, these GPs are followed up at their new address.
- GPs who agree to participate are set an agreed recording date several weeks ahead.
- A research pack is sent to each participant before the planned start date.

- Each GP receives a telephone reminder early in the agreed recording period – this also provides the GP with an opportunity to ask questions about the recording process.
- GPs can use a 'freecall' (1800) number to ring the research team with any questions during their recording period.
- Non-returns are followed up by regular telephone calls for three months.
- Participating GPs earn clinical audit points towards their QI & CPD requirements through the Royal Australian College of General Practitioners (RACGP) and/or the Australian College of Rural and Remote Medicine (ACRRM). As part of this QI process, each receives an analysis of his or her results compared with those of nine other de-identified GPs who recorded at about the same time. Comparisons with the national average and with targets relating to the National Health Priority Areas are also provided. In addition, GPs receive some educational material related to the identification and management of patients who smoke or consume alcohol at hazardous levels. Additional points can be earned if the participant chooses to do a follow-up audit of smoking and alcohol consumption among a sample of patients about six months later.

2.3 Ethics approval and informed patient consent

Ethics approval for this study in 2011–12 was obtained from the Human Ethics Committee of the University of Sydney.

Although the data collected by the GPs is not sufficient to identify an individual patient, informed consent for GP recording of the encounter details is required from each patient. GPs are instructed to ensure that all patients presenting during their recording period are provided with a Patient Information card (Appendix 3) and that they ask the patient if they are happy for their data to be included in the study. If the patient refuses, details of the encounter are not recorded. This is in accordance with the Ethics requirements for the BEACH program.

2.4 Data elements

BEACH includes three interrelated data collections: GP characteristics, encounter data and patient health status. An example of the form used to collect the encounter data and the data on patient health status is included in Appendix 1. The GP characteristics questionnaire is provided in Appendix 2. The GP characteristic and encounter data collected are summarised below. Patient health status data are described in Section 2.6.

GP profile form (Appendix 2)

- **GP characteristics:** age and sex, years in general practice, number of direct patient care hours worked per week, country of graduation, postgraduate general practice training status, Fellow of the RACGP status, Fellow of the ACRRM status, usual bulk-billing behaviour, use of computers at work, work undertaken in other clinical settings.
- **Practice characteristics:** postcode and GP Division of major practice, number of individual and number of full-time equivalent GPs working in the practice, number of individual and number of full-time equivalent practice nurses working in the practice, usual after-hours care arrangements, whether the practice is accredited, whether it is a teaching practice.

Encounter recording form (Appendix 1)

- **Encounter data:** date of consultation, type of consultation (direct/indirect) (tick box options), up to three MBS/DVA item numbers (where applicable), and other payment source (where applicable) (tick boxes).
- **Patient data:** date of birth, sex and postcode of residence. Tick boxes (yes/no options) are provided for Commonwealth concession cardholder, holder of a repatriation health card (from DVA), non-English-speaking background (patient self-report – a language other than English is the primary language at home), Aboriginal person (self-identification), and Torres Strait Islander person (self-identification). Space is provided for up to three patient reasons for encounter (RFEs) (see 'Glossary').
- **The problems managed** at encounter (at least one and up to four). Tick boxes are provided to denote the status of each problem as new or continuing for the patient and whether the problem is considered by the GP to be work-related.
- **Management of** each problem, including:
  - medications prescribed, supplied by the GP and advised for over-the-counter purchase including brand name, form (where required), strength, regimen, status (new or continuing medication for this problem), number of repeats
  - other treatments provided for each problem, including counselling, advice and education, and procedures undertaken, and whether the recorded other treatment was provided by practice nurse (tick box)
  - new referrals to medical specialists, allied health services, emergency departments, and hospital admissions
  - investigations, including pathology tests, imaging and other investigations ordered.

2.5 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
- RFEs have only an indirect relationship with problems managed, as a patient may describe one RFE (such as 'repeat prescriptions') that is related to multiple problems managed, or several RFEs (such as 'runny nose' and 'cough') that relate to a single problem (such as upper respiratory tract infection) managed (see Section 6.3)
- all types of management are directly related to the problem being managed.

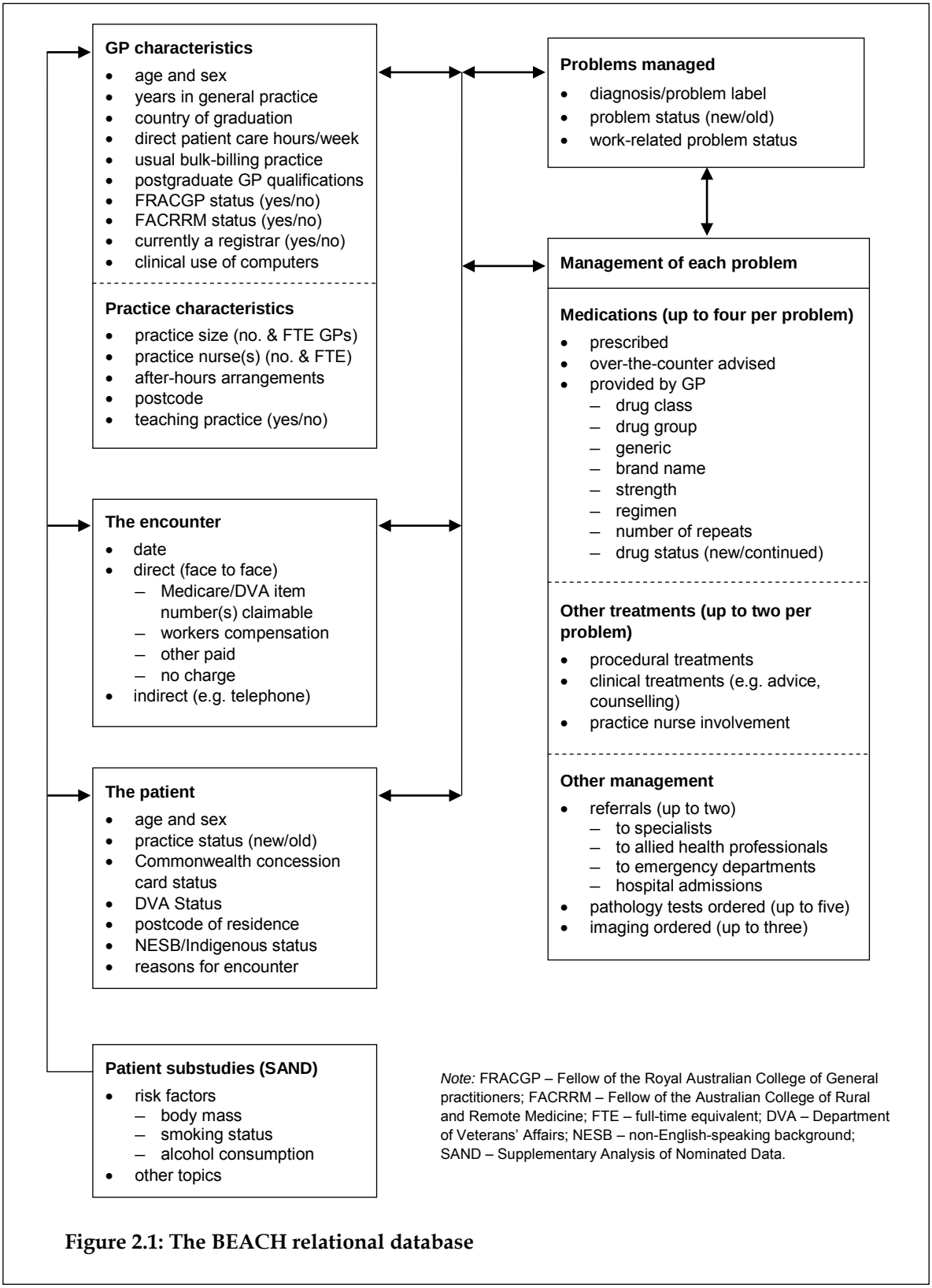


Figure 2.1: The BEACH relational database

2.6 Supplementary Analysis of Nominated Data

A section at the bottom of each recording form investigates aspects of patient health or healthcare delivery in general practice not covered by the consultation-based data. These additional substudies are referred to as SAND, Supplementary Analysis of Nominated Data.

- Each year the 12–month data period is divided into ten blocks, each of five weeks, with three substudies per block. The research team aims to gain data from 100 GPs in each block.
- Each GP's pack of 100 forms is made up of 40 forms that ask for the start and finish times of the encounter, and include questions about patient risk factors: patient height and weight (used to calculate body mass index, BMI), alcohol intake and smoking status (patient self-report). The methods and results of topics in the SAND substudies for alcohol consumption, smoking status and BMI are reported in Chapter 13. The start and finish times collected on these encounters are used to calculate the length of consultation. The length of consultation for Medicare-claimable encounters is reported in Section 5.3.
- The remaining 60 forms in each pack are divided into two blocks of 30, so each SAND block includes about 3,000 records. Some topics are repeated to increase sample size. Different questions are asked of the patient in each block.
- The order of SAND sections is rotated in the GP recording pack, so that 40 patient risk factor forms may appear first, second or third in the pad. Rotation of ordering ensures there is no order effect on the quality of the information collected.

Abstracts of results and the research tools used in all SAND substudies from April 1998 to March 2012 have been published. Those:

- from April 1998 to March 1999 were published in M*easures of health and healthcare delivery in general practice in Australia*[11]
- from April 1999 to July 2006 were published in *Patient-based substudies from BEACH: abstracts and research tools 1999–2006*[12]
- conducted between August 2006 and March 2011 have been published in each of the general practice activity annual reports[13–17]
- conducted in the 2011–12 BEACH year are provided in Chapter 14 of the companion publication *General practice activity in Australia 2011–12*.[1]

Abstracts of results for all SAND substudies are also available on the FMRC's website <www.fmrc.org.au/publications/SAND_abstracts.htm>.

2.7 Statistical methods

The analysis of all BEACH data was conducted with Statistical Analysis System (SAS) version 9.2.[18] When originally published, data from 2001–02 to 2004–05 were analysed using SAS version 6.12[19] (with additional programming to adjust for the cluster sample study design). Previously published data from 2005–06 to 2010–11 were analysed using SAS version 9.1.3.[20] At each change in SAS version, all past data have been re-analysed. This has resulted in slightly tighter confidence intervals and minor variations in point estimates (of up to 0.1) when data published in this report are compared with data published in earlier annual reports.

BEACH is a single stage cluster sample study design, each 100 encounters forming a cluster around each GP participant. In cluster samples, variance needs to be adjusted to account for correlation between observations within clusters. Procedures in SAS version 9.2[18] are used to calculate the intracluster correlation and adjust the confidence intervals accordingly.

Post-stratification weighting of encounter data adjusts for any variance in the characteristics of the participating GPs from those of the sample frame from which they were drawn, and for the varying activity level of each GP (measured by the number of claims each has made in the previous 12 months from Medicare Australia). The final sample of encounters shows excellent precision when the age–sex distribution of the patients is compared with the distribution in all Medicare-claimed services of this type.[1]

The encounter is the primary unit of inference. Proportions (percentages) are used when describing the distribution of an event that can arise only once at a consultation (for example, age, sex), or to describe the distribution of events within a class of events (for example, problem A as a percentage of total problems). Due to rounding, proportions may not always add to exactly 100%.

Rates per 100 encounters are used when an event can occur more than once at the consultation (for example, RFEs, problems managed or medications). Rates per 100 problems are also used when a management event can occur more than once per problem managed.

The statistical significance of changes in characteristics of the GPs is tested using the chi-square test statistic. However, in general, the results for events occurring at GP–patient encounters are presented as the rate per 100 problems managed, and the rate per 100 encounters, with 95% confidence interval.

Statistical significance is tested by chi square statistic for GP characteristics, but significance of differences in/for rates is judged by non-overlapping confidence intervals of the results being compared. The magnitude of this difference can be described as at least $p < 0.05$. Assessment using non-overlapping CIs is a conservative measure of significance,[21–23] particularly when differences are assessed by comparing results from independent random samples, as is the case when changes over time are investigated using BEACH data. Due to the number of comparisons made in this and the companion publication we believe a conservative approach is warranted.

- Changes over time in the frequency of these events are judged significant (that is, a real change has occurred) if the two sets of confidence intervals do not overlap. For example, Result A: 11.5 per 100 encounters (95% CI: 11.3–11.7) is significantly less than Result B: 11.9 per 100 encounters (95% CI: 11.8–12.0).
- If the two sets of confidence intervals butt together the difference is regarded as marginal. For example, Result A: 11.5 per 100 encounters (95% CI: 11.3–11.7) is marginally lower than Result B: 11.9 (95% CI: 11.7–12.1).
- If they overlap, then no change was measured.
- All difference discussed in this report are statistically significant unless otherwise stated.

2.8 Changes over time

For the ten years 2002–03 to 2011–12, patient reasons for encounter and problems managed are reported as rates per 100 encounters. In earlier years, rates per 100 encounters have also been used when measuring changes in each of the management actions (prescriptions, other

treatments, referrals, pathology and imaging tests ordered). However, there has been a significant increase in the number of problems managed per encounter. This means that at each encounter, there is an increased chance of a management action occurring, without any change in the management practise of GPs. All management actions are therefore reported in two ways – as rates per 100 problems managed and as rates per 100 encounters. In describing changes over time, the rates per 100 problems are reported as the primary measure, but the rates per 100 encounters are used as the basis for extrapolation to the number of events occurring across the country in one year compared with another (see Section 2.9).

Data presented in this report are comparable for each result across all data years. Where methodological changes have occurred, the data have either:

- been recalculated across all years using the new method (for example, body mass index was recalculated due to a change in the WHO body mass index groupings)
- been regrouped for comparability. Where this occurs, it is noted in the footnotes of the table. An example is the combined presentation of home visits and institutional visits in Chapter 5 because the MBS now has only one item number for both. In previously published data it was possible to differentiate the two.
- been omitted from this report (if recalculation or grouping was not possible). Where data are omitted, this is noted as not applicable (N/A) or not available (NAv), as appropriate.

In measuring changes over time, the 2011–12 results are compared with those from 2002–03 wherever possible. However, as in any long-term research program, changes occur over the years. For example, practice nurse activity data were not collected until 2005–06, so the changes are only considered between 2005–06 and 2011–12.

Each table includes the most frequent events occurring in 2011–12, and the comparative results for each of the earlier year. In addition, each table includes data for events that were more frequent in past year(s), but were no longer in the most frequent in 2011–12. Results are in general presented in decreasing 2011–12 order of frequency.

The direction and type of change between 2002–03 and 2011–12 is indicated for each result in the far right column of the tables:

- ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 when compared with the first year of data reported
- ↑/↓ indicates a marginally significant change in 2011–12 when compared with the first year of data reported
- indicates there was no significant change in 2011–12 when compared with the first year of data reported
- and § indicates a noteworthy change during the decade.

2.9 Extrapolated national estimates

Extrapolations can be used to estimate the number of occurrences of a selected event at GP–patient encounters in Australia at a single time point or to estimate the total national effect of a measured change.

Where the results demonstrate a significant change over time, the estimated national change across total GP Medicare services from 2002–03 to 2011–12 can be calculated using the method detailed below. Note that extrapolations are always based on rate per 100 encounters rather than rate per 100 problems because there is no independent measure of the number of

problems managed in Australian general practice. In contrast, the number of national encounters can be drawn from Medicare claims data.

Examples of extrapolated national change are given in each chapter in the report from Chapter 5 to Chapter 12 inclusive.

When extrapolating measured change over the decade to national estimates, we:

- divide the 'rate per 100 encounters' of the selected event for 2002–03 by 100, and then multiply by the total number of general practitioner service items claimed through Medicare in 2002–03 (rounded to the nearest 100,000). As shown in Table 2.1, this was 122.5 million. This provides the estimated national number of events in 2002–03.
- repeat the process using data from 2011–12.

The difference between the two estimates gives the estimated national change in the frequency of that event between 2002–03 and 2011–12. Estimated national number of events are rounded to the nearest 100,000 if more than a million and to the nearest 10,000 if below a million. It is possible to use this method to calculate the national effect of any significant change in a single result over any two time points. For example, extrapolations in the practice nurse chapter are based on changes between 2005–06 and 2011–12.

Change is expressed as the estimated increase or decrease over the study period, in the number of general practice contacts for that event (for example, an increase or decrease in the number of GP management contacts with problem X); or an increase or decrease in the number of times a particular management action (e.g. a selected generic medication) was prescribed in Australia in 2011–12, when compared with (usually) 2002–03.

Extrapolations can also be made using data from a single time point to estimate the number of occasions that an event occurs in general practice encounters nationally in a specific year. When extrapolating from a single time point we:

- divide the 'rate per 100 encounters' of the selected event by 100, and multiply by the total number of general practitioner service items claimed through Medicare that year (rounded to nearest 100,000) to give the estimated national number of events in that year.

Table 2.1 provides the total (rounded) number of general practice professional service items claimed from Medicare in each financial year from 2002–03 to 2011–12.

Table 2.1: Rounded number of general practice professional services claimed from Medicare Australia each financial year, 2002–03 to 2011–12 (million)

	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12[(a)]
Rounded number of MBS GP items of service claimed	96.9	96.3	98.2	101.1	103.4	109.5	113.0	116.6	118.1	122.5

(a) Medicare data for the 2011–12 year included data from the April 2011 to March 2012 quarters because the 2011–12 financial year data were not available at the time of preparation of this report.
Source: Medicare statistics[2]

Example 1: Change in the number of problems managed by GPs nationally

There was a significant increase in the number of problems managed at encounter, from 144.9 per 100 encounters in 2002–03 to 153.8 in 2011–12 (see Table 7.2). The calculation used to extrapolate the effect of this change across Australia is:

(144.9/100) x 96.9 million = 140.4 million problems managed nationally in 2002–03, and
(153.8/100) x 122.5 million = 188.4 million problems managed nationally in 2011–12.

This suggests there were 48 million (188.4 million minus 140.4 million) more problems managed at GP–patient encounters in Australia in 2011–12 than in 2002–03.

This is the result of the compound effect of the increase in the number of problems managed by GPs at encounters **plus** the increased number of visits over the decade across Australia.

Example 2: Change in the number of GP–patient encounters at which depression was managed nationally (with 95% confidence intervals)

The management of depression increased significantly from 3.5 per 100 GP–patient encounters (95% CI: 3.3 to 3.7) in 2002–03, to 4.4 per 100 (95% CI: 4.1–4.7) in 2011–12. In this example the 95% confidence intervals are incorporated in the extrapolation, to estimate the size of the national impact of this change and demonstrate our level of certainty of this estimate.

For 2002–03 our best estimate for the total national encounters involving depression is: 3.4 million [(3.5/100) x 96.9 million], but we are 95% confident that the true number lies between 3.2 million [(3.3/100) x 96.9 million] and 3.6 million [(3.7/100) x 96.9 million].

For 2011–12 our best estimate for the total national encounters involving depression is: 5.4 million times [(4.4/100) x 122.5 million], but we are 95% confident that the true number lies between 5.0 million [(4.1/100) x 122.5 million] and 5.8 million [(4.7/100) x 122.5 million].

Therefore we estimate that nationally in 2011–12, depression was managed at 2 million more GP–patient encounters than it was in 2002–03, and we are 95% confident that the true difference lies between 1.8 million and 2.2 million.

This result has two causal factors: the increased attendance rate and the resulting increase in total attendances across the country **plus** its increased management rate by GPs.

Considerations and limitations in extrapolations

The extrapolations to the total events occurring nationally in any one year are only estimates. They may provide:

- an underestimate of the true 'GP workload' of a condition/treatment because the extrapolations are made to GP Medicare items claimed, not to the total number of GP–patient encounters per year – an additional 5% of BEACH encounters annually include encounters paid by sources other than Medicare, such as DVA, state governments, workers compensation insurance, and employers.[17]
- an underestimate of activities of relatively low frequency with a skewed distribution across individual GPs.

Further, the base numbers used in the extrapolations are rounded to the nearest 100,000, and extrapolation estimates are rounded to the nearest 100,000 if more than a million and to the nearest 10,000 if below a million. However, the rounding has been applied to all years, so the effect on measures of change will be very small. Therefore, the extrapolation still provides an indication of the size of the effect of measured change nationally.

Extrapolations are based on the unit of the encounter because the number of national encounters is quantifiable using Medicare claims data. However, the reader should be aware that where an event can occur more than once per encounter, the extrapolation represents the number of occasions at which that event occurs in general practice encounters, rather than the number of encounters where that event occurs.

2.10 Changes to data elements and reporting methods

Some changes in data elements and reporting methods have occurred since the BEACH study began in April 1998.

Two changes were made to the BEACH form from 2005–06 onwards to capture practice nurse activity associated with the GP–patient consultations. From 2005–06 onwards:

- GPs could record multiple (up to three) Medicare item numbers
- in the 'other treatments' section, for each problem managed, the GP was asked to tick the practice nurse box if the treatment recorded was provided by the practice nurse rather than by the GP. If the box was not ticked, the research team assumed that the GP provided the recorded treatment.

These changes have implications for the reporting of Medicare/DVA-claimable encounters (Chapter 5), other treatments (Chapter 10) and practice nurse activity (Chapter 10).

Medicare/DVA-claimable encounters

For the first seven years of the BEACH program (1998–99 to 2004–05), where a Medicare item number was claimable for the encounter, the GP was instructed to record only one item number. Where multiple item numbers (for example, an item for 'standard surgery consultation' and a procedural item number) were claimable for an encounter, the GP was instructed to record the lower of these (usually an A1 item number). For reporting purposes Medicare-claimable encounters were broken down according to the item number recorded by the GP as claimable (either through Medicare or through DVA) for the encounter.

In this report the Medicare/DVA claimable encounters count only one item number per Medicare/DVA-claimable encounter for comparability with previous years (see Chapter 5). Practice nurse Medicare-claimable encounters are not reported in Chapter 5.

The selection of one item number was done on a priority basis: consultation item numbers override incentive item numbers, which override procedural item numbers, which override other Medicare item numbers.

Practice nurse activity

The research team began to capture practice nurse activity (in 2005–06) due to the introduction of four new MBS item numbers in November 2004, which covered some selected activities done by a practice nurse on behalf of a medical practitioner.[24]

The primary aim of BEACH is to describe general practice activity. Before 2005–06, 'general practice activity' was described in terms of GP–patient encounters, and this was considered close to equivalent to 'general practitioner activity'. However, the introduction of the practice nurse item numbers meant that, if practice nurse activity associated with the GP–patient encounter was not included, the content of the consultation was not fully described.

Over the years new PN item numbers were added to the MBS and some items were broadened to include work done by Aboriginal health workers (AHWs). In past years we have reported the results referring to PNs alone. However in 2011–12 a few GPs indicated (of their own accord) that the recorded action was done by an AHW rather than a PN. This

information is now included, and now refer to work undertaken at encounters by PNs and AHWs in conjunction with the GPs, though the vast majority will have been done by PNs. There is a limitation to this approach. Few GPs specifically indicated that the work was done by an AHW. Others may have thought that because the question referred specifically to PNs, and recording of work done by AHWs was not specifically requested. These results therefore have the potential to be an underestimate of the work undertaken at GP–patient encounters by PNs and AHWs.

Chapter 10 provides a breakdown of the PN Medicare items claimed, the morbidity managed with the assistance of the PN, and the other treatments given by the PN as recorded by the GP participants from 2005–06 to 2011–12.

When viewing these results, it must be remembered that they do not include activities done by the PN or AHW during the GP's BEACH recording period that were performed independently the recorded encounter.

Other treatments

In Chapter 10 'Other treatments', all recorded clinical and procedural treatments are included, irrespective of whether they were provided by the GP or by the PN or AHW. The exception is Section 10.3, where those activities reported by the GP to have been done by a PN or AHW are analysed separately.

2.11 Classification of data

The following data elements are classified according to the International Classification of Primary Care – Version 2 (ICPC-2), a product of the World Organization of Family Doctors (Wonca):[25]

- patient reasons for encounter (RFEs)
- problems managed
- clinical treatments (for example, counselling, advice)
- procedural treatments
- referrals
- investigations ordered (including pathology, imaging and other investigations).

The ICPC-2 is used in more than 45 countries as the standard for data classification in primary care. It is accepted by the WHO in the WHO Family of International Classifications,[26] and is the declared national standard in Australia for reporting of health data from general practice and patient self-reported health information.[27]

The ICPC-2 has a biaxial 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, and can also be divided to provide data about infections, injuries, neoplasms, congenital anomalies and 'other' diagnoses.

Components 2 to 6 cover the process of care, and are common throughout all chapters. The referrals, other (non-pharmacological) treatments and orders for pathology and imaging, are

classified in these components. Component 2 (diagnostic, screening and prevention) is also often applied in describing the problem managed (for example, check-up, immunisation). The components are standard and independent throughout all chapters.

The ICPC-2 is an excellent epidemiological tool. The diagnostic and symptomatic rubrics were 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 about 1,370 rubrics, and these are sufficient for meaningful analyses. However, reliable data entry using ICPC-2 alone, requires a thorough knowledge of the classification.

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 and unspecified	L	Musculoskeletal	U	Urinary
B	Blood & blood-forming organs	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	Endocrine, nutritional & metabolic		

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

In 1995, recognising a need for a coding and classification system for general practice electronic health records, the Family Medicine Research Centre (then the Family Medicine Research Unit) developed a clinical terminology classified according to the ICPC, now called ICPC-2 PLUS.[28] This is an interface terminology, developed from all the terms used by GPs in studies such as the Australian Morbidity and Treatment Survey 1990–91 (113,468 encounters),[29] the country and metropolitan general practice study 1990–91 (51,277 encounters), the Morbidity and Therapeutic Index 1992–1998 (a clinical audit tool that was available to GPs) (400,00 encounters), and BEACH 1998–2012 (about 1.4 million encounters), which together include more than 3.5 million free text descriptions of problems managed and a further 3.5 million for patient reasons for encounter. Readers interested in seeing how coding works can download the ICPC-2 PLUS Demonstrator at <sydney.edu.au/medicine/fmrc/icpc-2-plus/demonstrator/index.php>.

When the free-text data are received from the GPs, trained secondary coders (who are undergraduate students studying health information management or medical science) code the data in more specific terms using ICPC-2 PLUS. This ensures high coder reliability and automatic classification of the concept, and provides the ability to 'ungroup' such ICPC-2 rubrics as 'other diseases of the circulatory system' and select a specific disease from the terms within it.

Presentation of data classified in ICPC-2

Statistical reporting is almost always at the level of the ICPC-2 classification (for example, acute otitis media/myringitis – ICPC-2 code H71). However, there are some exceptions where data are grouped either above the ICPC-2 level or across the ICPC-2 level. These grouped codes are defined in Appendix 4, available at: <hdl.handle.net/2123/8676>.

Reporting morbidity with groups of ICPC-2 codes

When recording problems managed, GPs may not always be very specific. For example, in recording the management of hypertension, they may simply record the problem as 'hypertension'. In ICPC-2, 'hypertension, unspecified' is classified as 'uncomplicated hypertension' (code K86). There is another code for 'complicated hypertension' (K87). In some cases the GP may simply have failed to specify that the patient had hypertension with complications. The research team therefore feels that for national data reporting, it is more reliable to group the codes K86 and K87 and label this 'Hypertension*' – the asterisk indicating that multiple ICPC-2 codes (as in this example) or ICPC-2 PLUS codes (see below) are included. Appendix 4, Table A4.1 lists codes included in these groups.

Reporting morbidity with groups of ICPC-2 PLUS codes

In other cases a concept can be classified within multiple ICPC-2 codes but only be part of some of these codes. For example, osteoarthritis is classified in ICPC-2 in multiple codes according to site: L89 – osteoarthrosis of hip; L91 – osteoarthrosis of knee; L92–shoulder syndrome — the last of which includes bursitis, frozen shoulder, rotator cuff syndrome as well as osteoarthritis of shoulder. When reporting osteoarthritis in this publication, all the more specific osteoarthritis ICPC-2 PLUS terms within all the appropriate ICPC-2 codes are grouped. This group is labelled 'Osteoarthritis*' – the asterisk again indicating multiple codes, but in this case they are PLUS codes rather than ICPC-2 codes. Appendix 4, Table 4.1 lists codes included in these groups.

Reporting chronic morbidity

Chronic conditions are medical conditions characterised by a combination of the following characteristics: duration that has lasted or is expected to last six months or more, a pattern of recurrence or deterioration, a poor prognosis, and consequences or sequelae that affect an individual's quality of life.

To identify chronic conditions, a chronic condition list[30] classified according to ICPC-2 was applied to the BEACH data set. In general reporting, both chronic and non-chronic conditions (for example, diabetes and gestational diabetes) may be grouped together (for example, diabetes – all*). When reporting chronic morbidity, only problems regarded as chronic are included in the analysis. Where the group used for the chronic analysis differs from that used in other analyses in this report, it is marked with a double asterisk. Codes included in the chronic groups are provided in Appendix 4, Table A4.2.

Reporting pathology and imaging test orders

All the pathology and imaging tests recorded by the GPs are coded very specifically in the PLUS terminology, but ICPC-2 classifies pathology and imaging tests very broadly (for example, a test of cardiac enzymes is classified in K34 – Blood test associated with the cardiovascular system; a CT scan of the lumbar spine is classified as L41 – Diagnostic radiology/imaging of the musculoskeletal system). In Australia, the Medicare Benefits Schedule (MBS) classifies pathology and imaging tests in groups that are relatively well recognised. We have therefore regrouped all pathology and imaging PLUS codes into MBS standard groups. This allows comparison of data between data sources. Such groups are marked with an asterisk, and inclusions provided in Appendix 4, Tables A4.8 and A4.9.

Classification of pharmaceuticals

Pharmaceuticals that are prescribed, provided by the GP or advised for over-the-counter purchase 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.

Strength and regimen are independent fields that, when combined with the CAPS code, allow calculation of the prescribed daily dose for any prescribed medication.

CAPS is mapped to the Anatomical Therapeutic Chemical (ATC)[31] classification (but using Australian spelling), which is the Australian standard for classifying medications at the generic level.

The ATC has a hierarchical structure with five levels. For example:

- Level 1: C – Cardiovascular system
- Level 2: C10 – Serum lipid reducing agents
- Level 3: C10A – Cholesterol and triglyceride reducers
- Level 4: C10AA – HMG CoA reductase inhibitors
- Level 5: C10AA01 – Simvastatin (the generic drug).

Reporting pharmaceutical data

For pharmaceutical data, there is the choice of reporting in terms of the CAPS coding scheme or the ATC. They each have advantages in different circumstances.

In the CAPS system, a new drug enters at the product and generic level, and is immediately allocated a generic code. Therefore, the CAPS classification uses a bottom-up approach.

In the ATC, a new generic drug type may initially enter the classification at any level (1 to 5), not necessarily always at the generic level. Reclassification to more specific ATC levels may occur later. Therefore, the ATC uses a top-down approach.

When analysing medications across time, a generic medication that is initially classified to a higher ATC level will not be identifiable in that data period, and may result in under-enumeration of that drug during earlier data collection periods. Therefore n measuring changes in medications over time, we have chosen to report at Level 2 of the ATC (which is more stable over time than Level 3), except when reporting at the generic level, when we use CAPS.

2.12 Quality assurance

All morbidity and therapeutic data elements were secondarily coded by staff entering key words or word fragments, and selecting the required term or label from a pick list. This was then automatically coded and classified. 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 against those on the original recording form. We also conduct logical data checks through SAS on a regular basis.

2.13 Validity and reliability

A discussion of the reliability and validity of the BEACH program has been published elsewhere.[32] This section touches on some aspects of reliability and validity of active data collection from general practice that should be considered by the reader.

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, 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 have been described above. The statistical techniques adopted to ensure valid analysis and reporting of recorded data are described in Section 2.7. 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[33], the degree to which GP-reported patient RFEs and problems managed accurately reflect those recalled by the patient,[34] and reliability of secondary coding of RFEs[35] and problems managed.[29] The validity of ICPC as a tool with which to classify the data has also been investigated in earlier work.[36]

However, the question of the extent to which the GP-recorded data are a reliable and valid reflection of the content of the encounter must also be considered. In many primary care consultations, a clear pathophysiological diagnosis is not reached. Bentsen[37] and Barsky[38] suggest that a firm and clear diagnosis is not apparent in about half of GPs' consultations, and others suggest the proportion may be even greater.[39] Further, studies of general ambulatory medical practice have shown that a large number of patients presenting to a primary care practitioner are without a serious physical disorder.[40,41] As a result, it is often necessary for a practitioner to record a problem in terms of symptoms, signs, patient concerns, or the service that is requested, such as immunisation. For this reason, this report refers to patient 'problems' rather than 'diagnoses'.

A number of studies have demonstrated wide variance in the way a GP perceives the patient's RFE and the manner in which the GP describes the problem under management. Further, in a direct observational study of consultations via a one-way mirror, Bentsen demonstrated that practitioners differ in the way they labelled problems, and suggested that clinical experience may be an important influence on the identification of problems within the consultation.[37] Two other factors that might affect GPs' descriptions of patient RFEs have been identified: although individuals may select the same stimuli, some label each stimulus separately, whereas others cluster them under one label; and individuals differ in the number of stimuli they select (selective perception).[42]

The extent to which therapeutic decisions may influence the diagnostic label selected has also been discussed. Howie[43] and Anderson[40] argue that, while it is assumed that the diagnostic process used in general practice is one of symptom → diagnosis → management, the therapeutic method may well be selected on the basis of the symptom, and the diagnostic label chosen last. They suggest that the selection of the diagnostic label is therefore influenced by the management decision already made.

Alderson contends that to many practitioners 'diagnostic accuracy is only important to the extent that it will assist them in helping the patient'. He further suggests that if major symptoms are readily treatable, some practitioners may feel no need to define the problem in diagnostic terms.[44] Crombie identified 'enormous variability in the rates at which doctors perceive and record illnesses'. He was unable to account statistically for this variation by the effect of geography, age, sex or class differences in the practice populations.[45] Differences in the way male and female GPs label problems also appear to be independent of such influences.[46]

These problems are inherent in the nature of general practice. Knottnerus argues that the GP is confronted with a fundamentally different pattern of problems from the medical specialist, and often has to draw up general diagnostic hypotheses related to probability, severity and consequences.[47] Anderson suggests that morbidity statistics from family practice should therefore be seen as 'a reflection of the physician's diagnostic opinions about the problems that patients bring to them rather than an unarguable statement of the problems managed'.[40]

While these findings regarding limitations in the reliability and validity of practitioner-recorded morbidity should be kept in mind, they apply equally to data drawn from health records, whether paper or electronic, as they do to active data collection methods.[48,49] 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 the 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.[50]

3 The samples

For annual response rates and measures of representativeness of individual annual GP samples, please see the annual report for each year in question (available at: <sydney.edu.au/medicine/fmrc/publications/books/GP-series/index.php>).

More detailed analyses of the samples in 2011–12 can be found in Chapter 3 in *General practice activity in Australia 2011–12*.[1]

Table 3.1 shows the number of encounter records contained in each year of the BEACH program since April 2002, and the size of the database for those ten years for each variable (weighted), upon which all comparisons over time described in this report are based.

Table 3.1: Annual summary of data sets, 2002–03 to 2011–12 (final weighted data)

Variable	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	Total ten years
General practitioners	1,008	1,000	953	1,017	930	953	1,011	988	958	984	9,802
Encounters	100,987	98,877	94,386	101,993	91,805	95,898	96,688	101,349	95,839	99,030	976,852
Reasons for encounter	152,341	148,521	141,215	153,309	138,434	146,696	151,282	157,071	149,005	153,218	1,491,092
Problems managed	146,336	144,674	137,330	149,088	136,333	145,078	149,462	155,373	146,141	152,286	1,462,101
Medications	104,813	103,210	95,816	106,493	93,193	98,439	102,737	108,001	100,817	106,007	1,019,526
Other treatments	53,676	50,775	51,632	44,504	41,011	49,130	49,048	53,243	50,235	53,395	496,649
Referrals & admissions	11,261	11,507	10,890	12,242	11,230	12,017	13,251	13,481	13,526	14,382	123,787
Pathology	33,234	34,831	34,652	39,358	38,963	41,375	44,066	45,594	43,313	46,544	401,930
Imaging	8,678	8,121	7,840	9,003	8,229	9,143	9,469	9,877	9,370	9,978	89,708

4 The participating GPs

4.1 Characteristics of the participating GPs

In BEACH, each GP participant completes a profile questionnaire about themselves and the major practice at which they are employed (see Appendix 2). Over the ten years, the questions have occasionally been altered to improve the quality and clarity of the data collected, or to investigate topics not previously surveyed as they became relevant. Therefore, for some characteristics we have data over the full ten-year period, and for some, we have data over shorter periods.

More detailed analyses of the participating GPs in 2011–12 can be found in Chapter 4 in *General practice activity in Australia 2011–12*.[1]

Over the period 2002–03 to 2011–12 some trends emerged in the characteristics of GP BEACH participants (Table 4.1). The most noticeable changes over the ten years are listed below and some are presented in Figure 4.1.

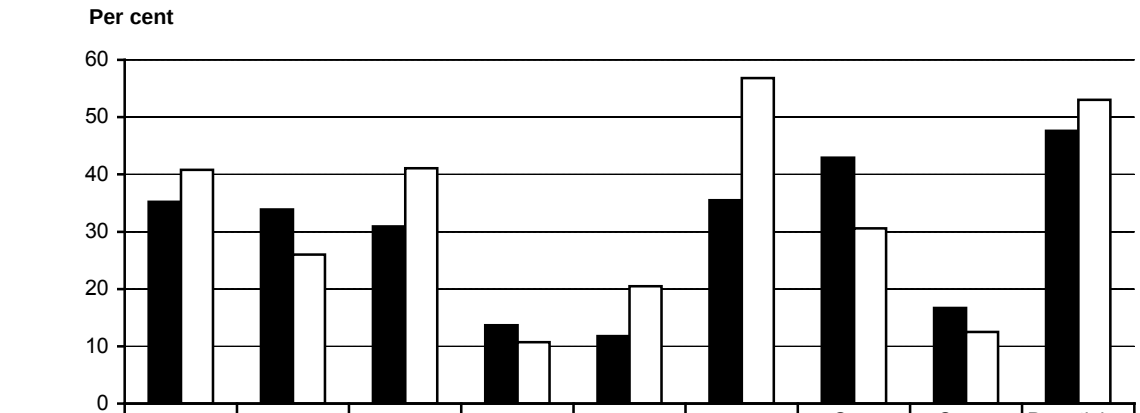
- The feminisation of the general practice workforce is reflected in the growing proportion of GP participants who are female. The proportion of female participants increased from 35.2% in 2002–03 to 40.8% in 2011–12. This change reflects change in the sex distribution of all recognised GPs claiming more than 375 general practice Medicare items of service in the previous quarter (33.2% in 2002–03[51] and 39.1% in 2011–12), as provided each year by DoHA, from Medicare claims data. In Table 4.1, there was a 'spike' in the proportion of female GPs among the participating sample in 2009–10. As reported last year this was the result of female GPs being over-represented in the sample provided by DoHA when compared with the national sample frame (as may occasionally happen in the random sampling process).[16]
- From 2002–03 to 2011–12 there was a significant change in the age distribution of participants, with a decrease in the proportion aged 35–44 years (from 26.6% to 19.4%), and an increase in the proportion aged 55 years and over (from 30.9% to 41.1%). Again, these changes reflect the changes in the practising GP population (as defined for BEACH) from Medicare claims data, in which the proportion aged 35–44 years decreased from 25.1%[51] to 19.8%, and the proportion aged 55 years or more increased from 32.0%[51] to 42.2%.
- The ageing of the GP workforce was reflected in the increasing proportion of GPs who had worked in general practice for 20 years or longer, from 50.4% in 2002–03 to 58.4% in 2011–12.
- There was a significant increase in the proportion of GPs working 21–40 hours per week on direct patient care (from 41.6% in 2002–03 to 53.0% in 2011–12), and a significant decrease in the proportion working 41–60 hours (42.8% in 2002–03 to 32.1% in 2011–12), the dramatic drop occurring in 2009–10 (from 40.2% to 30.8%). The proportion working more than 60 hours per week in direct patient care also steadily decreased (from 4.1% to 1.4%). When the last two results are combined, there was a decrease for 46.9% of participants working more than 40 hours per week in direct patients care in 2002–03 to 33.5% working these hours in 2011–12. This has implications for workforce planning.

- There was a significant decrease over the decade in the proportion of Australian GPs who had gained their primary medical degree in Australia, from 72.0% in 2002–03 to 67.2% in 2011–12. There were also significant changes in the geographic distribution of country of graduation for those trained overseas.
- There was a significant increase (from 23.1% in 2003–04 to 27.4% in 2011–12) in the proportion of participants who provide some consultations in a language other than English. This change may be associated with the increase in the proportion of GPs who gained their primary medical degree in a country other than Australia. Anecdotally, a number of city practices now advertise the variety of languages spoken by their clinicians. The uptake of services by patients who have immigrated, and the opportunity to consult with a GP in their native language, may have contributed to this change.
- The proportion of GP participants holding Fellowship of the RACGP significantly increased, from 35.5% in 2002–03 to 56.8% in 2011–12. Since 1995, Fellowship of the RACGP has been mandatory for new clinicians entering general practice, so this change reflects the inclusion of new GPs into practice who hold FRACGP.

4.2 Characteristics of participants' major practice

Over the period 2002–03 to 2011–12 some trends emerged in the characteristics of the GP participants' major practices (Table 4.2). The most noticeable changes over the ten years are listed below.

- The proportion of participants in solo practice, and the proportion in smaller practices of 2–4 GPs significantly decreased. There was an associated significant increase in the proportion working in practices with 5–9 individual GPs (from 36.1% to 42.3%), and the proportion in practices with ten or more individual GPs (from 11.8% in 2002–03 to 20.5%). Data were not available for 2007–08 and 2008–09, as the question was altered to capture full-time equivalent GPs at the practice instead of number of individuals. However from 2009–10, both data elements were captured.
- There was a significant reduction in the proportion of GPs working in practices that provide their own after-hours services (from 42.9% to 30.6%), and in the proportion at practices providing these services in cooperation with other practices (from 16.7% to 12.5%). However, the proportion of GPs working in practices using a deputising service for after-hours care provision increased significantly, from 47.6% in 2002–03 to 53.0% in 2011–12. Multiple responses were allowed to this question.
- The proportion of GPs with a computer available at their major practice increased significantly, from 91.7% in 2002–03 to 96.8% in 2011–12. Actual use of the computer has only been collected since 2004–05. From that time, the proportion of GPs indicating that they use a computer to some extent in their clinical activity (89.0%) steadily increased to 94.6% in 2008–09. This level has been maintained since then, with the exception of a spike (97.7%) in 2009–10. As previously reported, random sampling resulted in an over-representation of female GPs in that BEACH year,[16] and female GPs have been found to be significantly more likely to use computers for clinical activity than their male counterparts.[52] The over-representation of female GPs in that year may have influenced the higher computer use rate observed.



	Female	<45 years	55+ years	Solo GP	10+ GPs	FRACGP	Own A.H.(a)	Co-op A.H.(a)	Deputising A.H.(a)
■2002–03	35.2	33.9	30.9	13.7	11.8	35.5	42.9	16.7	47.6
□2011–12	40.8	26.0	41.1	10.7	20.5	56.8	30.6	12.5	53.0

(a) Multiple responses across these options were allowed.

Note: FRACGP – Fellows of the Royal Australian College of General Practitioners; own A.H. – the practice provides its own after-hours service for their patients; Co-op A.H. – the practice provides after-hours services in a cooperative arrangement with other practices.

Figure 4.1: Selected characteristics of participating GPs and their practices, 2002–03 and 2011–12

Table 4.1: Characteristics of participating GPs, 2002–03 to 2011–12

	Per cent of participating GPs[a]									
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
GP characteristic	(*n* = 1,008)	(*n* = 1,000)	(*n* = 953)	(*n* = 1,017)	(*n* = 930)	(*n* = 953)	(*n* = 1,011)	(*n* = 988)	(*n* = 958)	(*n* = 984)
Sex (χ^2_9 = 55.3, p < 0.0001) (missing *n*)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Male	64.8	67.3	67.9	62.8	65.9	63.2	67.5	56.4	61.7	59.2
Female	35.2	32.7	32.1	37.2	34.1	36.8	32.5	43.6	38.3	40.8
Age (χ^2_{27} = 172.8, p < 0.0001) (missing *n*)	(0)	(1)	(1)	(18)	(11)	(8)	(4)	(6)	(6)	(5)
< 35 years	7.3	5.8	9.0	4.7	6.8	7.8	2.6	7.1	6.5	6.6
35–44 years	26.6	24.9	25.5	22.2	22.6	22.2	14.0	21.4	16.7	19.4
45–54 years	35.2	36.5	31.8	34.3	35.6	36.4	37.5	36.7	34.7	32.9
55+ years	30.9	32.7	33.6	38.7	35.0	33.5	45.9	34.8	42.1	41.1
Years in general practice (χ^2_{36} = 250.2, p < 0.001) (missing *n*)	(6)	(9)	(5)	(13)	(13)	(7)	(6)	(7)	(8)	(5)
< 2 years	0.6	1.3	0.4	0.6	0.6	0.6	0.1	1.1	1.0	1.4
2–5 years	7.5	5.4	10.3	4.9	7.9	9.9	3.4	8.9	8.5	10.4
6–ten years	13.5	10.7	12.6	12.1	11.1	12.9	5.7	12.3	9.9	11.1
11–19 years	28.0	28.1	25.4	24.0	23.5	20.6	19.3	23.3	16.3	18.6
20+ years	50.4	54.6	51.3	58.5	57.0	55.9	71.5	54.3	64.3	58.4
Sessions per week (χ^2_{12} = 40.0, p < 0.0001) (missing *n*)	(8)	(7)	(8)	(6)	(7)	(9)	(6)	. .	. .	. .
< 6 per week	18.7	17.2	14.4	17.3	17.0	15.4	12.4	NAv	NAv	NAv
6–10 per week	67.9	69.2	74.2	70.7	73.4	73.7	78.0	NAv	NAv	NAv
11+ per week	13.4	13.6	11.4	12.0	9.6	10.9	9.6	NAv	NAv	NAv

(continued)

Table 4.1 (continued): Characteristics of participating GPs, 2002–03 to 2011–12

	Per cent of participating GPs[a]									
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
GP characteristic	(*n* = 1,008)	(*n* = 1,000)	(*n* = 953)	(*n* = 1,017)	(*n* = 930)	(*n* = 953)	(*n* = 1,011)	(*n* = 988)	(*n* = 958)	(*n* = 984)
Direct patient care hours per week (χ^2_{36} = 146.2, p < 0.0001) (missing *n*)	(12)	(28)	(29)	(34)	(28)	(25)	(16)	(15)	(16)	(13)
≤ 10	0.8	0.4	0.3	0.8	1.0	0.3	0.3	0.3	0.6	1.2
11–20	10.7	10.0	8.7	9.8	11.3	8.7	7.3	10.3	8.7	12.2
21–40	41.6	42.4	49.2	47.1	47.9	52.4	49.5	56.2	54.0	53.0
41–60	42.8	42.3	37.9	39.0	36.9	36.6	40.2	30.8	34.2	32.1
61+	4.1	4.9	3.9	3.4	2.9	1.9	2.7	2.4	2.4	1.4
Place of graduation[b] (χ^2_{54} = 86.0, p = 0.0036) (missing n)	(0)	(1)	(1)	(5)	(1)	(3)	(2)	(1)	(3)	(1)
Australia	72.0	73.6	69.9	72.0	73.6	73.5	74.3	70.6	69.2	67.2
Overseas	28.0	26.4	30.2	28.0	26.4	26.5	25.7	29.4	30.8	32.8
Asia	10.0	9.5	10.9	10.9	10.1	9.8	8.3	9.8	12.2	12.5
United Kingdom/Ireland	9.1	7.2	7.6	8.1	7.3	6.8	10.3	8.8	7.4	8.1
Africa and Middle East	4.4	5.4	5.4	4.5	5.1	4.3	3.8	5.2	5.8	5.6
Europe	1.7	2.3	3.8	2.1	1.7	2.6	1.9	2.0	2.9	3.4
New Zealand	2.2	1.0	1.3	1.9	1.4	1.4	1.1	1.9	1.4	1.6
Other	0.6	1.0	1.3	0.6	0.8	1.6	0.3	1.6	1.2	1.5

(continued)

Table 4.1 (continued): Characteristics of participating GPs, 2002–03 to 2011–12

	Per cent of participating GPs[a]									
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
GP characteristic	**(*n* = 1,008)**	**(*n* = 1,000)**	**(*n* = 953)**	**(*n* = 1,017)**	**(*n* = 930)**	**(*n* = 953)**	**(*n* = 1,011)**	**(*n* = 988)**	**(*n* = 958)**	**(*n* = 984)**
Consultations in languages other than English[c] (χ^2_{24} = 39.9, p = 0.02)	. .	(6)	(1)	(9)	(0)	(4)	(3)	(3)	(5)	(3)
< 25%	NAv	17.8	21.7	20.9	18.1	20.4	17.6	18.5	21.9	21.7
25–50%	NAv	2.9	2.4	3.6	1.6	3.1	3.5	3.6	2.9	2.9
> 50%	NAv	2.4	3.4	3.5	2.9	3.6	3.0	1.8	1.9	2.8
Currently in a GP training program (missing *n*) (χ^2_9 = 18.2, p = 0.0332)	(53) 2.9	(14) 4.4	(10) 3.5	(13) 2.6	(13) 2.9	(4) 2.9	(8) 1.5	(6) 3.6	(8) 3.2	(9) 3.9
Fellow of RACGP (missing *n*) (χ^2_9 = 224.5, p < 0.0001)	(8) 35.5	(10) 33.5	(9) 42.3	(14) 40.7	(6) 46.3	(5) 50.2	(7) 39.7	(4) 53.5	(4) 52.1	(3) 56.8

(a) Missing data removed.

(b) For this variable p = 0.006 – significant change when comparing Australia with all overseas countries combined; p = 0.0036 – significant change in the distribution of overseas countries in which GPs had graduated from their primary medical degree.

(c) Data for all three groupings only available from 2003–04 onward.

Note: RACGP – Royal Australian College of General Practitioners; NAv – not available.

Table 4.2: Characteristics of practices in which participating GPs worked, 2002–03 to 2011–12

	Per cent of participating GPs[a]									
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
GP characteristic	(*n* = 1,008)	(*n* = 1,000)	(*n* = 953)	(*n* = 1,017)	(*n* = 930)	(*n* = 953)	(*n* = 1,011)	(*n* = 988)	(*n* = 958)	(*n* = 984)
Practice location by RRMA (χ^2_{54} = 84.9, p = 0.0046) (missing *n*)	(0)	(2)	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(5)
Capital	64.7	62.4	64.9	68.8	63.9	67.8	66.8	62.4	64.1	66.3
Other metropolitan	8.5	6.4	6.7	6.8	7.3	7.0	10.0	8.5	6.1	7.6
Large rural	5.1	7.0	5.4	5.9	7.9	6.9	5.5	7.3	6.2	6.7
Small rural	7.7	7.0	6.9	6.0	5.4	4.7	6.1	7.1	7.2	7.1
Other rural	12.0	14.2	13.0	11.1	13.6	11.3	10.3	13.3	14.8	10.6
Remote central	0.6	0.9	1.3	0.5	1.0	0.7	0.4	0.4	0.8	0.6
Other remote, offshore	1.4	2.0	1.8	0.9	1.1	1.5	0.9	1.1	0.8	1.1
Practice location by ASGC (χ^2_{36} = 43.9, p = 0.169) (missing *n*)	(0)	(2)	(2)	(0)	(0)	(1)	(0)	(0)	(0)	(5)
Major cities	69.4	65.4	67.6	72.1	66.3	72.2	73.4	69.2	69.2	71.5
Inner regional	19.1	21.8	20.1	18.8	22.7	17.4	18.0	20.2	20.6	18.9
Outer regional	9.3	10.1	10.1	7.8	9.4	8.6	7.2	9.1	8.8	8.1
Remote	1.6	1.6	1.5	0.8	1.3	1.3	0.9	1.1	1.2	0.9
Very remote	0.7	1.0	0.7	0.6	0.3	0.5	0.5	0.3	0.3	0.6
Size of practice – number of GPs (χ^2_{21} = 136.3, $p < 0.0001$) (missing *n*)	(8)	(10)	(6)	(9)	(6)	. .	. .	(11)	(12)	(16)
Solo	13.7	10.6	12.3	13.1	8.2	NAv	NAv	9.2	10.8	10.7
2–4 GPs	38.4	37.8	36.4	35.2	35.7	NAv	NAv	30.0	28.4	26.6
5–9 GPs	36.1	38.7	37.7	38.4	40.3	NAv	NAv	41.4	38.6	42.3
10+ GPs	11.8	12.9	13.6	13.3	15.8	NAv	NAv	19.5	22.2	20.5

(continued)

Table 4.2 (continued): Characteristics of practices in which participating GPs worked, 2002–03 to 2011–12

	Per cent of participating GPs[a]									
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
GP characteristic	(*n* = 1,008)	(*n* = 1,000)	(*n* = 953)	(*n* = 1,017)	(*n* = 930)	(*n* = 953)	(*n* = 1,011)	(*n* = 988)	(*n* = 958)	(*n* = 984)
Size of practice – full-time equivalents (χ^2_{12} = 30.5, *p* = 0.0023) (missing *n*)	. .	. .	. .	. .	. .	(23)	(8)	(51)	(40)	(111)
< 2	NAv	NAv	NAv	NAv	NAv	17.6	19.6	15.2	17.2	13.7
2 < 5 GPs	NAv	NAv	NAv	NAv	NAv	41.2	42.9	48.9	43.6	43.5
5 < 10 GPs	NAv	NAv	NAv	NAv	NAv	31.9	29.4	28.8	29.6	34.7
10+ GPs	NAv	NAv	NAv	NAv	NAv	9.3	8.1	7.2	9.6	7.9
After-hours arrangements[b] (missing *n*)	(5)	(5)	(8)	(14)	(3)	(6)	(6)	(2)	(4)	(7)
Practice does its own (χ^2_9 = 112.2, *p* < 0.0001)	42.9	43.6	35.9	34.6	34.6	33.2	28.9	29.1	29.8	30.6
Cooperative with other practices (χ^2_9 = 27.8, *p* = 0.001)	16.7	20.0	16.2	15.7	15.5	14.6	15.1	17.8	14.3	12.5
Deputising service (χ^2_9 = 59.9, *p* < 0.0001)	47.6	43.8	45.8	50.8	48.1	49.5	57.9	53.1	52.1	53.0
Computer available at practice[c] (χ^2_7 = 64.8, *p* < 0.0001) (missing *n*)	(5) 91.7	(6) 95.1	(14) 93.7	(19) 94.5	(0) 96.6	(7) 96.7	NAv	NAv	(1) 98.0	(0) 96.8
Computer use by individual GPs[d] (χ^2_7 = 88.4, *p* < 0.0001) (missing *n*)	NAv	NAv	(54) 89.0	(60) 91.5	(71) 93.7	(63) 94.2	(3) 94.6	(1) 97.7	(1) 95.6	(0) 95.9

(a) Missing data removed.

(b) Multiple responses were allowed.

(c) Data refer to computer use at the major practice and may not reflect the use of computers by individual GPs for clinical and/or administrative purposes.

(d) Data refer to computer use by individual GPs.

Note: NAv – not available; RRMA – Rural, Remote and Metropolitan Areas classification; ASGC – Australian Standard Geographical Classification.

5 The encounters

This chapter includes details about the encounters in general practice from each of the most recent ten years of the BEACH study from 2002–03 to 2011–12. The direction and type of change from 2002–03 to 2011–12 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Significant changes in rates per 100 encounters can be extrapolated to estimate the national increase or decrease in the measured event between 2002–03 and 2011–12. Some examples of extrapolated change are provided. The method used to extrapolate to national change estimates is described in Section 2.9. More detailed analyses of the GP–patient encounters in 2011–12 can be found in Chapter 5 in *General practice activity in Australia 2011–12*.[1]

5.1 Content of the encounters

Table 5.1 provides an overview of the changes over time from data in BEACH between 2002–03 and 2011–12. The number of patient reasons for encounter recorded by the GP increased significantly over the decade, from 150.9 RFEs per 100 encounters in 2002–03 to 154.7 per 100 encounters in 2011–12. Changes in types of RFEs are reported in Chapter 6.

The rate of problems managed occurred over the decade increased from 144.9 per 100 encounters in 2002–03 to 153.8 per 100 encounters in 2011–12. This represents an additional 48 million problems managed in general practice in 2011–12 than a decade earlier. There was also a significant increase in the rate of chronic problems managed, from 49.1 per 100 encounters in 2002–03 to 55.6 per 100 in 2011–12. This represents an estimated additional 20.5 million chronic problems managed in general practice nationally in 2011–12 than in 2002–03. Further details about the types of changes in problems managed are presented in Chapter 7.

The changes in management actions described below are measured in terms of rates per 100 encounters. As there was a significant increase in the number of problems managed at encounters, it may be more informative to consider changes in management actions in terms of rates per 100 problems managed as described in Chapters 8 to 12, inclusive.

There was no change in the rate of medications recorded per 100 encounters over the decade. Specific changes in the types of medications recorded are detailed in Chapter 9.

There was a significant increase in the number of procedural treatments performed in general practice between 2002–03 and 2011–12, from 14.6 per 100 encounters to 16.9 per 100 encounters. This increase represents an additional 6.6 million procedures performed in 2011–12 compared with a decade earlier. More detail can be found in Chapter 10.

Between 2002–03 and 2004–05 there was no change in the rate of clinical treatments (such as advice and counselling), but the rate then dropped dramatically from 39.2 per 100 encounters in 2004–05 to 29.2 per 100 encounters in 2005–06. Since then it has gradually increased, and in 2011–12 was 37.0 per 100 encounters, no different from the 2002–03 rate. This pattern was also reflected in the fluctuation of the total of other treatments of which clinical treatments are the major component. These changes are described in further detail in Chapter 10.

Referrals increased over the decade 2002–03 to 2011–12 from 11.2 per 100 encounters to 14.5 per 100. This represented 6.9 million more referrals nationally in 2011–12 than a decade earlier. The increase was reflected in increased referrals to medical specialists, allied health services and emergency departments, and is described further in Chapter 11.

Orders for pathology and imaging tests also increased significantly between 2002–03 and 2011–12. These changes are reported in greater detail in Chapter 12.

5.2 Medicare/DVA–claimable encounters

Table 5.2 provides a summary of Medicare/DVA-claimable encounters recorded in BEACH, expressed as a proportion of all Medicare/DVA-claimable encounters. Between 2002–03 and 2004–05 only one item number was recorded on the BEACH encounter form. In 2005–06 this increased to three items, to capture practice nurse item numbers and other additional information about the Medicare items used in general practice.

To allow comparability of data over time only one item number per Medicare/DVA-claimable item per encounter was counted in Table 5.2. The selection of one item number per encounter was based on priority whereby: consultation item numbers override Practice Incentives Program payment item numbers, which override procedural item numbers, which override other Medicare item numbers. Table 5.2 includes only items claimed by GPs (excluding items claimed by practice nurses etc.) and shows that:

- short surgery consultations increased significantly from 1.2% of Medicare/DVA-claimable encounters in 2002–03 to 1.9% in 2011–12. Previous research suggests that part of this increase is related to increasing practice nurse involvement in GP–patient encounters.[53]
- the proportion of long surgery consultations did not change overall. However, after peaking at 10.5% in 2004–05, the proportion of long consultations remained steady until 2007–08 then dropped significantly in 2008–09 and in 2011–12 represented 8.5% of Medicare/DVA-claimable encounters.
- encounters claimable under chronic disease management items, GP mental healthcare items and health assessments all significantly increased.

In May 2010 changes were made to the Medicare Benefits Schedule (MBS) that combined the existing Medicare items for home visits, consultations at hospitals and consultations at other institutions.[54] To allow the comparison of changes over time we have applied this change to all previous years in the decade, and now report a single line for 'Home and institution visits'. There was a significant decrease in the proportion of home and institution visits (together) from 1.7% to 0.7% between 2002–03 and 2011–12. This equates to 790,000 fewer home and institutional visits carried out by GPs in 2011–12 than in 2002–03. Unfortunately, this change no longer allows a discrete measure of GP home visit frequency through MBS.

5.3 Consultation length

In the subsample study of consultations start and finish times were recorded. there was no significant change in the mean length of consultation between 2002–03 and 2011–12 for A1 Medicare/DVA-claimable encounters, nor for all Medicare/DVA-claimable encounters (Table 5.3).

Table 5.1: Summary of morbidity and management, 2002–03 to 2011–12

Variable	Rate per 100 encounters (95% CI) 2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[(a)]
Reasons for encounter	150.9 (149.0–152.7)	150.2 (148.4–152.0)	149.6 (147.8–151.5)	150.3 (148.4–152.2)	150.8 (148.9–152.7)	153.0 (151.1–154.8)	156.5 (154.7–158.2)	155.0 (153.1–156.8)	155.5 (153.5–157.5)	154.7 (152.8–156.7)	↑
Problems managed	144.9 (143.0–146.8)	146.3 (144.4–148.2)	145.5 (143.6–147.4)	146.2 (144.2–148.2)	148.5 (146.4–150.6)	151.3 (149.2–153.4)	154.6 (152.6–156.5)	153.3 (151.1–155.5)	152.5 (150.2–154.7)	153.8 (151.4–156.1)	↑
New problems	56.9 (55.5–58.4)	55.9 (54.5–57.3)	55.2 (53.8–56.5)	56.9 (55.5–58.2)	56.5 (55.1–57.9)	57.7 (56.3–59.1)	57.4 (56.0–58.7)	59.1 (57.6–60.5)	57.8 (56.4–59.3)	58.6 (57.1–60.0)	—
Chronic problems	49.1 (47.4–50.8)	51.9 (50.2–53.7)	51.8 (50.1–53.5)	52.2 (50.3–54.1)	53.4 (51.7–55.1)	54.1 (52.2–56.0)	57.0 (55.2–58.7)	54.2 (52.3–56.2)	53.1 (51.2–55.0)	55.6 (53.6–57.7)	↑
Work-related	NAv	NAv	3.1 (2.8–3.5)	2.8 (2.6–3.1)	2.9 (2.6–3.1)	2.8 (2.6–3.1)	2.8 (2.6–3.0)	2.5 (2.3–2.7)	2.5 (2.3–2.7)	2.6 (2.4–2.8)	↓
Medications	103.8 (101.4–106.2)	104.4 (102.1–106.7)	101.5 (99.3–103.8)	104.4 (101.8–107.0)	101.5 (99.2–103.9)	102.7 (100.3–105.0)	106.3 (104.0–108.5)	106.6 (103.6–109.5)	105.2 (102.8–107.6)	107.0 (104.1–110.0)	—
Prescribed	84.3 (81.8–86.9)	86.0 (83.6–88.5)	83.4 (81.2–85.6)	85.8 (83.3–88.4)	83.3 (81.0–85.5)	82.4 (80.3–84.6)	86.4 (84.1–88.6)	83.4 (80.6–86.2)	85.1 (82.9–87.3)	86.8 (84.0–89.7)	—
GP-supplied	9.3 (8.0–10.6)	8.6 (7.6–9.6)	8.1 (7.3–8.8)	8.8 (8.2–9.5)	8.9 (8.2–9.6)	10.1 (9.5–10.7)	11.0 (10.2–11.8)	13.6 (12.7–14.6)	10.3 (9.5–11.2)	9.7 (8.9–10.5)	—
Advised OTC	10.2 (9.3–11.1)	9.8 (9.0–10.5)	10.1 (9.2–10.9)	9.8 (9.0–10.5)	9.4 (8.7–10.1)	10.1 (9.3–10.9)	8.9 (8.3–9.4)	9.5 (8.7–10.3)	9.8 (9.0–10.5)	10.5 (9.7–11.3)	—
Other treatments	51.8 (49.3–54.3)	51.4 (48.9–53.8)	54.7 (52.1–57.3)	43.6 (41.5–45.8)	44.7 (42.3–47.0)	51.2 (48.9–53.6)	50.7 (48.5–52.9)	52.5 (49.8–55.3)	52.4 (49.8–55.1)	53.9 (51.2–56.6)	—
Clinical	37.2 (35.0–39.4)	36.6 (34.5–38.7)	39.2 (37.1–41.4)	29.2 (27.3–31.1)	29.5 (27.6–31.4)	34.5 (32.5–36.5)	34.0 (32.1–35.9)	35.0 (32.6–37.4)	35.5 (33.2–37.8)	37.0 (34.6–39.3)	§
Procedural	14.6 (13.9–15.3)	14.7 (14.0–15.5)	15.5 (14.6–16.4)	14.4 (13.7–15.1)	15.2 (14.4–16.0)	16.7 (15.9–17.5)	16.7 (16.0–17.5)	17.5 (16.5–18.6)	16.9 (16.1–17.8)	16.9 (16.1–17.8)	↑

(continued)

Table 5.1 (continued): Summary of morbidity and management, 2002–03 to 2011–12

Variable	Rate per 100 encounters (95% CI)										
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[(a)]
Referrals	11.2 (10.7–11.6)	11.6 (11.1–12.2)	11.5 (11.1–12.0)	12.0 (11.5–12.5)	12.2 (11.7–12.7)	12.5 (12.0–13.0)	13.7 (13.2–14.2)	13.3 (12.8–13.8)	14.1 (13.5–14.7)	14.5 (13.9–15.1)	↑
Medical specialist	7.6 (7.3–8.0)	7.9 (7.5–8.2)	7.7 (7.4–8.1)	8.2 (7.8–8.5)	8.1 (7.7–8.4)	8.0 (7.6–8.3)	9.0 (8.7–9.3)	8.4 (8.1–8.8)	8.6 (8.2–9.0)	8.6 (8.2–8.9)	↑
Allied health services	2.5 (2.3–2.7)	2.6 (2.4–2.8)	2.7 (2.5–2.9)	2.9 (2.7–3.1)	3.1 (2.9–3.3)	3.4 (3.2–3.7)	3.9 (3.6–4.1)	3.9 (3.7–4.2)	4.2 (3.9–4.5)	4.7 (4.4–5.0)	↑
Hospital	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	↓
Emergency department	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	↑
Other referrals	0.3 (0.2–0.3)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	↑
Pathology	32.9 (31.4–34.4)	35.2 (33.7–36.8)	36.7 (35.2–38.2)	38.6 (36.9–40.3)	42.4 (40.7–44.2)	43.1 (41.3–45.0)	45.6 (43.8–47.4)	45.0 (43.1–46.9)	45.2 (43.4–47.0)	47.0 (44.9–49.1)	↑
Imaging	8.6 (8.2–9.0)	8.2 (7.8–8.6)	8.3 (8.0–8.6)	8.8 (8.4–9.2)	9.0 (8.6–9.3)	9.5 (9.2–9.9)	9.8 (9.4–10.2)	9.7 (9.3–10.1)	9.8 (9.4–10.2)	10.1 (9.6–10.5)	↑
Other investigations	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.1 (0.9–1.2)	1.0 (0.8–1.1)	1.0 (0.9–1.1)	0.7 (0.7–0.8)	0.7 (0.7–0.8)	0.9 (0.8–1.0)	—

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Note: CI – confidence interval; NAv – not available; OTC – over-the-counter.

Table 5.2: Distribution of MBS/DVA items (GP only) recorded as claimable, counting one item only per encounter, 2002–03 to 2011–12

MBS/DVA consultation category	Percentage distribution of Medicare/DVA-claimable encounters (95% CI)										↑↓[(a)]
	2002–03 (*n* = 89,068)	2003–04 (*n* = 86,244)	2004–05 (*n* = 81,582)	2005–06 (*n* = 89,011)	2006–07 (*n* = 79,847)	2007–08 (*n* = 83,376)	2008–09 (*n* = 86,069)	2009–10 (*n* = 89,113)	2010–11 (*n* = 83,903)	2011–12 (*n* = 87,243)	
Short surgery consultations	1.2 (1.0–1.4)	1.1 (0.9–1.4)	1.0 (0.8–1.3)	1.0 (0.8–1.1)	1.1 (0.9–1.4)	1.2 (1.0–1.4)	1.6 (1.4–1.8)	2.2 (1.9–2.5)	2.3 (2.0–2.6)	1.9 (1.5–2.2)	↑
Standard surgery consultations	82.8 (81.8–83.9)	82.4 (81.2–83.6)	82.3 (81.0–83.5)	83.7 (82.7–84.7)	83.3 (82.4–84.3)	82.1 (81.0–83.3)	83.9 (83.0–84.8)	82.0 (80.9–83.2)	82.6 (81.6–83.6)	81.8 (80.7–83.0)	—
Long surgery consultations	9.6 (8.9–10.2)	9.7 (9.0–10.4)	10.5 (9.7–11.2)	9.8 (9.1–10.5)	10.0 (9.3–10.6)	9.9 (9.2–10.5)	7.7 (7.1–8.2)	8.3 (7.7–8.9)	7.8 (7.2–8.4)	8.5 (7.9–9.1)	§
Prolonged surgery consultations	0.8 (0.6–0.9)	0.7 (0.5–0.9)	0.8 (0.6–0.9)	0.7 (0.5–0.8)	0.6 (0.5–0.7)	0.7 (0.5–0.8)	0.5 (0.3–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.7)	—
Home and institution visits	1.7 (1.4–2.0)	1.8 (1.4–2.2)	1.2 (1.0–1.4)	1.4 (1.1–1.7)	1.2 (0.9–1.4)	1.1 (0.7–1.6)	1.1 (0.9–1.3)	1.0 (0.7–1.2)	1.2 (0.8–1.6)	0.7 (0.5–0.9)	↓
Residential aged care facility	1.2 (0.9–1.6)	1.2 (0.9–1.4)	1.2 (0.8–1.6)	1.3 (0.9–1.6)	1.3 (1.0–1.6)	1.2 (0.9–1.5)	1.3 (1.0–1.5)	1.3 (0.9–1.6)	1.5 (1.2–1.9)	1.9 (1.2–2.5)	—
Chronic disease management	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.9 (0.8–1.1)	1.0 (0.8–1.1)	1.0 (0.9–1.2)	1.3 (1.1–1.5)	↑
GP mental health care	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.2 (0.2–0.3)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.2 (1.1–1.4)	1.2 (1.1–1.4)	1.4 (1.2–1.6)	↑
Health assessment	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	↑
Incentive payments	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	↑
Other items	2.4 (1.8–3.0)	2.7 (2.0–3.5)	2.6 (1.7–3.4)	1.6 (1.3–1.8)	1.4 (1.1–1.6)	1.9 (1.5–2.4)	1.5 (1.2–1.9)	2.1 (1.2–2.9)	1.3 (1.1–1.5)	1.4 (1.0–1.8)	↓

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

Note: Includes items that were recorded as claimable through the Medicare Benefits Schedule/Department of Veterans' Affairs (DVA), counting one item per encounter (See Chapter 2, Methods). CI – confidence interval; MBS – Medicare Benefits Schedule.

Table 5.3: Consultation length (minutes), 2002–03 to 2011–12

Variable	Consultation length (minutes)										↑↓[(a)]
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	
A1 Medicare/DVA items (A, B, C, D)[(b)]	**(*n* = 34,886)**	**(*n* = 31,844)**	**(*n* = 30,683)**	**(*n* = 32,830)**	**(*n* = 33,758)**	**(*n* = 29,956)**	**(*n* = 33,025)**	**(*n* = 31,442)**	**(*n* = 30,099)**	**(*n* = 30.963)**	
Mean	14.8 (14.5–15.1)	15.0 (14.7–15.3)	15.1 (14.8–15.4)	14.9 (14.6–15.1)	14.9 (14.7–15.2)	14.8 (14.6–15.1)	14.4 (14.2–14.6)	15.0 (14.7–15.2)	14.7 (14.4–15.0)	14.7 (14.6–15.1)	—
Median	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	—
Mode	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	—
Range	1–165	1–120	1–120	1–110	1–155	1–110	1–120	1–148	1–89	1–150	. .
All Medicare/DVA-claimable encounters (GP items)	**(*n* = 35,861)**	**(*n* = 32,839)**	**(*n* = 31,510)**	**(*n* = 34,111)**	**(*n* = 35,201)**	**(*n* = 31,722)**	**(*n* = 34,783)**	**(*n* = 33,613)**	**(*n* = 32,257)**	**(*n* = 33,096)**	
Mean	14.9 (14.6–15.2)	15.1 (14.9–15.4)	15.2 (14.9–15.5)	15.0 (14.7–15.2)	15.1 (14.8–15.3)	15.1 (14.8–15.3)	14.6 (14.4–14.9)	15.3 (15.0–15.5)	15.0 (14.8–15.3)	15.2 (15.0–15.5)	—
Median	13.0	14.0	13.0	13.0	13.0	13.0	13.0	14.0	13.0	13.0	—
Mode	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	—
Range	1–165	1–175	1–180	1–110	1–155	1–110	1–120	1–148	1–95	1–150	. .

(a) The direction and type of change is indicated for each result: — indicates there was no significant change in 2011–12 compared with 2002–03

(b) A1 Medicare items – Group A includes: 3, 4, 13, 19, 20; Group B includes: 23, 24, 25, 33, 35; Group C includes: 36, 37, 38, 40, 43; Group D includes: 44, 47, 48, 50, 51.

Note: DVA – Australian Government Department of Veterans' Affairs.

6 The patients

This chapter includes data about the patients who participated in the BEACH study, including their characteristics and their reasons for encounter (RFEs), from each of the most recent ten years of the BEACH study from 2002–03 to 2011–12: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

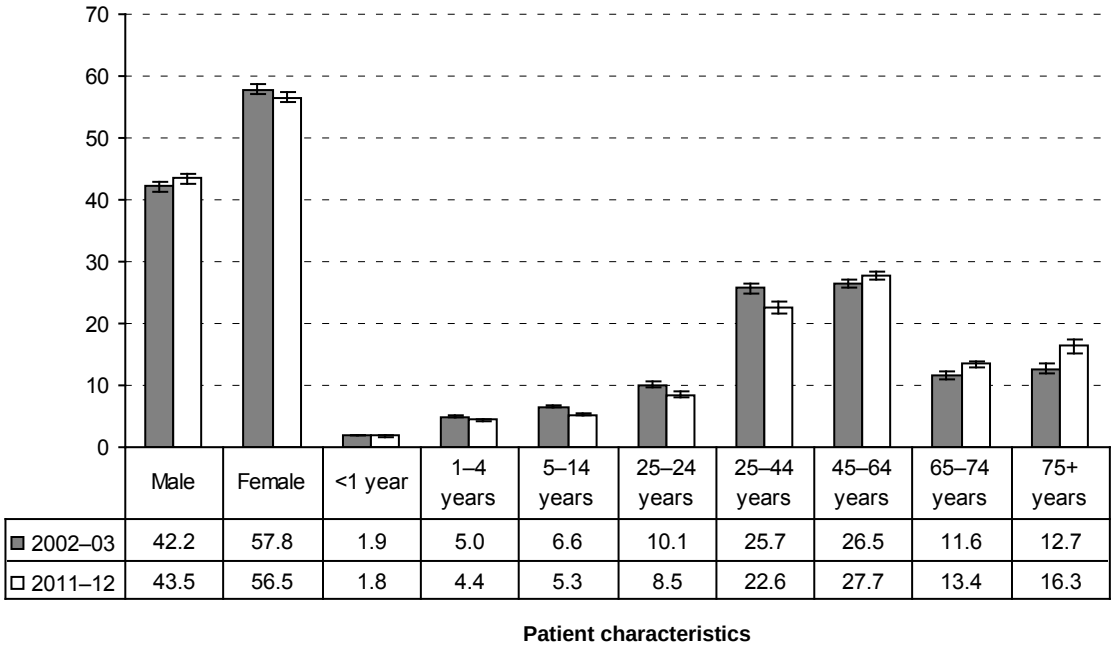
Significant changes in rates per 100 encounters can be extrapolated to estimate the national increase or decrease in the measured event between 2002–03 and 2011–12. In 2011–12 there were 25.6 million more encounters claimed through Medicare than there were in 2002–03 (122.5 million versus 96.9 million). It should be noted that because of this increase, a lower rate of events per 100 encounters can result in an increase in the estimated number of events recorded. Some examples of extrapolated change are provided. The method used to extrapolate to national change estimates is described in Section 2.9.

6.1 Age and sex of patients at encounter

Figure 6.1 and Table 6.1 show the age and sex distribution of patients at BEACH encounters from 2002–03 to 2011–12. Over this period there was no significant change in the proportion of encounters with male and female patients. The proportion of encounters with patients aged less than 45 years decreased from 49.3% to 42.6%, while over the same period the proportion with patients aged 45 years and over increased from 50.7% to 57.4%. Specifically, the largest growth occurred in encounters with patients aged 75 years and over and the largest decrease was in encounters with patients aged 25–44 years of age. When extrapolated, even with the increased number of encounters nationally, the number of encounters with patients aged less than 45 years only increased by about 4.4 million over the decade, while the number of encounters with patients aged 65 years and over increased by about 21.2 million nationally. The relationship between patient age, general practice attendance rates and the age distribution of the Australian population was investigated in Chapter 4 of *General practice in Australia, health priorities and policies 1998 to 2008*.[4]

6.2 Other patient characteristics

Over the decade there was a significant decrease in the proportion of encounters that were with patients who were new to the practice (from 9.9% in 2002–03 to 7.9% in 2011–12). The proportion of encounters with patients holding a Commonwealth concession card was relatively stable across the decade. Between 2002–03 and 2011–12, the proportion of encounters with patients holding a repatriation health card decreased by about a third (3.7% to 2.4%). There was no significant change in the proportion of encounters that were with patients from a non-English-speaking background or with Indigenous patients (Table 6.1).



Note: Missing data removed.

Figure 6.1: Age and sex distribution of patients at encounters, 2002–03 and 2011–12 (95% confidence interval)

6.3 Patient reasons for encounter

Reasons for encounter (RFEs) are those concerns and expectations that patients bring to the GP. RFEs reflect the patient's demand for care, and can provide an indication of service use patterns that may benefit from intervention at a population level.

Participating GPs were asked to record at least one and up to three patient RFEs in words as close as possible to those used by the patient, before the diagnostic or management process had begun. RFEs can be expressed in terms of one or more symptoms (for example, 'itchy eyes', 'chest pain'), in diagnostic terms (for example, 'about my diabetes', 'for my hypertension'), a request for a service ('I need more scripts', 'I want a referral'), an expressed fear of disease, or a need for a check-up.

Patient RFEs can have a one-to-one, one-to-many, many-to-one and many-to-many relationship to problems managed. That is, the patient may describe a single RFE that relates to a single problem managed at the encounter, one RFE that relates to multiple problems, multiple symptoms that relate to a single problem managed at the encounter, or multiple RFEs that relate to multiple problems managed at the encounter. GPs may also manage a problem that was unrelated to the patient's RFE (e.g. a patient presents about their diabetes but while they are there the GP also provides an immunisation and performs a Pap smear).

Number of reasons for encounter

Table 6.2 shows that between 2002–03 and 2011–12 there was a significant decrease in the proportion of encounters involving a single RFE, from 60.7% to 57.9% in 2011–12. To balance this there was an increase in the proportion of encounters with two RFEs, from 27.8% in 2002–03 to 29.6% of all encounters in 2011–12. There was no significant change across the decade in the proportion of encounters with three RFEs. Extrapolation of the effect of this change suggests there were about 9.3 million more encounters nationally where two RFEs were reported in 2011–12 than in 2002–03.

This increase in multiple RFEs encounters meant there was a significant increase in the overall rate of RFEs, from 150.9 per 100 encounters in 2002–03 to 154.7 per 100 encounters in 2011–12 (Tables 6.3 and 6.4). This increase when extrapolated equates to about 43 million extra RFEs nationally in 2011–12 than in 2002–03.

Reasons for encounter by ICPC-2 component

The distribution of patient RFEs by ICPC-2 component is presented in Table 6.3.

Symptoms and diagnoses

- RFEs expressed in terms of a symptom or complaint (for example, 'tired', 'feeling anxious') were the most frequent in all years. However, their presentation rate significantly decreased, from 71.5 per 100 encounters in 2002–03 to 66.6 per 100 encounters in 2011–12.
- With one exception, the rate of RFEs relating to specific diagnoses (including infections, injuries, neoplasms, congenital anomalies, and other diagnoses) did not significantly change across the decade. The exception was a marginal decrease in the rate of congenital anomaly RFEs from 0.3 to 0.2 per 100 encounters.

Processes of care

- Patient requests for diagnostic and preventative procedures (such as immunisation) significantly increased from 23.7 per 100 encounters in 2002–03 to 27.0 in 2009–10, then decreased to 24.6 per 100 encounters in 2011–12, a rate similar to the 2002–03 rate.
- Patient requests for medications, treatments and therapeutics (such as repeat prescriptions) increased by about 15%, from 13.0 to 15.0 per 100 encounters. This equates to an estimated 5.8 million more such requests in 2011–12 than in 2002–03.
- Presentations for test results increased by about 60%, from 5.4 to 8.5 per 100 encounters. When extrapolated, we estimate 5.2 million more encounters nationally with a RFE of this type in 2011–12 than in 2002–03 when extrapolated.
- The rate of requests for an administrative procedure (such as a sickness certificate) increased about 80%, from 1.6 to 2.9 per 100 encounters. Most of this change happened in 2007–08. This change equates to an estimated increase of approximately 2.0 million requests for an administrative procedure nationally between 2002–03 and 2011–12 when extrapolated.

Reasons for encounter by ICPC-2 chapter

Table 6.4 shows that between 2002–03 and 2011–12 there were significant increases in:

- the rate of general and unspecified RFEs, which increased by about 20%. When extrapolated, this equates to about 18.2 million more general and unspecified RFEs in 2011–12 than in 2002–03
- RFEs related to psychological problems, which increased by about 20%. This equates to approximately 3.8 million more RFEs related to psychological problems nationally in 2011–12 than in 2002–03. The increased role of GPs in the management of mental health was the focus of Chapter 14 in the book *General practice activity in Australia, health priorities and policies 1998 to 2008*[4]
- the rate of RFEs relating to the blood system, which increased by about 70%. This is likely to be linked to increased INR testing (as discussed in Chapter 10)
- RFEs related to the male genital system, which increased marginally by about 20%.

In contrast there were significant decreases in RFEs related to the female genital system and in RFEs related to neurological, ear and eye problems.

Most frequent patient reasons for encounter

Table 6.5 shows that between 2002–03 and 2011–12:

- requests for a check-up (all types) significantly increased from 13.6 per 100 encounters in 2002–03 to 15.2 in 2008–09, then decreased to 13.7 per 100 encounters in 2011–12, which is not significantly different from the 2002–03 rate
- the rate of presentations for immunisation/vaccination did not significantly change, except there was a significant spike in 2009–10 coinciding with the swine flu pandemic.

Over the decade there were significant increases in:

- the rate at which patients cited a need for prescription(s) as a RFE increased by about 20%, equating to 5.1 million more encounters with this RFE in 2011–12 than in 2002–03
- the rate of RFEs for test results increased by about 60% and the rate of RFEs relating to the need for a blood test increased by a third
- patient requests for administrative procedures (such as doctors' certificates) increased 80% while requests for a referral increased by about 70%
- requests for health education, counselling and advice increased by about a third
- patients presenting for their diabetes increased by about 60%, equating to when extrapolated an estimated increase of 820,000 encounters with diabetes as an RFE
- patients presenting about their depression increased by 15%, while anxiety as an RFE increased by about a third.

From 2002–03 to 2011–12:

- the rate at which patients presented with asthma as a RFE nearly halved, equating to a national estimated decrease of about 330,000 encounters with asthma as an RFE
- there were significant decreases in the RFE rates for headache (about 30%), neck complaint (about 25%) and ear problems (about 25%)
- there were marginally significant decreases in presentations for back complaints, throat complaints, leg/thigh complaints, chest pain and vomiting.

Table 6.1: Characteristics of patients at encounters, 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Patient characteristics	**(*n* = 100,987)**	**(*n* = 98,877)**	**(*n* = 94,386)**	**(*n* = 101,993)**	**(*n* = 91,805)**	**(*n* = 95,898)**	**(*n* = 96,688)**	**(*n* = 101,349)**	**(*n* = 95,839)**	**(*n* = 99,030)**	
Sex (missing *n*)[b]	(911)	(932)	(809)	(788)	(765)	(876)	(867)	(931)	(888)	(842)	
Male	42.2 (41.4–42.9)	42.6 (41.8–43.3)	43.5 (42.7–44.3)	44.0 (43.2–44.7)	43.7 (42.9–44.5)	42.9 (42.1–43.7)	42.4 (41.5–43.3)	43.1 (42.3–43.9)	42.9 (42.0–43.7)	43.5 (42.7–44.3)	—
Female	57.8 (57.0–58.6)	57.4 (56.7–58.2)	56.5 (55.7–57.3)	56.0 (55.3–56.8)	56.3 (55.5–57.1)	57.1 (56.3–57.9)	57.6 (56.7–58.5)	56.9 (56.1–57.7)	57.1 (56.3–58.0)	56.5 (55.7–57.3)	—
Age group (missing *n*)[b]	(895)	(905)	(925)	(769)	(779)	(784)	(704)	(781)	(771)	(793)	
< 1 year	1.9 (1.8–2.1)	1.8 (1.7–1.9)	1.9 (1.8–2.1)	2.1 (1.9–2.2)	1.8 (1.7–2.0)	2.0 (1.8–2.1)	2.0 (1.8–2.1)	2.1 (1.9–2.3)	1.8 (1.7–2.0)	1.8 (1.7–1.9)	—
1–4 years	5.0 (4.7–5.3)	4.6 (4.3–4.8)	4.3 (4.0–4.7)	4.3 (4.0–4.5)	4.1 (3.9–4.4)	4.3 (4.1–4.6)	4.2 (4.0–4.4)	4.7 (4.5–5.0)	4.6 (4.3–4.9)	4.4 (4.2–4.7)	↓
5–14 years	6.6 (6.3–6.9)	5.9 (5.6–6.3)	5.8 (5.5–6.1)	6.0 (5.7–6.3)	5.6 (5.3–5.9)	5.5 (5.2–5.8)	5.3 (5.1–5.6)	5.7 (5.4–6.0)	5.5 (5.2–5.8)	5.3 (5.1–5.6)	↓
15–24 years	10.1 (9.7–10.4)	9.6 (9.2–10.1)	9.0 (8.6–9.4)	9.4 (9.0–9.8)	9.1 (8.6–9.5)	9.5 (9.0–9.9)	8.4 (8.0–8.9)	8.6 (8.2–9.0)	8.7 (8.3–9.1)	8.5 (8.1–8.9)	↓
25–44 years	25.7 (24.9–26.4)	24.1 (23.4–24.8)	24.4 (23.7–25.1)	23.9 (23.2–24.7)	23.3 (22.6–24.0)	23.4 (22.7–24.1)	21.4 (20.7–22.1)	22.9 (22.1–23.6)	22.8 (22.0–23.5)	22.6 (21.7–23.4)	↓
45–64 years	26.5 (25.9–27.0)	27.2 (26.7–27.7)	28.0 (27.4–28.6)	27.6 (27.0–28.2)	28.2 (27.6–28.7)	28.1 (27.5–28.6)	29.1 (28.5–29.6)	28.2 (27.7–28.8)	27.7 (27.1–28.2)	27.7 (27.1–28.3)	↑
65–74 years	11.6 (11.1–12.0)	12.4 (11.9–12.9)	12.6 (12.1–13.2)	12.2 (11.7–12.6)	12.7 (12.2–13.2)	12.6 (12.1–13.1)	13.4 (12.9–13.9)	12.7 (12.2–13.2)	13.3 (12.7–13.8)	13.4 (12.8–13.9)	↑
75+ years	12.7 (11.9–13.4)	14.4 (13.6–15.2)	13.9 (13.1–14.7)	14.6 (13.7–15.4)	15.2 (14.4–16.0)	14.7 (13.9–15.5)	16.2 (15.4–17.0)	15.1 (14.3–16.0)	15.7 (14.8–16.6)	16.3 (15.3–17.3)	↑

(continued)

Table 6.1 (continued): Characteristics of patients at encounters, 2002–03 to 2011–12

Patient characteristics	Rate per 100 encounters (95% CI) 2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[a]
Other characteristics[b]											
New patient to practice	9.9 (9.1–10.8)	9.3 (8.6–10.0)	9.1 (8.4–9.9)	9.1 (8.3–9.9)	8.7 (7.9–9.4)	8.6 (7.8–9.4)	5.9 (5.5–6.3)	7.7 (7.1–8.3)	7.3 (6.6–7.9)	7.9 (7.0–8.8)	↓
Commonwealth concession card	45.0 (43.4–46.5)	46.6 (45.1–48.2)	47.5 (46.0–49.0)	45.4 (43.8–47.0)	45.4 (43.8–46.9)	45.5 (44.0–47.1)	45.7 (44.3–47.0)	45.9 (44.3–47.4)	44.9 (43.3–46.4)	44.7 (43.1–46.2)	—
Repatriation health card	3.7 (3.4–4.0)	3.9 (3.6–4.2)	3.6 (3.3–3.8)	3.4 (3.1–3.6)	3.4 (3.2–3.7)	3.1 (2.8–3.3)	3.1 (2.9–3.4)	2.9 (2.7–3.2)	2.5 (2.3–2.7)	2.4 (2.2–2.7)	↓
Non-English-speaking background	12.0 (10.1–13.8)	10.8 (8.7–12.8)	12.1 (10.1–14.1)	10.8 (9.0–12.5)	8.0 (6.5–9.5)	11.0 (9.2–12.8)	10.4 (8.7–12.1)	9.0 (7.3–10.6)	10.7 (8.9–12.5)	11.3 (9.4–13.2)	—
Aboriginal person and/or Torres Strait Islander	1.2 (0.9–1.4)	1.8 (1.3–2.3)	1.5 (1.1–2.0)	1.0 (0.7–1.2)	1.0 (0.7–1.3)	1.0 (0.8–1.3)	0.9 (0.6–1.1)	1.3 (1.0–1.6)	1.2 (0.9–1.5)	1.6 (1.2–1.9)	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

(b) Missing data removed.

Note: CI – confidence interval.

Table 6.2: Number of patient reasons for encounter, 2002–03 to 2011–12

Number of reasons for encounter	Rate per 100 encounters (95% CI) 2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 149,005)	2011–12 (*n* = 99,030)	↑↓[a]
One RFE	60.7 (59.5–61.9)	61.0 (59.9–62.2)	61.4 (60.2–62.6)	60.9 (59.7–62.2)	60.6 (59.4–61.9)	58.9 (57.7–60.2)	56.6 (55.5–57.8)	57.7 (56.5–58.9)	57.6 (56.3–58.8)	57.9 (56.6–59.1)	↓
Two RFEs	27.8 (27.1–28.4)	27.7 (27.0–28.4)	27.6 (26.9–28.3)	27.8 (27.1–28.5)	27.9 (27.2–28.7)	29.1 (28.5–29.8)	30.3 (29.6–30.9)	29.7 (29.0–30.4)	29.4 (28.7–30.1)	29.6 (28.9–30.3)	↑
Three RFEs	11.6 (10.8–12.3)	11.3 (10.5–12.0)	11.0 (10.3–11.7)	11.2 (10.5–11.9)	11.4 (10.7–12.2)	11.9 (11.2–12.6)	13.1 (12.4–13.8)	12.6 (11.9–13.4)	13.0 (12.3–13.8)	12.6 (11.8–13.3)	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change, and — indicates no significant difference between 2002–03 and 2011–12.

Note: CI – confidence interval; RFE – reason for encounter.

Table 6.3: Patient reasons for encounter by ICPC-2 component, 2002–03 to 2011–12

ICPC component	Rate per 100 encounters (95% CI)										↑↓ (a)
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Symptoms and complaints	71.5 (69.5–73.6)	69.1 (67.3–71.0)	68.7 (66.8–70.6)	67.0 (65.2–68.8)	65.2 (63.4–67.0)	65.1 (63.2–67.0)	66.3 (64.6–68.0)	65.0 (63.1–67.0)	66.8 (64.7–68.9)	66.6 (64.7–68.5)	↓
Diagnosis, diseases	28.6 (27.1–30.0)	27.7 (26.4–28.9)	27.2 (26.0–28.4)	29.5 (28.0–30.9)	30.6 (28.9–32.2)	30.4 (28.9–32.0)	30.3 (28.8–31.8)	30.7 (29.1–32.3)	30.9 (29.4–32.4)	29.3 (27.8–30.8)	—
Infections	7.5 (7.0–8.0)	7.4 (7.0–7.9)	7.0 (6.6–7.4)	8.3 (7.7–8.9)	8.1 (7.5–8.6)	7.9 (7.4–8.5)	7.9 (7.5–8.4)	8.0 (7.4–8.5)	7.7 (7.2–8.2)	7.3 (6.8–7.8)	—
Injuries	4.4 (4.2–4.6)	4.3 (4.1–4.6)	4.4 (4.2–4.6)	4.4 (4.2–4.7)	4.3 (4.1–4.5)	4.5 (4.3–4.7)	4.3 (4.1–4.5)	4.6 (4.4–4.9)	4.4 (4.2–4.7)	4.4 (4.2–4.7)	—
Neoplasms	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.1)	1.0 (0.9–1.1)	1.2 (1.0–1.3)	1.2 (1.0–1.3)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	—
Congenital anomalies	0.3 (0.3–0.4)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	↓
Other diagnoses, diseases	15.3 (14.3–16.4)	14.7 (13.7–15.6)	14.6 (13.7–15.5)	15.4 (14.4–16.4)	16.7 (15.5–17.9)	16.5 (15.4–17.7)	16.8 (15.7–17.9)	16.8 (15.6–17.9)	17.4 (16.3–18.5)	16.4 (15.2–17.5)	—
Diagnostic and preventive procedures	23.7 (22.8–24.7)	24.0 (23.1–25.0)	23.4 (22.6–24.3)	24.3 (23.4–25.3)	24.8 (23.9–25.7)	25.6 (24.7–26.5)	26.9 (26.0–27.8)	27.0 (26.0–27.9)	25.1 (24.1–26.2)	24.6 (23.7–25.6)	§
Medications, treatments and therapeutics	13.0 (12.4–13.6)	14.4 (13.7–15.1)	14.5 (13.8–15.3)	14.4 (13.7–15.1)	14.2 (13.5–14.8)	15.1 (14.3–15.8)	15.3 (14.6–15.9)	14.1 (13.4–14.8)	14.5 (13.8–15.2)	15.0 (14.2–15.8)	↑
Results	5.4 (5.0–5.7)	6.0 (5.7–6.4)	6.8 (6.4–7.2)	6.5 (6.1–6.9)	6.9 (6.5–7.3)	7.6 (7.2–8.1)	7.8 (7.4–8.2)	8.1 (7.7–8.6)	8.0 (7.5–8.5)	8.5 (8.1–9.0)	↑
Referrals and other RFEs	7.0 (6.6–7.5)	7.2 (6.8–7.6)	7.3 (6.9–7.8)	6.9 (6.5–7.4)	7.3 (6.9–7.8)	6.8 (6.4–7.2)	7.5 (7.0–7.9)	7.6 (7.2–8.1)	7.5 (7.1–7.9)	7.7 (7.3–8.2)	—
Administrative	1.6 (1.5–1.8)	1.8 (1.6–1.9)	1.7 (1.5–1.8)	1.7 (1.5–1.8)	1.8 (1.7–2.0)	2.3 (2.2–2.5)	2.4 (2.2–2.6)	2.4 (2.2–2.6)	2.6 (2.4–2.8)	2.9 (2.7–3.2)	↑
Total RFEs	**150.9 (149.0–152.7)**	**150.2 (148.4–152.0)**	**149.6 (147.8–151.5)**	**150.3 (148.4–152.2)**	**150.8 (148.9–152.7)**	**153.0 (151.1–154.8)**	**156.5 (154.7–158.2)**	**155.0 (153.1–156.8)**	**155.5 (153.5–157.5)**	**154.7 (152.8–156.7)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Note: CI – confidence interval; RFE – reason for encounter.

Table 6.4: Patient reasons for encounter by ICPC-2 chapter, 2002–03 to 2011–12

ICPC-2 chapter	Rate per 100 encounters (95% CI)										↑↓[a]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
General and unspecified	34.6 (33.5–35.6)	36.1 (35.1–37.2)	36.5 (35.5–37.6)	36.3 (35.2–37.4)	37.7 (36.7–38.8)	40.1 (38.9–41.2)	40.6 (39.6–41.7)	42.7 (41.5–43.9)	41.0 (39.8–42.3)	42.2 (41.0–43.5)	↑
Respiratory	23.0 (22.0–24.0)	21.4 (20.6–22.2)	20.6 (19.7–21.4)	21.9 (21.1–22.7)	20.7 (19.9–21.6)	20.6 (19.8–21.5)	22.0 (21.2–22.9)	22.8 (21.9–23.8)	21.7 (20.9–22.6)	21.3 (20.3–22.2)	—
Musculoskeletal	16.8 (16.2–17.3)	16.4 (15.8–16.9)	16.7 (16.0–17.3)	16.4 (15.8–16.9)	16.1 (15.6–16.6)	15.4 (14.9–15.9)	16.1 (15.5–16.6)	15.4 (14.7–16.2)	15.3 (14.9–15.8)	15.8 (15.3–16.3)	—
Skin	14.7 (14.3–15.2)	15.1 (14.5–15.8)	15.6 (15.0–16.2)	15.0 (14.5–15.6)	15.7 (15.1–16.3)	15.4 (14.8–16.1)	15.1 (14.6–15.6)	14.8 (14.3–15.3)	15.3 (14.8–15.8)	15.1 (14.5–15.6)	—
Digestive	10.4 (10.0–10.8)	10.7 (10.3–11.1)	9.9 (9.5–10.3)	9.9 (9.5–10.3)	10.1 (9.7–10.5)	10.3 (10.0–10.7)	9.8 (9.4–10.1)	9.8 (9.5–10.1)	10.2 (9.8–10.6)	10.2 (9.9–10.6)	—
Cardiovascular	10.6 (10.0–11.1)	10.6 (10.1–11.2)	10.5 (10.0–11.0)	10.8 (10.2–11.3)	11.2 (10.7–11.8)	11.2 (10.6–11.8)	11.5 (10.9–12.0)	10.0 (9.5–10.5)	10.5 (10.0–11.1)	10.2 (9.6–10.7)	—
Psychological	7.3 (6.9–7.7)	7.3 (6.9–7.7)	7.6 (7.2–8.0)	7.8 (7.3–8.3)	7.5 (7.1–7.8)	7.8 (7.5–8.2)	8.7 (8.2–9.1)	8.5 (8.0–8.9)	9.0 (8.6–9.4)	8.9 (8.4–9.4)	↑
Endocrine and metabolic	6.0 (5.7–6.3)	6.1 (5.8–6.5)	6.1 (5.8–6.5)	6.2 (5.8–6.5)	6.4 (6.1–6.8)	6.5 (6.1–6.8)	6.9 (6.5–7.3)	6.1 (5.8–6.4)	6.5 (6.2–6.9)	6.3 (5.9–6.6)	—
Female genital system	6.1 (5.7–6.5)	5.1 (4.8–5.5)	5.0 (4.6–5.4)	5.1 (4.8–5.5)	5.1 (4.7–5.4)	5.2 (4.8–5.6)	5.3 (4.9–5.6)	4.7 (4.4–5.1)	5.0 (4.6–5.3)	4.8 (4.4–5.1)	↓
Neurological	5.7 (5.5–6.0)	5.3 (5.1–5.6)	5.1 (4.9–5.4)	4.9 (4.7–5.2)	4.9 (4.7–5.2)	4.8 (4.6–5.0)	4.8 (4.6–5.0)	4.4 (4.1–4.6)	4.6 (4.4–4.9)	4.5 (4.3–4.8)	↓
Ear	3.9 (3.8–4.1)	3.7 (3.5–3.9)	3.9 (3.7–4.1)	3.9 (3.7–4.1)	3.5 (3.4–3.7)	3.6 (3.4–3.8)	3.7 (3.5–3.9)	3.6 (3.4–3.8)	3.7 (3.5–3.9)	3.4 (3.3–3.6)	↓
Pregnancy and family planning	3.6 (3.3–3.9)	3.7 (3.4–3.9)	3.4 (3.2–3.6)	3.4 (3.1–3.6)	3.3 (3.0–3.6)	3.2 (3.0–3.5)	3.1 (2.8–3.3)	3.4 (3.2–3.7)	3.4 (3.1–3.7)	3.3 (3.1–3.6)	—
Urology	2.4 (2.3–2.6)	2.5 (2.4–2.7)	2.5 (2.4–2.7)	2.6 (2.5–2.8)	2.6 (2.4–2.7)	2.5 (2.4–2.7)	2.7 (2.5–2.8)	2.6 (2.5–2.8)	2.7 (2.6–2.9)	2.6 (2.4–2.7)	—

(continued)

Table 6.4 (continued): Patient reasons for encounter by ICPC-2 chapter, 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
ICPC-2 chapter	**2002–03 (*n* = 100,987)**	**2003–04 (*n* = 98,877)**	**2004–05 (*n* = 94,386)**	**2005–06 (*n* = 101,993)**	**2006–07 (*n* = 91,805)**	**2007–08 (*n* = 95,898)**	**2008–09 (*n* = 96,688)**	**2009–10 (*n* = 101,349)**	**2010–11 (*n* = 95,839)**	**2011–12 (*n* = 99,030)**	↑/↓ (a)
Eye	2.7 (2.5–2.9)	2.7 (2.6–2.8)	2.7 (2.6–2.9)	2.8 (2.6–2.9)	2.5 (2.4–2.7)	2.5 (2.4–2.6)	2.6 (2.4–2.7)	2.3 (2.2–2.5)	2.4 (2.3–2.6)	2.3 (2.1–2.4)	↓
Blood	1.0 (0.9–1.1)	1.3 (1.1–1.4)	1.2 (1.1–1.4)	1.2 (1.0–1.3)	1.2 (1.1–1.4)	1.4 (1.2–1.5)	1.4 (1.3–1.6)	1.4 (1.2–1.5)	1.6 (1.4–1.8)	1.7 (1.5–1.8)	↑
Male genital system	1.0 (0.9–1.1)	1.1 (1.0–1.1)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.2 (1.1–1.4)	1.3 (1.2–1.3)	1.2 (1.1–1.3)	↑
Social problems	1.0 (0.9–1.1)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.1 (1.0–1.2)	0.9 (0.9–1.0)	1.2 (1.1–1.3)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	—
Total RFEs	**150.9 (149.0–152.7)**	**150.2 (148.4–152.0)**	**149.6 (147.8–151.5)**	**150.3 (148.4–152.2)**	**150.8 (148.9–152.7)**	**153.0 (151.1–154.8)**	**156.5 (154.7–158.2)**	**155.0 (153.1–156.8)**	**155.5 (153.5–157.5)**	**154.7 (152.8–156.7)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; and — indicates there was no significant change in 2011–12 compared with 2002–03.

Note: CI – confidence interval; RFE – reason for encounter.

Table 6.5: Most frequent patient reasons for encounter, 2002–03 to 2011–12

Patient reason for encounter	Rate per 100 encounters (95% CI)										↑↓[(a)]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Check-up – all*	13.6 (12.9–14.2)	14.1 (13.4–14.8)	13.4 (12.8–14.0)	14.1 (13.4–14.8)	14.6 (13.9–15.2)	14.5 (13.8–15.1)	15.2 (14.5–15.8)	13.9 (13.3–14.5)	13.7 (13.0–14.3)	13.7 (13.0–14.3)	§
Prescription – all*	10.7 (10.2–11.3)	12.1 (11.5–12.7)	12.2 (11.5–12.8)	12.0 (11.3–12.7)	11.8 (11.2–12.4)	12.5 (11.9–13.2)	12.6 (12.0–13.2)	11.6 (11.0–12.2)	12.0 (11.4–12.7)	12.6 (11.9–13.3)	↑
Test results*	5.4 (5.0–5.7)	6.0 (5.7–6.4)	6.8 (6.4–7.2)	6.5 (6.1–6.9)	6.9 (6.5–7.3)	7.6 (7.2–8.1)	7.8 (7.4–8.2)	8.1 (7.7–8.6)	8.0 (7.5–8.5)	8.5 (8.1–9.0)	↑
Cough	6.7 (6.3–7.2)	6.2 (5.8–6.6)	5.9 (5.5–6.2)	6.4 (6.0–6.8)	5.8 (5.4–6.2)	6.2 (5.8–6.7)	6.8 (6.3–7.2)	6.9 (6.4–7.3)	6.7 (6.3–7.1)	6.7 (6.2–7.1)	—
Immunisation/vaccination – all*	4.7 (4.3–5.1)	4.4 (4.0–4.9)	4.3 (3.9–4.8)	4.8 (4.4–5.2)	4.3 (3.9–4.7)	4.8 (4.4–5.1)	5.3 (4.8–5.7)	6.5 (5.9–7.0)	4.8 (4.4–5.3)	4.2 (3.8–4.6)	§
Throat complaint	3.8 (3.5–4.1)	3.4 (3.1–3.6)	3.5 (3.3–3.8)	3.3 (3.0–3.5)	3.3 (3.1–3.6)	3.3 (3.0–3.6)	3.2 (2.9–3.5)	2.9 (2.7–3.2)	3.1 (2.8–3.4)	3.2 (2.9–3.5)	↓
Back complaint*	3.5 (3.3–3.8)	3.5 (3.2–3.7)	3.4 (3.2–3.6)	3.4 (3.2–3.7)	3.2 (3.0–3.4)	3.2 (3.0–3.4)	3.1 (2.9–3.3)	3.1 (2.9–3.3)	3.1 (3.0–3.3)	3.1 (2.9–3.3)	↓
Administrative procedure – all*	1.6 (1.5–1.8)	1.8 (1.6–1.9)	1.7 (1.5–1.8)	1.7 (1.5–1.8)	1.8 (1.7–2.0)	2.3 (2.2–2.5)	2.4 (2.2–2.6)	2.4 (2.2–2.6)	2.6 (2.4–2.8)	2.9 (2.7–3.2)	↑
Blood test – all*	2.1 (1.9–2.3)	2.1 (2.0–2.3)	2.2 (2.0–2.4)	2.3 (2.1–2.5)	2.5 (2.3–2.7)	2.6 (2.4–2.8)	2.8 (2.6–3.1)	2.4 (2.2–2.7)	2.6 (2.4–2.8)	2.8 (2.6–3.1)	↑
Rash*	2.8 (2.6–2.9)	2.8 (2.6–2.9)	2.9 (2.7–3.1)	2.6 (2.5–2.8)	2.8 (2.6–3.0)	2.5 (2.3–2.6)	2.6 (2.5–2.8)	2.4 (2.2–2.6)	2.7 (2.5–2.9)	2.6 (2.5–2.8)	—
Depression*	1.9 (1.7–2.0)	1.8 (1.7–1.9)	1.9 (1.7–2.0)	1.9 (1.7–2.0)	1.9 (1.8–2.1)	2.0 (1.9–2.2)	2.1 (1.9–2.2)	2.2 (2.0–2.3)	2.2 (2.1–2.4)	2.2 (2.0–2.3)	↑
Upper respiratory tract infection	2.2 (1.9–2.4)	1.9 (1.7–2.1)	1.7 (1.5–2.0)	2.4 (2.0–2.7)	2.4 (2.1–2.7)	2.2 (2.0–2.5)	2.3 (2.0–2.6)	2.2 (1.9–2.5)	2.0 (1.8–2.3)	1.9 (1.7–2.1)	—
Fever	2.2 (1.9–2.5)	1.9 (1.7–2.1)	1.8 (1.6–2.0)	2.2 (1.9–2.5)	1.8 (1.6–2.0)	2.1 (1.8–2.5)	1.9 (1.7–2.1)	2.2 (2.0–2.5)	2.0 (1.8–2.3)	1.9 (1.7–2.1)	—

(continued)

Table 6.5 (continued): Most frequent patient reasons for encounter, 2002–03 to 2011–12

Patient reason for encounter	Rate per 100 encounters (95% CI)										
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[(a)]
Abdominal pain*	1.9 (1.8–2.1)	2.0 (1.9–2.2)	1.9 (1.8–2.0)	1.8 (1.7–1.9)	1.8 (1.7–1.9)	1.8 (1.6–1.9)	1.7 (1.6–1.9)	1.6 (1.5–1.7)	1.8 (1.7–1.9)	1.8 (1.7–2.0)	—
Hypertension/high blood pressure*	1.8 (1.6–2.0)	1.9 (1.6–2.1)	1.7 (1.5–1.9)	1.9 (1.6–2.1)	2.1 (1.8–2.5)	2.1 (1.8–2.3)	2.1 (1.9–2.4)	2.0 (1.7–2.3)	1.9 (1.7–2.2)	1.8 (1.5–2.0)	—
Observation/health education/advice/diet– all*	1.2 (1.1–1.3)	1.4 (1.3–1.5)	1.5 (1.3–1.7)	1.4 (1.3–1.6)	1.7 (1.5–1.8)	1.8 (1.6–2.0)	1.6 (1.5–1.8)	1.9 (1.7–2.1)	1.8 (1.5–2.1)	1.6 (1.5–1.8)	↑
Skin symptom/complaint, other	1.3 (1.2–1.5)	1.4 (1.2–1.5)	1.5 (1.3–1.6)	1.4 (1.3–1.5)	1.4 (1.3–1.5)	1.4 (1.3–1.5)	1.5 (1.4–1.6)	1.6 (1.5–1.7)	1.5 (1.4–1.7)	1.6 (1.4–1.7)	—
Headache	2.1 (1.9–2.3)	1.8 (1.6–1.9)	1.7 (1.6–1.8)	1.7 (1.6–1.8)	1.6 (1.4–1.7)	1.6 (1.5–1.8)	1.6 (1.4–1.7)	1.5 (1.4–1.6)	1.4 (1.3–1.6)	1.5 (1.4–1.7)	↓
Sneezing/nasal congestion	1.7 (1.4–2.0)	1.3 (1.1–1.5)	1.4 (1.2–1.6)	1.3 (1.1–1.6)	1.1 (0.9–1.2)	1.4 (1.2–1.6)	1.3 (1.1–1.5)	1.6 (1.3–1.8)	1.4 (1.2–1.7)	1.5 (1.3–1.7)	—
Weakness/tiredness	1.5 (1.3–1.6)	1.5 (1.4–1.6)	1.7 (1.5–1.8)	1.3 (1.2–1.4)	1.4 (1.2–1.5)	1.4 (1.2–1.5)	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.3 (1.2–1.5)	1.4 (1.3–1.5)	—
Knee symptom/complaint	1.3 (1.2–1.4)	1.4 (1.3–1.5)	1.4 (1.3–1.5)	1.4 (1.3–1.5)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.4 (1.2–1.5)	1.3 (1.2–1.4)	1.4 (1.3–1.5)	—
Diarrhoea	1.6 (1.4–1.7)	1.4 (1.3–1.6)	1.4 (1.3–1.5)	1.3 (1.2–1.4)	1.3 (1.2–1.5)	1.4 (1.3–1.6)	1.3 (1.2–1.4)	1.2 (1.1–1.4)	1.2 (1.1–1.3)	1.4 (1.2–1.5)	—
Ear pain/earache	1.7 (1.5–1.8)	1.6 (1.4–1.7)	1.6 (1.5–1.7)	1.6 (1.5–1.7)	1.4 (1.3–1.5)	1.4 (1.3–1.5)	1.4 (1.3–1.6)	1.3 (1.2–1.4)	1.5 (1.3–1.6)	1.3 (1.2–1.4)	↓
Diabetes – all*	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.3 (1.1–1.4)	1.2 (1.1–1.4)	1.2 (1.0–1.3)	1.4 (1.3–1.6)	1.3 (1.1–1.4)	↑
Shoulder symptom/complaint	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.3 (1.1–1.4)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.0 (0.9–1.1)	1.4 (1.3–1.5)	1.1 (1.0–1.3)	1.2 (1.1–1.2)	1.2 (1.1–1.3)	—
Anxiety*	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.2 (1.0–1.3)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.3)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	↑
Other referrals NEC	0.7 (0.6–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.0)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	↑

(continued)

Table 6.5 (continued): Most frequent patient reasons for encounter, 2002–03 to 2011–12

Patient reasons for encounter	Rate per 100 encounters (95% CI)										
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓ (a)
Foot/toe complaint	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.2 (1.1–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.1)	1.1 (1.0–1.1)	1.1 (1.0–1.2)	—
Vertigo/dizziness	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.1 (1.1–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.0 (0.9–1.0)	1.1 (1.1–1.2)	1.1 (1.0–1.2)	—
Swelling (skin)*	1.0 (1.0–1.1)	1.1 (1.0–1.3)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	—
Sleep disturbance	1.1 (1.0–1.3)	1.1 (1.0–1.2)	1.2 (1.1–1.4)	1.1 (1.0–1.2)	1.1 (1.0–1.1)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	—
Leg/thigh complaint	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.0 (1.0–1.1)	0.9 (0.8–1.0)	1.0 (1.0–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.9–1.0)	↓
Chest pain	1.1 (1.0–1.2)	1.3 (1.2–1.4)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.1 (1.0–1.1)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.9 (0.9–1.0)	0.9 (0.8–1.0)	↓
Other reason for encounter NEC	1.0 (0.8–1.2)	1.1 (0.9–1.2)	1.0 (0.9–1.2)	1.0 (0.8–1.1)	1.0 (0.9–1.2)	0.7 (0.6–0.9)	0.8 (0.7–1.0)	0.9 (0.8–1.0)	1.0 (0.8–1.1)	0.9 (0.7–1.1)	—
Vomiting	1.1 (1.0–1.2)	1.1 (1.0–1.3)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	↓
Neck complaint	1.1 (1.0–1.2)	0.9 (0.9–1.0)	1.0 (0.9–1.2)	0.9 (0.8–1.1)	0.9 (0.8–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.8 (0.7–1.0)	0.8 (0.8–0.9)	0.8 (0.7–0.9)	**↓**
Oral contraception*	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	—
Asthma	1.1 (0.9–1.2)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.6 (0.6–0.7)	**↓**
Total RFEs	**150.9 (149.0–152.7)**	**150.2 (148.4–152.0)**	**149.6 (147.8–151.5)**	**150.3 (148.4–152.2)**	**150.8 (148.9–152.7)**	**153.0 (151.1–154.8)**	**156.5 (154.7–158.2)**	**155.0 (153.1–156.8)**	**155.5 (153.5–157.5)**	**154.7 (152.8–156.7)**	**↑**

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: **↑/↓** indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; NOS – not otherwise specified; RFE – reason for encounter; NEC – not elsewhere classified. Includes only RFEs recorded in at least one year at a rate >= 1.0 per 100 encounters.

7 Problems managed

A 'problem managed' is a formal statement of the provider's understanding of a health problem presented by the patient, family or community, and can be described in terms of a disease, symptom or complaint, social problem, or ill-defined condition managed at the encounter. As GPs were instructed to record each problem at the most specific level possible from the information available, the problem managed may at times be limited to the level of a presenting symptom.

At each patient encounter, up to four problems could be recorded by the GP. A minimum of one problem was compulsory. The status of each problem to the patient – new (first presentation to a medical practitioner) or old (follow-up of previously managed problem) – was also indicated. The concept of a principal diagnosis, which is often used in hospital statistics, is not adopted in studies of general practice where multiple problem management is the norm rather than the exception. Further, the range of problems managed at the encounter often crosses multiple body systems and may include undiagnosed symptoms, psychosocial problems, chronic disease or preventive health, which makes the designation of a principal diagnosis difficult. Thus the order in which the problems were recorded by the GP is not significant.

This chapter includes data about the problems managed in general practice from each of the most recent ten years of the BEACH study from 2002–03 to 2011–12. The direction and type of change from 2002–03 to 2011–12 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Significant changes in the rate per 100 encounters can be extrapolated to estimate the national increase or decrease in the measured event between 2002–03 and 2011–12. Examples of extrapolated change are given. The method used to extrapolate to national change estimates is described in Section 2.9. The number of GP–patient encounters claimed through the MBS nationally increased by 25.6 million (26.4%) between 2002–03 (96.9 million encounters) and 2011–12 (122.5 million encounters). As a result, a decreased rate of a particular 'measured event' per 100 encounters may occasionally yield a national increased absolute number of those events.

More detailed analyses of 'problems managed' by participating GPs in the 2011–12 BEACH year can be found in the companion report *General practice activity in Australia 2011–12*.[1]

There are two ways to describe the relative frequency of problems managed: as a percentage of all problems managed in the study, or as a rate of problems managed per 100 encounters. Where groups of problems are reported (for example, cardiovascular problems), it must be remembered that more than one of that type of problem (such as hypertension and heart failure) may have been managed at a single encounter. In considering these results, the reader must be mindful that a rate per 100 encounters for a single ungrouped problem, for example 'asthma, 2.2 per 100 encounters,' can be regarded as equivalent to 'asthma is managed at 2.2% of encounters', and can be extrapolated (with the methods described in Section 2.9) to accurately estimate the number of national encounters involving management of the selected problem. This is not the case for grouped concepts (ICPC-2 chapters and those marked with asterisks in the tables) for which extrapolations represent the number of

problem contacts involving the management of any of the problems within the group at general practice encounters nationally. In these cases an extrapolated result may be an overestimate of the number of encounters involving management of these problems. This is because multiple problems (within the selected group) can be recorded within a single encounter. In order to estimate the number of encounters nationally that involve management of the grouped concept the extrapolation would have to be based on the proportion of encounters involving at least one of the concepts within the group.

7.1 Number of problems managed

GPs are asked to record information about the management of up to four problems at each encounter. Table 7.1 shows the number of problems managed at encounters over the decade. There were increases in the proportion of encounters at which two, three and four problems were managed, and a decrease in encounters where only one problem was managed. When extrapolated to all GP–patient encounters in Australia, this suggests there were about 8.6 million more occasions where two problems were managed, 3.8 million more occasions where three problems were managed, and 2.1 million more occasions where four problems were managed by GPs in Australia in 2011–12 than in 2002–03.

This resulted in a significant increase in the average number of problems managed at encounter, from 144.9 per 100 encounters in 2002–03 to 153.8 in 2011–12 (Table 7.2). This suggests there were an additional 48.0 million problems managed at GP–patient encounters in Australia in 2011–12 than in 2002–03. This was reflected in a significant increase in the management rate of chronic conditions (Table 7.6).

7.2 Problems managed by ICPC-2 component

Problems managed in general practice may also be examined using the components of the ICPC-2 classification to provide a better understanding of the types of problems managed during general practice encounters. Table 7.2 provides the distribution of problems managed by ICPC-2 component.

There were significant increases in the management rate of problems described and classified as 'diagnosis, diseases', 'results' and 'administrative procedures' between 2002–03 and 2011–12 (Table 7.2). Extrapolated to the national general practice encounters, these increases represent about:

- 32.8 million additional contacts with problems classified as 'diagnosis, diseases' in 2011–12 than in 2002–03
- 1.1 million more test result contacts in 2011–12 than in 2002–03
- 1.1 million more contacts with problems classified as 'administrative' in 2011–12 than in 2002–03.

The management rate of problems described and classified as 'diagnostic and preventive procedures' showed changes across the decade.

There were significant changes in the rates of the subtypes of 'diagnosis, diseases': the management of problems classified as 'other diagnoses, diseases' increased from 2002–03 to 2011–12, and problems classified as 'infections' decreased from 2002–03 to 2011–12.

There was no change in the management rate of problems described and classified as 'symptoms and complaints' and 'medications, treatments and therapeutics'. There was a marginal decrease in the rate of problems classified as 'referrals and other reason for encounter' (Table 7.2).

7.3 Problems managed by ICPC-2 chapter and individual problems managed

Problems managed at general practice encounters classified by ICPC-2 chapter are described in Table 7.3 for all years from 2002–03 to 2011–12. Problems related to the respiratory system remained the most common type of problem managed since 2002–03, and although there was no significant change in their management rate comparing 2002–03 with 2011–12, there were changes during the decade: increasing from 2007–08 to 2008–09, then decreasing from 2009–10 to 2010–11. It is likely that the increase in the management rate in 2009–10 was related to the concern regarding H1N1 influenza. A similar pattern of change is shown in the management rate of immunisation/vaccination problems (described in Table 7.4).

There were significant increases in the management rate of problems classified as 'general and unspecified', 'endocrine and metabolic', 'psychological', 'digestive', and 'male genital system' (Table 7.3). When extrapolated to general practice encounters across Australia, these changes represent:

- 7.4 million more contacts with problems classified as 'general and unspecified' in 2011–12 than in 2002–03
- 6.2 million more contacts with endocrine and metabolic problems
- 5.9 million more contacts with psychological problems
- 3.8 million more contacts with digestive problems
- 850,000 more contacts with problems classified to the male genital system.

There were significant decreases in the management rate of problems classified as 'female genital system' and 'neurological' (Table 7.3). When extrapolated to general practice encounters across Australia, these changes represent:

- 340,000 more contacts with problems classified to the female genital system in 2011–12 than in 2002–03 (which is about 1.3 million fewer than the 1.7 million expected if the rate had been constant)
- 340,000 more contacts with neurological problems in 2011–12 than in 2002–03 (which is about 740,000 fewer than the 1.1 million expected if the rate had been constant).

The individual problems managed most frequently are described in Table 7.4, which demonstrates that in all years 2002–03 to 2011–12 the most frequently managed were hypertension, check-up, immunisation/vaccination, and upper respiratory tract infection.

There were noteworthy changes across the decade in some of the most frequently managed problems, described in Table 7.4.

- The management rate of immunisation/vaccinations did not change between 2002–03 (4.6 per 100 encounters) and 2011–12 (4.7). However there was a significant spike in 2009–10 (7.3 per 100) that coincided with the concern about H1N1 influenza.
- Although the management rate of depression significantly increased between 2002–03 and 2008–09, it remained steady in subsequent years.

There were statistically significant increases in the management rates of general check-ups, depression, diabetes, osteoarthritis, lipid disorders, oesophageal disease, anxiety, test results, pregnancy, atrial fibrillation, vitamin/nutritional deficiency, administrative procedures and abnormal test results. When extrapolated to the general practice encounters across Australia, these changes represent:

- 1.6 million more general check-ups in 2011–12 than in 2002–03. The availability of MBS items for health assessments including the annual assessment of patients aged 75 years and over, the health assessment for 45–49 year olds at-risk of developing chronic disease and the assessment of 40–49 year olds at-risk of Type 2 diabetes;[55] are likely to have contributed to the increased rate of general check-ups.
- 2.0 million more occasion of depression management
- 2.3 million more occasion of diabetes management
- 1.2 million more osteoarthritis contacts
- 1.4 million more management contacts with lipid disorders
- 1.5 million more occasion of oesophageal disease management
- 870,000 more anxiety contacts
- 1.1 million more contacts for test results and 790,000 more contacts for abnormal test results. These increases are not surprising considering the 43% increase in the rate of pathology ordering (per 100 encounters) over the decade (see Chapter 12).
- 820,000 more contacts for the management of pregnancy
- 1.1 million more management occasions for atrial fibrillation
- 1.2 million more contacts with vitamin/nutritional deficiency problems
- 1.1 million more contacts for administrative procedures.

In contrast, there were significant decreases over the decade in the management rate of asthma, acute otitis media and menopausal problems managed. When extrapolated to general practice encounters across Australia, these changes represent:

- 170,000 fewer asthma contacts in 2011–12 than a decade earlier. This is about 860,000 fewer than expected if the management rate had remained constant, given the increased absolute number of attendances
- 30,000 fewer otitis media contacts. This is about 370,000 fewer than expected if the rate had remained constant given the increased absolute number of attendances
- 600,000 fewer contacts with menopausal problems in 2011–12 than in 2002–03. This is about 980,000 fewer than expected if the rate had remained constant.

7.4 Most common new problems

There was no change in the management rate of all new problems over the decade. Table 7.5 shows the most frequently managed new problems between 2002–03 and 2011–12.

The most common new problems managed in general practice in all years were upper respiratory tract infection, immunisation/vaccination, check-up and acute bronchitis/bronchiolitis. Only four significant changes in the management rate of the most common new problems were identified when comparing 2011–12 with 2002–03.

The management rate of new check-ups increased significantly (from 2.2 to 2.9 per 100 encounters) and is likely due to the ageing population and new MBS items for check-ups (as discussed above). When extrapolated, this increase represents 1.4 million additional occasions where a check-up was managed as a new problem in Australia in 2011–12 compared with 2002–03.

The rate of new immunisation/vaccination did not change between 2002–03 and 2011–12, however there was a spike in the rate in 2009–10 that coincides with the concern regarding H1N1 influenza (as discussed above).

7.5 Most frequently managed chronic problems

Table 7.6 shows the most frequently managed chronic problems between 2002–03 and 2011–12. The management rate of chronic conditions significantly increased from 49.0 per 100 encounters in 2002–03 to 55.6 per 100 in 2011–12, suggesting approximately 20.6 million more contacts with chronic problems in Australia in 2011–12 than in 2002–03. The most common chronic problems managed were non-gestational hypertension, depressive disorder, non-gestational diabetes, chronic arthritis and lipid disorders.

The increases in the management rate of the chronic conditions depression, diabetes, oesophageal disease and atrial fibrillation may be related to increases in the proportion of GP–patient encounters accounted for by older patients over the study period (see Chapter 6). The Australian Government has invested considerable resources in the prevention and management of chronic disease (such as the National Chronic Disease Strategy,[56] and MBS items for chronic disease management).[55] A major reason for this focus is the ageing population[57] and the associated expected fiscal pressures (especially healthcare costs).[6]

From 2002–03 to 2011–12, there were significant increases in the management rates of depressive disorder, non-gestational diabetes, lipid disorders, oesophageal disease, atrial fibrillation and hypothyroidism. There were also significant decreases in the management rates of asthma and heart failure (Table 7.6). Many of the changes noted in Table 7.6 are also apparent in Table 7.4.

Table 7.1: Number of problems managed at encounter, 2002–03 to 2011–12

Number of problems managed at encounter	Per cent of encounters (95% CI)										
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[(a)]
One problem	66.9 (65.8–68.1)	66.2 (65.0–67.3)	66.5 (65.3–67.7)	66.4 (65.1–67.6)	65.0 (63.7–66.2)	63.0 (61.7–64.3)	60.8 (59.6–61.9)	62.2 (60.9–63.5)	62.6 (61.2–63.9)	62.1 (60.8–63.4)	↓
Two problems	23.4 (22.6–24.1)	23.8 (23.1–24.5)	23.6 (22.9–24.3)	23.4 (22.7–24.1)	24.0 (23.3–24.8)	25.4 (24.7–26.2)	26.7 (26.1–27.4)	25.4 (24.7–26.1)	25.4 (24.6–26.1)	25.5 (24.7–26.2)	↑
Three problems	7.6 (7.2–8.0)	7.7 (7.2–8.1)	7.7 (7.3–8.2)	7.9 (7.4–8.4)	8.5 (8.1–9.0)	8.8 (8.3–9.3)	9.7 (9.2–10.1)	9.2 (8.7–9.7)	9.2 (8.6–9.7)	9.1 (8.6–9.6)	↑
Four problems	2.1 (1.7–2.5)	2.4 (2.0–2.8)	2.2 (1.8–2.5)	2.3 (2.1–2.6)	2.5 (2.2–2.7)	2.7 (2.4–3.0)	2.8 (2.6–3.1)	3.2 (2.8–3.5)	2.9 (2.6–3.3)	3.4 (3.0–3.8)	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03.

Note: CI – confidence interval.

Table 7.2: Problems managed by ICPC-2 component, 2002–03 to 2011–12

ICPC-2 chapter	Rate per 100 encounters (95% CI)										↑/↓ (a)
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Diagnosis, diseases	97.8 (96.2–99.5)	99.2 (97.4–100.9)	98.8 (97.1–100.6)	100.2 (98.3–102.0)	101.3 (99.6–103.0)	102.6 (100.7–104.4)	105.3 (103.6–107.0)	102.1 (100.2–104.1)	101.1 (99.1–103.0)	104.1 (102.1–106.1)	↑
Infections	26.4 (25.7–27.2)	25.4 (24.6–26.2)	24.5 (23.8–25.2)	25.9 (25.1–26.6)	24.6 (23.9–25.4)	25.0 (24.2–25.7)	25.0 (24.3–25.7)	24.9 (24.1–25.7)	24.8 (24.0–25.5)	24.7 (24.0–25.5)	↓
Injuries	7.5 (7.2–7.8)	7.2 (6.9–7.5)	7.3 (7.0–7.6)	7.4 (7.0–7.7)	7.5 (7.2–7.7)	7.3 (7.0–7.7)	7.2 (6.9–7.4)	6.9 (6.6–7.2)	7.1 (6.8–7.3)	7.6 (7.3–7.9)	—
Neoplasms	3.7 (3.4–4.0)	4.3 (3.9–4.7)	4.3 (3.9–4.7)	4.1 (3.8–4.3)	4.5 (4.2–4.9)	4.5 (4.1–4.9)	4.7 (4.4–5.0)	4.7 (4.3–5.0)	4.3 (4.1–4.6)	4.2 (3.9–4.5)	—
Congenital anomalies	0.6 (0.6–0.7)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.7 (0.6–0.8)	—
Other diagnoses, diseases	59.6 (57.9–61.3)	61.7 (59.9–63.4)	62.0 (60.2–63.7)	62.2 (60.3–64.0)	63.9 (62.2–65.7)	65.0 (63.0–66.9)	67.8 (66.1–69.5)	65.0 (63.0–67.0)	64.2 (62.3–66.1)	66.9 (64.9–69.0)	↑
Symptoms and complaints	26.7 (25.9–27.5)	26.4 (25.6–27.2)	26.4 (25.6–27.3)	25.7 (24.9–26.5)	26.7 (25.9–27.5)	27.8 (27.0–28.6)	27.6 (26.8–28.4)	26.8 (26.0–27.6)	28.2 (27.4–29.1)	27.9 (27.0–28.8)	—
Diagnostic and preventive procedures	13.5 (12.8–14.2)	13.6 (12.9–14.4)	13.3 (12.6–14.0)	13.7 (13.1–14.4)	13.8 (13.0–14.5)	14.2 (13.5–14.8)	14.9 (14.2–15.7)	16.9 (16.0–17.7)	15.1 (14.3–15.9)	14.0 (13.3–14.7)	§
Medications, treatments and therapeutics	3.6 (3.3–3.8)	4.0 (3.6–4.3)	3.6 (3.3–3.9)	3.2 (3.0–3.5)	3.2 (2.9–3.5)	2.9 (2.7–3.2)	3.3 (3.0–3.6)	3.4 (3.1–3.8)	3.7 (3.4–4.1)	3.4 (3.1–3.7)	—
Results	1.1 (0.9–1.2)	1.2 (1.1–1.4)	1.4 (1.3–1.5)	1.4 (1.3–1.6)	1.6 (1.4–1.7)	1.8 (1.6–1.9)	1.5 (1.4–1.7)	1.8 (1.6–2.0)	1.9 (1.7–2.1)	1.8 (1.6–2.0)	↑
Referrals and other RFEs	1.7 (1.5–1.9)	1.3 (1.1–1.4)	1.3 (1.2–1.5)	1.2 (1.1–1.4)	1.3 (1.2–1.5)	1.2 (1.0–1.3)	1.0 (0.9–1.1)	1.3 (1.1–1.4)	1.3 (1.1–1.5)	1.3 (1.1–1.5)	↓
Administrative	0.5 (0.5–0.6)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.1 (1.0–1.3)	1.3 (1.1–1.4)	↑
Total problems	**144.9 (143.0–146.8)**	**146.3 (144.4–148.2)**	**145.5 (143.6–147.4)**	**146.2 (144.2–148.2)**	**148.5 (146.4–150.6)**	**151.3 (149.2–153.4)**	**154.6 (152.6–156.5)**	**153.3 (151.1–155.5)**	**152.5 (150.2–154.7)**	**153.8 (151.4–156.1)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Note: CI – confidence interval; RFE – reason for encounter.

Table 7.3: Problems managed by ICPC-2 chapter, 2002–03 to 2011–12

ICPC-2 chapter	Rate per 100 encounters (95% CI)										↑↓[a]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Respiratory	20.6 (20.0–21.3)	20.1 (19.5–20.7)	19.2 (18.6–19.9)	20.6 (19.9–21.3)	19.6 (18.9–20.3)	19.5 (18.8–20.1)	20.8 (20.2–21.5)	22.2 (21.4–22.9)	20.4 (19.7–21.1)	20.0 (19.3–20.7)	§
General and unspecified	15.7 (15.2–16.3)	14.9 (14.4–15.5)	15.1 (14.5–15.7)	15.1 (14.5–15.7)	16.2 (15.6–16.8)	17.8 (17.1–18.5)	17.0 (16.4–17.6)	19.4 (18.6–20.1)	19.2 (18.4–20.0)	18.5 (17.8–19.2)	↑
Skin	16.5 (16.0–17.0)	16.9 (16.2–17.6)	17.3 (16.6–18.0)	16.7 (16.1–17.2)	17.6 (16.9–18.2)	17.2 (16.5–17.9)	17.0 (16.5–17.5)	16.5 (15.9–17.1)	16.7 (16.2–17.2)	16.7 (16.1–17.2)	—
Cardiovascular	16.0 (15.3–16.7)	16.8 (16.1–17.5)	16.2 (15.5–16.9)	16.9 (16.1–17.7)	17.4 (16.7–18.1)	17.6 (16.8–18.3)	18.5 (17.8–19.3)	16.7 (16.0–17.4)	16.6 (15.9–17.4)	17.2 (16.4–18.0)	§
Musculoskeletal	17.1 (16.5–17.6)	17.1 (16.6–17.6)	17.7 (17.1–18.2)	17.2 (16.7–17.7)	17.1 (16.6–17.6)	17.3 (16.7–17.8)	17.3 (16.8–17.8)	16.8 (16.1–17.6)	16.6 (16.1–17.1)	17.4 (16.9–17.9)	—
Endocrine and metabolic	10.7 (10.2–11.1)	11.3 (10.8–11.8)	11.8 (11.2–12.3)	11.6 (11.0–12.2)	12.1 (11.6–12.6)	12.9 (12.4–13.5)	13.5 (13.0–14.1)	12.7 (12.1–13.2)	12.8 (12.2–13.4)	13.5 (13.0–14.1)	↑
Psychological	10.3 (9.8–10.8)	10.8 (10.3–11.4)	11.4 (10.8–12.0)	11.1 (10.5–11.7)	10.9 (10.5–11.4)	11.5 (10.9–12.0)	12.4 (11.9–12.9)	12.1 (11.6–12.7)	12.3 (11.8–12.9)	13.0 (12.3–13.6)	↑
Digestive	10.1 (9.8–10.4)	10.5 (10.2–10.8)	9.9 (9.6–10.2)	10.1 (9.8–10.4)	10.4 (10.1–10.7)	10.7 (10.4–11.1)	10.5 (10.2–10.8)	10.7 (10.3–11.0)	10.6 (10.3–10.9)	11.1 (10.8–11.4)	↑
Female genital system	6.6 (6.2–7.0)	5.9 (5.5–6.3)	5.7 (5.3–6.1)	5.8 (5.4–6.2)	5.7 (5.3–6.1)	5.8 (5.4–6.2)	6.1 (5.7–6.6)	5.5 (5.1–5.8)	5.5 (5.2–5.9)	5.5 (5.1–5.8)	↓
Pregnancy and family planning	4.2 (3.9–4.5)	4.2 (3.9–4.5)	3.8 (3.6–4.1)	3.8 (3.6–4.1)	3.9 (3.6–4.2)	3.9 (3.6–4.2)	3.7 (3.4–3.9)	3.8 (3.6–4.1)	3.9 (3.6–4.2)	3.8 (3.6–4.1)	—
Ear	4.0 (3.8–4.2)	4.0 (3.8–4.1)	4.1 (3.9–4.2)	4.0 (3.8–4.2)	3.8 (3.6–3.9)	3.8 (3.6–3.9)	3.9 (3.7–4.1)	3.7 (3.5–3.8)	3.9 (3.7–4.1)	3.7 (3.5–3.8)	↓
Neurological	4.2 (4.0–4.4)	3.9 (3.8–4.1)	3.6 (3.5–3.8)	3.6 (3.4–3.8)	3.7 (3.6–3.9)	3.6 (3.4–3.7)	3.8 (3.6–3.9)	3.5 (3.3–3.6)	3.7 (3.6–3.9)	3.6 (3.4–3.8)	↓
Urology	2.8 (2.7–3.0)	3.0 (2.9–3.2)	3.0 (2.9–3.2)	3.1 (2.9–3.2)	3.1 (3.0–3.3)	3.1 (3.0–3.3)	3.3 (3.2–3.5)	3.2 (3.1–3.4)	3.2 (3.1–3.4)	3.2 (3.0–3.3)	↑
Eye	2.6 (2.5–2.7)	2.7 (2.6–2.9)	2.7 (2.5–2.8)	2.8 (2.6–2.9)	2.7 (2.5–2.8)	2.6 (2.4–2.7)	2.7 (2.6–2.8)	2.5 (2.3–2.6)	2.5 (2.4–2.6)	2.4 (2.3–2.6)	—

(continued)

Table 7.3 (continued): Problems managed by ICPC-2 chapter, 2002–03 to 2011–12

ICPC-2 chapter	Rate per 100 encounters (95% CI) 2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[(a)]
Male genital system	1.4 (1.3–1.5)	1.6 (1.5–1.7)	1.8 (1.6–1.9)	1.9 (1.7–2.0)	1.8 (1.7–2.0)	1.8 (1.7–1.9)	2.0 (1.9–2.2)	1.9 (1.7–2.0)	1.9 (1.7–2.0)	1.8 (1.7–2.0)	↑
Blood	1.4 (1.3–1.5)	1.7 (1.5–1.8)	1.6 (1.4–1.8)	1.5 (1.4–1.6)	1.7 (1.5–1.9)	1.6 (1.5–1.8)	1.5 (1.3–1.6)	1.5 (1.4–1.6)	1.6 (1.5–1.7)	1.7 (1.5–1.8)	↑
Social problems	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.6 (0.5–0.7)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	—
Total problems	**144.9 (143.0–146.8)**	**146.3 (144.4–148.2)**	**145.5 (143.6–147.4)**	**146.2 (144.2–148.2)**	**148.5 (146.4–150.6)**	**151.3 (149.2–153.4)**	**154.6 (152.6–156.5)**	**153.3 (151.1–155.5)**	**152.5 (150.2–154.7)**	**153.8 (151.4–156.1)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Note: CI – confidence interval.

Table 7.4: Most frequently managed problems, 2002–03 to 2011–12

Problem managed	Rate per 100 encounters (95% CI) 2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[(a)]
Hypertension*	8.8 (8.4–9.3)	9.2 (8.7–9.7)	8.9 (8.4–9.4)	9.4 (8.9–10.0)	9.6 (9.1–10.0)	9.9 (9.4–10.5)	10.1 (9.6–10.6)	9.1 (8.6–9.6)	8.7 (8.2–9.2)	9.1 (8.5–9.6)	—
Check-up – all*	6.4 (6.0–6.8)	6.4 (5.9–6.9)	6.3 (5.9–6.7)	6.4 (6.0–6.8)	6.6 (6.2–7.0)	6.3 (6.0–6.7)	6.7 (6.3–7.1)	6.6 (6.3–7.0)	6.4 (6.1–6.8)	6.4 (6.0–6.8)	—
General check-up*	1.9 (1.8–2.1)	1.8 (1.7–2.0)	2.1 (1.9–2.2)	2.1 (1.9–2.2)	2.4 (2.2–2.6)	2.5 (2.3–2.7)	2.5 (2.3–2.7)	3.0 (2.7–3.2)	2.7 (2.5–2.9)	2.8 (2.6–3.0)	↑
Female genital check-up/Pap smear*	1.8 (1.6–2.0)	1.8 (1.6–2.0)	1.8 (1.6–2.0)	1.8 (1.6–2.0)	1.7 (1.5–1.9)	1.8 (1.6–2.0)	2.0 (1.8–2.3)	1.7 (1.5–1.9)	1.7 (1.5–1.9)	1.7 (1.5–1.9)	—
Cardiovascular check-up*	1.1 (0.9–1.2)	1.2 (1.0–1.3)	1.0 (0.9–1.1)	1.2 (1.0–1.3)	1.3 (1.1–1.5)	1.2 (1.0–1.4)	1.3 (1.1–1.5)	1.0 (0.8–1.1)	1.1 (1.0–1.3)	1.0 (0.9–1.2)	—

(continued)

Table 7.4 (continued): Most frequently managed problems, 2002–03 to 2011–12

Problem managed	Rate per 100 encounters (95% CI)										↑↓[(a)]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Immunisation/ vaccination – all*	4.6 (4.3–5.0)	4.7 (4.3–5.2)	4.6 (4.2–5.1)	5.0 (4.6–5.4)	4.7 (4.3–5.2)	5.2 (4.8–5.6)	5.7 (5.2–6.2)	7.3 (6.7–7.8)	5.5 (5.0–6.0)	4.7 (4.2–5.1)	§
Upper respiratory tract infection	6.4 (6.0–6.8)	5.5 (5.1–5.8)	5.6 (5.2–5.9)	6.2 (5.8–6.6)	5.8 (5.3–6.2)	6.2 (5.7–6.7)	6.1 (5.7–6.6)	6.0 (5.5–6.4)	5.4 (5.1–5.8)	6.0 (5.5–6.4)	—
Depression*	3.5 (3.3–3.7)	3.6 (3.4–3.9)	3.7 (3.5–3.9)	3.6 (3.4–3.8)	3.7 (3.5–3.9)	4.0 (3.8–4.2)	4.3 (4.0–4.5)	4.3 (4.0–4.5)	4.2 (4.0–4.4)	4.4 (4.1–4.7)	↑
Diabetes – all*	2.9 (2.7–3.1)	3.3 (3.1–3.5)	3.2 (3.0–3.4)	3.5 (3.3–3.8)	3.6 (3.4–3.9)	3.9 (3.6–4.1)	4.1 (3.9–4.3)	3.7 (3.5–3.9)	4.0 (3.7–4.2)	4.2 (3.9–4.4)	↑
Arthritis – all*	3.7 (3.5–3.9)	4.0 (3.8–4.2)	3.9 (3.7–4.2)	3.8 (3.6–4.0)	3.7 (3.5–3.9)	3.6 (3.4–3.8)	3.8 (3.6–4.0)	3.9 (3.6–4.3)	3.6 (3.4–3.9)	3.9 (3.7–4.1)	—
Osteoarthritis*	2.6 (2.4–2.7)	2.8 (2.6–3.0)	2.8 (2.6–3.0)	2.7 (2.5–2.9)	2.6 (2.4–2.8)	2.6 (2.4–2.8)	2.8 (2.6–2.9)	2.9 (2.6–3.2)	2.7 (2.5–2.9)	3.0 (2.8–3.2)	↑
Lipid disorder	3.0 (2.8–3.2)	3.1 (2.9–3.4)	3.3 (3.1–3.6)	3.4 (3.1–3.7)	3.5 (3.2–3.7)	3.7 (3.4–4.0)	3.9 (3.7–4.2)	3.5 (3.2–3.7)	3.1 (2.8–3.3)	3.5 (3.3–3.7)	↑
Back complaint*	2.6 (2.4–2.8)	2.7 (2.5–2.8)	2.8 (2.6–3.0)	2.6 (2.5–2.8)	2.6 (2.5–2.8)	2.7 (2.6–2.9)	2.7 (2.6–2.9)	2.7 (2.5–2.9)	2.7 (2.5–2.9)	2.8 (2.6–3.0)	—
Acute bronchitis/ bronchiolitis	2.6 (2.4–2.8)	2.4 (2.2–2.6)	2.4 (2.2–2.6)	2.5 (2.3–2.7)	2.2 (2.1–2.4)	2.4 (2.2–2.6)	2.6 (2.4–2.8)	2.4 (2.2–2.6)	2.5 (2.3–2.7)	2.5 (2.3–2.7)	—
Prescription – all*	2.0 (1.8–2.2)	2.3 (2.0–2.6)	2.1 (1.8–2.3)	2.0 (1.7–2.2)	2.2 (1.9–2.4)	2.0 (1.7–2.2)	2.1 (1.9–2.4)	2.3 (2.0–2.6)	2.5 (2.2–2.8)	2.4 (2.1–2.7)	—
Oesophageal disease	1.9 (1.8–2.1)	2.2 (2.0–2.4)	2.1 (2.0–2.3)	2.4 (2.2–2.5)	2.3 (2.1–2.5)	2.3 (2.2–2.5)	2.5 (2.3–2.7)	2.5 (2.3–2.7)	2.3 (2.1–2.5)	2.7 (2.5–2.8)	↑
Asthma	2.7 (2.6–2.9)	2.6 (2.4–2.7)	2.3 (2.2–2.5)	2.3 (2.1–2.4)	2.3 (2.1–2.4)	2.2 (2.0–2.3)	2.2 (2.1–2.3)	2.1 (1.9–2.3)	2.2 (2.0–2.3)	2.0 (1.9–2.1)	↓
Anxiety*	1.5 (1.4–1.7)	1.7 (1.6–1.9)	1.7 (1.6–1.9)	1.8 (1.6–2.0)	1.7 (1.6–1.9)	1.8 (1.6–1.9)	1.9 (1.8–2.1)	1.8 (1.6–1.9)	1.9 (1.8–2.1)	1.9 (1.8–2.1)	↑
Test results*	1.1 (0.9–1.2)	1.2 (1.1–1.4)	1.4 (1.3–1.5)	1.4 (1.3–1.6)	1.6 (1.4–1.7)	1.8 (1.6–1.9)	1.5 (1.4–1.7)	1.8 (1.6–2.0)	1.9 (1.7–2.1)	1.8 (1.6–2.0)	↑

(continued)

Table 7.4 (continued): Most frequently managed problems, 2002–03 to 2011–12

Problem managed	Rate per 100 encounters (95% CI)										↑↓[(a)]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Urinary tract infection*	1.7 (1.6–1.8)	1.7 (1.6–1.8)	1.7 (1.6–1.8)	1.8 (1.6–1.9)	1.6 (1.5–1.8)	1.6 (1.5–1.7)	1.7 (1.6–1.8)	1.8 (1.6–1.9)	1.8 (1.7–1.9)	1.7 (1.6–1.8)	—
Contact dermatitis	1.9 (1.8–2.0)	1.8 (1.6–1.9)	1.9 (1.8–2.0)	1.8 (1.7–1.9)	1.9 (1.8–2.0)	1.8 (1.7–1.9)	1.9 (1.8–2.0)	1.6 (1.5–1.7)	1.7 (1.6–1.8)	1.8 (1.7–1.9)	—
Sleep disturbance	1.6 (1.4–1.7)	1.6 (1.5–1.7)	1.7 (1.5–1.9)	1.6 (1.5–1.7)	1.6 (1.4–1.7)	1.6 (1.5–1.7)	1.6 (1.4–1.7)	1.4 (1.3–1.6)	1.5 (1.4–1.6)	1.5 (1.4–1.6)	—
Pregnancy*	0.8 (0.7–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.9 (0.8–1.0)	1.3 (1.1–1.4)	1.3 (1.2–1.5)	1.3 (1.1–1.4)	1.4 (1.3–1.6)	1.4 (1.3–1.6)	1.3 (1.2–1.4)	↑
Gastroenteritis*	1.7 (1.6–1.9)	1.7 (1.5–1.8)	1.5 (1.4–1.7)	1.5 (1.4–1.7)	1.7 (1.5–1.8)	1.7 (1.5–1.8)	1.4 (1.3–1.5)	1.4 (1.3–1.6)	1.4 (1.3–1.5)	1.5 (1.4–1.6)	↓
Sprain/strain*	1.7 (1.5–1.8)	1.6 (1.5–1.7)	1.7 (1.5–1.9)	1.8 (1.6–1.9)	1.5 (1.4–1.7)	1.6 (1.4–1.7)	1.4 (1.3–1.5)	1.4 (1.3–1.6)	1.4 (1.3–1.5)	1.4 (1.3–1.6)	—
Sinusitis acute/chronic	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.4 (1.3–1.5)	1.3 (1.2–1.4)	1.4 (1.2–1.5)	1.3 (1.2–1.5)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	—
Atrial fibrillation/flutter	0.6 (0.6–0.7)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.4 (1.2–1.5)	↑
Vitamin/nutritional deficiency	0.4 (0.3–0.4)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.9 (0.8–1.0)	1.1 (1.0–1.2)	1.2 (1.0–1.3)	1.3 (1.1–1.4)	1.3 (1.2–1.5)	↑
Viral disease, other/NOS	1.4 (1.2–1.6)	1.3 (1.2–1.5)	1.2 (1.1–1.4)	1.2 (1.0–1.4)	1.1 (0.9–1.2)	1.2 (1.1–1.4)	1.2 (1.0–1.4)	1.1 (1.0–1.3)	1.2 (1.0–1.4)	1.2 (1.0–1.4)	—
Ischaemic heart disease*	1.2 (1.1–1.3)	1.4 (1.2–1.5)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.1 (1.0–1.2)	1.3 (1.2–1.4)	1.2 (1.0–1.3)	1.1 (1.0–1.3)	1.1 (0.9–1.2)	—
Solar keratosis/sunburn	1.2 (1.0–1.3)	1.3 (1.1–1.5)	1.3 (1.1–1.6)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.4 (1.1–1.6)	1.2 (1.1–1.4)	1.3 (1.1–1.4)	1.1 (1.0–1.3)	1.1 (0.9–1.2)	—
Administrative procedure – all*	0.5 (0.5–0.6)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.1 (1.0–1.3)	1.3 (1.1–1.4)	↑
Abnormal test results*	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	↑

(continued)

Table 7.4 (continued): Most frequently managed problems, 2002–03 to 2011–12

Problem managed	Rate per 100 encounters (95% CI) 2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓(a)
Malignant neoplasm, skin	0.8 (0.7–0.9)	1.1 (0.9–1.3)	1.2 (1.0–1.3)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.2 (1.0–1.3)	1.2 (1.0–1.3)	1.2 (1.1–1.4)	1.1 (1.0–1.2)	1.1 (0.9–1.2)	↑
Oral contraception*	0.9 (0.8–1.0)	1.4 (1.2–1.5)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.1 (1.0–1.3)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	↑
Acute otitis media/ myringitis	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.2 (1.0–1.3)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	↓
Bursitis/tendonitis/ synovitis NOS	0.9 (0.9–1.0)	0.9 (0.8–1.0)	0.9 (0.9–1.0)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.1)	1.1 (1.1–1.2)	↑
Tonsillitis*	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.0 (0.9–1.2)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.2)	0.9 (0.8–1.0)	↓
Observation/health education/advice/diet – all*	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	1.1 (0.9–1.3)	1.0 (0.8–1.3)	0.8 (0.7–0.9)	—
Fracture*	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (1.0–1.1)	1.0 (0.9–1.1)	0.9 (0.9–1.0)	0.9 (0.8–0.9)	0.9 (0.9–1.0)	0.9 (0.8–1.0)	—
Osteoporosis	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	—
Menopausal complaint	1.5 (1.3–1.6)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.9 (0.8–0.9)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	↓
Total problems	**144.9 (143.0–146.8)**	**146.3 (144.4–148.2)**	**145.5 (143.6–147.4)**	**146.2 (144.2–148.2)**	**148.5 (146.4–150.6)**	**151.3 (149.2–153.4)**	**154.6 (152.6–156.5)**	**153.3 (151.1–155.5)**	**152.5 (150.2–154.7)**	**153.8 (151.4–156.1)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see 4.1).

Note: CI – confidence interval; NOS – not otherwise specified. This table includes individual problems that were managed at ≥ 1.0 per 100 encounters in any year.

Table 7.5: Most frequently managed new problems, 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
New problem managed	**(*n* = 100,987)**	**(*n* = 98,877)**	**(*n* = 94,386)**	**(*n* = 101,993)**	**(*n* = 91,805)**	**(*n* = 95,898)**	**(*n* = 96,688)**	**(*n* = 101,349)**	**(*n* = 95,839)**	**(*n* = 99,030)**	
Upper respiratory tract infection	5.1 (4.7–5.5)	4.2 (3.8–4.5)	4.3 (4.0–4.6)	4.8 (4.4–5.2)	4.4 (4.1–4.8)	4.8 (4.4–5.2)	4.7 (4.4–5.0)	4.6 (4.3–5.0)	4.1 (3.8–4.5)	4.6 (4.3–5.0)	—
Immunisation/ vaccination – all*	2.9 (2.6–3.2)	2.9 (2.6–3.3)	2.7 (2.4–3.1)	2.7 (2.5–3.0)	2.8 (2.5–3.1)	2.8 (2.5–3.0)	2.8 (2.5–3.1)	4.3 (3.9–4.7)	3.0 (2.7–3.3)	2.6 (2.3–2.9)	§
Check-up – all*	2.2 (2.0–2.4)	2.1 (1.9–2.3)	2.2 (2.0–2.4)	2.2 (2.1–2.4)	2.5 (2.3–2.7)	2.5 (2.3–2.7)	2.5 (2.3–2.7)	2.8 (2.6–3.0)	2.7 (2.4–2.9)	2.9 (2.6–3.1)	↑
Acute bronchitis/ bronchiolitis	1.9 (1.7–2.1)	1.8 (1.6–1.9)	1.7 (1.5–1.9)	1.9 (1.7–2.1)	1.6 (1.5–1.7)	1.7 (1.6–1.9)	1.9 (1.8–2.1)	1.7 (1.6–1.9)	1.8 (1.7–2.0)	1.8 (1.6–2.0)	—
Gastroenteritis*	1.3 (1.2–1.5)	1.3 (1.2–1.5)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.3 (1.2–1.5)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.2 (1.0–1.3)	—
Urinary tract infection*	1.1 (1.0–1.2)	1.1 (1.0–1.1)	1.1 (1.0–1.1)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.0 (1.0–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	—
Sprain/strain*	1.0 (0.9–1.1)	1.0 (0.9–1.0)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	—
Viral disease, other/NOS	1.1 (0.9–1.2)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.9 (0.8–1.1)	0.9 (0.7–1.0)	0.9 (0.7–1.0)	0.9 (0.7–1.0)	0.9 (0.7–1.1)	—
Total new problems	**56.9 (55.5–58.4)**	**55.9 (54.5–57.3)**	**55.2 (53.8–56.5)**	**56.9 (55.5–58.2)**	**56.5 (55.1–57.9)**	**57.7 (56.3–59.1)**	**57.4 (56.0–58.7)**	**59.1 (57.6–60.5)**	**57.8 (56.4–59.3)**	**58.6 (57.1–60.0)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; NOS – not otherwise specified. This table includes individual new problems that were managed at >= 1.0 per 100 encounters in any year.

Table 7.6: Most frequently managed chronic problems, 2002–03 to 2011–12

Chronic problem managed	Rate per 100 encounters (95% CI)										
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[a]
Hypertension (non-gestational)**	8.8 (8.3–9.3)	9.2 (8.7–9.7)	8.9 (8.4–9.4)	9.4 (8.9–10.0)	9.5 (9.0–10.0)	9.9 (9.3–10.4)	10.1 (9.6–10.6)	9.1 (8.6–9.5)	8.7 (8.2–9.1)	9.0 (8.5–9.6)	—
Depressive disorder**	3.5 (3.3–3.7)	3.6 (3.4–3.8)	3.7 (3.5–3.9)	3.6 (3.4–3.8)	3.7 (3.5–3.9)	4.0 (3.7–4.2)	4.2 (4.0–4.4)	4.2 (4.0–4.5)	4.2 (3.9–4.4)	4.4 (4.1–4.6)	↑
Diabetes (non-gestational)**	2.9 (2.7–3.1)	3.3 (3.0–3.5)	3.2 (3.0–3.4)	3.5 (3.3–3.7)	3.6 (3.4–3.9)	3.8 (3.6–4.1)	4.1 (3.8–4.3)	3.7 (3.5–3.9)	4.0 (3.7–4.2)	4.1 (3.9–4.4)	↑
Chronic arthritis**	3.7 (3.5–3.9)	4.0 (3.8–4.2)	3.9 (3.7–4.1)	3.8 (3.5–4.0)	3.7 (3.5–3.9)	3.6 (3.4–3.8)	3.8 (3.6–4.0)	3.9 (3.6–4.3)	3.7 (3.5–3.9)	3.9 (3.7–4.2)	—
Lipid disorder	3.0 (2.8–3.2)	3.1 (2.9–3.4)	3.3 (3.1–3.6)	3.4 (3.1–3.7)	3.5 (3.2–3.7)	3.7 (3.4–4.0)	3.9 (3.7–4.2)	3.5 (3.2–3.7)	3.1 (2.8–3.3)	3.5 (3.3–3.7)	↑
Oesophageal disease	1.9 (1.8–2.1)	2.2 (2.0–2.4)	2.1 (2.0–2.3)	2.4 (2.2–2.5)	2.3 (2.1–2.5)	2.3 (2.2–2.5)	2.5 (2.3–2.7)	2.5 (2.3–2.7)	2.3 (2.1–2.5)	2.7 (2.5–2.8)	↑
Asthma	2.7 (2.6–2.9)	2.6 (2.4–2.7)	2.3 (2.2–2.5)	2.3 (2.1–2.4)	2.3 (2.1–2.4)	2.2 (2.0–2.3)	2.2 (2.1–2.3)	2.1 (1.9–2.3)	2.2 (2.0–2.3)	2.0 (1.9–2.1)	↓
Atrial fibrillation/flutter	0.6 (0.6–0.7)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.4 (1.2–1.5)	↑
Ischaemic heart disease**	1.2 (1.1–1.3)	1.4 (1.2–1.5)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.1 (1.0–1.2)	1.3 (1.2–1.4)	1.2 (1.0–1.3)	1.1 (1.0–1.3)	1.1 (0.9–1.2)	—
Malignant neoplasm of skin	0.8 (0.7–0.9)	1.1 (0.9–1.3)	1.2 (1.0–1.3)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.2 (1.0–1.3)	1.2 (1.0–1.3)	1.2 (1.1–1.4)	1.1 (1.0–1.2)	1.1 (0.9–1.2)	↑
Chronic obstructive pulmonary disease	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.8 (0.8–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	↑
Back syndrome with radiating pain**	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.1)	0.9 (0.8–1.0)	0.9 (0.8–0.9)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	—
Obesity (BMI > 30)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.6 (0.5–0.6)	0.8 (0.6–0.9)	0.7 (0.6–0.8)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.8 (0.6–1.0)	0.6 (0.5–0.7)	—

(continued)

Table 7.6 (continued): Most frequently managed chronic problems, 2002–03 to 2011–12

Chronic problem managed	Rate per 100 encounters (95% CI)										↑↓[a]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Hypothyroidism/ myxoedema	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.6–0.7)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	0.7 (0.6–0.7)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	↑
Osteoporosis	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	—
Migraine	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.7 (0.6–0.8)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	↓
Heart failure	0.7 (0.7–0.8)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.6)	↓
Chronic skin ulcer	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	0.5 (0.5–0.6)	0.6 (0.6–0.7)	0.6 (0.5–0.7)	0.6 (0.5–0.6)	0.7 (0.6–0.7)	↑
Gout	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.7)	—
Shoulder syndrome (excluding arthritis)**	0.4 (0.3–0.5)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.6 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	↑
Dementia (including senile, Alzheimer's)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.5 (0.3–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.4 (0.3–0.5)	0.6 (0.4–0.7)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.6 (0.5–0.8)	↑
Anxiety disorder**	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.3–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	—
Schizophrenia	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	—
Total chronic problems	**49.0 (47.3–50.7)**	**51.9 (50.1–53.6)**	**51.7 (50.0–53.4)**	**52.1 (50.2–54.0)**	**53.3 (51.6–55.0)**	**54.0 (52.1–55.9)**	**56.9 (55.2–58.6)**	**54.2 (52.2–56.1)**	**53.1 (51.2–55.0)**	**55.6 (53.6–57.7)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

** Indicates that this group differs from that used for analysis in other sections of this chapter, as only chronic conditions were included in this analysis (see Appendix 4, Table A4.2, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; BMI – body mass index. This table includes individual chronic problems that were managed at >= 0.5 per 100 encounters in any year.

8 Overview of management

This chapter provides an overview of management of problems in general practice from each of the most recent ten years of the BEACH study from 2002–03 to 2011–12. More detailed analyses of the overview of management in 2011–12 can be found in Chapter 8 in *General practice activity in Australia 2011–12*.[1]

As discussed in Chapter 2 – Methods, we can consider changes in GP management actions over time in terms of the number of the selected action per 100 GP–patient encounters, or in terms of the number of problems managed. If the number of problems managed on average at encounters has not altered it would not matter which way we analysed the data to measure change.

However, as reported in Chapter 7, there was a significant increase in the number of problems managed at GP–patient encounters over the decade of this study. If we simply compared management actions (e.g. number of prescriptions) as a rate per 100 encounters, we would be ignoring the fact that more problems were managed in 2011–12 than in 2002–03. If more problems are managed, more management actions should result, without any change having occurred in GP use of the selected management action.

In this, and the following management chapters, we report changes over time in two ways:

- rate (of the selected action) per 100 problems managed
- rate (of the selected action) per 100 encounters.

The rate per 100 problems managed gives the clearer idea of how GP management actions have (or have not) changed. The rate per 100 encounters is used as the basis of extrapolation to national estimated change.

The direction and type of change from 2002–03 to 2011–12 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Examples of extrapolations are provided in each of the specific management chapters (Chapters 9 to 12, inclusive). The method used to extrapolate to national change estimates is described in Section 2.9.

Between 2002–03 and 2011–12, some trends emerged in management actions per 100 problems managed (Table 8.1a), and per 100 encounters (Table 8.1b). The most noticeable changes in rates per 100 problems managed are listed below.

- There was a marginal increase in the rate at which procedural treatments were undertaken, from 10.1 per 100 problems managed in 2002–03 to 11.0 per 100 problems in 2011–12.

- The introduction of MBS item numbers for practice nurse activity in 2005–06 led to a significant decrease in the rate of clinical treatments given by GPs, from a peak of 27.0 in 2004–05 to a low point of 19.9 per 100 problems managed in 2006–07. However, since then, the rate of GP-provided clinical treatments gradually increased again such that there was no significant difference between the start and end of the decade. The original impact of practice nurses on this area of GP workload was no longer observed, suggesting that by 2011–12 GPs were again performing clinical treatments at a similar rate to that prior to the introduction of practice nurse item numbers.
- The rate of referrals to other health providers significantly increased, from 7.7 to 9.4 per 100 problems between 2002–03 and 2011–12, influenced by referrals to allied health services, which almost doubled over the period (1.7 to 3.0 per 100 problems managed). It was further influenced by a significant increase in referrals to emergency departments (0.1 to 0.2), and in 'other referrals' (0.2 to 0.4 per 100 problems managed). Conversely, the rate of referrals to hospital halved between 2002–03 and 2011–12.
- The rate at which pathology tests/batteries of tests were ordered significantly increased by 35%, from 22.7 tests/batteries of tests per 100 problems managed in 2002–03 to 30.6 in 2011–12.
- The rate at which imaging was ordered increased significantly, from 5.9 imaging orders per 100 problems managed in 2002–03 to 6.6 per 100 in 2011–12.

Similar changes between 2001–03 and 2011–12 are apparent for each of these areas, in the percentage of problems for which at least one management type was provided (Table 8.2a), and of encounters where at least one management type was recorded (Table 8.2b). This reflects any change in the likelihood of each action eventuating in the management of a single problem managed at the encounter.

The proportion of problems for which:

- at least one medication was provided in the management of the problem, decreased marginally (from 56.8% of problems in 2002–03 to 54.8% in 2011–12), mainly influenced by a marginal decrease in the proportion of problems for which medication was prescribed, from 47.2% to 45.4% over this time.
- at least one GP–supplied medication was recorded did not increase significantly over the decade, but spiked in 2009–10 at the time of the H1N1 virus concerns. This correlates with the observed spike in vaccinations for the same period (Chapter 9).
- at least one procedure was undertaken, marginally increased from 9.4% in 2002–03 to 10.3% in 2011–12.
- at least one referral was given, increased significantly (from 7.7% of problems in 2002–03 to 9.3% in 2011–12), particularly to allied health services (1.7% to 3.0%), and emergency departments (0.1% to 0.2%).
- at least one investigation was ordered, increased significantly from 16.2% in 2002–03 to 18.6% in 2011–12. In 2002–03, the likelihood of at least one pathology test being ordered was 11.4%, which increased significantly to 13.6%. For imaging tests, the likelihood of at least one being ordered increased marginally, from 5.3% to 5.8% of problems by 2011–12.

Table 8.1a: Summary of management (rate per 100 problems), 2002–03 to 2011–12

Management type	Rate per 100 problems (95% CI) 2002–03 (*n* = 146,336)	2003–04 (*n* = 144,674)	2004–05 (*n* = 137,330)	2005–06 (*n* = 149,088)	2006–07 (*n* = 136,333)	2007–08 (*n* = 145,078)	2008–09 (*n* = 149,462)	2009–10 (*n* = 155,373)	2010–11 (*n* = 146,141)	2011–12 (*n* = 152,286)	↑↓[(a)]
Medications	71.6 (70.1–73.1)	71.3 (70.0–72.7)	69.8 (68.3–71.2)	71.4 (69.9–72.9)	68.4 (67.0–69.7)	67.9 (66.5–69.2)	68.7 (67.5–70.0)	69.5 (67.9–71.1)	69.0 (67.6–70.3)	69.6 (68.0–71.2)	—
Prescribed	58.2 (56.6–59.8)	58.8 (57.3–60.3)	57.3 (55.9–58.7)	58.7 (57.2–60.3)	56.1 (54.7–57.4)	54.5 (53.2–55.8)	55.9 (54.5–57.2)	54.4 (52.8–56.0)	55.8 (54.5–57.1)	56.5 (54.9–58.1)	—
GP-supplied	6.4 (5.5–7.3)	5.9 (5.2–6.5)	5.5 (5.0–6.0)	6.0 (5.6–6.5)	6.0 (5.5–6.5)	6.7 (6.3–7.1)	7.1 (6.6–7.6)	8.9 (8.3–9.5)	6.8 (6.2–7.3)	6.3 (5.8–6.8)	—
Advised OTC	7.0 (6.4–7.6)	6.7 (6.1–7.2)	6.9 (6.3–7.5)	6.7 (6.2–7.2)	6.3 (5.8–6.8)	6.7 (6.2–7.2)	5.7 (5.3–6.1)	6.2 (5.7–6.7)	6.4 (5.9–6.9)	6.8 (6.3–7.4)	—
Other treatments	35.7 (34.1–37.3)	35.1 (33.5–36.7)	37.6 (36.0–39.2)	29.9 (28.5–31.2)	30.1 (28.6–31.5)	33.9 (32.4–35.3)	32.8 (31.5–34.1)	34.3 (32.6–36.0)	34.4 (32.7–36.0)	35.1 (33.5–36.7)	§
Clinical*	25.7 (24.2–27.1)	25.0 (23.6–26.4)	27.0 (25.6–28.3)	20.0 (18.8–21.2)	19.9 (18.7–21.1)	22.8 (21.6–24.1)	22.0 (20.8–23.2)	22.8 (21.3–24.3)	23.0 (21.8–24.8)	24.0 (22.6–25.5)	§
Procedural*	10.1 (9.6–10.6)	10.1 (9.6–10.6)	10.6 (10.0–11.3)	9.9 (9.4–10.3)	10.2 (9.7–10.7)	11.0 (10.5–11.6)	10.8 (10.4–11.3)	11.4 (10.8–12.1)	11.1 (10.6–11.6)	11.0 (10.5–11.5)	↑
Referrals & admissions	7.7 (7.4–8.0)	8.0 (7.6–8.3)	7.9 (7.7–8.2)	8.2 (7.9–8.5)	8.2 (7.9–8.6)	8.3 (8.0–8.6)	8.9 (8.6–9.2)	8.7 (8.4–9.0)	9.3 (8.9–9.6)	9.4 (9.1–9.8)	↑
Medical specialist*	5.3 (5.0–5.5)	5.4 (5.1–5.6)	5.3 (5.1–5.5)	5.6 (5.4–5.8)	5.4 (5.2–5.7)	5.3 (5.1–5.5)	5.8 (5.6–6.0)	5.5 (5.3–5.7)	5.6 (5.4–5.9)	5.6 (5.3–5.8)	—
Allied health services*	1.7 (1.6–1.9)	1.8 (1.7–1.9)	1.9 (1.7–2.0)	2.0 (1.8–2.1)	2.1 (1.9–2.2)	2.3 (2.1–2.4)	2.5 (2.3–2.7)	2.6 (2.4–2.7)	2.8 (2.6–2.9)	3.0 (2.8–3.2)	↑
Hospital*	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.2)	↓

(continued)

Table 8.1a (continued): Summary of management (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Management type	(*n* = 146,336)	(*n* = 144,674)	(*n* = 137,330)	(*n* = 149,088)	(*n* = 136,333)	(*n* = 145,078)	(*n* = 149,462)	(*n* = 155,373)	(*n* = 146,141)	(*n* = 152,286)	
Emergency department*	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (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 (0.2–0.2)	0.2 (0.2–0.2)	↑
Other referrals*	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	↑
Pathology	22.7 (21.8–23.6)	24.1 (23.1–25.0)	25.2 (24.3–26.2)	26.4 (25.3–27.5)	28.6 (27.5–29.6)	28.5 (27.4–29.6)	29.5 (28.4–30.5)	29.3 (28.2–30.4)	29.6 (28.6–30.7)	30.6 (29.3–31.8)	↑
Imaging	5.9 (5.7–6.2)	5.6 (5.4–5.9)	5.7 (5.5–5.9)	6.0 (5.8–6.3)	6.0 (5.8–6.3)	6.3 (6.1–6.5)	6.3 (6.1–6.6)	6.4 (6.1–6.6)	6.4 (6.1–6.7)	6.6 (6.3–6.8)	↑
Other investigations	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	0.7 (0.6–0.7)	0.7 (0.6–0.8)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.6 (0.5–0.7)	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4 <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; OTC – over-the-counter.

Table 8.1b: Summary of management (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Management type	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Medications	103.8 (101.4–106.2)	104.4 (102.1–106.7)	101.5 (99.3–103.8)	104.4 (101.8–107.0)	101.5 (99.2–103.9)	102.7 (100.3–105.0)	106.3 (104.0–108.5)	106.6 (103.6–109.5)	105.2 (102.8–107.6)	107.0 (104.1–11.0.)	—
Prescribed	84.3 (81.8–86.9)	86.0 (83.6–88.5)	83.4 (81.2–85.6)	85.8 (83.3–88.4)	83.3 (81.0–85.5)	82.4 (80.3–84.6)	86.4 (84.1–88.6)	83.4 (80.6–86.2)	85.1 (82.9–87.3)	86.8 (84.0–89.7)	—
GP-supplied	9.3 (8.0–10.6)	8.6 (7.6–9.6)	8.1 (7.3–8.8)	8.8 (8.2–9.5)	8.9 (8.2–9.6)	10.1 (9.5–10.7)	11.0 (10.2–11.8)	13.6 (12.7–14.6)	10.3 (9.5–11.2)	9.7 (8.9–10.5)	—
Advised OTC	10.2 (9.3–11.1)	9.8 (9.0–10.5)	10.1 (9.2–10.9)	9.8 (9.0–10.5)	9.4 (8.7–10.1)	10.1 (9.3–10.9)	8.9 (8.3–9.4)	9.5 (8.7–10.3)	9.8 (9.0–10.5)	10.5 (9.7–11.3)	—
Other treatments	51.8 (49.3–54.3)	51.4 (48.9–53.8)	54.7 (52.1–57.3)	43.6 (41.5–45.8)	44.7 (42.3–47.0)	51.2 (48.9–53.6)	50.7 (48.5–52.9)	52.5 (49.8–55.3)	52.4 (49.8–55.1)	53.9 (51.2–56.6)	§
Clinical*	37.2 (35.0–39.4)	36.6 (34.5–38.7)	39.2 (37.1–41.4)	29.2 (27.3–31.1)	29.5 (27.6–31.4)	34.5 (32.5–36.5)	34.0 (32.1–35.9)	35.0 (32.6–37.4)	35.5 (33.2–37.8)	37.0 (34.6–39.3)	§
Procedural*	14.6 (13.9–15.3)	14.7 (14.0–15.5)	15.5 (14.6–16.4)	14.4 (13.7–15.1)	15.2 (14.4–16.0)	16.7 (15.9–17.5)	16.7 (16.0–17.5)	17.5 (16.5–18.6)	16.9 (16.1–17.8)	16.9 (16.1–17.8)	↑
Referrals & admissions	11.2 (10.7–11.6)	11.6 (11.1–12.2)	11.5 (11.1–12.0)	12.0 (11.5–12.5)	12.2 (11.7–12.7)	12.5 (12.0–13.0)	13.7 (13.2–14.2)	13.3 (12.8–13.8)	14.1 (13.5–14.7)	14.5 (13.9–15.1)	↑
Medical specialist*	7.6 (7.3–8.0)	7.9 (7.5–8.2)	7.7 (7.4–8.0)	8.2 (7.8–8.5)	8.0 (7.7–8.4)	8.0 (7.6–8.3)	9.0 (8.7–9.3)	8.4 (8.1–8.8)	8.6 (8.2–9.0)	8.6 (8.2–8.9)	↑
Allied health services*	2.5 (2.3–2.7)	2.6 (2.4–2.8)	2.7 (2.5–2.9)	2.9 (2.7–3.1)	3.1 (2.9–3.3)	3.4 (3.2–3.7)	3.9 (3.6–4.1)	3.9 (3.7–4.2)	4.2 (3.9–4.5)	4.7 (4.4–5.0)	↑
Hospital*	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	—

(continued)

Table 8.1b (continued): Summary of management (rate per 100 encounters), 2002–03 to 2011–12

Management type	Rate per 100 encounters (95% CI)										
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[(a)]
Emergency department*	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.3 (0.3–0.3)	0.3 (0.3–0.4)	↑
Other referrals*	0.3 (0.2–0.3)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	↑
Pathology	32.9 (31.4–34.4)	35.2 (33.7–36.8)	36.7 (35.2–38.2)	38.6 (36.9–40.3)	42.4 (40.7–44.2)	43.1 (41.3–45.0)	45.6 (43.8–47.4)	45.0 (43.1–46.9)	45.2 (43.4–47.0)	47.0 (44.9–49.1)	↑
Imaging	8.6 (8.2–9.0)	8.2 (7.8–8.6)	8.3 (8.0–8.6)	8.8 (8.4–9.2)	9.0 (8.6–9.3)	9.5 (9.2–9.9)	9.8 (9.4–10.2)	9.8 (9.3–10.1)	9.8 (9.4–10.2)	10.1 (9.6–10.5)	↑
Other investigations	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.1 (0.9–1.2)	1.0 (0.8–1.1)	1.0 (0.9–1.1)	0.7 (0.7–0.8)	0.7 (0.7–0.8)	0.9 (0.8–1.0)	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4 <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; OTC – over-the-counter.

Table 8.2a: Problems for which at least one management was recorded (per cent of problems), 2002–03 to 2011–12

	Per cent of problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
At least one …	(*n* = 146,336)	(*n* = 144,674)	(*n* = 137,330)	(*n* = 149,088)	(*n* = 136,333)	(*n* = 145,078)	(*n* = 149,462)	(*n* = 155,373)	(*n* = 146,141)	(*n* = 152,286)	
Management type	86.4 (85.7–87.1)	86.8 (86.2–87.4)	87.1 (86.4–87.7)	86.2 (85.6–86.9)	85.3 (84.6–85.9)	86.3 (85.6–86.9)	86.3 (85.6–86.9)	85.8 (85.1–86.4)	85.9 (85.3–86.5)	86.8 (86.1–87.4)	—
Medication or other treatment	75.1 (74.3–75.9)	75.0 (74.2–75.8)	74.9 (74.1–75.7)	73.5 (72.7–74.4)	71.8 (70.9–72.6)	73.2 (72.4–74.1)	72.9 (72.1–73.7)	72.8 (71.9–73.7)	72.4 (71.5–73.3)	73.4 (72.6–74.3)	↓
Medication	56.8 (55.8–57.8)	56.6 (55.7–57.6)	55.2 (54.2–56.2)	56.5 (55.4–57.5)	54.5 (53.5–55.5)	54.1 (53.1–55.1)	54.3 (53.4–55.3)	54.2 (53.2–55.1)	54.0 (53.1–55.0)	54.8 (53.8–55.8)	↓
Prescription	47.2 (46.0–48.4)	47.8 (46.7–48.9)	46.7 (45.7–47.8)	47.7 (46.6–48.8)	45.6 (44.6–46.6)	44.4 (43.5–45.4)	44.9 (43.9–45.8)	43.2 (42.1–44.3)	44.7 (43.7–45.6)	45.4 (44.3–46.5)	—
GP-supplied	5.2 (4.5–6.0)	4.8 (4.2–5.3)	6.2 (5.7–6.7)	4.5 (4.2–4.9)	4.7 (4.3–5.1)	5.3 (5.0–5.7)	5.7 (5.3–6.1)	7.2 (6.7–7.7)	5.4 (5.0–5.8)	5.0 (4.7–5.4)	§
Advised OTC	6.4 (5.9–6.9)	6.0 (5.6–6.5)	4.4 (4.0–4.7)	6.0 (5.6–6.5)	5.8 (5.4–6.2)	6.1 (5.6–6.5)	5.3 (4.9–5.6)	5.6 (5.1–6.0)	5.8 (5.4–6.2)	6.2 (5.7–6.7)	—
Other treatment	30.9 (29.7–32.2)	30.5 (29.3–31.8)	32.4 (31.1–33.6)	26.9 (25.8–28.1)	27.0 (25.8–28.2)	30.2 (29.1–31.4)	29.3 (28.2–30.4)	30.3 (29.0–31.7)	30.4 (29.1–31.7)	30.7 (29.4–31.9)	—
Clinical treatment	22.7 (21.5–23.8)	22.2 (21.0–23.3)	23.7 (22.5–24.8)	18.3 (17.2–19.3)	18.0 (17.0–19.1)	20.6 (19.6–21.7)	20.0 (18.9–21.0)	20.6 (19.3–21.8)	20.9 (19.6–22.1)	21.4 (20.2–22.6)	§
Procedural treatment	9.4 (9.0–9.8)	9.4 (8.9–9.8)	9.8 (9.3–10.3)	9.3 (8.7–9.7)	9.6 (9.2–10.1)	10.3 (9.8–10.8)	10.1 (9.7–10.5)	10.7 (10.1–11.3)	10.4 (9.9–10.9)	10.3 (9.8–10.7)	↑
Referrals & admissions	7.7 (7.4–8.0)	8.0 (7.6–8.3)	7.9 (7.7–8.2)	8.2 (7.9–8.5)	8.3 (8.0–8.6)	8.3 (8.0–8.6)	8.9 (8.5–9.2)	8.7 (8.4–9.0)	9.2 (8.9–9.5)	9.3 (9.0–9.7)	↑
Medical specialist*	5.3 (5.1–5.6)	5.4 (5.2–5.7)	5.4 (5.2–5.6)	5.6 (5.4–5.9)	5.5 (5.3–5.8)	5.3 (5.1–5.5)	5.9 (5.7–6.1)	5.6 (5.4–5.8)	5.7 (5.5–5.9)	5.6 (5.4–5.9)	—
Allied health services*	1.7 (1.6–1.9)	1.8 (1.7–2.0)	1.9 (1.7–2.0)	2.0 (1.8–2.1)	2.1 (1.9–2.2)	2.3 (2.2–2.4)	2.5 (2.4–2.7)	2.6 (2.4–2.7)	2.7 (2.6–2.9)	3.0 (2.8–3.2)	↑
Hospital*	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	↓

(continued)

Table 8.2a (continued): Problems for which at least one management was recorded (per cent of problems), 2002–03 to 2011–12

	Per cent of problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓ (a)
At least one …	(*n* = 146,336)	(*n* = 144,674)	(*n* = 137,330)	(*n* = 149,088)	(*n* = 136,333)	(*n* = 145,078)	(*n* = 149,462)	(*n* = 155,373)	(*n* = 146,141)	(*n* = 152,286)	
Emergency department*	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	↑
Other referrals*	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.4 (0.3–0.5)	0.4 (0.4–0.5)	↑
Investigation	16.2 (15.7–16.6)	16.5 (16.0–17.0)	16.9 (16.4–17.3)	17.6 (17.1–18.1)	18.2 (17.7–18.7)	18.1 (17.6–18.6)	18.5 (18.0–19.0)	18.1 (17.6–18.6)	18.2 (17.7–18.7)	18.6 (18.1–19.2)	↑
Pathology order	11.4 (11.0–11.8)	11.9 (11.5–12.4)	12.2 (11.8–12.6)	12.7 (12.2–13.2)	13.4 (13.0–13.9)	13.1 (12.7–13.6)	13.6 (13.2–14.0)	13.2 (12.8–13.7)	13.3 (12.9–13.7)	13.6 (13.1–14.1)	↑
Imaging order	5.3 (5.1–5.6)	5.1 (4.8–5.3)	5.2 (5.0–5.4)	5.5 (5.3–5.7)	5.5 (5.3–5.7)	5.7 (5.4–5.9)	5.7 (5.4–5.9)	5.7 (5.5–6.0)	5.7 (5.5–5.9)	5.8 (5.6–6.1)	↑
Other investigation	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.7 (0.7–0.8)	0.7 (0.6–0.7)	0.7 (0.6–0.8)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.6 (0.5–0.6)	↓

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

Note: CI – confidence interval; OTC – over-the-counter.

Table 8.2b: Encounters at which at least one management was recorded (per cent of encounters), 2002–03 to 2011–12

	Per cent of encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
At least one…	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Management type	91.3 (90.6–92.0)	91.5 (90.9–92.0)	91.9 (91.3–92.5)	91.2 (90.6–91.8)	90.4 (89.8–91.0)	91.9 (91.3–92.4)	92.2 (91.7–92.7)	91.3 (90.7–91.9)	91.5 (90.8–92.1)	91.9 (91.3–92.5)	—
Medication or other treatment	82.5 (81.6–83.3)	82.3 (81.5–83.1)	82.4 (81.6–83.2)	81.4 (80.6–82.1)	79.9 (79.1–80.8)	82.2 (81.4–82.9)	82.4 (81.7–83.1)	81.6 (80.8–82.4)	81.4 (80.5–82.3)	81.9 (81.1–82.8)	—
Medication	65.8 (64.9–66.8)	65.6 (64.7–66.5)	64.3 (63.4–65.2)	65.2 (64.3–66.2)	63.9 (63.0–64.9)	64.4 (63.4–65.3)	65.1 (64.3–65.9)	64.6 (63.6–65.5)	64.7 (63.8–65.6)	65.1 (64.2–66.0)	—
Prescription	54.9 (53.7–56.1)	55.7 (54.6–56.9)	54.8 (53.8–55.8)	55.6 (54.5–56.6)	54.1 (53.2–55.1)	53.6 (52.6–54.5)	54.6 (53.7–55.5)	52.4 (51.3–53.4)	54.3 (53.3–55.2)	54.5 (53.5–55.5)	—
GP-supplied	6.8 (6.0–7.7)	6.5 (5.8–7.3)	6.2 (5.7–6.7)	6.4 (6.0–6.9)	6.8 (6.3–7.3)	7.9 (7.4–8.4)	8.5 (7.9–9.1)	10.5 (9.8–11.2)	8.0 (7.4–8.6)	7.4 (6.9–7.9)	§
Advised OTC	9.0 (8.3–9.8)	8.7 (8.0–9.3)	8.7 (8.1–9.4)	8.6 (8.0–9.2)	8.4 (7.8–8.9)	8.9 (8.3–9.6)	8.0 (7.5–8.5)	8.3 (7.6–8.9)	8.6 (8.0–9.2)	9.3 (8.9–9.9)	—
Other treatment	39.4 (37.8–40.9)	39.3 (37.8–40.8)	41.2 (39.7–42.8)	35.1 (33.7–36.6)	35.3 (33.8–36.9)	39.9 (38.3–41.4)	39.6 (38.3–41.0)	40.3 (38.5–42.0)	40.1 (38.4–41.7)	40.5 (38.9–42.1)	—
Clinical treatment	29.2 (27.7–30.6)	28.9 (27.4–30.3)	30.5 (29.1–32.0)	24.0 (22.7–25.4)	23.8 (22.5–25.2)	27.5 (26.1–28.9)	27.3 (26.0–28.6)	27.7 (26.1–29.2)	27.9 (26.3–29.5)	28.5 (26.9–30.0)	§
Procedural treatment	13.2 (12.6–13.8)	13.3 (12.7–13.9)	13.8 (13.1–14.6)	13.2 (12.6–13.8)	13.8 (13.2–14.5)	15.0 (14.3–15.7)	15.0 (14.4–15.6)	15.7 (14.8–16.6)	15.1 (14.4–15.8)	15.2 (14.5–15.8)	↑
Referrals & admissions	10.6 (10.2–11.0)	11.0 (10.5–11.5)	10.9 (10.5–11.3)	11.3 (10.9–11.8)	11.5 (11.0–11.9)	11.8 (11.3–12.2)	12.8 (12.3–13.2)	12.4 (11.9–12.9)	13.0 (12.5–13.5)	13.3 (12.8–13.8)	↑
Medical specialist*	7.4 (7.0–7.7)	7.6 (7.3–8.0)	7.5 (7.2–7.8)	7.9 (7.5–8.2)	7.7 (7.4–8.0)	7.7 (7.4–8.0)	8.6 (8.3–8.9)	8.1 (7.7–8.5)	8.2 (7.9–8.6)	8.2 (7.9–8.5)	↑
Allied health services*	2.4 (2.2–2.6)	2.5 (2.3–2.7)	2.6 (2.5–2.8)	2.8 (2.6–3.0)	3.0 (2.8–3.1)	3.3 (3.1–3.5)	3.7 (3.5–3.9)	3.7 (3.5–3.9)	3.9 (3.7–4.2)	4.3 (4.1–4.6)	↑
Hospital*	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	↓

(continued)

Table 8.2b (continued): Encounters at which at least one management was recorded (per cent of encounters), 2002–03 to 2011–12

	Per cent of encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓ (a)
At least one …	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Emergency department*	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	↑
Other referrals*	0.3 (0.2–0.3)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.6 (0.5–0.6)	0.5 (0.4–0.6)	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	↑
Investigation	20.8 (20.2–21.5)	21.3 (20.7–22.0)	21.7 (21.1–22.4)	22.6 (21.9–23.3)	23.5 (22.8–24.2)	23.8 (23.1–24.5)	24.6 (23.9–25.3)	24.2 (23.5–24.9)	24.1 (23.4–24.8)	24.7 (24.0–25.4)	↑
Pathology order	14.7 (14.2–15.3)	15.5 (14.9–16.1)	15.7 (15.2–16.3)	16.4 (15.8–16.9)	17.4 (16.8–18.0)	17.4 (16.7–18.0)	18.2 (17.6–18.8)	17.7 (17.1–18.3)	17.8 (17.2–18.4)	18.1 (17.4–18.7)	↑
Imaging order	7.5 (7.1–7.8)	7.2 (6.9–7.5)	7.3 (7.0–7.6)	7.8 (7.4–8.1)	7.9 (7.6–8.2)	8.3 (8.0–8.6)	8.5 (8.1–8.8)	8.5 (8.2–8.9)	8.4 (8.0–8.7)	8.6 (8.3–9.0)	↑
Other investigation	1.0 (0.8–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.9 (0.8–1.0)	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

Note: CI – confidence interval; OTC – over-the-counter.

9 Medications

This chapter summarises the medications prescribed, advised or supplied by general practitioners in each of ten years of the BEACH study from 2002–03 to 2011–12. The direction and type of change over the study period is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Significant change in rate per 100 encounters can be extrapolated to estimate the national increase or decrease in the number of prescribed, supplied, or advised medications between the first and last years of the study period. Some examples of extrapolated changes are given in this chapter. The method used to extrapolate to national change estimates is described fully in Section 2.9. In 2011–12 there were 25.6 million more encounters claimed through Medicare than there were in 2002–03 (122.5 million versus 96.9 million). It should be noted that because of this increase, it is possible that a rate of medication per 100 encounters that shows a decrease over time can result in an increase in the extrapolated national estimates of that medication.

GPs could record up to four medications for each of four problems – a maximum of 16 medications per encounter. Each medication could be recorded as prescribed (the default), supplied by the GP, or recommended for over-the-counter (OTC) purchase.

Medication data for the ten years 2002–03 to 2011–12, are reported in two ways in this chapter: as rates per 100 problems managed and as rates per 100 encounters. In describing data over time, the rates per 100 problems are reported as the primary measure, because there was a significant increase in the number of problems managed per encounter over the decade. The tables with rates per 100 encounters are included to show the basis for the extrapolations discussed above. Therefore, the rates shown in the examples below are per 100 problems managed and are taken from results shown in Tables 9.1a, 9.2a, 9.3a, 9.4a and 9.5a. On the other hand, the extrapolations are based on rate per 100 encounters so that they are equivalent to the national encounter data from Medicare and are based on results shown in Tables 9.1b, 9.2b, 9.3b, 9.4b and 9.5b.

Tables 9.1a and 9.1b show that between 2002–03 and 2011–12, there was no significant change in total medication rates per 100 problems managed or per 100 encounters. The peak in rates of GP–supplied medications in 2009–10 (Tables 9.1a and 9.1b) reflects a high rate of influenza virus vaccine which coincided with the H1N1 influenza pandemic of 2009.

9.1 Prescribed medications

The rate at which medications were prescribed overall did not change significantly from 2002–03 (58.2 per 100 problems) to 2011–12 (56.5 per 100) (Table 9.1a). There was also no significant change per 100 encounters (Table 9.1b). However, the extrapolated national effect of the increased number of encounters (described above) resulted in 24.6 million more prescriptions being given nationally by GPs in 2011–12 than in 2002–03. Tables 9.2a and 9.2b show prescribing rates of common drug groups over the ten-year period at ATC drug group Level 2, because this level is the most stable of the ATC groups.

There were significant changes in GP prescribing rate per 100 problems managed for a wide range of drug groups (Table 9.2a). In particular, there were measured increases in the prescription rate per 100 problems for:

- agents acting on the renin-angiotensin system from 3.4 per 100 problems managed in 2002–03 to 4.5 in 2011–12. The extrapolated national effect of this change (calculated from the encounter rate from Table 9.2b) was about 3.7 million more prescriptions for drugs in this group given in 2011–12 than in 2002–03
- psychoanaleptics from 2.1 per 100 problems in 2002–03 to 2.7 per 100 in 2011–12, with an extrapolated national effect of about 2.2 million more prescriptions for psychoanaleptics nationally in 2011–12 than in 2002–03
- lipid modifying agents from 1.6 per 100 problems in 2002–03 to 2.6 in 2011–12. The extrapolated national effect of this change was that about 2.6 million more prescriptions for drugs in this group were given in 2011–12 than in 2002–03
- drugs for acid related disorders from 1.8 per 100 problems in 2002–03 to 2.2 in 2011–12, an estimated increase of 1.7 million prescriptions nationally in 2011–12 than in 2002–03
- drugs used in diabetes from 1.3 per 100 problems in 2002–03 to 1.9 in 2011–12, suggesting 1.7 million more prescriptions nationally in 2011–12 than in 2002–03.

There were also significant decreases in the prescribing rate per 100 problems managed for some drug groups. As earlier suggested, the increase in number of encounters claimed through Medicare over the decade could cause the decreases in medication numbers in the extrapolated national estimates to be less than they would have been had Medicare encounter numbers remained steady. As shown in Table 9.2a, there were measured decreases in the prescription rate per 100 problems for:

- drugs for obstructive airway disease from 3.2 per 100 problems managed in 2002–03 to 2.4 in 2011–12. The extrapolated national effect of this change (calculated on the encounter rate from Table 9.2b) was that about 75,000 fewer prescriptions for drugs in this group were given in 2011–12 than in 2002–03
- anti-inflammatory and antirheumatic products from 3.3 per 100 problems in 2002–03 to 2.0 in 2011–12, with an extrapolated national effect of about 980,000 fewer prescriptions for these products nationally in 2011–12 than in 2002–03
- sex hormones and modulators of the genital system from 2.6 per 100 problems in 2002–03 to 1.6 in 2011–12, with an extrapolated national effect of about 520,000 fewer prescriptions for them nationally in 2011–12 than in 2002–03
- vaccines from 2.9 per 100 problems in 2002–03 to 0.8 in 2011–12, an estimated decrease of 2.5 million vaccine prescriptions nationally in 2011–12 than in 2002–03
- diuretics from 1.1 per 100 problems in 2002–03 to 0.7 in 2011–12, suggesting 200,000 fewer diuretic prescriptions nationally in 2011–12 than in 2002–03.

Some of the changes referred to here can be linked to changes in the patterns of morbidity managed, for example, the rise in psychoanaleptics and the significant increase in management rates of depression. Other changes coincide with policy initiatives such as the rise in drugs used in diabetes (and management rates of diabetes) which began in 2005–06 after the introduction of the government Action Plan on Diabetes. Likewise, the steady rise in rates of lipid modifying agents accelerated in 2006–07, which was when criteria for PBS-subsidised access to these medications were broadened.

Decreases in prescribing rates of drug groups can sometimes be linked to medications within the group becoming available over-the-counter (e.g. salbutamol; the 'morning after pill' contraceptive); becoming more likely to be supplied directly to the patient by the GP (e.g. vaccines); or being included in combination medication products (e.g. diuretics).

When no change occurs in prescribing rate per 100 problems managed, there may still be a national increase due to the increased attendance rates. An example of this is prescriptions for analgesics, the rate of which remained steady over the study period. However, we estimate that due to the increase in attendances, about 3.5 million more were prescribed in 2011–12 than in 2002–03.

Tables 9.3a and 9.3b show prescribed medication rates at the individual generic level. The same effect of increased number of Medicare encounters over time applies to these individual drugs. There were significant changes in GP prescribing rate per 100 problems for a number of drugs, including increased prescription rate per 100 problems managed for:

- the opioid oxycodone, which demonstrated a fivefold increase from 0.2 per 100 problems managed in 2002–03 to 1.0 in 2011–12, with an extrapolated national effect of about 1.5 million more prescriptions for oxycodone nationally in 2011–12 than ten years earlier (calculated from the encounter rate from Table 9.3b)
- the proton pump inhibitor esomeprazole, also showed a fivefold increase from 0.2 per 100 problems in 2002–03 to 1.0 in 2011–12 with an extrapolated national effect of 1.5 million more prescriptions for esomeprazole given in 2011–12 than in 2002–03
- the lipid modifying agent rosuvastatin, which was first listed on the PBS in December 2006, and rose from 0.2 per 100 problems in 2007–08 to 0.7 in 2011–12 – an estimated increase of 1.1 million prescriptions during that period
- the non-steroid anti-inflammatory meloxicam from 0.2 per 100 problems in 2002–03 to 0.5 in 2011–12, suggesting 690,000 more prescriptions for meloxicam nationally in 2011–12 than in 2002–03.

A number of medications were prescribed less often than in 2002–03, with decreases observed in the prescription rate per 100 problems for:

- the lipid modifying agent simvastatin, from 0.6 per 100 problems in 2002–03 to 0.4 in 2011–12, an extrapolated national decrease of 140,000 thousand prescriptions for simvastatin given in 2011–12 than in 2002–03
- the non-steroid anti-inflammatory celecoxib from 0.7 per 100 problems in 2002–03 to 0.3 in 2011–12, suggesting 450,000 fewer prescriptions nationally for celecoxib in 2011–12 than in 2002–03
- the cefaclor monohydrate, from 0.7 per 100 problems in 2002–03 to 0.3 in 2011–12, an estimated decrease of 360,000 prescriptions for cefaclor over the ten-year period.

Number of repeats ordered

The pattern of the number of repeat prescriptions recorded by GPs changed between 2002–03 and 2011–12 (Table 9.4). There was a significant decrease in the proportion of prescribed medications with 'no' or 'two' or 'three or four' repeats ordered. On the other hand, there was a significant increase in the proportion of prescriptions for which 'five' repeats were recorded. The proportion of prescriptions given with five repeats increased from 27.4% in 2002–03 to 35.5% in 2011–12.

9.2 Medications supplied by GPs

Rates of GP-supplied medications per 100 problems managed were similar in 2002–03 (6.4) and in 2011–12 (6.3) (Table 9.1a). Per 100 encounters, the rates were also similar in 2002–03 (9.3) and in 2011–12 (9.7) (Table 9.1b).

Table 9.5a shows rates per 100 problems managed of individual medications most frequently supplied by GPs between 2002–03 and 2011–12. The majority of these medications were vaccines, and rates for many of them increased significantly over the period. The supply of influenza virus vaccine rose from 0.5 per 100 problems managed in 2002–03 to 1.3 per 100 in 2011–12. The rate per 100 encounters increased from 0.7 to 1.9 (Table 9.5b), and the extrapolated national effect of this change is that influenza virus vaccine was supplied 1.6 million more times in 2011–12 than in 2002–03. The move away from prescribing towards GP supply of the vaccine was evident in this significant increase in its supply, which coincided with the significant decrease in its prescribing rate (Table 9.3a). This change follows federal government policy starting in 2001, which made the vaccine available free of charge to all Australians aged 65 years and over, to Aboriginal and Torres Strait Islander people aged 50 years and older, and to younger Aboriginal and Torres Strait Islander persons with health risks. Vaccines can be ordered by the GP directly from the supplier. In Tables 9.5a and 9.5b, one can also see the 2009–10 peak in the rate of influenza virus vaccine coinciding with the H1N1 influenza pandemic of 2009.

9.3 Medications advised for over-the-counter purchase

Table 9.6a shows rates per 100 problems managed for the most commonly advised over-the-counter medications at the generic level. Rates for individual and total medications advised for over-the-counter purchase largely remained steady between 2002–03 and 2011–12, except for significant increases in unspecified simple analgesics and in vitamin D. There was a fourfold increase in the rate vitamin D was advised per 100 encounters, with the increase starting to become apparent in 2008–09 (Table 9.6b).

Table 9.1a: Rates of medications prescribed, advised for over-the-counter purchase, supplied (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Medications	**(*n* = 146,336)**	**(*n* = 144,674)**	**(*n* = 137,330)**	**(*n* = 149,088)**	**(*n* = 136,333)**	**(*n* = 145,078)**	**(*n* = 149,462)**	**(*n* = 155,373)**	**(*n* = 146,141)**	**(*n* = 152,286)**	
Prescribed	58.2 (56.6–59.8)	58.8 (57.3–60.3)	57.3 (55.9–58.7)	58.7 (57.2–60.3)	56.1 (54.7–57.4)	54.5 (53.2–55.8)	55.9 (54.5–57.2)	54.4 (52.8–56.0)	55.8 (54.5–57.1)	56.5 (54.9–58.1)	—
GP–supplied	6.4 (5.5–7.3)	5.9 (5.2–6.5)	5.5 (5.0–6.0)	6.0 (5.6–6.5)	6.0 (5.5–6.5)	6.7 (6.3–7.1)	7.1 (6.6–7.6)	8.9 (8.3–9.5)	6.8 (6.2–7.3)	6.3 (5.8–6.8)	§
Advised OTC	7.0 (6.4–7.6)	6.7 (6.1–7.2)	6.9 (6.3–7.5)	6.7 (6.2–7.2)	6.3 (5.8–6.8)	6.7 (6.2–7.2)	5.7 (5.3–6.1)	6.2 (5.7–6.7)	6.4 (5.9–6.9)	6.8 (6.3–7.4)	—
Total medications	**71.6 (70.1–73.1)**	**71.3 (70.0–72.7)**	**69.8 (68.3–71.2)**	**71.4 (69.9–72.9)**	**68.4 (67.0–69.7)**	**67.9 (66.5–69.2)**	**68.7 (67.5–70.0)**	**69.5 (67.9–71.1)**	**69.0 (67.6–70.3)**	**69.6 (68.0–71.2)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Note: CI – confidence interval; OTC – over-the-counter.

Table 9.1b: Rates of medications prescribed, advised for over-the-counter purchase, supplied (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Medications	**(*n* = 100,987)**	**(*n* = 98,877)**	**(*n* = 94,386)**	**(*n* = 101,993)**	**(*n* = 91,805)**	**(*n* = 95,898)**	**(*n* = 96,688)**	**(*n* = 101,349)**	**(*n* = 95,839)**	**(*n* = 99,030)**	
Prescribed	84.3 (81.8–86.9)	86.0 (83.6–88.5)	83.4 (81.2–85.6)	85.8 (83.3–88.4)	83.3 (81.0–85.5)	82.4 (80.3–84.6)	86.4 (84.1–88.6)	83.4 (80.6–86.2)	85.1 (82.9–87.3)	86.8 (84.0–89.7)	—
GP–supplied	9.3 (8.0–10.6)	8.6 (7.6–9.6)	8.1 (7.3–8.8)	8.8 (8.2–9.5)	8.9 (8.2–9.6)	10.1 (9.5–10.7)	11.0 (10.2–11.8)	13.6 (12.7–14.6)	10.3 (9.5–11.2)	9.7 (8.9–10.5)	§
Advised OTC	10.2 (9.3–11.1)	9.8 (9.0–10.5)	10.1 (9.2–10.9)	9.8 (9.0–10.5)	9.4 (8.7–10.1)	10.1 (9.3–10.9)	8.9 (8.3–9.4)	9.5 (8.7–10.3)	9.8 (9.0–10.5)	10.5 (9.7–11.3)	—
Total medications	**103.8 (101.4–106.2)**	**104.4 (102.1–106.7)**	**101.5 (99.3–103.8)**	**104.4 (101.8–107.0)**	**101.5 (99.2–103.9)**	**102.7 (100.3–105.0)**	**106.3 (104.0–108.5)**	**106.6 (103.6–109.5)**	**105.2 (102.8–107.6)**	**107.0 (104.1–110.0)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Note: CI – confidence interval; OTC – over-the-counter.

Table 9.2a: Prescribed medications by ATC level 2 (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
ATC level 2	(*n* = 146,336)	(*n* = 144,674)	(*n* = 137,330)	(*n* = 149,088)	(*n* = 136,333)	(*n* = 145,078)	(*n* = 149,462)	(*n* = 155,373)	(*n* = 146,141)	(*n* = 152,286)	
Antibacterials for systemic use	9.2 (8.8–9.6)	9.3 (8.9–9.7)	9.6 (9.2–10.1)	10.0 (9.6–10.4)	9.4 (9.0–9.8)	9.1 (8.7–9.5)	9.4 (9.1–9.8)	9.1 (8.7–9.5)	9.5 (9.1–9.9)	9.3 (8.9–9.7)	—
Analgesics	5.6 (5.2–5.9)	5.5 (5.2–5.8)	5.3 (5.1–5.6)	5.7 (5.4–6.1)	5.4 (5.1–5.7)	5.2 (4.9–5.5)	5.1 (4.9–5.4)	5.4 (5.1–5.7)	5.6 (5.3–5.9)	6.0 (5.7–6.3)	—
Agents acting on the renin-angiotensin system	3.4 (3.2–3.6)	3.7 (3.5–3.9)	3.8 (3.6–4.0)	4.2 (3.9–4.5)	4.4 (4.2–4.6)	4.4 (4.1–4.6)	4.6 (4.3–4.8)	4.2 (4.0–4.5)	4.3 (4.1–4.5)	4.5 (4.2–4.7)	↑
Psycholeptics	3.2 (3.0–3.4)	3.4 (3.2–3.6)	3.4 (3.1–3.6)	3.4 (3.2–3.6)	3.3 (3.1–3.5)	3.1 (2.9–3.3)	3.2 (3.0–3.4)	2.8 (2.6–3.0)	3.0 (2.8–3.1)	3.0 (2.8–3.2)	—
Psychoanaleptics	2.1 (1.9–2.2)	2.2 (2.1–2.4)	2.2 (2.0–2.3)	2.3 (2.1–2.4)	2.3 (2.2–2.5)	2.3 (2.2–2.4)	2.4 (2.3–2.5)	2.5 (2.4–2.7)	2.6 (2.5–2.8)	2.7 (2.6–2.9)	↑
Lipid modifying agents	1.6 (1.5–1.8)	1.9 (1.8–2.0)	2.1 (2.0–2.2)	2.3 (2.1–2.4)	2.3 (2.2–2.5)	2.5 (2.3–2.6)	2.6 (2.5–2.8)	2.5 (2.4–2.7)	2.5 (2.4–2.7)	2.6 (2.5–2.8)	↑
Drugs for obstructive airway disease	3.2 (2.9–3.4)	2.8 (2.7–3.0)	2.6 (2.5–2.8)	2.7 (2.5–2.8)	2.5 (2.4–2.7)	2.3 (2.2–2.5)	2.5 (2.3–2.6)	2.4 (2.2–2.6)	2.6 (2.4–2.7)	2.4 (2.2–2.6)	↓
Drugs for acid related disorders	1.8 (1.6–1.9)	2.0 (1.8–2.1)	1.9 (1.8–2.0)	2.1 (2.0–2.2)	2.0 (1.9–2.1)	2.0 (1.9–2.1)	2.1 (2.0–2.2)	2.1 (1.9–2.2)	2.0 (1.9–2.2)	2.2 (2.1–2.4)	↑
Anti-inflammatory and antirheumatic products	3.3 (3.1–3.5)	3.3 (3.1–3.4)	3.1 (2.9–3.3)	2.7 (2.5–2.8)	2.4 (2.3–2.6)	2.3 (2.1–2.4)	2.2 (2.0–2.3)	2.1 (1.9–2.2)	2.1 (2.0–2.2)	2.0 (1.8–2.1)	↓
Drugs used in diabetes	1.3 (1.2–1.4)	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.7 (1.5–1.9)	1.6 (1.5–1.8)	1.7 (1.5–1.8)	1.9 (1.7–2.0)	1.7 (1.5–1.9)	1.8 (1.7–2.0)	1.9 (1.7–2.1)	↑
Corticosteroids, dermatological preparations	1.8 (1.7–1.9)	1.8 (1.7–1.9)	1.9 (1.8–2.0)	1.7 (1.6–1.8)	1.8 (1.6–1.9)	1.7 (1.6–1.8)	1.7 (1.6–1.8)	1.5 (1.4–1.6)	1.7 (1.6–1.8)	1.7 (1.5–1.8)	—
Sex hormones and modulators of genital system	2.6 (2.4–2.7)	2.4 (2.2–2.5)	2.1 (2.0–2.3)	2.1 (1.9–2.2)	2.0 (1.8–2.2)	1.9 (1.8–2.0)	1.7 (1.6–1.8)	1.6 (1.5–1.7)	1.6 (1.5–1.7)	1.6 (1.5–1.8)	↓
Antithrombotic agents	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.2 (1.1–1.4)	1.3 (1.2–1.4)	1.4 (1.3–1.5)	1.4 (1.2–1.5)	1.5 (1.4–1.6)	1.5 (1.3–1.6)	1.4 (1.3–1.5)	1.6 (1.5–1.7)	↑
Calcium channel blockers	1.4 (1.3–1.5)	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.4 (1.3–1.5)	1.5 (1.4–1.6)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	↓

(continued)

Table 9.2a (continued): Prescribed medications by ATC level 2 (rate per 100 problems), 2002–03 to 2011–12

ATC level 2	Rate per 100 problems (95% CI)										↑↓[(a)]
	2002–03 (*n* = 146,336)	2003–04 (*n* = 144,674)	2004–05 (*n* = 137,330)	2005–06 (*n* = 149,088)	2006–07 (*n* = 136,333)	2007–08 (*n* = 145,078)	2008–09 (*n* = 149,462)	2009–10 (*n* = 155,373)	2010–11 (*n* = 146,141)	2011–12 (*n* = 152,286)	
Beta blocking agents	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.1 (1.1–1.2)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.3 (1.2–1.4)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	—
Corticosteroids for systemic use	0.7 (0.7–0.8)	0.9 (0.8–0.9)	0.8 (0.8–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.8–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (1.0–1.1)	↑
Ophthalmologicals	1.1 (1.0–1.2)	1.1 (1.1–1.2)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.2 (1.1–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.0 (1.0–1.1)	1.0 (1.0–1.1)	1.0 (0.9–1.1)	—
Vaccines	2.9 (2.6–3.1)	2.3 (2.0–2.5)	2.0 (1.8–2.3)	1.7 (1.5–1.9)	1.2 (1.0–1.3)	1.1 (0.9–1.2)	1.0 (0.9–1.2)	1.1 (0.9–1.3)	1.0 (0.8–1.1)	0.8 (0.7–0.9)	↓
Diuretics	1.1 (1.0–1.2)	1.1 (1.0–1.1)	0.9 (0.8–1.0)	1.0 (0.9–1.0)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	↓
Nasal preparations	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.7)	—
Other nervous system drugs	0.3 (0.2–0.4)	0.2 (0.2–0.3)	0.4 (0.2–0.5)	0.4 (0.3–0.5)	0.3 (0.2–0.3)	0.3 (0.2–0.4)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	↑
Thyroid therapy	0.4 (0.4–0.4)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.4 (0.4–0.5)	0.5 (0.5–0.5)	0.5 (0.5–0.6)	↑
Drugs for functional gastrointestinal disorders	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.5 (0.4–0.5)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	↓
Otologicals	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	↓
Antiepileptics	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.4 (0.4–0.5)	↑
Cardiac therapy	0.7 (0.6–0.7)	0.7 (0.6–0.8)	0.6 (0.5–0.6)	0.6 (0.6–0.7)	0.5 (0.5–0.6)	0.4 (0.4–0.5)	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	↓
Total prescribed medications	**58.2 (56.6–59.8)**	**58.8 (57.3–60.3)**	**57.3 (55.9–58.7)**	**58.7 (57.2–60.3)**	**56.1 (54.7–57.4)**	**54.5 (53.2–55.8)**	**55.9 (54.5–57.2)**	**54.4 (52.8–56.0)**	**55.8 (54.5–57.1)**	**56.5 (54.9–58.1)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Note: CI – confidence interval.

Table 9.2b: Prescribed medications by ATC level 2 (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
ATC level 2	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	↑↓[a]
Antibacterials for systemic use	13.3 (12.8–13.9)	13.6 (13.1–14.2)	14.0 (13.5–14.6)	14.6 (14.0–15.2)	14.0 (13.4–14.5)	13.8 (13.2–14.3)	14.6 (14.1–15.1)	14.0 (13.4–14.5)	14.5 (13.9–15.0)	14.3 (13.7–14.8)	—
Analgesics	8.1 (7.6–8.6)	8.1 (7.6–8.6)	7.8 (7.3–8.2)	8.4 (7.9–8.9)	8.0 (7.6–8.4)	7.9 (7.5–8.3)	7.9 (7.5–8.3)	8.2 (7.7–8.7)	8.6 (8.1–9.0)	9.3 (8.8–9.8)	↑
Agents acting on the renin-angiotensin system	4.9 (4.6–5.2)	5.5 (5.1–5.8)	5.5 (5.2–5.8)	6.1 (5.7–6.5)	6.5 (6.1–6.9)	6.6 (6.2–7.0)	7.1 (6.7–7.4)	6.5 (6.1–6.9)	6.6 (6.2–6.9)	6.9 (6.5–7.3)	↑
Psycholeptics	4.7 (4.4–5.0)	5.0 (4.7–5.3)	4.9 (4.6–5.2)	5.0 (4.6–5.3)	4.8 (4.5–5.1)	4.7 (4.4–5.0)	5.0 (4.7–5.3)	4.3 (4.0–4.6)	4.5 (4.2–4.8)	4.6 (4.3–4.9)	—
Psychoanaleptics	3.0 (2.8–3.2)	3.3 (3.1–3.5)	3.1 (3.0–3.3)	3.3 (3.1–3.5)	3.5 (3.3–3.7)	3.5 (3.3–3.7)	3.7 (3.5–3.9)	3.9 (3.6–4.1)	4.0 (3.8–4.3)	4.2 (3.9–4.5)	↑
Lipid modifying agents	2.4 (2.2–2.6)	2.8 (2.6–3.0)	3.0 (2.8–3.2)	3.3 (3.0–3.6)	3.4 (3.2–3.7)	3.7 (3.5–4.0)	4.1 (3.8–4.3)	3.9 (3.6–4.2)	3.9 (3.6–4.1)	4.0 (3.8–4.3)	↑
Drugs for obstructive airway diseases	4.6 (4.3–4.9)	4.1 (3.9–4.4)	3.8 (3.6–4.1)	3.9 (3.6–4.1)	3.8 (3.5–4.0)	3.5 (3.3–3.8)	3.8 (3.6–4.0)	3.7 (3.4–4.0)	3.9 (3.6–4.2)	3.7 (3.4–4.0)	↓
Drugs for acid related disorders	2.5 (2.4–2.7)	2.9 (2.7–3.0)	2.7 (2.5–2.9)	3.1 (2.9–3.2)	3.0 (2.8–3.2)	3.0 (2.9–3.2)	3.3 (3.1–3.4)	3.2 (2.9–3.4)	3.1 (2.9–3.3)	3.4 (3.2–3.6)	↑
Anti-inflammatory and antirheumatic products	4.8 (4.6–5.1)	4.8 (4.5–5.0)	4.5 (4.2–4.7)	3.9 (3.7–4.2)	3.6 (3.4–3.9)	3.5 (3.2–3.7)	3.4 (3.2–3.5)	3.2 (2.9–3.4)	3.2 (3.0–3.4)	3.0 (2.8–3.2)	↓
Drugs used in diabetes	1.9 (1.7–2.1)	2.2 (2.0–2.4)	2.1 (1.9–2.2)	2.5 (2.2–2.7)	2.4 (2.2–2.6)	2.5 (2.3–2.8)	2.9 (2.6–3.2)	2.6 (2.4–2.9)	2.8 (2.5–3.0)	2.9 (2.6–3.2)	↑
Corticosteroids, dermatological preparations	2.6 (2.5–2.8)	2.6 (2.4–2.7)	2.8 (2.6–2.9)	2.5 (2.4–2.7)	2.6 (2.4–2.8)	2.6 (2.4–2.7)	2.6 (2.5–2.8)	2.4 (2.2–2.5)	2.6 (2.4–2.7)	2.5 (2.4–2.7)	—
Sex hormones and modulators of genital system	3.7 (3.5–3.9)	3.5 (3.3–3.7)	3.1 (2.9–3.3)	3.0 (2.8–3.2)	3.0 (2.7–3.3)	2.9 (2.7–3.0)	2.7 (2.5–2.9)	2.5 (2.3–2.6)	2.5 (2.3–2.6)	2.5 (2.4–2.7)	↓
Antithrombotic agents	1.6 (1.4–1.7)	1.8 (1.6–1.9)	1.8 (1.6–2.0)	1.9 (1.7–2.1)	2.1 (1.9–2.2)	2.1 (1.9–2.3)	2.4 (2.2–2.5)	2.2 (2.1–2.4)	2.1 (2.0–2.3)	2.5 (2.2–2.7)	↑
Calcium channel blockers	2.0 (1.8–2.1)	2.2 (2.0–2.3)	2.0 (1.8–2.1)	2.2 (2.0–2.4)	2.1 (2.0–2.3)	2.1 (1.9–2.3)	2.3 (2.1–2.4)	2.0 (1.9–2.2)	1.8 (1.7–2.0)	1.8 (1.7–2.0)	—

(continued)

Table 9.2b (continued): Prescribed medications by ATC level 2 (rate per 100 encounters), 2002–03 to 2011–12

ATC level 2	Rate per 100 encounters (95% CI)										↑/↓ [a]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Beta blocking agents	1.6 (1.5–1.7)	1.8 (1.7–2.0)	1.7 (1.5–1.8)	1.9 (1.8–2.1)	1.8 (1.7–2.0)	1.7 (1.6–1.9)	2.0 (1.8–2.1)	1.6 (1.5–1.8)	1.7 (1.6–1.8)	1.7 (1.6–1.9)	—
Corticosteroids for systemic use	1.1 (1.0–1.2)	1.3 (1.1–1.4)	1.2 (1.1–1.4)	1.3 (1.2–1.4)	1.3 (1.2–1.5)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.4 (1.3–1.6)	1.4 (1.3–1.5)	1.6 (1.5–1.7)	↑
Ophthalmologicals	1.6 (1.5–1.7)	1.7 (1.5–1.8)	1.7 (1.6–1.8)	1.8 (1.7–1.9)	1.7 (1.6–1.8)	1.7 (1.5–1.8)	1.7 (1.6–1.8)	1.6 (1.5–1.7)	1.6 (1.5–1.7)	1.6 (1.4–1.7)	—
Vaccines	4.2 (3.8–4.5)	3.3 (3.0–3.6)	2.9 (2.6–3.3)	2.5 (2.2–2.8)	1.7 (1.5–1.9)	1.6 (1.4–1.8)	1.6 (1.4–1.8)	1.7 (1.4–1.9)	1.5 (1.3–1.7)	1.3 (1.1–1.5)	↓
Diuretics	1.6 (1.4–1.7)	1.5 (1.4–1.7)	1.3 (1.2–1.5)	1.4 (1.3–1.5)	1.4 (1.3–1.5)	1.2 (1.1–1.4)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	↓
Nasal preparations	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	—
Other nervous system drugs	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.5 (0.3–0.7)	0.6 (0.4–0.7)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.8 (0.6–0.9)	0.8 (0.6–0.9)	0.9 (0.8–1.0)	0.8 (0.7–1.0)	↑
Thyroid therapy	0.6 (0.5–0.6)	0.6 (0.6–0.7)	0.7 (0.6–0.7)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	↑
Drugs for functional gastrointestinal disorders	0.9 (0.8–1.0)	1.0 (0.9–1.0)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	—
Otologicals	0.8 (0.8–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.8 (0.8–0.9)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	↓
Antiepileptics	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.6–0.7)	0.6 (0.5–0.7)	0.5 (0.5–0.6)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	↑
Cardiac therapy	1.0 (0.8–1.1)	1.1 (0.9–1.2)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.9 (0.8–1.0)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	↓
Total prescribed medications	**84.3 (81.8–86.9)**	**86.0 (83.6–88.5)**	**83.4 (81.2–85.6)**	**85.8 (83.3–88.4)**	**83.3 (81.0–85.5)**	**82.4 (80.3–84.6)**	**86.4 (84.1–88.6)**	**83.4 (80.6–86.2)**	**85.1 (82.9–87.3)**	**86.8 (84.0–89.7)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Note: CI – confidence interval.

Table 9.3a: Most frequently prescribed medications by CAPS generic (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Generic drug	(*n* = 146,336)	(*n* = 144,674)	(*n* = 137,330)	(*n* = 149,088)	(*n* = 136,333)	(*n* = 145,078)	(*n* = 149,462)	(*n* = 155,373)	(*n* = 146,141)	(*n* = 152,286)	
Amoxycillin	2.1 (2.0–2.3)	2.2 (2.0–2.4)	2.4 (2.2–2.6)	2.4 (2.3–2.6)	2.2 (2.0–2.4)	2.3 (2.1–2.5)	2.3 (2.1–2.4)	2.1 (1.9–2.3)	2.1 (2.0–2.3)	2.1 (1.9–2.3)	—
Paracetamol [plain]	2.2 (1.9–2.4)	2.0 (1.7–2.2)	1.8 (1.7–2.0)	2.1 (1.9–2.3)	1.7 (1.5–1.9)	1.6 (1.5–1.8)	1.5 (1.4–1.6)	1.8 (1.5–2.0)	1.7 (1.5–1.8)	1.9 (1.7–2.1)	—
Cephalexin	1.3 (1.2–1.4)	1.4 (1.3–1.5)	1.6 (1.5–1.8)	1.7 (1.6–1.9)	1.6 (1.5–1.7)	1.6 (1.5–1.7)	1.6 (1.5–1.7)	1.7 (1.6–1.8)	1.8 (1.7–1.9)	1.8 (1.7–1.9)	↑
Paracetamol/codeine [all]	1.4 (1.3–1.5)	1.4 (1.3–1.5)	1.4 (1.2–1.5)	1.4 (1.3–1.5)	1.3 (1.2–1.4)	1.3 (1.1–1.4)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.3 (1.1–1.4)	—
Amoxycillin/potassium clavulanate	1.1 (1.0–1.2)	1.2 (1.0–1.3)	1.2 (1.0–1.3)	1.1 (1.0–1.2)	1.1 (1.0–1.3)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.3 (1.2–1.4)	1.2 (1.1–1.3)	—
Atorvastatin	0.7 (0.7–0.8)	0.8 (0.7–0.9)	1.0 (0.9–1.0)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.3)	1.2 (1.1–1.3)	1.0 (1.0–1.1)	1.0 (1.0–1.1)	1.0 (1.0–1.1)	↑
Oxycodone	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	0.9 (0.8–0.9)	1.0 (0.9–1.0)	1.0 (0.9–1.1)	↑
Esomeprazole	0.2 (0.2–0.2)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.6 (0.6–0.7)	0.7 (0.6–0.7)	0.8 (0.7–0.8)	0.8 (0.8–0.9)	0.8 (0.8–0.9)	0.8 (0.7–0.9)	1.0 (0.9–1.0)	↑
Warfarin sodium	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	↑
Salbutamol	1.2 (1.1–1.3)	1.0 (1.0–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.9 (0.9–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–0.9)	↓
Metformin	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.8 (0.8–0.9)	0.9 (0.8–0.9)	0.8 (0.8–0.9)	↑
Perindopril	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.6 (0.5–0.6)	0.7 (0.6–0.7)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.9 (0.8–0.9)	0.8 (0.7–0.8)	0.8 (0.7–0.8)	0.8 (0.7–0.8)	↑
Roxithromycin	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	↓

(continued)

Table 9.3a (continued): Most frequently prescribed medications by CAPS generic (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Generic drug	(*n* = 146,336)	(*n* = 144,674)	(*n* = 137,330)	(*n* = 149,088)	(*n* = 136,333)	(*n* = 145,078)	(*n* = 149,462)	(*n* = 155,373)	(*n* = 146,141)	(*n* = 152,286)	
Diazepam	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	—
Rosuvastatin	N/A	N/A	N/A	N/A	0.0[Ŧ] (0.0–0.0)	0.2 (0.2–0.3)	0.4 (0.3–0.4)	0.5 (0.5–0.6)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	↑
Temazepam	0.8 (0.7–0.9)	0.8 (0.8–0.9)	0.8 (0.7–0.8)	0.7 (0.7–0.8)	0.7 (0.7–0.8)	0.7 (0.7–0.8)	0.8 (0.7–0.8)	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	↓
Irbesartan	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.7 (0.7–0.8)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.6 (0.6–0.7)	—
Tramadol	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	—
Betamethasone topical	0.5 (0.4–0.5)	0.6 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	↑
Fluticasone/salmeterol	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	↓
Meloxicam	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.6 (0.5–0.6)	0.6 (0.6–0.7)	0.5 (0.5–0.6)	↑
Levonorgestrel/ ethinyloestradiol	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	↓
Chloramphenicol eye	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.7 (0.7–0.8)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	↓
Pantoprazole	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	↑
Atenolol	0.6 (0.5–0.6)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.6 (0.6–0.7)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	↓
Thyroxine	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.4–0.4)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	↑
Irbesartan/ hydrochlorothiazide	0.4 (0.3–0.4)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	↑

(continued)

Table 9.3a (continued): Most frequently prescribed medications by CAPS generic (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Generic drug	**(*n* = 146,336)**	**(*n* = 144,674)**	**(*n* = 137,330)**	**(*n* = 149,088)**	**(*n* = 136,333)**	**(*n* = 145,078)**	**(*n* = 149,462)**	**(*n* = 155,373)**	**(*n* = 146,141)**	**(*n* = 152,286)**	
Generic medications frequently prescribed in previous years											
Simvastatin	0.6 (0.5–0.7)	0.7 (0.7–0.8)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.6 (0.5–0.7)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.4 (0.4–0.4)	0.4 (0.3–0.4)	↓
Celecoxib	0.7 (0.7–0.8)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	↓
Diclofenac sodium systemic	0.5 (0.4–0.6)	0.6 (0.5–0.6)	0.7 (0.6–0.7)	0.7 (0.6–0.8)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	↓
Cefaclor monohydrate	0.7 (0.6–0.8)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.4–0.7)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	↓
Influenza virus vaccine	1.0 (0.8–1.2)	0.8 (0.7–1.0)	0.6 (0.5–0.7)	0.7 (0.6–0.9)	0.4 (0.3–0.5)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.3 (0.2–0.4)	0.2 (0.2–0.3)	↓
Total prescribed medications	**58.2 (56.6–59.8)**	**58.8 (57.3–60.3)**	**57.3 (55.9–58.7)**	**58.7 (57.2–60.3)**	**56.1 (54.7–57.4)**	**54.5 (53.2–55.8)**	**55.9 (54.5–57.2)**	**54.4 (52.8–56.0)**	**55.8 (54.5–57.1)**	**56.5 (54.9–58.1)**	—

(a) The direction and type change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

Note: CI – confidence interval; N/A – not applicable (that is, drug was not available at that time).

Table 9.3b: Most frequently prescribed medications by CAPS generic (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Generic drug	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Amoxycillin	3.1 (2.8–3.4)	3.3 (3.0–3.5)	3.5 (3.2–3.8)	3.6 (3.3–3.8)	3.3 (3.0–3.6)	3.5 (3.2–3.7)	3.5 (3.3–3.8)	3.2 (3.0–3.5)	3.3 (3.0–3.5)	3.2 (3.0–3.5)	—
Paracetamol [plain]	3.1 (2.8–3.5)	2.9 (2.5–3.2)	2.7 (2.4–2.9)	3.0 (2.7–3.3)	2.6 (2.3–2.8)	2.5 (2.2–2.7)	2.3 (2.1–2.5)	2.7 (2.3–3.0)	2.5 (2.3–2.8)	2.9 (2.7–3.2)	—
Cephalexin	1.9 (1.8–2.0)	2.0 (1.9–2.2)	2.4 (2.2–2.6)	2.5 (2.3–2.7)	2.3 (2.2–2.5)	2.4 (2.3–2.6)	2.5 (2.3–2.6)	2.6 (2.5–2.8)	2.7 (2.5–2.9)	2.8 (2.6–3.0)	↑
Paracetamol/codeine [all]	2.0 (1.8–2.2)	2.1 (1.9–2.3)	2.0 (1.8–2.2)	2.0 (1.8–2.2)	2.0 (1.8–2.1)	1.9 (1.7–2.1)	1.9 (1.8–2.0)	1.7 (1.5–1.8)	1.9 (1.7–2.0)	1.9 (1.8–2.1)	—
Amoxycillin/ potassium clavulanate	1.6 (1.4–1.7)	1.7 (1.5–1.8)	1.7 (1.5–1.8)	1.6 (1.5–1.8)	1.7 (1.5–1.9)	1.7 (1.6–1.9)	1.8 (1.7–2.0)	1.6 (1.5–1.8)	2.0 (1.8–2.2)	1.9 (1.7–2.0)	↑
Atorvastatin	1.0 (1.0–1.1)	1.2 (1.1–1.3)	1.4 (1.3–1.5)	1.6 (1.4–1.8)	1.7 (1.5–1.8)	1.7 (1.6–1.9)	1.9 (1.7–2.0)	1.6 (1.5–1.7)	1.6 (1.5–1.7)	1.6 (1.5–1.7)	↑
Oxycodone	0.3 (0.3–0.4)	0.4 (0.4–0.5)	0.5 (0.5–0.6)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	1.0 (0.9–1.2)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.5 (1.3–1.6)	1.5 (1.4–1.6)	↑
Esomeprazole	0.3 (0.2–0.3)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.3 (1.1–1.4)	1.2 (1.1–1.3)	1.5 (1.4–1.6)	↑
Warfarin sodium	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.1)	0.9 (0.8–1.0)	1.0 (0.9–1.2)	1.1 (0.9–1.2)	1.2 (1.1–1.4)	1.2 (1.0–1.3)	1.2 (1.0–1.3)	1.4 (1.3–1.6)	↑
Salbutamol	1.7 (1.6–1.9)	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.3 (1.2–1.5)	1.4 (1.3–1.5)	1.4 (1.2–1.6)	1.4 (1.2–1.5)	1.3 (1.2–1.5)	↓
Metformin	0.8 (0.8–0.9)	1.0 (0.9–1.1)	1.0 (0.9–1.0)	1.2 (1.0–1.3)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.4 (1.2–1.5)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	1.3 (1.2–1.4)	↑
Perindopril	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.3 (1.2–1.5)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	↑
Roxithromycin	1.3 (1.2–1.5)	1.1 (1.0–1.2)	1.1 (1.0–1.3)	1.5 (1.3–1.7)	1.4 (1.2–1.5)	1.2 (1.1–1.4)	1.4 (1.3–1.5)	1.3 (1.2–1.5)	1.1 (1.0–1.2)	1.1 (1.0–1.3)	—
Diazepam	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.3)	1.0 (0.9–1.1)	1.0 (0.9–1.2)	1.1 (1.0–1.2)	—

(continued)

Table 9.3b (continued): Most frequently prescribed medications by CAPS generic (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Generic drug	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Rosuvastatin	N/A	N/A	N/A	N/A	0.0[Ŧ] (0.0–0.1)	0.3 (0.3–0.4)	0.6 (0.5–0.6)	0.8 (0.7–0.9)	0.9 (0.9–1.0)	1.1 (1.0–1.2)	↑
Temazepam	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.0 (0.9–1.2)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	↓
Irbesartan	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.8 (0.7–0.9)	1.0 (0.9–1.0)	↑
Tramadol	1.0 (0.9–1.1)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.9 (0.9–1.0)	0.9 (0.8–1.0)	0.9 (0.8–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	—
Betamethasone topical	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.9 (0.8–0.9)	↑
Fluticasone/salmeterol	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.9 (0.8–0.9)	0.9 (0.8–1.0)	0.9 (0.8–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.8–0.9)	0.9 (0.8–1.0)	—
Meloxicam	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.7 (0.7–0.8)	0.9 (0.8–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.8 (0.7–0.9)	↑
Levonorgestrel/ ethinyloestradiol	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.8 (0.8–0.9)	0.7 (0.7–0.8)	0.8 (0.7–0.8)	0.8 (0.8–0.9)	↓
Chloramphenicol eye	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.9–1.0)	1.1 (1.0–1.1)	1.0 (0.9–1.1)	0.9 (0.9–1.0)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	—
Pantoprazole	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	0.7 (0.7–0.8)	↑
Atenolol	0.8 (0.7–0.9)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.8–1.1)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.7 (0.7–0.8)	—
Thyroxine	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	0.7 (0.7–0.8)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	↑
Clarithromycin	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.5 (0.4–0.6)	0.4 (0.4–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.7 (0.6–0.8)	↑

(continued)

Table 9.3b (continued): Most frequently prescribed medications by CAPS generic (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Generic drug	**(*n* = 100,987)**	**(*n* = 98,877)**	**(*n* = 94,386)**	**(*n* = 101,993)**	**(*n* = 91,805)**	**(*n* = 95,898)**	**(*n* = 96,688)**	**(*n* = 101,349)**	**(*n* = 95,839)**	**(*n* = 99,030)**	
Irbesartan/ hydrochlorothiazide	0.5 (0.5–0.6)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	↑
Amlodipine	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	—
Frusemide	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	—
Candesartan cilexetil	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.4 (0.4–0.5)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	↑
Generic medications frequently prescribed in previous years											
Simvastatin	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.2 (1.0–1.3)	1.1 (1.0–1.2)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.6 (0.6–0.7)	0.6 (0.5–0.7)	↓
Celecoxib	1.1 (1.0–1.2)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	↓
Diclofenac sodium systemic	0.7 (0.6–0.8)	0.8 (0.7–0.9)	1.0 (0.8–1.1)	1.0 (0.9–1.1)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	↓
Cefaclor monohydrate	1.0 (0.9–1.2)	0.8 (0.7–0.9)	0.8 (0.7–1.0)	0.8 (0.6–1.0)	0.8 (0.6–0.9)	0.6 (0.5–0.7)	0.8 (0.7–0.9)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	↓
Influenza virus vaccine	1.4 (1.2–1.7)	1.2 (1.0–1.4)	0.9 (0.7–1.1)	1.1 (0.8–1.3)	0.6 (0.5–0.7)	0.4 (0.3–0.5)	0.6 (0.4–0.7)	0.6 (0.4–0.7)	0.5 (0.3–0.6)	0.4 (0.3–0.5)	↓
Omeprazole	0.8 (0.8–0.9)	0.7 (0.6–0.8)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.3 (0.3–0.4)	↓
Total prescribed medications	**84.3 (81.8–86.9)**	**86.0 (83.6–88.5)**	**83.4 (81.2–85.6)**	**85.8 (83.3–88.4)**	**83.3 (81.0–85.5)**	**82.4 (80.3–84.6)**	**86.4 (84.1–88.6)**	**83.4 (80.6–86.2)**	**85.1 (82.9–87.3)**	**86.8 (84.0–89.7)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

Note: CI – confidence interval; N/A – not applicable (that is, drug was not available at that time).

Table 9.4: Number of repeats ordered for prescribed medications, 2002–03 to 2011–12

	Per cent of prescriptions (95% CI)[a]										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑/↓[b]
Number of repeats	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 84,540)	(*n* = 81,542)	(*n* = 85,980)	
No repeats	38.0 (36.4–39.6)	37.8 (36.2–39.3)	38.5 (36.8–40.2)	35.9 (34.4–37.5)	35.2 (33.7–36.7)	34.5 (33.1–35.9)	34.0 (32.8–35.2)	34.2 (32.7–35.7)	34.7 (33.3–36.0)	34.7 (33.2–36.2)	↓
One repeat	17.7 (16.8–18.6)	16.6 (15.8–17.3)	17.6 (16.7–18.4)	17.6 (16.8–18.4)	16.4 (15.6–17.1)	16.8 (16.0–17.6)	17.1 (16.1–18.0)	15.9 (15.2–16.6)	15.9 (15.2–16.6)	16.2 (15.3–17.0)	—
Two repeats	12.0 (11.0–13.0)	11.4 (10.6–12.1)	10.6 (10.0–11.3)	10.1 (9.4–10.9)	10.5 (9.6–11.4)	10.2 (9.3–11.1)	9.7 (9.0–10.3)	9.6 (8.9–10.3)	9.8 (9.0–10.5)	9.6 (8.9–10.3)	↓
Three or four repeats	4.8 (4.4–5.1)	5.0 (4.7–5.4)	4.8 (4.4–5.2)	4.5 (3.8–5.2)	4.8 (4.3–5.3)	4.6 (4.1–5.1)	4.4 (4.0–4.8)	4.3 (3.9–4.8)	4.1 (3.7–4.5)	3.8 (3.4–4.1)	↓
Five repeats	27.4 (26.0–28.7)	29.2 (27.9–30.4)	28.3 (27.0–29.6)	31.7 (30.3–33.1)	33.0 (31.7–34.4)	33.8 (32.5–35.1)	34.8 (33.6–36.0)	35.8 (34.2–37.4)	35.4 (34.2–36.6)	35.5 (34.1–36.9)	↑
Six or more repeats	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.3)	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 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.3)	—

(a) Missing data removed.

(b) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

Note: CI – confidence interval.

Table 9.5a: Medications most frequently supplied by GPs (rate per 100 problems), 2002–03 to 2011–12

Generic medication	Rate per 100 problems (95% CI)										
	2002–03 (*n* = 146,336)	2003–04 (*n* = 144,674)	2004–05 (*n* = 137,330)	2005–06 (*n* = 149,088)	2006–07 (*n* = 136,333)	2007–08 (*n* = 145,078)	2008–09 (*n* = 149,462)	2009–10 (*n* = 155,373)	2010–11 (*n* = 146,141)	2011–12 (*n* = 152,286)	↑↓[(a)]
Influenza virus vaccine	0.5 (0.4–0.6)	0.8 (0.6–1.0)	0.9 (0.6–1.1)	1.1 (0.9–1.2)	1.3 (1.1–1.6)	1.0 (0.8–1.1)	1.5 (1.3–1.7)	2.7 (2.4–3.0)	1.7 (1.5–2.0)	1.3 (1.0–1.5)	↑
Pneumococcal vaccine	0.0ŦŦ (0.0–0.1)	0.1 (0.0–0.1)	0.3 (0.2–0.4)	0.6 (0.5–0.7)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	↑
Diphtheria/pertussis/ tetanus/hepatitis B/ polio/Hib vaccine	N/A	N/A	0.0ŦŦ (0.0–0.1)	0.0ŦŦ (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	↑
Vitamin B12 (Cobalamin)	0.0ŦŦ (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	↑
Triple antigen (diphtheria/pertussis/ tetanus)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	↑
Mumps/measles/rubella vaccine	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	↑
Rotavirus vaccine	0.0ŦŦ (0.0–0.1)	0.0ŦŦ (0.0–0.1)	0.0ŦŦ (0.0–0.1)	0.0ŦŦ (0.0–0.1)	0.0ŦŦ (0.0–0.0)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	↑
ADT/CDT (diphtheria/ tetanus) vaccine	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	—
Meningitis vaccine	0.1 (0.1–0.1)	0.2 (0.1–0.2)	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 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	—
Haemophilus B vaccine	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.2–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	—
Total GP-supplied medications	**6.4 (5.5–7.3)**	**5.9 (5.2–6.5)**	**5.5 (5.0–6.0)**	**6.0 (5.6–6.5)**	**6.0 (5.5–6.5)**	**6.7 (6.3–7.1)**	**7.1 (6.6–7.6)**	**8.9 (8.3–9.5)**	**6.8 (6.2–7.3)**	**6.3 (5.8–6.8)**	§

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 problems managed.

Note: CI – confidence interval; N/A – not applicable (that is, drug was not available at that time).

Table 9.5b: Medications most frequently supplied by GPs (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Generic medication	**(*n* = 100,987)**	**(*n* = 98,877)**	**(*n* = 94,386)**	**(*n* = 101,993)**	**(*n* = 91,805)**	**(*n* = 95,898)**	**(*n* = 96,688)**	**(*n* = 101,349)**	**(*n* = 95,839)**	**(*n* = 99,030)**	
Influenza virus vaccine	0.7 (0.5–0.9)	1.2 (0.9–1.4)	1.2 (0.9–1.6)	1.6 (1.3–1.8)	2.0 (1.6–2.3)	1.5 (1.2–1.7)	2.3 (2.0–2.7)	4.1 (3.7–4.6)	2.7 (2.2–3.1)	1.9 (1.6–2.3)	↑
Pneumococcal vaccine	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.4 (0.3–0.5)	0.9 (0.8–1.0)	0.6 (0.6–0.7)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.6 (0.5–0.7)	0.6 (0.6–0.7)	↑
Diphtheria/pertussis/ tetanus/hepatitis B/ polio/Hib vaccine	N/A	N/A	0.0[Ŧ] (0.0–0.0)	0.1 (0.0–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	↑
Vitamin B12 (Cobalamin)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	↑
Triple antigen (diphtheria/ pertussis/tetanus)	0.1 (0.1–0.2)	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	↑
Mumps/measles/rubella vaccine	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.3 (0.2–0.3)	0.3 (0.3–0.3)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	↑
Rotavirus vaccine	0.0[Ŧ] (0.0–0.1)	0.0[Ŧ] (0.0–0.1)	0.0[Ŧ] (0.0–0.1)	0.0[Ŧ] (0.0–0.1)	0.0[Ŧ] (0.0–0.0)	0.1 (0.1–0.2)	0.3 (0.2–0.3)	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	↑
ADT/CDT (diphtheria/ tetanus) vaccine	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	—
Meningitis vaccine	0.2 (0.1–0.2)	0.3 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	—
Haemophilus B vaccine	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.3 (0.2–0.4)	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	—
Total GP–supplied medications	**9.3 (8.0–10.6)**	**8.6 (7.6–9.6)**	**8.1 (7.3–8.8)**	**8.8 (8.2–9.5)**	**8.9 (8.2–9.6)**	**10.1 (9.5–10.7)**	**11.0 (10.2–11.8)**	**13.6 (12.7–14.6)**	**10.3 (9.5–11.2)**	**9.7 (8.9–10.5)**	§

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

Note: CI – confidence interval; N/A – not applicable (that is, drug was not available at that time).

Table 9.6a: Most frequently advised over-the-counter medications (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Generic drug	**(*n* = 146,336)**	**(*n* = 144,674)**	**(*n* = 137,330)**	**(*n* = 149,088)**	**(*n* = 136,333)**	**(*n* = 145,078)**	**(*n* = 149,462)**	**(*n* = 155,373)**	**(*n* = 146,141)**	**(*n* = 152,286)**	
Paracetamol	1.8 (1.5–2.0)	1.7 (1.4–1.9)	1.6 (1.4–1.8)	1.7 (1.5–1.9)	1.6 (1.4–1.8)	1.7 (1.5–1.9)	1.5 (1.3–1.7)	1.6 (1.4–1.8)	1.7 (1.5–1.9)	1.9 (1.6–2.1)	—
Ibuprofen	0.5 (0.3–0.6)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.4)	0.5 (0.4–0.5)	—
Saline bath/solution/ gargle	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	—
Sodium/potassium/citric/ glucose	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 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	—
Simple analgesics [unspecified]	0.0[Ŧ] (0.0–0.0)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.0[Ŧ] (0.0–0.1)	0.0[Ŧ] (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.0[Ŧ] (0.0–0.1)	0.0[Ŧ] (0.0–0.1)	0.2 (0.1–0.2)	↑
Sodium chloride topical nasal	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 (0.1–0.1)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	—
Ergocalciferol (vitamin D analogue)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	↑
Diclofenac topical	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	—
Loratadine	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	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 (0.1–0.2)	0.1 (0.1–0.1)	—
Cetirizine	0.1 (0.0–0.1)	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)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	—
Total advised medications	**7.0 (6.4–7.6)**	**6.7 (6.1–7.2)**	**6.9 (6.3–7.5)**	**6.7 (6.2–7.2)**	**6.3 (5.8–6.8)**	**6.7 (6.2–7.2)**	**5.7 (5.3–6.1)**	**6.2 (5.7–6.7)**	**6.4 (5.9–6.9)**	**6.8 (6.3–7.4)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 problems managed.

Note: CI – confidence interval.

Table 9.6b: Most frequently advised over-the-counter medications (rate per 100 encounters), 2002–03 to 2011–12

Generic drug	Rate per 100 encounters (95% CI)										↑↓[(a)]
	2002–03 (*n* = 146,336)	2003–04 (*n* = 144,674)	2004–05 (*n* = 137,330)	2005–06 (*n* = 149,088)	2006–07 (*n* = 136,333)	2007–08 (*n* = 145,078)	2008–09 (*n* = 149,462)	2009–10 (*n* = 155,373)	2010–11 (*n* = 146,141)	2011–12 (*n* = 99,030)	
Paracetamol	2.6 (2.2–2.9)	2.5 (2.1–2.8)	2.3 (2.0–2.6)	2.5 (2.2–2.8)	2.4 (2.1–2.7)	2.5 (2.2–2.9)	2.3 (2.0–2.6)	2.5 (2.2–2.8)	2.6 (2.3–2.9)	2.9 (2.5–3.2)	—
Ibuprofen	0.7 (0.5–0.8)	0.5 (0.4–0.7)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	—
Saline bath/solution/ gargle	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	↑
Sodium/potassium/ citric/glucose	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 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	↑
Simple analgesics [unspecified]	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.2 (0.1–0.2)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.0–0.1)	0.2 (0.1–0.3)	↑
Sodium chloride topical nasal	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	↑
Ergocalciferol (vitamin D analogue)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.0)	0.1 (0.0–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	↑
Diclofenac topical	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	—
Loratadine	0.2 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	—
Cetirizine	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (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)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	↑
Total advised medications	**10.2 (9.3–11.1)**	**9.8 (9.0–10.5)**	**10.1 (9.2–10.9)**	**9.8 (9.0–10.5)**	**9.4 (8.7–10.1)**	**10.1 (9.3–10.9)**	**8.9 (8.3–9.4)**	**9.5 (8.7–10.3)**	**9.8 (9.0–10.5)**	**10.5 (9.7–11.3)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

Note: CI – confidence interval.

10 Other treatments

This chapter summarises other non-pharmacological treatments (including clinical and procedural treatments) provided at or in conjunction with recorded GP–patient encounters in each of the ten years of the BEACH study, 2002–03 to 2011–12. Clinical and procedural treatments are defined in Appendix 4, Tables A4.4 and A4.5. The survey form allowed GPs to record up to two other treatments for each problem managed at the encounter, and (since 2005–06) indicate if each of these has been done by a practice nurse.

In 2004, four Medicare item numbers were introduced into the MBS that allowed GPs to claim for specified tasks done by a practice nurse under the direction of the GP.[24] In 2005–06 the BEACH recording form was amended to capture this information. GPs were allowed to record multiple (up to three) Medicare item numbers where appropriate, rather than be limited to one item number as had been the case in the past. In the 'other treatments' section for each problem managed, GPs were asked to tick the 'practice nurse' box if the treatment recorded was provided by the practice nurse rather than by the GP.

In Sections 10.1 and 10.2 all 'other treatments' are reported, irrespective of whether they were done by the GP or by the practice nurse at the encounter. That is, the non-pharmacological management provided at general practice patient encounters is described, rather than management provided specifically by the GP. However in the analysis of procedural treatments (Section 10.2), injections given in provision of vaccines have been removed, as this action is already counted and reported in medications.

In Section 10.3, treatments provided by the PN/AHW (including the injections given for vaccination) are reported separately, to provide a picture of the work they undertake in association with GP–patient encounters. Routine clinical measurements or observations, such as measurements of blood pressure and physical examinations, were not included between 2002–03 and 2004–05. With the inclusion of practice nurse activities in BEACH since 2005–06, clinical observations have been recorded, but only when done by the practice nurse.

In Section 10.4 changes over time in the share between the GP and the practice nurses/Aboriginal health workers, of clinical treatments and procedural work done in association with the encounter, are investigated. The procedures analysed in Section 10.4 also include the injections given for immunisations.

Other treatments data for the ten years 2002–03 to 2011–12, are reported in two ways: as rates per 100 problems managed (e.g. Table 10.1a) and as rates per 100 encounters (e.g. Table 10.1b). In the text describing changes over time, the rates per 100 problems are reported as the primary measure, because there was a significant increase in the number of problems managed per encounter over the study period.

The direction and type of change from 2002–03 to 2011–12 is indicated for each result in the far right column of the tables: The direction and type of change from 2002–03 to 2011–12 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant change (increase or decrease) comparing 2011–12 with 2002–03; ↑/↓ indicates a marginally significant change comparing 2011–12 with 2002–03; — indicates there was no significant change across the decade; and § indicates no change a noteworthy change comparing 2011–12 with 2002–03 but a noteworthy change within the decade.

Significant changes in the rate per 100 encounters are extrapolated to estimate the national increase or decrease in the other treatments provided between 2002–03 and 2011–12.

Examples of extrapolated change are given. The method used to extrapolate to national change estimates is described in Section 2.9.

More detailed analyses of other treatments recorded in BEACH in 2011–12 can be found in Chapter 10 of *General practice activity in Australia 2011–12*.[1]

10.1 Clinical treatments by GP, practice nurse, or Aboriginal health worker

There was no difference in the rate of clinical treatments provided in 2002–03 (25.7 per 100 problems managed) and 2011–12 (24.0 per 100 problems) (Table 10.1a). There was also no significant difference in the rate per 100 encounters in 2002–03 and 2011–12 (Table 10.1b). There were more encounters claimed through Medicare in 2011–12 than in 2002–03 due to the increased attendance rate over the study period and this affects the number of clinical treatments provided nationally (see Table 2.1). We estimate that 9.3 million more clinical treatments were given by GPs nationally in 2011–12 than ten years earlier.

While there was no difference in the total clinical treatment rates of 2002–03 and 2011–12 there were major changes within the decade. The number of clinical treatments provided at GP–patient encounters remained steady from 2002–03 to 2004–05. In November 2004, practice nurse Medicare item numbers were introduced and changes were made to the BEACH recording form to include practice nurse activity associated with the encounter in the 2005–06 BEACH year. In 2005–06 there was a sudden and significant decrease in the rate at which many clinical treatments were provided by the GP or the practice nurse at GP–patient encounters. From 2006–07 onwards, rates slowly increased to reach 24.0 per 100 problems in 2011–12, returning to the level provided ten years earlier.

This change was reflected in some specific types of clinical treatments.

- Although there was no difference between 2002–03 and 2011–12, in 2005–06 there were significant decreases in the rates of: advice/education not elsewhere classified; advice/education about treatment; advice/education about medication; reassurance/support; and counselling/advice about smoking (Table 10.1a). These rates then slowly returned to a level not significantly different to the rate of a decade earlier.
- The rate at which counselling/advice about nutrition/weight and counselling/advice about exercise was provided also significantly decreased in 2005–06 then remained steady at a significantly lower rate in 2011–12 than ten years earlier (Table 10.1a). From Table 10.1b we estimate there were 140,000 fewer occasions of counselling/advice about nutrition and weight, and 86,000 fewer occasions of counselling/advice about exercise given in 2011–12 than in 2002–03. These decreases may be an issue considering the rise in the prevalence of overweight and obesity among Australian general practice patients (see Section 13.1).
- The rate of provision of other administrative procedure/document (excluding sickness certificate) significantly fell from 1.2 per 100 problems in 2003–04 to 0.9 in 2004–05. From 2005–06 onwards, rates slowly rose to 1.4 per 100 problems in 2011–12, a significantly higher level than that provided in 2002–03.
- The rate of provision of sickness certificates significantly rose from 0.7 per 100 problems in 2003–04 to 1.2 per 100 in 2004–05. From 2004–05 onwards, rates were steady until a

significant decrease in 2009–10 back to the level provided in 2002–03. In 2011–12, sickness certificates were provided at a rate that was marginally higher than in 2002–03.

- There was no significant difference in the proportion of problems for which one or more clinical treatments were provided in 2002–03 (32.8 per 100 problems) and in 2011–12 (32.9 per 100) (Table 10.2).
- In 2011–12, depression was the problem that accounted for the most clinical treatments which were provided at a rate of 1.8 per 100 encounters. This means that for every 1,000 GP–patient encounters in 2011–12, clinical treatment(s) was provided in the management of depression on 18 occasions (Table 10.2).
- There was a significant increase in the rate at which clinical treatments were provided in the management of diabetes over the decade with the rate per 100 encounters rising from 0.8 in 2002–03 to 1.1 in 2011–12. We estimate this increase equates to 570,000 more occasions where clinical treatments were provided in the management of diabetes nationally in 2011–12 than a decade earlier. (Table 10.2)
- The provision of clinical treatment(s) in the management of tobacco abuse more than doubled from 0.2 per 100 encounters in 2002–03 to 0.5 per 100 in 2011–12. We estimate this increase equates to 420,000 more occasions where clinical treatments were provided for tobacco abuse nationally in 2011–12 than a decade earlier (Table 10.2). The significant increase occurred over the most recent four years and may be associated with the acceptance of nicotine patches on the PBS, the availability of prescribed medications to assist in smoking cessation, and anti-smoking campaigns promoting discussion with GPs as a strategy towards quitting.

10.2 Procedures by GP, practice nurse, or Aboriginal health worker

The rate at which procedures were recorded per 100 encounters increased significantly from 14.6.per 100 encounters in 2002–03 to 16.9 per 100 in 2011–12. The extrapolated effect of this change is that nationally in 2011–12 there were an estimated 6.6 million more procedures undertaken than a decade earlier.

However, this was largely due to increasing number of problems managed at encounter and increased attendance rates. There was no significant change in the rate at which procedures were performed per 100 problems managed between 2002–03 (10.1 per 100 problems) and 2011–12 (11.0 per 100 problems) (Table 10.3a). However, there were significant changes in the rates of specific types of procedures within this period.

- The most frequently recorded group of procedures were excision/removal tissue/biopsy/destruction/debridement/cauterisation. These were provided at a similar rate throughout the decade, reaching 2.8 per 100 encounters in 2011–12 (Table 10.3b). These were followed by dressing/pressure/compression/tamponade, local injection/infiltration (excluding all local injection/infiltrations performed for immunisations) and physical medicine/rehabilitation (Table 10.3b).
- There was a marginal increase in the frequency of dressings/pressure/compression/ tamponade from 1.3 per 100 problems in 2002–03 to 1.7 per 100 in 2011–12 (Table 10.3b). When considered as a rate per 100 encounters, the increase from 2.0 per 100 encounters in 2002–03 to 2.5 per 100 in 2011–12 was statistically significant and extrapolates to nearly 1.1 million more dressings/pressure/compression/tamponade procedures

undertaken at GP–patient encounters nationally in 2011–12 than ten years earlier (Table 10.3b).

- The provision of local injections/infiltration (excluding local injection performed for immunisations) significantly increased over the decade (Table 10.3a). When extrapolated, the increase equates to provision of 1.2 million more local injections/ infiltrations nationally in 2011–12 than in 2002–03 (Table 10.3b).
- In contrast, Table 10.3a shows a significant decrease in the rate of physical medicine/rehabilitation (1.5 per 100 problems in 2002–03 to 0.9 per 100 in 2011–12), Pap smear (0.7 per 100 problems in 2002–03 to 0.6 per 100 in 2011–12) and other therapeutic procedures/surgery NEC (0.8 per 100 problems in 2002–03 to 0.5 per 100 in 2011–12).

There was an overall increase in the proportion of problems managed with procedural treatments from 13.6% in 2002–03 to 15.8% in 2011–12 (Table 10.4).

- Laceration was the most common problem to be managed with a procedure, increasing from 0.6 procedures per 100 encounters managed in 2002–03 to 0.8 per 100 in 2011–12 (Table 10.4). Extrapolation of this result suggested about 400,000 more procedures performed for laceration at GP–patient encounters nationally in 2011–12 than a decade earlier.
- In Chapter 7, we reported a significant increase in the management rate of atrial fibrillation over the decade, with an estimated 1.1 million more atrial fibrillation contacts in 2011–12 than in 2002–03. There was a rise in the rate of management of atrial fibrillation with a procedure from 0.0 per 100 encounters to 0.4 per 100 over the same period, equating to 490,000 more procedures for atrial fibrillation being performed in 2011–12 than in 2002–03.
- The rise in atrial fibrillation contacts coincided with a statistically significant increase in the prescribing rate of warfarin sodium over the past decade (Table 9.3a). INR testing is used to monitor patients on warfarin therapy. Collection of information on INR testing performed at the encounter began in BEACH in 2006–07. The provision of INR testing at the encounter has significant increased from one INR test per 1,000 encounters in 2006–07 to seven per 1,000 encounters in 2011–12 (Table 10.3a).

Table 10.1a: The most frequent clinical treatments (rate per 100 problems), 2002–03 to 2011–12

Treatment	Rate per 100 problems (95% CI)										↑↓ (a)
	2002–03 (*n* = 146,336)	2003–04 (*n* = 144,674)	2004–05 (*n* = 137,330)	2005–06 (*n* = 149,088)	2006–07 (*n* = 136,333)	2007–08 (*n* = 145,078)	2008–09 (*n* = 149,462)	2009–10 (*n* = 155,373)	2010–11 (*n* = 146,141)	2011–12 (*n* = 152,286)	
Advice/education NEC*	4.8 (4.2–5.3)	4.7 (4.2–5.2)	4.8 (4.3–5.2)	3.3 (2.8–3.7)	3.9 (3.4–4.4)	4.7 (4.2–5.3)	4.0 (3.5–4.4)	4.1 (3.5–4.6)	3.9 (3.4–4.4)	3.8 (3.4–4.3)	§
Counselling – problem*	3.8 (3.3–4.2)	3.2 (2.8–3.6)	2.9 (2.5–3.3)	3.3 (2.8–3.7)	2.9 (2.5–3.4)	2.9 (2.5–3.2)	2.5 (2.1–2.8)	2.8 (2.4–3.2)	3.5 (2.9–4.0)	3.0 (2.5–3.5)	—
Counselling/advice – nutrition/weight*	3.6 (3.2–4.0)	3.2 (2.9–3.5)	3.7 (3.3–4.0)	2.5 (2.2–2.7)	2.3 (2.0–2.5)	2.8 (2.5–3.0)	2.6 (2.4–2.9)	2.4 (2.2–2.7)	2.6 (2.3–2.9)	2.6 (2.3–2.9)	↓
Advice/education – treatment*	2.9 (2.6–3.3)	3.0 (2.6–3.3)	3.1 (2.8–3.5)	2.1 (1.8–2.4)	1.9 (1.7–2.1)	2.3 (2.0–2.5)	2.3 (2.0–2.6)	2.6 (2.2–3.0)	2.2 (1.9–2.5)	2.5 (2.3–2.8)	§
Counselling – psychological*	2.0 (1.8–2.2)	2.0 (1.8–2.1)	2.2 (2.0–2.4)	2.1 (1.9–2.3)	1.9 (1.8–2.1)	2.1 (2.0–2.3)	2.1 (1.9–2.3)	2.2 (2.1–2.4)	2.1 (1.9–2.3)	2.2 (2.0–2.3)	—
Advice/education – medication*	1.7 (1.5–1.9)	2.3 (2.1–2.5)	2.3 (2.1–2.5)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.3 (1.2–1.5)	1.5 (1.3–1.7)	1.6 (1.4–1.7)	1.8 (1.6–2.0)	2.1 (1.9–2.3)	§
Other administrative procedure/document (excl. sickness certificate)*	1.1 (1.0–1.2)	1.2 (1.1–1.3)	0.9 (0.8–1.0)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.2 (1.1–1.3)	1.3 (1.2–1.5)	1.2 (1.1–1.4)	1.4 (1.3–1.5)	↑
Sickness certificate*	0.9 (0.8–1.0)	0.7 (0.6–0.8)	1.2 (1.0–1.3)	1.1 (0.9–1.3)	1.1 (0.9–1.2)	1.1 (0.9–1.3)	1.3 (1.1–1.5)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	1.1 (1.0–1.3)	↑
Reassurance, support*	0.9 (0.8–1.1)	1.0 (0.9–1.2)	1.1 (0.9–1.2)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.9 (0.8–1.1)	1.0 (0.8–1.1)	0.9 (0.7–1.1)	0.9 (0.7–1.0)	1.0 (0.9–1.1)	§
Counselling/advice – exercise*	1.1 (1.0–1.3)	1.0 (0.9–1.2)	1.3 (1.1–1.5)	0.7 (0.6–0.9)	0.8 (0.6–0.9)	0.9 (0.7–1.0)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.9 (0.7–1.0)	0.8 (0.7–0.9)	↓
Counselling/advice – smoking*	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.6 (0.5–0.6)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.6 (0.5–0.6)	0.5 (0.4–0.6)	§
Total clinical treatments	**25.7 (24.2–27.1)**	**25.0 (23.6–26.4)**	**27.0 (25.6–28.3)**	**20.0 (18.8–21.2)**	**19.9 (18.7–21.1)**	**22.8 (21.6–24.1)**	**22.0 (20.8–23.2)**	**22.8 (21.3–24.3)**	**23.3 (21.8–24.8)**	**24.0 (22.6–25.5)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.4, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; NEC – not elsewhere classified; excl – excluding.

Table 10.1b: The most frequent clinical treatments (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Treatment	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Advice/education NEC*	6.9 (6.1–7.7)	6.8 (6.1–7.6)	7.0 (6.3–7.7)	4.8 (4.1–5.4)	5.7 (5.0–6.5)	7.2 (6.3–8.1)	6.1 (5.4–6.9)	6.2 (5.3–7.1)	6.0 (5.1–6.8)	5.9 (5.2–6.6)	§
Counselling – problem*	5.5 (4.8–6.1)	4.7 (4.1–5.3)	4.2 (3.6–4.7)	4.8 (4.1–5.4)	4.4 (3.7–5.0)	4.3 (3.8–4.9)	3.8 (3.3–4.4)	4.3 (3.7–5.0)	5.3 (4.4–6.2)	4.6 (3.8–5.4)	—
Counselling/advice – nutrition/weight*	5.2 (4.7–5.8)	4.6 (4.2–5.1)	5.3 (4.8–5.8)	3.6 (3.2–4.0)	3.4 (3.0–3.7)	4.2 (3.8–4.6)	4.1 (3.6–4.5)	3.7 (3.4–4.1)	4.0 (3.5–4.4)	4.0 (3.6–4.4)	↓
Advice/education – treatment*	4.2 (3.8–4.7)	4.4 (3.8–4.9)	4.6 (4.1–5.0)	3.1 (2.6–3.5)	2.8 (2.5–3.1)	3.5 (3.1–3.8)	3.5 (3.1–4.0)	3.9 (3.3–4.5)	3.4 (2.9–3.8)	3.9 (3.5–4.3)	—
Counselling – psychological*	2.9 (2.6–3.1)	2.9 (2.6–3.1)	3.2 (2.9–3.5)	3.0 (2.8–3.3)	2.9 (2.6–3.1)	3.2 (2.9–3.4)	3.2 (3.0–3.5)	3.4 (3.2–3.7)	3.2 (3.0–3.5)	3.3 (3.0–3.6)	—
Advice/education – medication*	2.5 (2.2–2.7)	3.4 (3.1–3.7)	3.4 (3.0–3.7)	1.6 (1.4–1.7)	1.8 (1.6–2.0)	2.0 (1.8–2.2)	2.3 (2.1–2.6)	2.4 (2.2–2.6)	2.7 (2.5–3.0)	3.2 (2.9–3.5)	↑
Other administrative procedure/document (excl. sickness certificate)*	1.6 (1.4–1.7)	1.8 (1.6–2.0)	1.3 (1.2–1.5)	1.0 (0.9–1.1)	1.2 (1.1–1.4)	1.5 (1.4–1.7)	1.8 (1.7–2.0)	2.1 (1.9–2.3)	1.9 (1.7–2.1)	2.2 (2.0–2.4)	↑
Sickness certificate*	1.3 (1.1–1.5)	1.0 (0.9–1.2)	1.7 (1.5–1.9)	1.6 (1.4–1.9)	1.6 (1.3–1.8)	1.7 (1.4–2.0)	1.9 (1.6–2.2)	1.4 (1.2–1.6)	1.6 (1.4–1.8)	1.8 (1.5–2.0)	↑
Reassurance, support*	1.4 (1.2–1.5)	1.5 (1.3–1.7)	1.6 (1.4–1.8)	1.0 (0.8–1.2)	1.1 (0.9–1.3)	1.4 (1.2–1.6)	1.5 (1.3–1.8)	1.4 (1.1–1.7)	1.3 (1.1–1.5)	1.5 (1.3–1.8)	—
Counselling/advice – exercise*	1.6 (1.4–1.8)	1.5 (1.3–1.7)	1.9 (1.6–2.1)	1.1 (0.9–1.2)	1.1 (1.0–1.3)	1.3 (1.1–1.5)	1.4 (1.2–1.6)	1.2 (1.0–1.4)	1.4 (1.1–1.6)	1.3 (1.1–1.5)	—
Counselling/advice – smoking*	0.7 (0.6–0.8)	0.6 (0.6–0.7)	0.8 (0.7–0.9)	0.5 (0.4–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	—
Counselling/advice – lifestyle*	0.5 (0.3–0.7)	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.5 (0.3–0.6)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.2 (0.1–0.3)	0.5 (0.4–0.7)	0.5 (0.4–0.6)	0.8 (0.6–0.9)	—
Counselling/advice – prevention*	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.4 (0.4–0.5)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.6 (0.5–0.7)	0.4 (0.3–0.5)	0.6 (0.4–0.7)	↑

(continued)

Table 10.1b (continued): The most frequent clinical treatments (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓ (a)
Treatment	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Counselling/advice – health/body*	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	—
Observe/wait*	0.3 (0.2–0.3)	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.4 (0.3–0.6)	0.3 (0.2–0.4)	0.3 (0.2–0.3)	0.4 (0.3–0.5)	↑
Counselling/advice – alcohol*	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.5 (0.4–0.5)	0.3 (0.3–0.3)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	—
Family planning*	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	—
Counselling/advice – other*	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.3 (0.2–0.4)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	↑
Counselling/advice – pregnancy*	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.4)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	—
Counselling/advice – relaxation*	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.4)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	—
Total clinical treatments	**37.2 (35.0–39.4)**	**36.6 (34.5–38.7)**	**39.2 (37.1–41.4)**	**29.2 (27.3–31.1)**	**29.5 (27.6–31.4)**	**34.5 (32.5–36.5)**	**34.0 (32.1–35.9)**	**35.0 (32.6–37.4)**	**35.5 (33.2–37.8)**	**37.0 (34.6–39.3)**	§

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.4, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval.; NEC – not elsewhere classified; excl – excluding.

Table 10.2: The most common problems managed with clinical treatments, 2002–03 to 2011–12

Problem managed	Rate at which a clinical treatment was given for the selected problem, per 100 encounters[a] (95% CI)										↑↓[b]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Depression*	1.7 (1.6–1.9)	1.7 (1.6–1.9)	1.8 (1.7–2.0)	1.7 (1.5–1.8)	1.5 (1.4–1.6)	1.8 (1.6–1.9)	1.8 (1.7–2.0)	1.9 (1.7–2.1)	1.8 (1.6–1.9)	1.8 (1.6–2.0)	—
Upper respiratory tract infection	1.8 (1.6–2.0)	1.6 (1.4–1.8)	1.8 (1.5–2.0)	1.6 (1.3–1.8)	1.4 (1.3–1.6)	1.8 (1.6–2.0)	1.7 (1.5–1.9)	1.9 (1.6–2.2)	1.7 (1.4–1.9)	1.7 (1.5–1.9)	—
Hypertension*	1.5 (1.3–1.7)	1.3 (1.1–1.4)	1.3 (1.2–1.5)	1.0 (0.9–1.2)	0.9 (0.8–1.0)	1.2 (1.1–1.4)	1.1 (1.0–1.2)	1.0 (0.8–1.1)	1.1 (0.9–1.3)	1.1 (1.0–1.3)	↓
Diabetes – all*	0.8 (0.7–0.9)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	↑
Lipid disorder	0.9 (0.8–1.0)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	—
Anxiety*	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	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 (0.7–0.9)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	—
Gastroenteritis*	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.8 (0.7–0.9)	0.7 (0.6–0.7)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	↓
Acute stress reaction	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.5 (0.4–0.5)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.5–0.6)	↑
Test results*	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.5 (0.3–0.6)	0.4 (0.3–0.4)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	↑
Back complaint*	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.5–0.6)	—
General check-up*	0.3 (0.3–0.3)	0.3 (0.2–0.4)	0.4 (0.3–0.4)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	↑
Administrative procedure – all*	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.5 (0.4–0.6)	↑

(continued)

Table 10.2 (continued): The most common problems managed with a clinical treatment, 2002–03 to 2011–12

	Rate at which a clinical treatment was given for the selected problem, per 100 encounters[a] (95% CI)										
Problem managed	**2002–03 (*n* = 100,987)**	**2003–04 (*n* = 98,877)**	**2004–05 (*n* = 94,386)**	**2005–06 (*n* = 101,993)**	**2006–07 (*n* = 91,805)**	**2007–08 (*n* = 95,898)**	**2008–09 (*n* = 96,688)**	**2009–10 (*n* = 101,349)**	**2010–11 (*n* = 95,839)**	**2011–12 (*n* = 99,030)**	↑↓[b]
Tobacco abuse	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.6 (0.5–0.6)	0.5 (0.4–0.5)	↑
Viral disease, other/NOS	0.6 (0.5–0.7)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.4 (0.3–0.4)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	↓
Osteoarthritis*	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.3 (0.3–0.4)	0.3 (0.2–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	↑
Total problems with clinical treatments	**32.8 (31.0–34.7)**	**32.4 (30.7–34.2)**	**34.4 (32.6–36.2)**	**26.7 (25.1–28.3)**	**26.8 (25.1–28.4)**	**31.2 (29.5–33.0)**	**30.9 (29.2–32.5)**	**31.5 (29.5–33.5)**	**31.8 (29.8–33.8)**	**32.9 (30.9–34.9)**	§

(a) Rate of provision of clinical treatment for selected problem per 100 total encounters.

(b) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; NOS – not otherwise specified. This table includes individual problems that had clinical treatments given at a rate of more than or equal to 0.5 per 100 encounters in any year, and any other statistically significant differences of interest.

Table 10.3a: The most frequent procedural treatments (rate per 100 problems), 2002–03 to 2011–12

Treatment	Rate per 100 problems (95% CI)										↑↓[(a)]
	2002–03 (*n* = 146,336)	2003–04 (*n* = 144,674)	2004–05 (*n* = 137,330)	2005–06 (*n* = 149,088)	2006–07 (*n* = 136,333)	2007–08 (*n* = 145,078)	2008–09 (*n* = 149,462)	2009–10 (*n* = 155,373)	2010–11 (*n* = 146,141)	2011–12 (*n* = 152,286)	
Excision/removal tissue/ biopsy/destruction/ debridement/cauterisation*	2.0 (1.8–2.1)	2.1 (1.8–2.4)	2.3 (2.0–2.5)	2.0 (1.9–2.2)	2.3 (2.0–2.5)	2.3 (2.0–2.5)	2.1 (1.9–2.2)	1.9 (1.8–2.1)	1.9 (1.7–2.0)	1.8 (1.7–2.0)	—
Dressing/pressure/ compression/tamponade*	1.3 (1.2–1.5)	1.3 (1.2–1.4)	1.4 (1.2–1.5)	1.4 (1.3–1.5)	1.5 (1.4–1.6)	1.5 (1.4–1.6)	1.5 (1.4–1.6)	1.6 (1.4–1.7)	1.7 (1.5–1.8)	1.7 (1.5–1.8)	↑
Local injection/ infiltration*[(b)]	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.4 (1.2–1.5)	1.3 (1.2–1.5)	1.3 (1.2–1.4)	1.5 (1.4–1.6)	1.5 (1.4–1.6)	1.6 (1.5–1.8)	1.6 (1.4–1.8)	1.4 (1.3–1.5)	↑
Physical medicine/ rehabilitation – all*	1.5 (1.3–1.7)	1.1 (1.0–1.3)	1.4 (1.2–1.6)	0.9 (0.8–1.1)	0.7 (0.6–0.9)	0.8 (0.7–1.0)	0.8 (0.7–0.9)	0.8 (0.7–1.0)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	↓
Incision/drainage/flushing/ aspiration/removal body fluid*	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.9 (0.8–1.0)	0.9 (0.8–0.9)	0.8 (0.7–0.9)	0.8 (0.8–0.9)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	—
Repair/fixation – suture/ cast/prosthetic device (apply/remove)*	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.6 (0.6–0.7)	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.6 (0.5–0.7)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	↓
Pap smear*	0.7 (0.7–0.8)	0.7 (0.6–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	0.6 (0.5–0.7)	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 (0.5–0.6)	↓
Other therapeutic procedures/minor surgery*	0.8 (0.7–0.9)	0.8 (0.6–0.9)	0.8 (0.6–1.1)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.6 (0.2–1.0)	0.5 (0.3–0.6)	0.5 (0.4–0.6)	↓
INR test*	N/A	N/A	N/A	N/A	0.1 (0.0–0.1)	0.2 (0.2–0.3)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	↑
Electrical tracings*	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	↑
Check-up –PN/AHW*	N/A	N/A	N/A	N/A	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.4)	0.4 (0.2–0.7)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	↑
Physical function test*	0.4 (0.3–0.5)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.2–0.4)	0.4 (0.3–0.4)	—

(continued)

Table 10.3a (continued): The most frequent procedural treatments (rate per 100 problems), 2002–03 to 2011–12

Treatment	Rate per 100 problems (95% CI)										↑↓[(a)]
	2002–03 (*n* = 146,336)	2003–04 (*n* = 144,674)	2004–05 (*n* = 137,330)	2005–06 (*n* = 149,088)	2006–07 (*n* = 136,333)	2007–08 (*n* = 145,078)	2008–09 (*n* = 149,462)	2009–10 (*n* = 155,373)	2010–11 (*n* = 146,141)	2011–12 (*n* = 152,286)	
Other preventive procedures/ high-risk medication*	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.4 (0.3–0.5)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	↑
Urine test*	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	↑
Other diagnostic procedures*	0.1 (0.1–0.1)	0.1 (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 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	↑
Total procedural treatments	**10.1 (9.6–10.6)**	**10.1 (9.6–10.6)**	**10.6 (10.0–11.3)**	**9.9 (9.4–10.3)**	**10.2 (9.7–10.7)**	**11.0 (10.5–11.6)**	**10.8 (10.4–11.3)**	**11.4 (10.8–12.1)**	**11.1 (10.6–11.6)**	**11.0 (10.5–11.5)**	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

(b) Excludes all local injection/infiltrations performed for immunisations.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Tables A4.5 and A4.6, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; NEC – not elsewhere classified; N/A – not applicable; PN – practice nurse; AHW – Aboriginal health worker.

Table 10.3b: The most frequent procedural treatments (rate per 100 encounters), 2002–03 to 2011–12

Treatment	Rate per 100 encounters (95% CI)										↑↓[(a)]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Excision/removal tissue/ biopsy/destruction/ debridement/cauterisation*	2.8 (2.6–3.1)	3.1 (2.7–3.6)	3.3 (3.0–3.6)	3.0 (2.7–3.2)	3.3 (3.0–3.7)	3.4 (3.1–3.8)	3.2 (2.9–3.5)	3.0 (2.7–3.2)	2.9 (2.6–3.1)	2.8 (2.6–3.0)	—
Dressing/pressure/ compression/tamponade*	2.0 (1.8–2.1)	1.8 (1.7–2.0)	2.0 (1.8–2.1)	2.1 (1.9–2.3)	2.3 (2.1–2.4)	2.2 (2.1–2.4)	2.3 (2.1–2.4)	2.4 (2.2–2.6)	2.5 (2.4–2.7)	2.5 (2.3–2.7)	↑
Local injection/ infiltration*[(b)]	1.5 (1.3–1.7)	1.6 (1.4–1.8)	2.0 (1.7–2.2)	2.0 (1.8–2.2)	1.9 (1.7–2.1)	2.3 (2.1–2.5)	2.3 (2.1–2.4)	2.5 (2.3–2.7)	2.4 (2.2–2.7)	2.2 (2.0–2.4)	↑
Physical medicine/ rehabilitation – all*	2.1 (1.8–2.4)	1.7 (1.5–1.9)	2.0 (1.7–2.3)	1.4 (1.1–1.6)	1.1 (0.9–1.3)	1.3 (1.1–1.5)	1.2 (1.1–1.3)	1.2 (1.0–1.5)	1.2 (1.1–1.4)	1.4 (1.2–1.6)	↓
Incision/drainage/flushing/ aspiration/removal body fluid*	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.0 (1.0–1.1)	1.3 (1.2–1.4)	1.3 (1.1–1.4)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.4 (1.2–1.5)	1.2 (1.1–1.3)	1.2 (1.0–1.3)	—
Repair/fixation – suture/ cast/prosthetic device (apply/remove)*	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.8 (0.8–0.9)	0.9 (0.8–1.0)	—
Pap smear*	1.1 (0.9–1.2)	1.1 (0.9–1.3)	1.0 (0.8–1.1)	1.0 (0.8–1.1)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	1.2 (1.0–1.3)	1.0 (0.9–1.2)	1.0 (0.8–1.1)	0.9 (0.8–1.0)	—
Other therapeutic procedures/minor surgery*	1.2 (1.0–1.4)	1.1 (0.9–1.3)	1.2 (0.9–1.5)	0.8 (0.7–0.9)	0.7 (0.6–0.9)	0.8 (0.6–0.9)	0.9 (0.7–1.1)	1.0 (0.4–1.6)	0.7 (0.5–0.9)	0.8 (0.6–1.0)	↓
INR test*	N/A	N/A	N/A	N/A	0.1 (0.1–0.2)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.6 (0.4–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	↑
Electrical tracings*	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.5)	0.5 (0.4–0.5)	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.6 (0.5–0.7)	0.6 (0.5–0.6)	0.7 (0.6–0.7)	↑
Check-up –PN/AHW*	N/A	N/A	N/A	N/A	0.2 (0.1–0.3)	0.4 (0.3–0.4)	0.4 (0.2–0.5)	0.7 (0.3–1.0)	0.6 (0.4–0.8)	0.6 (0.4–0.7)	↑
Physical function test*	0.5 (0.4–0.7)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.6 (0.4–0.7)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.6 (0.4–0.7)	—
Other preventive procedures/ high-risk medication*	0.2 (0.1–0.2)	0.3 (0.2–0.4)	0.3 (0.3–0.4)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.3–0.5)	0.6 (0.5–0.7)	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	↑

(continued)

Table 10.3b (continued): The most frequent procedural treatments (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Treatment	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Urine test*	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.2–0.4)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.4 (0.4–0.5)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	↑
Other diagnostic procedures*	0.1 (0.1–0.2)	0.2 (0.1–0.3)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.3)	0.2 (0.1–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	↑
Pregnancy test*	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	—
Glucose test*	0.1 (0.1–0.2)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.3)	0.2 (0.1–0.2)	—
Total procedural treatments	**14.6 (13.9–15.3)**	**14.7 (14.0–15.5)**	**15.5 (14.6–16.4)**	**14.4 (13.7–15.1)**	**15.2 (14.4–16.0)**	**16.7 (15.9–17.5)**	**16.7 (16.0–17.5)**	**17.5 (16.5–18.6)**	**16.9 (16.1–17.8)**	**16.9 (16.1–17.8)**	**↑**

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

(b) Excludes all local injection/infiltrations performed for immunisations.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Tables A4.5 and A4.6, <hdl.handle.net/2123/8676>)

Note: CI – confidence interval; N/A – not applicable; NEC – not elsewhere classified; PN – practice nurse; AHW – Aboriginal health worker.

Table 10.4: The most common problems managed with a procedural treatment, 2002–03 to 2011–12

Problem managed	Rate at which procedural treatments were given for the selected problem, per 100 encounters (95% CI)										↑↓[a]
	2002–03 (*n* = 100,987)	2003–04 (*n* = 98,877)	2004–05 (*n* = 94,386)	2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 99,030)	
Laceration/cut	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.5 (0.5–0.6)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	↑
Female genital check-up/ Pap smear*	0.8 (0.7–0.9)	0.8 (0.7–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	1.1 (0.9–1.2)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	—
Solar keratosis/sunburn	0.8 (0.7–0.9)	0.9 (0.8–1.1)	0.9 (0.7–1.1)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.1)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	—
Excessive ear wax	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	—
Chronic ulcer skin (including varicose ulcer)	0.3 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	↑
Warts	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	—
Malignant neoplasm skin	0.4 (0.3–0.4)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.6 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	↑
General check-up*	0.2 (0.1–0.3)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.3 (0.2–0.3)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	↑
Atrial fibrillation/flutter	0.0† (0.0–0.0)	0.0† (0.0–0.0)	0.0† (0.0–0.0)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.2 (0.2–0.3)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	↑
Back complaint*	0.4 (0.3–0.6)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.3 (0.2–0.4)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.4)	0.3 (0.2–0.5)	0.2 (0.2–0.3)	0.3 (0.3–0.4)	—
Sprain/strain*	0.5 (0.4–0.6)	0.4 (0.3–0.4)	0.5 (0.4–0.6)	0.4 (0.3–0.4)	0.3 (0.2–0.3)	0.4 (0.3–0.5)	0.3 (0.2–0.3)	0.3 (0.2–0.5)	0.3 (0.3–0.4)	0.3 (0.2–0.4)	↓
Vitamin/nutritional deficiency	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.4)	0.3 (0.2–0.3)	↑
Skin symptom/complaint, other	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.3 (0.2–0.3)	0.3 (0.2–0.4)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	↑

(continued)

Table 10.4 (continued): The most common problems managed with a procedural treatment, 2002–03 to 2011–12

	Rate at which procedural treatments were given for the selected problem, per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Problem managed	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Skin disease, other	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.4)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	—
Asthma	0.3 (0.3–0.4)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	↓
Osteoarthritis*	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.3 (0.1–0.6)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	—
Skin infection, post traumatic	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	—
Total problems with procedural treatments	**13.6 (13.0–14.3)**	**13.7 (13.1–14.4)**	**14.3 (13.5–15.0)**	**13.6 (12.9–14.2)**	**14.3 (13.6–15.0)**	**15.6 (14.9–16.4)**	**15.6 (15.0–16.3)**	**16.4 (15.4–17.3)**	**15.9 (15.1–16.6)**	**15.8 (15.1–16.5)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <hdl.handle.net/2123/8676>).

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

Note: CI – confidence interval. This table includes individual problems that had procedural treatments done at a rate of >= 0.5 per 100 encounters in any year, and any other statistically significant differences of interest.

10.3 Practice nurse/Aboriginal health worker activity

This section investigates changes in the activities of practice nurses (PNs) and Aboriginal health workers (AHWs) in association with the GP–patient encounters for the years 2005–06 to 2010–11.

In 2004, four Medicare item numbers were introduced into the Medical Benefits Schedule (MBS) that allowed GPs to claim for specified tasks done by a practice nurse under the direction of the GP.[24] The BEACH recording form for the 2005–06 BEACH year was amended to capture this information. In the 'other treatments' section for each problem managed, GPs were asked to tick the 'practice nurse' box if the treatment recorded was provided by the practice nurse rather than by the GP. If the box was not ticked it was assumed the GP gave the treatment.

Over the years, new practice nurse and item numbers were added to the MBS and some items were broadened to include work done by Aboriginal health workers. In past years we have reported the results referring to practice nurses alone. However in 2011–12, a few GPs indicated (of their own accord) that the recorded action was done by an AHW rather than by a PN. We have included this information in this section, which now refers to work undertaken in conjunction with the GP–patient encounters by practice nurses (PNs) and Aboriginal health workers (AHWs), although the vast majority will have been done by PNs.

There is a limitation to this approach. Few GPs specifically indicated that the work was done by an AHW. Others may have thought that because the question referred specifically to practice nurses, they were not required to record work done by an AHW. These results therefore have the potential to be an underestimate of the work undertaken at GP–patient encounters by PNs and AHWs.

In January 2012, the Australian Government significantly altered the payment structure for practice nurse and AHW activities in general practice such that the range of claimable MBS item numbers was diminished and the Practice Nurse Incentive Program (PNIP) introduced. The PNIP "provides incentive payments to practices … by consolidating funding arrangements under the Practice Incentive Program (PIP) Practice Nurse Incentive". Six of the Medicare Benefits Schedule (MBS) practice nurse items covering MBS immunisation, cervical smears and treatments of a person's wound were removed, and the funds redirected into a single payment to eligible general practices.[58]

This means that Medicare claims for PN/AHW items recorded in BEACH from January 2012 onwards were limited to a far smaller range of claimable items.[59] This means that the 2011–12 data presented in this report includes a period of nine months (April–December 2011) of the old payment system and three months of the new payment system. Likewise, the distribution of PN/AHW claims in BEACH and in the MBS claims data reflect this mix.

The change in payment systems as of 1 January 2012 must be remembered in the following section, which investigates changes in:

- the distribution of the PN and AHW Medicare items recorded as claimable at encounters
- treatments provided by PNs or AHWs in association with the GP-recorded encounters
- problems for which the PN or AHW provided the treatment in association with the GP-recorded encounters.

When viewing these results, it must be remembered that these data will not include activities undertaken by the PN/AHW during the GP's BEACH recording period that were outside (not associated with) the recorded encounter. Such activities could include Medicare-

claimable activities (e.g. immunisations/vaccinations), or other services not currently claimable from Medicare (e.g. dietary advice to an individual or in a group situation), provided at the time separate from the encounter recorded by the GP.

Note also that in this section clinical procedures include the action of injections given for immunisations, which was not the case in earlier sections of this chapter.

Overview of practice nurse/Aboriginal health worker activity

Encounters involving a PN/AHW as a proportion of all encounters almost doubled from 4.2% in 2005–06 to peak at 9.0% in 2009–10 then significantly decreased to 7.4% in 2011–12.

The proportion of problems managed with PN/AHW at GP encounters also increased significantly from 2.8% in 2005–06 to peak to 6.1% in 2009–10 with no significant decrease by 2011–12 (5.0%).

In 2005–06, GPs recorded one or more PN/AHW MBS item numbers at 39.2% of encounters with recorded PN/AHW activity. By 2009–10 this proportion had risen to 45.5% then decreased to 40.2% in 2010–11. In 2011–12, which includes three months of data recorded after the change in funding structure, the proportion had decreased to 27.4% (Table 10.5).

Distribution of PN/AHW item numbers claimed at encounters

The number of practice nurse items claimed per 100 GP–patient encounters significantly increased from 1.7 items per 100 encounters in 2005–06 to peak at 4.2 per 100 in 2009–10 then significantly decreased to 3.2 per 100 in 2010–11, and further to 2.0 per 100 in 2012–12 (Table 10.6). Extrapolation of these results suggests that the BEACH sample represented about 1.7 million claimed practice nurse items in 2005–06, and about 4.9 million in 2009–10, but receded somewhat to an estimated 3.8 million in 2010–11.

In 2011–12 which included the change in payment policy for PN/AHW services, there were an estimated 2.5 million claims nationally. This recent decrease was also reflected in Medicare claims data showing there were 3.2 million such claims in 2005–06 climbing to about 7.6 million in 2009–10, and receding to about 6.1 million in the 2010–11 financial year[60] and 4.7 million in the 2011–12 BEACH data period which include three months of post MBS changes in the payment system for most of the work of PNs.

Extrapolation of encounters for which a practice nurse item number was recorded as claimable in BEACH to all encounters across the country in each year suggest that the 2005–06 BEACH sample represented about 53% of the practice nurse activity claimed from Medicare during that period, the 2009–10 sample 65.0%, the 2010–11 sample 62% and the 2011–12 sample about 53%, the same as in 2005–06.The balance of the claims to Medicare for practice nurse items would be for services provided by the nurse, independent of the GP–patient encounter. This year's increase in 'outside the consultation' work is hardly surprising as the removal of most of the PN item numbers from Medicare must give GPs more freedom to have the PNs working in greatest area of need in the practice, which may not be in the areas that were being funded though Medicare.

There were two significant differences between 2005–06 and 2011–12 in the distribution of practice nurse item numbers claimed for work associated with the BEACH encounters:

- in 2011–12 PN/AHW services to a person with a chronic disease (first introduced in 2007–08), made up a significantly greater proportion of recorded items (3.6%) than in 2007–08, though there was no change in the proportion between 2010–11 and 2011–12.
- The proportion of claims accounted for by immunisations was significantly lower in 2011–12 (55.1%) than in 2005–06 (69.5%) (when there were far fewer such item numbers available in the MBS). However this is likely due to the change in funding arrangements introduced in January 2012 which removed the PN item number from the MBS.

Further, the proportion of claims accounted for by wound treatments, had remained steady at about one-third of all BEACH recorded PN/AHW item claims, but decreased significantly in 2009–10, to 21.3%. In 2010–11 this reverted somewhat to reach 28.1%, close to the 2005–06 level of 30.0%. Recording of other practice nurse items numbers was rare (Table 10.6).

Treatments provided by practice nurses and Aboriginal health workers

The rate at which procedures (including tests) were undertaken by PNs/AHWs in association with the recorded GP–patient encounters more than doubled from 4.0 per 100 encounters in 2005–06 to 9.2 per 100 in 2009–10, though it decreased in 2011–12 to 7.2 per 100 encounters. PNs/AHWs also took over an increasing proportion of the procedural work associated with the GP–patient encounters, increasing from 22.7% in 2005–06 to 38.0% in 2010–11, with no statistical change in 2011–12.

While their provision of clinical treatments (such as advice and health education) remained infrequent at GP–patient encounters, there was a significant increase over the study period, from 0.2 clinical treatments per 100 encounters in 2005–06 to 0.9 per 100 in 2011–12. Further, nurses did a significantly greater proportion of the clinical treatments recorded at encounters, rising from 0.7% in 2005–06 to 2.4% in 2010–11. Overall in 2011–12PNs/AHWs provided 14.1% of all 'other treatments' recorded at the encounters, a significantly greater proportion than in 2005–06 (9.0%) (Table 10.7).

Individual treatments

In most cases, through all years, where the PN/AHW provided a treatment associated with a GP–patient encounter only one action was recorded. However, there was a statistically significant increase in the number of treatments provided from 107.4 per 100 PN/AHP involved encounters in 2005–06 to 112.8 per 100 in 2010–11 and this remained steady in 2011–12 (111.5 per 100) (Table 10.8).

Paralleling the recent decrease in the number of Medicare claims for immunisations by a PN or AHW described above, last year local injections/infiltrations had reverted to the 2005–06 level of about 41 per 100 practice nurse involved encounters. In 2011–12 the rate decreased far more to 35.5 per 100. The lower 2011–12 rate may be linked to the removal of the Medicare item number for immunisations in January 2012, but may also reflect a move over the last several years for immunisations to be provided more often by PNs/AHWs independent of the GP–patient consultations.

Check-ups by PNs/AHWs continued to increase, conducted at a rate of 8.0 per 100 GP–patient encounters in which the PN/AHW actions were recorded, double the rate at which they were conducted in their first year of MBS funding. International normalised ratio (INR) blood testing frequency more than tripled, from 1.8 per 100 practice nurse encounters

in 2006–07 to 6.8 in 2010–11 and remained steady at 6.9 in 2011–12. Glucose testing doubled from 0.7 per 100 PN/AHW involved encounters in 2005–06 to 1.2 per 100 in 2011–12, and may relate to the increase in claims for services provided to a patient with chronic disease.

In clinical treatments, PN/AHW carried out administrative procedures (excluding sickness certificates) at an ever increasing rate, rising from 0.7 per 100 PN/AHW involved encounter in 2005–06, to 3.6 per 100 in 2011–12. Increases also occurred in their provision of advice/education about medication and in consultations with primary care providers (Table 10.8).

Problems managed with practice nurse or Aboriginal health worker involvement at GP–patient encounters

Changes in the problems for which PNs/AHWs were involved in management are shown in Table 10.9 and largely reflect the changes in the activities undertaken. There were significant increases in the rate at which they were involved in management of check-ups, diabetes, atrial fibrillation/flutter and urinary tract infections. Some of these increases may well have been stimulated by the introduction of MBS item 10997 for services provided to a person with a chronic disease in 2007–08.

Table 10.5: Summary of PN and AHW involvement at encounter, and claims made, 2005–06 to 2010–11

Variable	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓ (a)
	Number							
Total encounters	101,993	91,805	95,898	96,688	101,349	95,839	99,030	. .
Encounters involving PN or AHW	4,295	4,769	5,791	6,183	9,154	7,625	7,293	. .
Encounters at which PN activity described	4,013	4,710	5,712	6,052	8,999	7,432	7,210	. .
Encounters with PN item number but activity not described	282	59	79	131	155	195	82	. .
Encounters at which one or more MBS PN item numbers were recorded as claimable	1,683	1,823	2,060	2,416	4,161	3,068	1,997	. .
Total problems managed	149,088	136,333	145,078	149,462	155,373	146,141	152,286	. .
Problems managed with PN involvement	4,111	4,922	5,909	6,281	9,542	7,826	7,554	. .
	Per cent (95% CI)							
Encounters involving the PN/AHW as a proportion of total encounters	4.2 (3.7–4.7)	5.2 (4.6–5.8)	6.0 (5.5–6.6)	6.4 (5.8–7.0)	9.0 (8.2–9.9)	8.0 (7.3–8.7)	7.4 (7.6–8.0)	↑
Problems involving the PN/AHW as a proportion of total problems	2.8 (2.4–3.1)	3.6 (3.2–4.1)	4.1 (3.7–4.5)	4.2 (3.8–4.6)	6.1 (5.6–6.7)	5.4 (4.9–5.8)	5.0 (4.5–5.4)	↑
PN/AHW claimable encounters as a proportion of total encounters	1.7 (1.4–1.9)	2.0 (1.7–2.3)	2.1 (1.9–2.4)	2.5 (2.2–2.8)	4.1 (3.6–4.1)	3.2 (2.8–3.6)	2.0 (1.7–2.3)	§
Proportion of PN/AHW involved encounters for which one or more MBS PN item numbers were recorded	39.2 (34.7–43.6)	38.2 (34.0–42.4)	35.6 (32.4–38.8)	39.1 (35.9–42.3)	45.5 (42.1–48.8)	40.2 (36.9–43.6)	27.4 (24.3–30.4)	§

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Note: PN/AHW – practice nurse or Aboriginal health worker; CI – confidence interval. Some of these results may differ from those previously published, because these data were re-analysed for all years to include in the count of total practice nurse/Aboriginal health worker activity those encounters at which an item number was recorded but no practice nurse activity was described.

Table 10.6: Distribution of PN/AHW item numb PNs or AHWs recorded at encounter, 2005–06 to 2010–11

Medicare item number	Short descriptor	Per cent of total (95% CI)							↑↓[a]
		2005–06 (*n* = 1,696)	2006–07 (*n* = 1,835)	2007–08 (*n* = 2,073)	2008–09 (*n* = 2,438)	2009–10 (*n* = 4,215)	2010–11 (*n* = 3,018)	2011–12 (*n* = 2,028)	
00711/10986[b]	Health assessment of four year old who has had/is having four year old immunisation, by PN/AHW	N/A	N/A	N/A	0.1 (0.0–0.2)	0.3 (0.1–0.5)	0.2 (0.0–0.4)	0.2 (0.0–0.4)	—
10993[c]	Immunisation by PN	69.5 (63.8–75.3)	66.8 (61.5–72.2)	64.1 (59.6–68.6)	63.5 (59.0–68.1)	74.9 (72.0–77.7)	67.0 (63.1–70.9)	55.1 (50.2–59.9)	↓
10994[d]	Cervical smear and preventive checks	N/A	0.2 (0.0–0.5)	0.2 (0.0–0.4)	0.7 (0.1–1.2)	0.4 (0.0–0.7)	0.6 (0.1–1.1)	0.3 (0.0–0.7)	—
10995[d]	Cervical smear and preventive checks – women 20–69 years, no smear in previous four years	N/A	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.4 (0.0–0.9)	0.0[∓] (0.0–0.1)	0.0[∓] (0.0–0.0)	0	—
10998[f]	Cervical smear	0	0.1 (0.0–0.3)	0.3 (0.2–0.5)	0.1 (0.0–0.2)	0.1 (0.0–0.1)	0.4 (0.0–0.8)	0.1 (0.0–0.3)	—
10999[f]	Cervical smear – women 20–69 years, no smear in previous four years	0.5 (0.0–0.9)	0.2 (0.0–0.4)	0.3 (0.0–0.8)	0	0.0[∓] (0.0–0.1)	0.0[∓] (0.0–0.0)	0.2 (0.0–0.5)	—
10996[c]	Wound treatment (other than normal aftercare)	30.0 (24.3–35.7)	32.6 (27.2–40.0)	34.4 (30.0–38.8)	33.3 (29.1–37.5)	21.3 (18.8–23.8)	28.1 (24.6–31.7)	33.3 (29.1–37.5)	§
10997[e]	Service to a person with a chronic disease by a PN or registered AHW	N/A	N/A	0.7 (0.2–1.2)	1.9 (0.9–2.9)	3.0 (1.7–4.2)	3.6 (2.5–4.6)	3.6 (2.5–4.6)	↑
Total practice nurse item numbers – rate per 100 total encounters		**1.7 (1.4–2.0)**	**2.0 (1.7–2.3)**	**2.2 (1.9–2.4)**	**2.5 (2.2–2.9)**	**4.2 (3.7–4.7)**	**3.2 (2.8–3.6)**	**2.0 (1.8–2.3)**	§

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Note: PN/AHW – practice nurse or Aboriginal health worker; N/A – Not applicable; there were no occurrences of other available item numbers in any years reported in this table.

Table 10.7: Summary of treatments provided by PNs or AHWs, 2005–06 to 2011–12

Treatment	Rate per 100 encounters (95% CI) 2005–06 (*n* = 101,993)	2006–07 (*n* = 91,805)	2007–08 (*n* = 95,898)	2008–09 (*n* = 96,688)	2009–10 (*n* = 101,349)	2010–11 (*n* = 95,839)	2011–12 (*n* = 7,293)	↑↓[a]
Procedural treatments[b]	4.0 (3.5–4.5)	5.2 (4.6–5.8)	6.1 (5.5–6.7)	6.4 (5.8–7.1)	9.2 (8.3–10.2)	8.0 (7.3–8.8)	7.2 (6.6–7.9)	↑
Clinical treatments	0.2 (0.1–0.3)	0.5 (0.3–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.7 (0.5–0.9)	0.7 (0.6–0.9)	0.9 0.7–1.1)	↑
All other treatments	**4.2 (3.7–4.8)**	**5.7 (4.9–6.4)**	**6.5 (5.9–7.2)**	**6.9 (6.2–7.6)**	**9.9 (8.9–10.9)**	**8.7 (7.9–9.6)**	**8.1 (7.4–8.9)**	↑
	Per cent of each activity that was performed/assisted by PN or AHW (95% CI)							
Procedural treatments[b]	22.7 (20.2–25.2)	28.1 (25.5–30.8)	29.7 (27.5–32.0)	30.4 (28.0–32.9)	39.6 (36.5–42.6)	38.0 (35.4–40.5)	35.4 (32.9–37.8)	↑
Clinical treatments	0.7 (0.5–0.9)	1.5 (0.9–2.2)	1.3 (1.0–1.6)	1.4 (1.1–1.6)	2.0 (1.4–2.5)	2.0 (1.6–2.5)	2.4 (1.8–3.0)	↑
All other treatments	**9.0 (7.9–10.1)**	**11.8 (10.4–13.2)**	**11.9 (10.8–13.0)**	**12.5 (11.3–13.7)**	**17.0 (15.4–18.7)**	**15.4 (14.0–16.9)**	**14.1 (12.9–15.4)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03.

(b) PN/AHW – practice nurse or Aboriginal health worker; procedural treatments here include all injections for immunisations/vaccinations. These are not included in the summary of the content of encounter in Table 5.1, summary of management in Table 8.1 or in the analyses of other treatments in Chapter 10, because the immunisation/vaccination is already counted as a prescription or GP-supplied medication.

Note: CI – confidence interval; PN/AHW – practice nurse or Aboriginal health worker.

Table 10.8: Most frequent treatments done by PNs or AHWs, 2005–06 to 2010–11

Treatment	Rate per 100 encounters where PN/AHW activity described (95% CI)							↑↓[(a)]
	2005–06 (*n* = 4,013)	2006–07 (*n* = 4,710)	2007–08 (*n* = 5,712)	2008–09 (*n* = 6,052)	2009–10 (*n* = 8,999)	2010–11 (*n* = 7,625)	2011–12 (*n* = 7,293)	
Procedural treatments (including tests)	**102.2 (100.1–104.3)**	**101.3 (99.2–103.5)**	**102.3 (100.7–104.0)**	**102.5 (100.5–104.8)**	**104.1 (102.4–105.9)**	**103.5 (101.6–105.4)**	**99.3 (96.5–102.0)**	—
Local injection/infiltration*	41.0 (36.6–45.4)	37.3 (33.0–41.6)	37.7 (34.7–40.7)	38.2 (34.9–41.6)	50.3 (47.0–53.6)	41.1 (37.7–44.5)	35.5 (32.4–38.6)	§
Dressing/pressure/compression /tamponade*	23.7 (21.3–26.2)	22.4 (19.8–24.9)	20.7 (18.7–22.8)	21.2 (19.2–23.3)	15.8 (14.2–17.5)	19.5 (17.8–21.2)	20.0 (18.2–21.8)	§
Check-up – PN/AHW*	NAv	4.0 (2.3–5.6)	6.1 (4.8–7.4)	6.3 (4.0–8.6)	7.6 (4.0–11.1)	7.3 (5.2–9.5)	8.0 (6.1–9.8)	↑
INR test*	NAv	1.8 (1.0–2.6)	4.9 (3.6–6.2)	6.4 (4.9–7.9)	4.5 (3.5–5.5)	6.8 (5.5–8.1)	6.6 (5.4–7.8)	↑
Incision/drainage/flushing/aspiration/ removal body fluid*	8.1 (6.2–10.0)	8.8 (6.7–11.0)	6.8 (5.6–7.9)	7.4 (6.0–8.8)	6.8 (5.4–8.1)	5.7 (4.7–6.7)	5.5 (4.2–6.7)	—
Electrical tracings*	5.4 (4.1–6.7)	4.5 (3.7–5.2)	5.2 (4.3–6.1)	4.4 (3.6–5.2)	3.6 (3.1–4.2)	4.3 (3.7–5.0)	5.2 (4.5–6.0)	—
Repair/fixation – suture/cast/prosthetic device (apply/remove)*	6.4 (5.0–7.8)	6.0 (5.0–7.0)	5.0 (4.2–5.7)	4.3 (3.6–5.0)	4.0 (3.3–4.6)	4.4 (3.6–5.1)	4.0 (3.3–4.6)	↓
Excision/removal tissue/biopsy/ destruction/debridement/cauterisation*	7.4 (5.6–9.2)	5.7 (4.2–7.2)	4.9 (3.8–5.9)	4.3 (3.4–5.2)	2.9 (2.2–3.6)	3.2 (2.5–3.9)	3.7 (2.8–4.5)	↓
Physical function test*	3.9 (2.6–5.3)	4.3 (2.8–5.7)	3.5 (2.3–4.7)	2.7 (2.0–3.4)	2.9 (2.1–3.6)	2.6 (2.0–3.3)	2.8 (2.1–3.5)	—
Urine test*	1.4 (0.8–2.0)	1.4 (0.8–2.0)	2.1 (1.3–3.0)	1.7 (1.0–2.4)	1.3 (0.8–1.8)	2.3 (1.6–3.0)	2.1 (1.5–2.8)	—
Glucose test*	0.7 (0.3–1.1)	1.0 (0.4–1.5)	1.0 (0.7–1.3)	1.0 (0.6–1.3)	0.6 (0.4–0.8)	1.5 (0.7–2.3)	1.2 (1.5–2.8)	↑
Other diagnostic procedures*	0	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.5 (0.2–0.8)	0.7 (0.4–1.0)	1.3 (0.2–2.3)	0.8 (0.4–1.2)	↑

(continued)

Table 10.8 (continued): Most frequent treatments done by PNs or AHWs, 2005–06 to 2010–11

Treatment	Rate per 100 encounters where PN/AHW activity described (95% CI)							↑↓[(a)]
	2005–06 (*n* = 4,013)	2006–07 (*n* = 4,710)	2007–08 (*n* = 5,712)	2008–09 (*n* = 6,052)	2009–10 (*n* = 8,999)	2010–11 (*n* = 7,625)	2011–12 (*n* = 7,210)	
Pap smear*	0.3 (0.0–0.6)	0.6 (0.2–0.9)	0.5 (0.3–0.8)	0.7 (0.1–1.3)	0.7 (0.4–0.9)	0.9 (0.5–1.3)	0.6 (0.3–0.9)	—
Physical medicine/rehabilitation –all*	0.9 (0.4–1.5)	0.6 (0.2–0.9)	0.6 (0.2–1.1)	0.4 (0.2–0.6)	0.9 (0.5–1.2)	0.9 (0.5–1.2)	0.3 (0.1–0.4)	↓
Pregnancy test*	0.3 (0.1–0.6)	0.3 (0.1–0.5)	0.5 (0.3–0.8)	0.5 (0.3–0.7)	0.2 (0.1–0.4)	0.4 (0.2–0.7)	0.7 (0.4–0.9)	—
Other preventive procedures/high-risk medication*	0.1 (0.0–0.2)	0.2 (0.1–0.4)	0.1 (0.0–0.2)	0.5 (0.3–0.8)	0.5 (0.3–0.7)	0.4 (0.2–0.7)	0.3 (0.1–0.5)	—
Clinical treatments	**5.2 (3.7–6.7)**	**8.9 (5.6–12.1)**	**7.7 (6.9–9.2)**	**7.4 (6.0–8.8)**	**7.9 (5.9–9.9)**	**9.3 (7.6–11.1)**	**12.2 (9.6–14.8)**	↑
Other administrative procedure/ document (excl. sickness certificate)*	0.7 (0.4–1.0)	1.1 (0.7–1.6)	2.0 (1.4–2.6)	2.3 (1.6–3.0)	2.3 (1.6–3.0)	2.2 (1.6–2.8)	3.6 (2.8–4.4)	↑
Counselling – problem*	0.9 (0.2–1.5)	0.8 (0.3–1.3)	0.6 (0.3–0.8)	0.5 (0.2–0.7)	0.6 (0.3–0.9)	1.2 (0.6–1.8)	1.8 (0.1–3.4)	—
Advice/education NEC*	0.9 (0.4–1.3)	1.5 (0.6–2.4)	1.4 (0.8–2.1)	0.8 (0.5–1.1)	1.2 (0.6–1.9)	1.0 (0.5–1.4)	1.1 (0.7–1.5)	—
Consultation with primary care provider*	0	0.2 (0.0–0.3)	0.4 (0.2–0.7)	0.1 (0.0–0.2)	0.4 (0.2–0.6)	0.7 (0.4–1.0)	0.7 (0.1–1.2)	↑
Advice/education – medication*	0.2 (0.0–0.3)	0.2 (0.0–0.3)	0.4 (0.2–0.7)	0.2 (0.0–0.4)	0.4 (0.2–0.6)	0.5 (0.3–0.8)	0.7 (0.4–1.1)	↑
Counselling/advice – nutrition/weight*	0.6 (0.2–0.9)	1.2 (0.2–2.1)	0.5 (0.1–0.9)	0.7 (0.4–1.1)	0.6 (0.3–0.8)	0.7 (0.4–1.0)	0.4 (0.1–0.7)	—
Counselling/advice – prevention*	0.2 (0.0–0.3)	0.4 (0.1–0.7)	0.4 (0.2–0.7)	0.3 (0.1–0.5)	0.6 (0.2–0.9)	0.5 (0.3–0.8)	0.7 (0.1–1.2)	—
Counselling – psychological*	0.2 (0.0–0.4)	0.4 (0.0–0.8)	0.2 (0.1–0.3)	0.2 (0.1–0.4)	0.,1 0.0–0.2)	0.3 (0.1–0.5)	0.7 (0.2–1.3)	—
Total PN/AHW activities at GP–patient encounters involving a PN/AHW	**107.4 (105.0–108.9)**	**110.2 (107.7–112.8)**	**110.0 (108.4–111.6)**	**109.9 (108.1–111.6)**	**112.0 (110.3–113.7)**	**112.8 (110.9–114.7)**	**110.5 (110.1–112.9)**	↑

Table 10.9: The most common problems managed with involvement of PN or AHW, 2005–06 to 2011–12

	Rate per 100 encounters where PN/AHW activity described (95% CI)							
	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Problem managed	(*n* = 4,013)	(*n* = 4,710)	(*n* = 5,712)	(*n* = 6,052)	(*n* = 8,999)	(*n* = 7,625)	(*n* = 7,210)	
Immunisation/vaccination – all*	30.9 (26.9–34.9)	30.8 (26.5–35.0)	29.5 (26.7–32.2)	29.5 (26.2–32.7)	40.6 (37.3–43.9)	30.7 (27.3–34.0)	25.5 (22.7–28.3)	§
Laceration/cut	6.4 (5.0–7.8)	6.2 (5.2–7.2)	6.0 (5.0–7.0)	6.4 (5.5–7.3)	4.5 (3.8–5.1)	6.0 (5.1–6.8)	5.9 (5.1–6.7)	—
Check-up – all*	3.8 (2.8–4.8)	4.4 (3.4–5.4)	5.2 (4.0–6.4)	5.1 (3.9–6.2)	5.5 (4.6–6.3)	5.0 (4.1–5.9)	5.8 (4.9–6.8)	↑
Chronic ulcer skin (incl.varicose ulcer)	7.1 (5.9–8.3)	6.5 (5.3–7.7)	4.8 (3.9–5.7)	5.9 (4.9–6.9)	4.0 (3.3–4.8)	4.4 (3.7–5.1)	4.9 (4.1–5.6)	↓
Diabetes – all*	1.5 (0.8–2.1)	2.0 (1.4–2.6)	2.9 (2.2–3.5)	3.1 (2.4–2.7)	2.0 (1.5–2.4)	3.5 (2.6–4.3)	3.9 (3.2–4.7)	↑
Atrial fibrillation/flutter	1.2 (0.6–1.7)	1.4 (0.8–2.0)	2.8 (2.0–3.6)	3.4 (2.6–4.3)	2.5 (1.8–3.2)	3.6 (2.8–4.4)	3.6 (2.5–4.6)	↑
Hypertension*	1.1 (0.6–1.5)	1.6 (1.0–2.2)	1.8 (1.2–2.3)	1.8 (1.2–2.4)	1.8 (1.2–2.4)	1.5 (1.0–1.9)	2.3 (1.4–3.1)	—
Excessive ear wax	2.2 (1.6–2.9)	3.0 (2.4–3.6)	2.8 (2.2–3.4)	2.5 (2.0–3.0)	2.0 (1.5–2.4)	2.3 (1.9–2.7)	2.3 (1.8–2.7)	—
Malignant neoplasm skin	3.2 (2.3–4.2)	2.9 (2.1–3.8)	2.6 (1.8–3.3)	2.6 (1.9–3.3)	2.1 (1.7–2.6)	1.8 (1.4–2.2)	2.2 (1.7–2.8)	—
Blood test – all*	0.6 (0.2–0.9)	1.1 (0.4–1.8)	1.3 (0.9–1.7)	1.4 (0.7–2.1)	1.5 (0.8–2.2)	1.6 (1.1–2.1)	1.9 (1.3–2.4)	↑
Skin infection – post-traumatic	0.4 (0.2–0.6)	1.7 (1.2–2.2)	1.6 (1.0–2.1)	1.9 (1.5–1.3)	1.8 (1.3–2.2)	1.6 (1.2–2.0)	1.7 (1.3–2.1)	↑
Vitamin/nutritional deficiency	0.9 (0.5–1.3)	0.5 (0.3–0.8)	1.0 (0.6–1.4)	1.6 (1.2–2.1)	1.1 (0.1–2.1)	1.2 (0.9–1.6)	1.6 (1.2–2.0)	—
Administrative procedure – all*	0	0.2 (0.0–0.4)	0.5 (0.2–0.8)	0.5 (0.3–0.7)	0.8 (0.4–0.2)	0.7 (0.4–1.1)	1.3 (0.7–1.8)	↑
Asthma	1.5 (1.0–2.0)	2.3 (1.6–3.0)	1.2 (0.9–1.6)	1.1 (0.7–1.5)	0.9 (0.6–1.1)	1.2 (0.8–1.5)	1.1 (0.8–1.5)	—

(continued)

Table 10.9 (continued): The most common problems managed with involvement of PN or AHW, 2005–06 to 2011–12

Problem managed	Rate per 100 encounters where PN/AHW activity described (95% CI)							
	2005–06 (*n* = 4,013)	2006–07 (*n* = 4,710)	2007–08 (*n* = 5,712)	2008–09 (*n* = 6,052)	2009–10 (*n* = 8,999)	2010–11 (*n* = 7,625)	2011–12 (*n* = 7,210)	↑↓[(a)]
Other preventive procedures/ high-risk medication*	0.2 (0.0–0.3)	0.4 (0.1–0.6)	0.8 (0.4–1.2)	0.4 (0.2–0.7)	0.8 (0.5–1.1)	1.0 (0.6–1.4)	1.0 (0.6–1.3)	↑
Contraception, other	1.1 (0.6–1.6)	0.5 (0.3–0.8)	0.9 (0.6–1.2)	0.9 (0.6–1.2)	0.8 (0.5–0.9)	0.7 (0.5–1.1)	0.9 (0.7–1.2)	—
Repair/fixation – suture/cast/ prosthetic device (apply/remove)*	1.3 (0.7–1.9)	1.4 (1.0–1.9)	1.4 (1.0–1.7)	1.1 (0.8–1.5)	1.0 (0.7–1.2)	1.2 (0.9–1.6)	0.9 (0.7–1.2)	—
Urinary tract infection*	0.3 (0.1–0.6)	0.5 (0.2–0.8)	0.7 (0.4–0.9)	0.5 (0.3–0.8)	0.5 (0.3–0.7)	1.1 (0.8–1.5)	0.9 (0.5–1.3)	↑
Skin symptom/complaint NOS/NEC	1.2 (0.7–1.7)	1.2 (0.8–1.7)	1.0 (0.7–1.3)	0.9 (0.6–1.2)	0.9 (0.7–1.2)	0.8 (0.5–1.1)	0.8 (0.6–1.1)	—
Boil/carbuncle	0.6 (0.3–0.8)	0.8 (0.5–1.1)	0.9 (0.5–1.2)	1.1 (0.7–1.4)	0.5 (0.3–0.7)	1.0 (0.7–1.3)	0.8 (0.5–1.1)	—
Burns/scalds	0.9 (0.5–1.3)	1.2 (0.8–1.7)	1.1 (0.8–1.4)	0.9 (0.6–1.2)	0.6 (0.4–0.8)	0.9 (0.6–1.3)	0.8 (0.5–1.1)	—
Pregnancy*	0.6 (0.1–1.1)	0.8 (0.3–1.2)	0.6 (0.2–0.9)	0.8 (0.4–1.2)	1.0 (0.8–1.3)	0.9 (0.6–1.3)	0.8 (0.4–1.1)	—
Observation/health education/advice/diet – all*	0.4 (0.0–0.8)	0.6 (0.3–0.8)	0.6 (0.3–0.9)	0.5 (0.3–0.8)	1.1 (0.1–2.1)	0.9 (0.6–1.2)	0.8 (0.4–1.1)	—
Abrasion/scratch/blister	1.2 (0.7–1.6)	0.7 (0.4–1.0)	1.2 (0.6–1.7)	0.8 (0.5–1.0)	0.6 (0.4–0.8)	0.8 (0.5–1.0)	0.7 (0.5–1.0)	—
Dressing/pressure/compression /tamponade*	1.0 (0.5–1.6)	0.3 (0.1–0.5)	0.6 (0.3–0.9)	0.7 (0.3–1.1)	0.3 (0.2–0.5)	0.6 (0.3–0.9)	0.6 (0.3–0.9)	—
Arthritis – all*	0.6 (0.3–0.9)	0.4 (0.1–0.7)	0.6 (0.3–0.8)	0.7 (0.4–0.9)	0.6 (0.4–0.8)	0.6 (0.4–0.9)	0.6 (0.4–0.8)	—

(continued)

Table 10.9 (continued): The most common problems managed with involvement of PN or AHW, 2005–06 to 2011–12

Problem managed	Rate per 100 encounters where PN/AHW activity described (95% CI)							↑↓[(a)]
	2005–06 (*n* = 4,013)	2006–07 (*n* = 4,710)	2007–08 (*n* = 5,712)	2008–09 (*n* = 6,052)	2009–10 (*n* = 8,999)	2010–11 (*n* = 7,625)	2011–12 (*n* = 7,210)	
Anaemia*	0.3 (0.1–0.5)	0.5 (0.3–0.8)	0.6 (0.3–0.8)	0.5 (0.3–0.6)	0.6 (0.4–0.8)	0.6 (0.4–0.8)	0.6 (0.4–0.8)	—
Complication of medical treatment	0.6 (0.3–1.0)	0.7 (0.4–1.0)	0.6 (0.3–0.8)	0.4 (0.3–0.6)	0.5 (0.3–0.7)	0.5 (0.3–0.7)	0.6 (0.4–0.9)	—
Chest pain NOS	0.8 (0.4–1.1)	0.5 (0.3–0.7)	1.0 (0.7–1.2)	0.6 (0.4–0.8)	0.7 (0.5–0.9)	0.6 (0.4–0.9)	0.6 (0.4–0.8)	—
Fracture*	1.1 (0.7–1.5)	1.0 (0.6–1.5)	0.8 (0.5–1.0)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	0.5 (0.4–0.7)	0.5 (0.2–0.7)	↓
Injury skin NEC	1.0 (0.6–1.4)	0.6 (0.3–0.9)	0.4 (0.2–0.6)	0.4 (0.2–0.6)	0.3 (0.2–0.5)	0.5 (0.2–0.7)	0.4 (0.2–0.7)	—
Total problems	**102.4 (101.7–103.2)**	**104.5 (103.3–105.8)**	**103.4 (102.7–104.2)**	**103.8 (103.1–104.5)**	**106.0 (104.8–107.3)**	**105.3 (104.3–106.3)**	**104.8 (103.9–105.7)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <hdl.handle.net/2123/8676>).

Note: PN/AHW – practice nurse or Aboriginal health worker; includes only those problems managed by practice nurses or Aboriginal health workers at a rate of 1% or higher in any of the years reported. CI – confidence interval; NEC – not elsewhere classified; PN – practice nurse; AHW – Aboriginal health worker; INR – international normalised ratio.

10.4 Distribution of clinical treatments between GPs and PNs/AHWs at GP–patient encounters

The introduction of MBS item numbers for some PN and AHW activities in 2004 clearly influenced some of the GP activity at GP–patient encounters.

Clinical treatments

In 2005–06 the number of clinical treatments (counselling, advice and education etc) recorded at BEACH encounters (counts both the GP provided clinical activities and those provided by a PN/AHW in association with the encounter) decreased significantly (from 39.2 to 29.2 per 100 GP–patient encounters). The clinical treatment rate stayed at this level in 2006–07 and then suddenly increased significantly in 2007–09 to 34.5 per 100 encounters, a level retained for the next three years.

The PN/AHW contribution to clinical treatments associated with GP–patient encounters was very small throughout the ten years, accounting for less than 1% of all clinical treatments recorded in all years (Table 10.10).

Table 10.10: GPs and PNs/AHWs clinical treatments at GP-patient encounters

	Rate per 100 encounters (95% CI)									
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Total	37.2	36.6	39.2	29.2	29.5	34.5	34.0	35.0	35.5	37.0
GP	37.2	36.6	39.2	29.0	29.0	34.1	33.5	34.3	34.8	36.1
PN/AHW	0.0	0.0	0.0	0.2	0.5	0.5	0.5	0.7	0.7	0.9

Note: There was no facility to record practice nurse or Aboriginal health worker activities at the encounter prior to 2005–06. PN—practice nurse; AHW – Aboriginal health worker.

When the drop occurred in 2005–06 we assumed that the PNs/AHWs were taking over the responsibility for some of these clinical treatments in patient contacts that were independent of the GP–patient encounter. However, if that was the case we would have expected that this role would grow—that we would see a further decrease in clinical treatments recorded at the encounters in the following years. In reality the rate at which clinical treatments were recorded at GP–patient encounters hit bottom in 2005–06 and in 2006–07, then gradually crept up to reach the same level as that recorded in 2004–05. Table 10.1(a) demonstrates that this pattern was particularly apparent in advice/education (including that about treatment, about medication) and the provision of reassurance and support. In contrast significant decreases in recorded rates of advice/education about exercise and about nutrition/weight failed to return to their earlier levels.

We hypothesised in 2005–06 that when the PN/AHW Medicare items were introduced, the GPs felt that some of the advice and education would be picked up outside the consultation, by a PN/AHW. Perhaps over time, they realised that this was not always the case, so returned to their earlier behaviour in providing such advice themselves. Of concern however, is the lack of such reversion in rates of provision of advice about exercise and about nutrition/weight. Hopefully these two areas are being covered by PNs and AHWs independently of the GP-patient encounters, but we have no data about their non GP–patient encounter activities to determine if this is true.

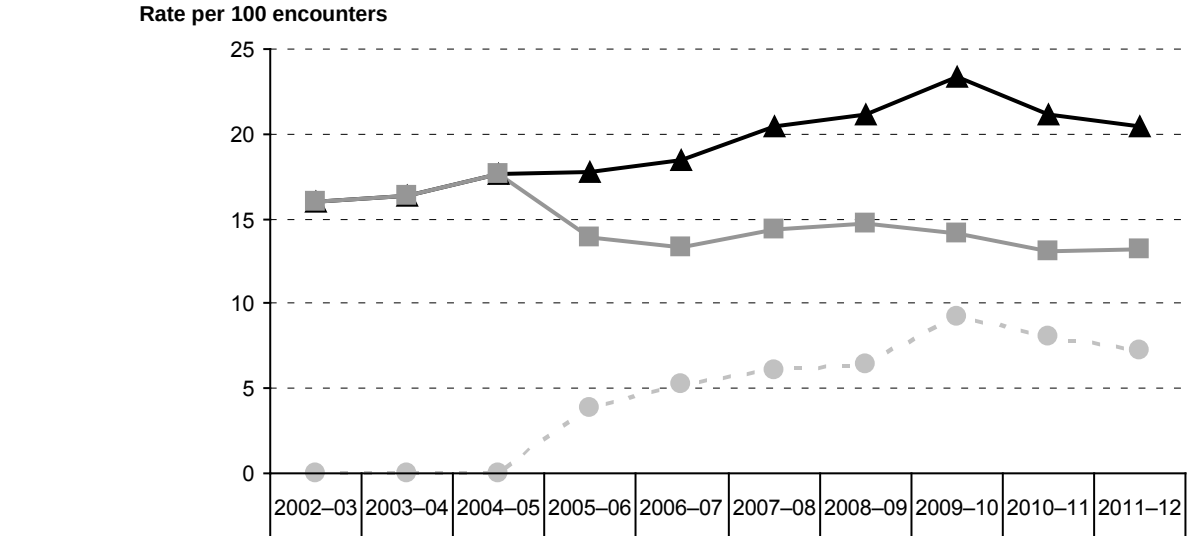
Procedural treatments

After the introduction of PN/AHW item number in 2004–05 there was a significant decrease in the rate at which GPs undertook procedures (including injections for immunisations) at GP–patient encounters, from 17.6 (95% CI: 16.6–18.6) per 100 encounters, to 13.9 (95% CI: 13.2–14.6) per 100. This rate then stayed relatively steady through to 2011–12.

However, in combination with the PN/AHWs procedural work at GP–patient encounters, the overall procedural rate increased, the PN/AHWs having taken some of the clinical load from the GP.

In 2005–06 the PNs/AHWs undertook about one in five of the procedures associated with the encounter and the GP procedural load decreased accordingly. By 2010–11 the PNs/AHW were doing almost two in five of the procedures conducted in association with the encounters.

The removal of many of the PN Medicare item numbers in January 2012 with the move to practice based funding contribution of practice nurse salaries, may well lead to greater independence of the procedural work of PNs, so that more of their work is not associated with the patients' GP visits. The lack of quality data available about the growing non GP–patient encounter activity of PNs/AHWs is limiting our understanding of the total services provided to patients by general practices, and this limitation will grow with increasing independence of PN/AHW clinical activity.



	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Total procedures	16.0	16.3	17.6	17.7	18.5	20.5	21.1	23.4	21.1	20.4
GP	16.0	16.3	17.6	13.9	13.3	14.4	14.7	14.1	13.1	13.2
PN/AHW	0.0	0.0	0.0	3.8	5.2	6.1	6.4	9.2	8.0	7.2

Note: GP—general practitioner undertook the procedures; PN/AHW— a practice nurse or Aboriginal Health Worker undertook the procedure.

Figure 10.1: GP and PN/AHW share of procedural work undertaken at GP encounters, 2002–03 to 2011–12

11 Referrals and admissions

A referral is defined as the process by which the responsibility for part or all of the care of a patient is temporarily transferred to another health care provider. GPs were instructed only to record new referrals arising at the encounter (that is, not to record continuations). For each encounter, GPs could record up to two referrals, and each referral was linked by the GP to the problem(s) for which the patient was referred. Referrals included those to medical specialists, allied health services, hospitals for admission, emergency departments, and those to other services (including those to outpatient clinics and to other GPs).

Referral data for the ten years, 2002–03 to 2011–12, are reported in two ways: as rates per 100 problems managed (Table 11.1a) and as rates per 100 encounters (Table 11.1b). In the text describing changes over time, the rates per 100 problems are reported as the primary measure, because there was a significant increase in the number of problems managed per encounter over the study period reported here.

The direction and type of change from 2002–03 to 2011–12 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade. Significant changes in the rate per 100 encounters can be extrapolated to estimate the national increase or decrease in the measured event between 2002–03 and 2011–12. Examples of extrapolated change are given. The method used to extrapolate to national change estimates is described in Section 2.9.

The number of GP–patient encounters claimed through the MBS nationally increased by 25.6 million (26.4%) between 2002–03 (96.9 million encounters) and 2011–12 (122.5 million encounters). As a result, a decreased rate of a particular 'measured event' per 100 encounters may occasionally yield a national increased absolute number of those events.

More specific analyses of referrals recorded by participating GPs in the 2011–12 BEACH year can be found in the companion report *General practice activity in Australia 2011–12*.[1]

11.1 Results

The likelihood that a problem being managed at encounter would be referred increased significantly over the study period, 7.7% of problems being referred in 2002–03, rising to 9.3% in 2011–12. There was a significant increase in the overall rate of referrals, from 7.7 per 100 problems managed in 2002–03 to 9.4 per 100 in 2011–12 (Table 11.1a). This increase was largely due to an increasing referral rate to allied health professionals, rather than an increase in those to medical specialists, which remained stable. However, there was a small but significant increase in the referral rate to cardiologists.

The rate of referral to allied health services per 100 problems managed almost doubled from 1.7 in 2002–03 to 3.0 per 100 in 2011–12. There were significant increases in the rates of referral to psychologists, podiatrists/chiropodists, dietitians/nutritionists, and dentists, and a marginal increase in the rate of referral to physiotherapists per 100 problems managed. There was a significant increase in referrals to emergency departments and a marginal decrease in the rate of referral/admission to hospitals over the decade (Table 11.1a).

Table 11.1b also shows that over time there was an increasing likelihood that GP–patient encounters would involve one or more referrals (10.6% involving a referral in 2002–03 and 13.3% in 2011–12). Overall, referrals increased significantly, from 11.2 referrals per 100 encounters in 2002–03 to 14.5 per 100 in 2011–12.

Extrapolation of this change suggests there were about 6.9 million more GP referrals nationally in 2011–12 than in 2002–03. These included about 3.2 million more referrals to medical specialists and about 3.3 million more to allied health services. Of those to allied health services, an additional 910,000 were to psychologists, probably largely as a result of government's introduction of the Better Outcomes[61] and later the Better Access[62] mental health programs. There were also about 520,00 more referrals to physiotherapists, which may also be due to government policy, with its introduction of MBS item numbers for limited physiotherapy services for selected patients referred by a GP.[55]

Table 11.1a: The most frequent referrals (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Referral	(*n* = 146,336)	(*n* = 144,674)	(*n* = 137,330)	(*n* = 149,088)	(*n* = 136,333)	(*n* = 145,078)	(*n* = 149,462)	(*n* = 155,373)	(*n* = 146,141)	(*n* = 152,286)	
At least one referral	7.7 (7.4–8.0)	8.0 (7.6–8.3)	7.9 (7.7–8.2)	8.2 (7.9–8.5)	8.3 (8.0–8.6)	8.3 (8.0–8.6)	8.9 (8.5–9.2)	8.7 (8.4–9.0)	9.2 (8.9–9.5)	9.3 (9.0–9.7)	↑
Medical specialist*	5.3 (5.0–5.5)	5.4 (5.1–5.6)	5.3 (5.1–5.5)	5.6 (5.4–5.8)	5.4 (5.2–5.7)	5.3 (5.1–5.5)	5.8 (5.6–6.0)	5.5 (5.3–5.7)	5.6 (5.4–5.9)	5.6 (5.3–5.8)	—
Surgeon	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	—
Orthopaedic surgeon	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	—
Cardiologist	0.3 (0.3–0.3)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.4)	0.4 (0.4–0.5)	↑
Dermatologist	0.4 (0.4–0.4)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.4 (0.4–0.5)	—
Ophthalmologist	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.4 (0.4–0.5)	0.5 (0.5–0.6)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	↓
Gastroenterologist	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.3 (0.3–0.3)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	—
Ear, nose and throat	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.3)	↓
Gynaecologist	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.3)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.3)	↓
Urologist	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	—
Neurologist	0.2 (0.2–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	—
Psychiatrist	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	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 (0.1–0.2)	0.2 (0.1–0.2)	—

(continued)

Table 11.1a (continued): The most frequent referrals (rate per 100 problems), 2002–03 to 2011–12

Referral	Rate per 100 problems (95% CI)										↑/↓ (a)
	2002–03 (*n* = 146,336)	2003–04 (*n* = 144,674)	2004–05 (*n* = 137,330)	2005–06 (*n* = 149,088)	2006–07 (*n* = 136,333)	2007–08 (*n* = 145,078)	2008–09 (*n* = 149,462)	2009–10 (*n* = 155,373)	2010–11 (*n* = 146,141)	2011–12 (*n* = 152,286)	
Paediatrician	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	—
Endocrinologist	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 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	—
Rheumatologist	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 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	—
Allied health services*	1.7 (1.6–1.9)	1.8 (1.7–1.9)	1.9 (1.7–2.0)	2.0 (1.8–2.1)	2.1 (1.9–2.2)	2.3 (2.1–2.4)	2.5 (2.3–2.7)	2.6 (2.4–2.7)	2.8 (2.6–2.9)	3.0 (2.8–3.2)	↑
Physiotherapy	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.7 (0.7–0.8)	0.7 (0.7–0.8)	0.9 (0.8–0.9)	↑
Psychologist	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.4 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	↑
Podiatrist/chiropodist	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.3–0.3)	↑
Dietitian/nutritionist	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	↑
Dentist	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 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	↑
Hospital*	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	↓
Emergency department*	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (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 (0.2–0.2)	0.2 (0.2–0.2)	↑
Other referrals*	0.2 (0.2–0.2)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	↑
Total referrals	**7.7 (7.4–8.0)**	**7.9 (7.6–8.3)**	**7.9 (7.6–8.2)**	**8.2 (7.9–8.5)**	**8.2 (7.9–8.5)**	**8.3 (8.0–8.6)**	**8.9 (8.6–9.2)**	**8.7 (8.4–9.0)**	**9.3 (8.9–9.6)**	**9.4 (9.1–9.8)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Table 11.1b: The most frequent referrals (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Referral	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
At least one referral	10.6 (10.2–11.0)	11.0 (10.5–11.5)	10.9 (10.5–11.3)	11.3 (10.9–11.8)	11.5 (11.0–11.9)	11.8 (11.3–12.2)	12.8 (12.3–13.2)	12.4 (11.9–12.9)	13.0 (12.5–13.5)	13.3 (12.8–13.8)	↑
Medical specialist*	7.6 (7.3–8.0)	7.9 (7.5–8.2)	7.7 (7.4–8.1)	8.2 (7.8–8.5)	8.1 (7.7–8.4)	8.0 (7.6–8.3)	9.0 (8.7–9.3)	8.4 (8.1–8.8)	8.6 (8.2–9.0)	8.6 (8.2–8.9)	↑
Surgeon	0.7 (0.7–0.8)	0.8 (0.8–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.8 (0.8–0.9)	0.8 (0.8–0.9)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.8–0.9)	0.8 (0.8–0.9)	↑
Orthopaedic surgeon	0.8 (0.7–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.7 (0.6–0.7)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.8)	—
Cardiologist	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	0.5 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.5–0.6)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	↑
Dermatologist	0.6 (0.5–0.6)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.6 (0.5–0.7)	0.7 (0.6–0.7)	0.7 (0.7–0.8)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	↑
Ophthalmologist	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.7)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.6 (0.6–0.7)	0.6 (0.6–0.7)	↓
Gastroenterologist	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.5 (0.5–0.6)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	↑
Ear, nose and throat	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	—
Gynaecologist	0.6 (0.6–0.7)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.4 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	↓
Urologist	0.3 (0.3–0.3)	0.3 (0.3–0.4)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.3)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	—
Neurologist	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	—
Psychiatrist	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	—
Paediatrician	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	—

(continued)

Table 11.1b (continued): The most frequent referrals (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Referral	(*n* = 100,987)	(*n* = 98,877)	(*n* = 94,386)	(*n* = 101,993)	(*n* = 91,805)	(*n* = 95,898)	(*n* = 96,688)	(*n* = 101,349)	(*n* = 95,839)	(*n* = 99,030)	
Allied health services*	2.5 (2.3–2.7)	2.6 (2.4–2.8)	2.7 (2.5–2.9)	2.9 (2.7–3.1)	3.1 (2.9–3.3)	3.4 (3.2–3.7)	3.9 (3.6–4.1)	3.9 (3.7–4.2)	4.2 (3.9–4.5)	4.7 (4.4–5.0)	↑
Physiotherapy	1.1 (0.9–1.2)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.1 (1.0–1.3)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.3)	1.1 (1.0–1.2)	1.3 (1.2–1.4)	↑
Psychologist	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.4–0.5)	0.7 (0.6–0.7)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	↑
Podiatrist/chiropodist	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	↑
Dietitian/nutritionist	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	↑
Dentist	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	↑
Hospital*	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (0.3–0.4)	↓
Emergency department*	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	↑
Other referrals*	0.3 (0.2–0.3)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.4 (0.3–0.4)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.3 (0.2–0.4)	0.4 (0.3–0.5)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	↑
Total referrals	**11.2 (10.7–11.6)**	**11.6 (11.1–12.2)**	**11.5 (11.1–12.0)**	**12.0 (11.5–12.5)**	**12.2 (11.7–12.7)**	**12.5 (12.0–13.0)**	**13.7 (13.2–14.2)**	**13.3 (12.8–13.8)**	**14.1 (13.5–14.7)**	**14.5 (13.9–15.1)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Note: CI – confidence interval.

12 Investigations

Investigations ordered by GPs for each of the ten years 2002–03 to 2011–12, are reported in two ways: as rates per 100 problems managed (for example, Table 12.1a) and as rates per 100 encounters (for example, Table 12.1b). In the text describing changes over time, the rates per 100 problems are reported as the primary measure, because there was a significant increase in the number of problems managed per encounter.

The direction and type of change from 2002–03 to 2011–12 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

Significant linear changes in the rate per 100 encounters can be extrapolated to estimate the national increase or decrease in the other investigations provided between 2002–03 and 2011–12. Examples of extrapolated change are given. The method used to extrapolate to national change estimates is described in Section 2.9.

The GPs participating in BEACH were asked to record (in free text) any pathology, imaging or other tests ordered or done at the encounter, and to nominate the patient problem(s) associated with each test order. This allows the linkage of a test order to a single problem or multiple problems. Up to five orders for pathology and two for imaging and other tests could be recorded at each encounter. A single test may have been ordered for the management of multiple problems, and multiple tests may have been used in the management of a single problem.

A pathology test order may be for a single test (for example, Pap smear, HbA1c) or for a battery of tests (for example, lipids, full blood count). Where a battery of tests was ordered, the battery name was recorded rather than each individual test. GPs also recorded the body site for any imaging ordered (for example, x-ray chest, computerised tomography head).

More detailed analyses of investigations ordered by GPs in 2011–12 can be found in Chapter 12 of *General practice activity in Australia 2011–12*.[1]

Comprehensive investigation of GPs' pathology and imaging ordering was published in several reports. Interested readers may wish to consult:

- a comprehensive report on pathology ordering by GPs in Australia in 1998, written by the then General Practice Statistics and Classification Unit using BEACH data, was published on the internet by the then Department of Health and Aged Care.[63]
- a report on imaging orders by GPs in Australia in 1999–2000 using BEACH data, published as an AIHW–University of Sydney book in the GP series in 2001.[64]
- a report on changes in pathology ordering by GPs from 1998 to 2001 using BEACH data, published as an AIHW–University of Sydney book in the GP series in 2003.[65]
- a review of GP pathology ordering in the National Health Priority Areas and other selected problems between 2000 and 2008, reported in the AIHW–University of Sydney publication *General practice in Australia, health priorities and policies 1998 to 2008*.[66]
- a report *Evidence-practice gap in GP pathology test ordering: a comparison of BEACH pathology data and recommended testing*, prepared for the Australian Government Quality Use of Pathology Program in June 2009.[67]

12.1 Number of problems or encounters where pathology or imaging was ordered

Table 12.1a shows there was a significant increase in the proportion of problems for which pathology or imaging was ordered.

- The likelihood of ordering at least one pathology test increased from 11.4% of all problems managed in 2002–03 to 13.6% in 2011–12.
- The proportion of problems generating imaging orders increased marginally from 5.3% in 2002–03 to 5.8% in 2011–12.

Between 2002–03 and 2011–12, the number of problems managed per 100 encounters rose from 144.9 to 153.8 (Table 5.1). Both the rise in problems generating test orders and the rise in the number of problems managed per encounter contributed to an overall increase in the proportion of encounters involving a pathology or imaging test (Table 12.1b).

- The likelihood of ordering at least one pathology test increased from 14.7% of encounters in 2002–03 to 18.1% in 2011–12, which is almost 8 million additional encounters at which pathology was ordered in 2011–12 than ten years earlier.
- The proportion of encounters generating imaging orders increased from 7.5% in 2002–03 to 8.6% in 2011–12, resulting in an estimated 3.3 million more encounters nationally at which imaging was ordered in 2011–12 than in 2002–03.

Both the likelihood of ordering pathology and the total number of pathology tests ordered per 100 problems or per 100 encounters significantly increased over the ten years to 2011–12. However virtually all of the rises occurred between 2002–03 and 2007–08 and orders have remained stable since that time (Figure 12.1). The growth in the number of tests/batteries ordered was larger than the growth in likelihood of ordering because, once a decision to order was made, the number of tests ordered significantly increased from an average of 2.0 tests/batteries per tested problem in 2002–03[51] to 2.4 per tested problem in 2011–12.[1]

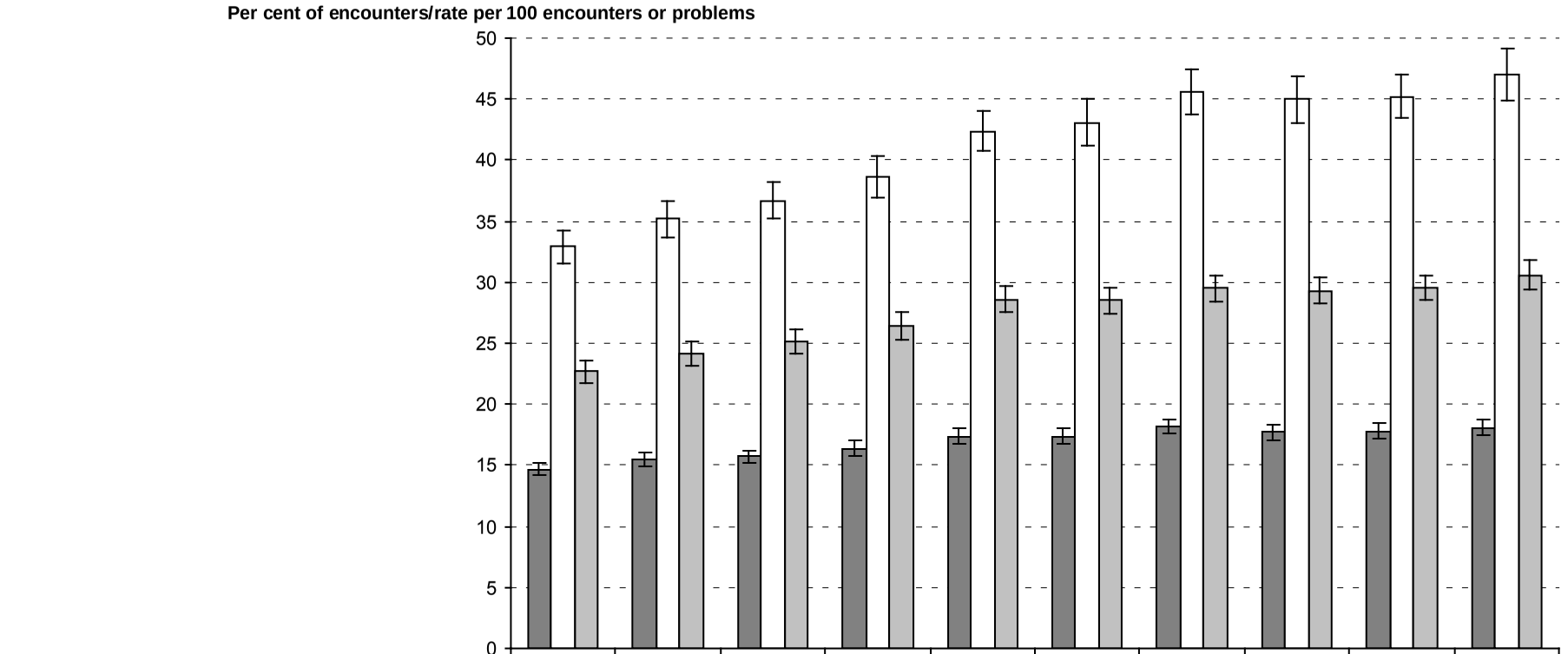


Figure 12.1: Encounters where pathology was ordered, and pathology test order rates per 100 encounters and per 100 problems, 2002–03 and 2011–12 (95% confidence intervals)

12.2 Pathology test orders by MBS groups

Tables 12.2a and 12.2b show the changes in the total number of pathology test orders, and in the distribution of these by MBS pathology groups.[68]

The number of pathology tests ordered increased from 22.7 tests/batteries of tests per 100 problems managed in 2002–03 to 30.6 per 100 problems in 2011–12 (Table 12.2a).

The largest increase was in orders for chemical pathology, which increased from 12.2 per 100 problems in 2002–03 to 18.0 per 100 in 2011–12. Haematology increased at a slower rate, from 4.3 per 100 problems in 2002–03 to 5.5 in 2011–12. Microbiology test orders increased marginally from 3.5 per 100 problems in 2002–03 to 4.0 in 2011–12. There was a far smaller increase in order rates for immunology, a marginal increase in orders for tissue pathology and simple tests, and no increases in the other test groups.

The number of pathology tests ordered per 100 encounters increased from 32.9 tests/batteries of tests per 100 encounters in 2002–03 to 47.0 in 2011–12 (Table 12.2b), which, when combined with the increase in attendance rate, extrapolates to approximately 25.7 million more test orders in 2011–12 than in 2002–03 nationally.

The largest increase was in orders for chemical pathology, which increased from 17.7 per 100 encounters in 2002–03 to 27.6 in 2011–12. This extrapolates to an estimated 16.7 million additional chemistry test orders in 2011–12 than ten years earlier. Haematology increased at a slower rate, rising from 6.3 tests per 100 encounters in 2002–03 to 8.5 in 2011–12, a national increase of approximately 4.3 million tests. Microbiology test orders increased from 5.1 per 100 encounters in 2002–03 to 6.2 in 2011–12, extrapolating to an increase of about 2.7 million additional test orders in 2011–12. There were far smaller increases in order rates for immunology and tissue pathology, a marginal increase in simple tests, and no increases in the other test groups.

12.3 Imaging test orders by MBS group

Tables 12.3a and 12.3b show the changes in imaging orders by MBS imaging group from 2002–03 to 2011–12.

Total imaging test orders increased significantly from 5.9 per 100 problems managed in 2002–03 to 6.6 per 100 in 2011–12 (Table 12.3a). Ultrasound imaging increased from 1.8 tests per 100 problems in 2002–03 to 2.6 per 100 in 2011–12. Computerised tomography increased from 0.5 to 0.8 per 100 problems. Magnetic resonance imaging increased from less than 0.05 per 100 problems in 2002–03 to 0.1 in 2011–12. Diagnostic radiology decreased from 3.5 per 100 problems in 2002–03 to 3.0 in 2011–12. Nuclear medicine order rates did not change during this period.

Total imaging test orders per 100 encounters also increased significantly from 8.6 in 2002–03 to 10.1 in 2011–12, suggesting a national increase of 4 million encounters generating an order for imaging (Table 12.3b). Ultrasound imaging increased from 2.6 tests per 100 encounters in 2002–03 to 4.0 per 100 in 2011–12, a national increase of about 2.4 million encounters with ultrasound orders. Computerised tomography increased from 0.8 per 100 encounters in 2002–03 to 1.2 in 2011–12, equating to an additional 690,000 encounters. Magnetic resonance imaging orders increased from less than 0.05 per 100 encounters in 2002–03 to 0.2 in 2011–12. The diagnostic radiology order rate did not change during this period and nuclear medicine orders decreased marginally.

Table 12.1a: Problems for which pathology or imaging was ordered (per cent of problems), 2002–03 to 2011–12

	Per cent of problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Test ordered	**(*n* = 146,336)**	**(*n* = 144,674)**	**(*n* = 137,330)**	**(*n* = 149,088)**	**(*n* = 136,333)**	**(*n* = 145,078)**	**(*n* = 149,462)**	**(*n* = 155,373)**	**(*n* = 146,141)**	**(*n* = 152,286)**	
At least one pathology test ordered	11.4 (11.0–11.8)	11.9 (11.5–12.4)	12.2 (11.8–12.6)	12.7 (12.2–13.2)	13.4 (13.0–13.9)	13.1 (12.7–13.6)	13.6 (13.2–14.0)	13.2 (12.8–13.7)	13.3 (12.9–13.7)	13.6 (13.1–14.1)	↑
At least one imaging test ordered	5.3 (5.1–5.6)	5.1 (4.8–5.3)	5.2 (5.0–5.4)	5.5 (5.3–5.7)	5.5 (5.3–5.7)	5.7 (5.4–5.9)	5.7 (5.4–5.9)	5.7 (5.5–6.0)	5.7 (5.5–5.9)	5.8 (5.6–6.1)	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03.

Note: CI – confidence interval.

Table 12.1b: Encounters at which pathology or imaging was ordered (per cent of encounters), 2002–03 to 2011–12

	Per cent of encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Test ordered	**(*n* = 100,987)**	**(*n* = 98,877)**	**(*n* = 94,386)**	**(*n* = 101,993)**	**(*n* = 91,804)**	**(*n* = 95,898)**	**(*n* = 96,688)**	**(*n* = 101,349)**	**(*n* = 95,839)**	**(*n* = 99,030)**	
At least one pathology test ordered	14.7 (14.2–15.3)	15.5 (14.9–16.1)	15.7 (15.2–16.3)	16.4 (15.8–16.9)	17.4 (16.8–18.0)	17.4 (16.7–18.0)	18.2 (17.6–18.8)	17.7 (17.1–18.3)	17.8 (17.2–18.4)	18.1 (17.4–18.7)	↑
At least one imaging test ordered	7.5 (7.1–7.8)	7.2 (6.9–7.5)	7.3 (7.0–7.6)	7.8 (7.4–8.1)	7.9 (7.6–8.2)	8.3 (8.0–8.6)	8.5 (8.1–8.8)	8.5 (8.2–8.9)	8.4 (8.0–8.7)	8.6 (8.3–9.0)	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03.

Note: CI – confidence interval.

Table 12.2a: Pathology orders by MBS pathology groups (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[(a)]
Pathology test ordered	**(*n* = 146,336)**	**(*n* = 144,674)**	**(*n* = 137,330)**	**(*n* = 149,088)**	**(*n* = 136,333)**	**(*n* = 145,078)**	**(*n* = 149,462)**	**(*n* = 155,373)**	**(*n* = 146,141)**	**(*n* = 152,286)**	
Chemistry*	12.2 (11.6–12.8)	13.0 (12.4–13.7)	14.0 (13.4–14.6)	14.9 (14.1–15.6)	16.5 (15.8–17.2)	16.5 (15.7–17.2)	17.4 (16.7–18.1)	16.9 (16.1–17.6)	17.2 (16.5–17.9)	18.0 (17.1–18.8)	↑
Haematology*	4.3 (4.1–4.6)	4.6 (4.4–4.9)	4.8 (4.5–5.0)	5.0 (4.7–5.3)	5.3 (5.0–5.6)	5.2 (5.0–5.5)	5.3 (5.0–5.5)	5.4 (5.1–5.7)	5.3 (5.0–5.5)	5.5 (5.2–5.8)	↑
Microbiology*	3.5 (3.3–3.8)	3.6 (3.4–3.9)	3.6 (3.3–3.8)	3.8 (3.6–4.1)	3.9 (3.7–4.2)	3.7 (3.5–4.0)	3.7 (3.5–3.9)	4.1 (3.9–4.3)	4.3 (3.9–4.6)	4.0 (3.8–4.3)	↑
Cytopathology*	1.2 (1.0–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.3)	1.2 (1.1–1.3)	1.1 (1.0–1.3)	1.2 (1.1–1.4)	1.3 (1.1–1.4)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	—
Other NEC*	0.5 (0.4–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.5 (0.4–0.7)	0.7 (0.5–0.8)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.6 (0.5–0.7)	—
Immunology*	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.6 (0.5–0.7)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	↑
Tissue pathology*	0.4 (0.3–0.4)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.4 (0.3–0.5)	0.5 (0.4–0.6)	↑
Simple tests*	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 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	↑
Infertility/pregnancy*	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	—
Total pathology tests	**22.7 (21.8–23.6)**	**24.1 (23.1–25.0)**	**25.2 (24.3–26.2)**	**26.4 (25.3–27.5)**	**28.6 (27.5–29.6)**	**28.5 (27.4–29.6)**	**29.5 (28.4–30.5)**	**29.3 (28.2–30.4)**	**29.6 (28.6–30.7)**	**30.6 (29.3–31.8)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

* Includes multiple ICPC-2 and ICPC-2 PLUS codes (see Appendix 4, Table A4.8, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; NEC – not elsewhere classified.

Table 12.2b: Pathology orders by MBS pathology groups (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓(a)
Pathology test ordered	**(*n* = 100,987)**	**(*n* = 98,877)**	**(*n* = 94,386)**	**(*n* = 101,993)**	**(*n* = 91,804)**	**(*n* = 95,898)**	**(*n* = 96,688)**	**(*n* = 101,349)**	**(*n* = 95,839)**	**(*n* = 99,030)**	
Chemistry*	17.7 (16.8–18.6)	19.1 (18.1–20.1)	20.4 (19.4–21.4)	21.7 (20.5–22.9)	24.5 (23.3–25.7)	24.9 (23.6–26.2)	27.0 (25.7–28.2)	25.9 (24.6–27.2)	26.2 (25.0–27.4)	27.6 (26.1–29.1)	↑
Haematology*	6.3 (5.9–6.6)	6.8 (6.4–7.2)	7.0 (6.6–7.3)	7.3 (6.9–7.7)	7.9 (7.5–8.3)	7.9 (7.5–8.3)	8.2 (7.8–8.6)	8.3 (7.8–8.7)	8.1 (7.6–8.5)	8.5 (8.0–8.9)	↑
Microbiology*	5.1 (4.8–5.5)	5.3 (4.9–5.6)	5.2 (4.8–5.6)	5.6 (5.2–5.9)	5.8 (5.4–6.2)	5.7 (5.3–6.0)	5.7 (5.3–6.1)	6.3 (5.9–6.6)	6.5 (6.0–7.0)	6.2 (5.9–6.6)	↑
Cytolopathology*	1.7 (1.5–1.8)	1.8 (1.5–2.0)	1.6 (1.5–1.8)	1.7 (1.6–1.9)	1.7 (1.5–1.9)	1.9 (1.7–2.1)	2.0 (1.7–2.2)	1.7 (1.5–1.9)	1.7 (1.5–1.8)	1.7 (1.5–1.9)	—
Other NEC*	0.8 (0.6–0.9)	0.8 (0.7–0.9)	0.8 (0.7–1.0)	0.7 (0.6–0.8)	0.8 (0.7–1.0)	1.0 (0.8–1.2)	0.8 (0.7–1.0)	0.7 (0.6–0.9)	0.9 (0.7–1.0)	0.9 (0.7–1.1)	—
Immunology*	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.7 (0.6–0.7)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	↑
Tissue pathology*	0.5 (0.4–0.6)	0.7 (0.5–0.8)	0.8 (0.6–0.9)	0.6 (0.5–0.7)	0.7 (0.6–0.8)	0.8 (0.6–0.9)	0.7 (0.6–0.9)	0.8 (0.7–0.9)	0.6 (0.5–0.7)	0.8 (0.7–0.9)	↑
Simple tests*	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	↑
Infertility/pregnancy*	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.2 (0.2–0.3)	—
Total pathology tests	**32.9 (31.4–34.4)**	**35.2 (33.7–36.8)**	**36.7 (35.2–38.2)**	**38.6 (36.9–40.3)**	**42.4 (40.7–44.2)**	**43.1 (41.3–45.0)**	**45.6 (43.8–47.4)**	**45.0 (43.1–46.9)**	**45.2 (43.4–47.0)**	**47.0 (44.9–49.1)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

* Includes multiple ICPC-2 and ICPC-2 PLUS codes (see Appendix 4, Table A4.8, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval; NEC – not elsewhere classified.

Table 12.3a: Imaging orders by MBS imaging groups (rate per 100 problems), 2002–03 to 2011–12

	Rate per 100 problems (95% CI)										
Imaging test ordered	**2002–03 (*n* = 146,336)**	**2003–04 (*n* = 144,674)**	**2004–05 (*n* = 137,330)**	**2005–06 (*n* = 149,088)**	**2006–07 (*n* = 136,333)**	**2007–08 (*n* = 145,078)**	**2008–09 (*n* = 149,462)**	**2009–10 (*n* = 155,373)**	**2010–11 (*n* = 146,141)**	**2011–12 (*n* = 152,286)**	↑↓ (a)
Diagnostic radiology*	3.5 (3.3–3.7)	3.1 (3.0–3.3)	3.1 (2.9–3.2)	3.3 (3.1–3.4)	3.1 (2.9–3.2)	3.2 (3.0–3.3)	3.1 (2.9–3.2)	3.0 (2.8–3.1)	3.0 (2.9–3.2)	3.0 (2.8–3.2)	↓
Ultrasound*	1.8 (1.7–1.9)	1.8 (1.7–1.9)	1.8 (1.7–1.9)	2.0 (1.9–2.1)	2.1 (2.0–2.2)	2.2 (2.1–2.3)	2.3 (2.2–2.4)	2.4 (2.3–2.5)	2.5 (2.4–2.6)	2.6 (2.5–2.7)	↑
Computerised tomography*	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.8 (0.8–0.9)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.8 (0.7–0.8)	↑
Magnetic resonance imaging*	0.0Ŧ (0.0–0.0)	0.0Ŧ (0.0–0.0)	0.0Ŧ (0.0–0.0)	0.0Ŧ (0.0–0.0)	0.0Ŧ (0.0–0.0)	0.0Ŧ (0.0–0.1)	0.0Ŧ (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	↑
Nuclear medicine*	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 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	—
Total imaging tests	**5.9 (5.7–6.2)**	**5.6 (5.4–5.9)**	**5.7 (5.5–5.9)**	**6.0 (5.8–6.3)**	**6.0 (5.8–6.3)**	**6.3 (6.1–6.5)**	**6.3 (6.1–6.6)**	**6.4 (6.1–6.6)**	**6.4 (6.1–6.7)**	**6.6 (6.3–6.8)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 problems.

* Includes multiple ICPC-2 and ICPC-2 PLUS codes (see Appendix 4, Table A4.9, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval.

Table 12.3b: Imaging orders by MBS imaging groups (rate per 100 encounters), 2002–03 to 2011–12

	Rate per 100 encounters (95% CI)										
Imaging test ordered	**2002–03 (*n* = 100,987)**	**2003–04 (*n* = 98,877)**	**2004–05 (*n* = 94,386)**	**2005–06 (*n* = 101,993)**	**2006–07 (*n* = 91,805)**	**2007–08 (*n* = 95,898)**	**2008–09 (*n* = 96,688)**	**2009–10 (*n* = 101,349)**	**2010–11 (*n* = 95,839)**	**2011–12 (*n* = 99,030)**	↑↓[(a)]
Diagnostic radiology*	5.0 (4.8–5.3)	4.6 (4.3–4.8)	4.5 (4.3–4.7)	4.8 (4.5–5.0)	4.6 (4.4–4.8)	4.8 (4.6–5.0)	4.7 (4.5–5.0)	4.6 (4.3–4.8)	4.6 (4.4–4.9)	4.6 (4.3–4.9)	—
Ultrasound*	2.6 (2.5–2.8)	2.7 (2.5–2.8)	2.7 (2.5–2.8)	2.9 (2.7–3.1)	3.2 (3.0–3.3)	3.4 (3.2–3.5)	3.6 (3.4–3.8)	3.7 (3.5–3.8)	3.8 (3.6–4.0)	4.0 (3.8–4.2)	↑
Computerised tomography*	0.8 (0.7–0.9)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	1.3 (1.2–1.4)	1.3 (1.1–1.4)	1.1 (1.0–1.2)	1.2 (1.1–1.3)	↑
Magnetic resonance imaging*	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.1)	0.0[Ŧ] (0.0–0.0)	0.0[Ŧ] (0.0–0.1)	0.0[Ŧ] (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.2 (0.2–0.3)	↑
Nuclear medicine*	0.1 (0.1–0.2)	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 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	↓
Total imaging tests	**8.6 (8.2–9.0)**	**8.2 (7.8–8.6)**	**8.3 (8.0–8.6)**	**8.8 (8.4–9.2)**	**9.0 (8.6–9.3)**	**9.5 (9.2–9.9)**	**9.8 (9.4–10.2)**	**9.7 (9.3–10.1)**	**9.8 (9.4–10.2)**	**10.1 (9.6–10.5)**	↑

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

Ŧ Rates are reported to one decimal place. This indicates that the rate is less than 0.05 per 100 encounters.

* Includes multiple ICPC-2 and ICPC-2 PLUS codes (see Appendix 4, Table A4.9, <hdl.handle.net/2123/8676>).

Note: CI – confidence interval.

13 Patient risk factors

General practice is a useful intervention point for health promotion because the majority of the population visit a GP at least once per year – in 2011–12, 83% of Australians visited a GP at least once (personal communication DoHA, April 2012). Through ongoing professional education, GPs have substantial knowledge of population health and screening programs. They are in an ideal position to advise patients about the benefits of health screening, and to individually counsel patients about their lifestyle choices.

Since the beginning of the BEACH program (1998), a section on the bottom of each encounter form has been used to investigate aspects of patient health or healthcare delivery not covered by general practice encounter-based information. These additional substudies are referred to as Supplementary Analysis of Nominated Data (SAND). The SAND methods are described in Chapter 2, Section 2.6.

In brief, measured patient risk factors include self-reported height and weight (to calculate BMI), alcohol consumption and smoking status. Each GP completes risk factor questions for patients at a subsample of 40 encounters. An example of the encounter form with the patient risk factor SAND questions is included in Appendix 1. The method used to investigate each risk factor is summarised in the appropriate section of this chapter. Further detail is provided in Chapter 13 of the companion report *General practice activity in Australia 2011–12*.[1]

This chapter includes data about the risk behaviours of general practice patients from each of the most recent ten years of the BEACH study from 2002–03 to 2011–12. The direction and type of change from 2002–03 to 2011–12 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03; and § indicates a noteworthy change during the decade.

13.1 Body mass index

Patient BMI was investigated for a subsample of 40 patients per GP. Each GP was instructed to ask the patient (or their carer in the case of children):

- What is your height in centimetres (without shoes)?
- What is your weight in kilograms (unclothed)?

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

The BMI for an individual was calculated by dividing weight (kilograms) by height (metres) squared. The WHO recommendations[69] for BMI groups were used, which specify that an adult (18 years and over) with a BMI:

- less than 18.5 is underweight
- greater than or equal to 18.5 and less than 25 is normal
- greater than or equal to 25 and less than 30 is overweight
- of 30 or more is obese.

The BEACH data on BMI are presented separately for adults (aged 18 years and over) and children (aged 2–17 years). The standard BMI cut-offs described above were applied for the adult sample, and the method described by Cole et al. (2000 & 2007) was used for children (aged 2–17 years).[70,71]

Adults

Overall prevalence of overweight and obesity in adults attending general practice increased significantly from 54.7% in 2002–03 (95% CI: 53.8–55.6) to 61.6% in 2011–12 (95% CI: 60.7–62.4) (results not tabulated).

- there was a significant increase in the prevalence of obesity in adults attending general practice, from 20.9% in 2002–03 to 26.6% in 2011–12 (Table 13.1). The significant increase in adult obesity was apparent among both male and female patients (Tables 13.2 and 13.3).
- the prevalence of normal weight and underweight in adults decreased significantly from 42.4% and 2.9% respectively in 2002–03 to 36.2% and 2.3% in 2011–12 (Table 13.1). This significant decrease in normal weight was apparent among both male and female patients, however the decrease in underweight was only apparent among female patients (Tables 13.2 and 13.3).

In summary, for both male female patients between 2002–03 and 2011–12, there was a significant increase in obesity and a significant decrease in normal and underweight. Effectively a significant proportion of patients moved from the normal weight range into being overweight, and a similar proportion of those who were overweight moved into the obese weight range. This upward movement from normal weight, to overweight, and overweight to obesity has huge public health impacts if it continues.

Children

The prevalence of overweight and obesity in children aged 2–17 years attending general practice remained static from 2002–03 to 2011–12, with about 11–12% of children being obese and about 18% overweight (Table 13.1). This stability was apparent among both young male and female patients.

13.2 Smoking

GPs were instructed to ask adult patients (18 years and over):

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

Results

There was a significant decrease in the prevalence of current daily and occasional smoking in adults aged 18 years and over attending general practice, from 17.2% and 4.1% respectively in 2002–03 to 14.7% and 2.5% in 2011–12 (Table 13.1). These decreases were apparent among both male and female patients (Tables 13.2 and 13.3).

Rates of daily smoking were significantly higher among male patients than female patients in all years, decreasing to 18.0% of males and 12.6% of females in 2011–12.

13.3 Alcohol consumption

To measure alcohol consumption, BEACH uses AUDIT-C[72] which is the first three items from the WHO Alcohol Use Disorders Identification Test (AUDIT),[73] with scoring for an Australian setting.[74] The AUDIT-C has demonstrated validity and internal consistency and performs as well as the full AUDIT tool.[75] The three–AUDIT-C tool is practical and valid in a primary care setting to assess 'at-risk' alcohol consumption (heavy drinking and/or active alcohol dependence).[72] 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.[74]

GPs were instructed to ask adult patients (18 years and over):

- 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 or more
- How many standard drinks do you have on a typical day when you are drinking?

  _____
- How often do you have six 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.

Results

Prevalence of at-risk levels of alcohol consumption among adults attending general practice remained static at about 25–26% of adult patients between 2002–03 and 2011–12 (Table 13.1).

However the prevalence of at-risk drinking among male patients significantly decreased over the decade from 32.8% to 29.3%, while among female patients it remained static at about 22%. Similarly prevalence of non-drinkers increased significantly over the decade from 20.5% to 24.0% among males, while among females it remained static at around 37% (Tables 13.2 and 13.3).

13.4 Risk factor profile of adult patients

All patient risk factor questions (BMI, smoking and alcohol consumption) were asked of the same subsample of adult patients. This allows us to build a risk profile for this sample for the three risk elements: overweight of obese weight status, daily smoking and at-risk drinking. Each adult can have between zero and three of these risk factors.

Results

There was a significant decrease in the proportion of adults with none of these risk factors from 28.6% in 2002–03 to 25.4% in 2011–12. In parallel, the proportion of adults with one risk factor increased significantly from 48.1% to 52.1% (Table 13.1). This pattern was apparent among both male and female patients (Tables 13.2 and 13.3). There was no change in the proportion with two or three risk factors among either male or female patients.

Table 13.1: Patient risk factors, 2002–03 to 2011–12

Risk factor	Per cent (95% CI)										↑↓[a]
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	
Adults (aged 18 years and over)											
Body mass index class[b] (*n*)	**32,367**	**31,890**	**30,476**	**33,101**	**32,334**	**31,062**	**33,526**	**31,932**	**31,315**	**32,372**	. .
Obese	20.9 (20.2–21.5)	22.1 (21.4–22.7)	22.4 (21.7–23.2)	22.2 (21.5–22.9)	23.5 (22.7–24.2)	23.9 (23.1–24.6)	25.4 (24.7–26.1)	25.9 (25.2–26.6)	26.7 (26.0–27.5)	26.6 (25.8–27.3)	↑
Overweight	33.8 (33.2–34.5)	34.5 (33.8–35.1)	34.6 (33.9–35.2)	34.6 (33.9–35.2)	35.0 (34.3–35.6)	35.4 (34.7–36.0)	36.1 (35.5–36.7)	34.4 (33.7–35.0)	35.1 (34.4–35.7)	35.0 (34.4–35.6)	—
Normal	42.4 (41.6–43.3)	40.7 (39.9–41.6)	40.3 (39.5–41.2)	40.5 (39.7–41.4)	39.0 (38.1–39.8)	38.3 (37.4–39.2)	36.1 (35.3–36.8)	37.3 (36.5–38.2)	35.8 (35.0–36.7)	36.2 (35.3–37.0)	↓
Underweight	2.9 (2.7–3.1)	2.8 (2.6–3.0)	2.7 (2.5–2.9)	2.8 (2.5–3.0)	2.6 (2.4–2.8)	2.5 (2.3–2.7)	2.5 (2.3–2.7)	2.4 (2.2–2.6)	2.4 (2.2–2.6)	2.3 (2.1–2.4)	↓
Smoking status (*n*)	**32,651**	**32,718**	**31,295**	**33,558**	**31,176**	**31,652**	**34,194**	**32,744**	**32,160**	**33,086**	. .
Daily	17.2 (16.5–17.9)	17.6 (16.8–18.3)	18.0 (17.2–18.7)	17.1 (16.3–17.8)	16.1 (15.4–16.9)	16.5 (15.8–17.3)	15.3 (14.6–15.9)	15.1 (14.4–15.8)	14.8 (14.2–15.5)	14.7 (14.0–15.3)	↓
Occasional	4.1 (3.8–4.4)	4.3 (4.0–4.7)	3.7 (3.4–4.0)	3.6 (3.4–3.9)	3.2 (2.9–3.4)	2.9 (2.7–3.2)	2.6 (2.4–2.9)	2.7 (2.5–2.9)	2.7 (2.4–2.9)	2.5 (2.3–2.7)	↓
Previous	27.2 (26.5–28.0)	28.0 (27.3–28.8)	28.0 (27.2–28.8)	27.1 (26.3–27.8)	28.8 (28.0–29.6)	27.9 (27.1–28.6)	28.8 (28.1–29.6)	28.2 (27.4–29.0)	28.3 (27.5–29.1)	27.9 (27.2–28.7)	—
Never	51.4 (50.4–52.4)	50.1 (49.1–51.0)	50.3 (49.4–51.3)	52.3 (51.3–53.2)	51.9 (50.9–52.9)	52.7 (51.7–53.6)	53.3 (52.4–54.2)	54.0 (53.1–55.0)	54.2 (53.3–55.2)	54.9 (53.9–55.8)	↑
Alcohol consumption (*n*)	**32,140**	**31,721**	**30,414**	**32,753**	**30,347**	**30,796**	**33,347**	**31,771**	**31,190**	**33,257**	. .
At-risk alcohol level	26.2 (25.3–27.1)	26.7 (25.8–27.6)	26.4 (25.5–27.3)	25.9 (25.0–26.8)	27.0 (26.1–28.0)	26.2 (25.3–27.1)	25.2 (24.3–26.0)	26.5 (25.7–27.4)	24.8 (23.9–25.7)	24.5 (23.7–25.4)	↓
Responsible drinker	44.2 (43.4–45.1)	44.9 (44.1–45.8)	44.9 (44.0–45.7)	44.8 (44.0–45.7)	44.6 (43.7–45.5)	44.6 (43.7–45.5)	45.2 (44.3–46.1)	44.4 (43.5–45.3)	44.0 (43.0–44.9)	43.7 (42.9–44.6)	—
Non-drinker	29.5 (28.5–30.6)	28.4 (27.3–29.4)	28.7 (27.7–29.8)	29.3 (28.2–30.4)	28.3 (27.3–29.4)	29.3 (28.2–30.3)	29.6 (28.6–30.7)	29.1 (28.0–30.1)	31.3 (30.2–32.4)	31.7 (30.6–32.8)	↑

(continued)

Table 13.1 (continued): Patient risk factors, 2002–03 to 2011–12

Risk factor	Per cent (95% CI)										↑↓[a]
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	
Adults (aged 18 years and over)											
Number of risk factors[c] (*n*)	**31,152**	**30,713**	**29,418**	**32,076**	**29,386**	**30,002**	**32,432**	**30,795**	**30,177**	**31,401**	. .
Zero	28.6 (27.7–29.5)	27.2 (26.4–28.1)	27.0 (26.1–27.8)	27.5 (26.7–28.3)	26.0 (25.2–26.8)	26.1 (25.3–26.9)	25.0 (24.2–25.7)	25.8 (25.0–26.5)	25.0 (24.3–25.7)	25.4 (24.6–26.2)	↓
One	48.1 (47.5–48.8)	49.0 (48.4–49.7)	48.8 (48.1–49.6)	49.2 (48.5–49.9)	49.8 (49.1–50.6)	50.1 (49.4–50.8)	51.8 (51.1–52.5)	50.3 (49.6–51.0)	52.2 (51.5–52.9)	52.1 (51.4–52.8)	↑
Two	19.6 (19.0–20.2)	19.8 (19.2–20.4)	20.3 (19.6–20.9)	19.4 (18.8–20.0)	20.4 (19.8–21.1)	19.8 (19.1–20.4)	19.5 (18.9–20.0)	20.1 (19.5–20.7)	19.1 (18.5–19.8)	18.9 (18.3–19.5)	—
Three	3.6 (3.4–3.9)	4.0 (3.7–4.3)	4.0 (3.7–4.2)	3.9 (3.6–4.1)	3.7 (3.5–4.0)	4.1 (3.8–4.4)	3.8 (3.5–4.1)	3.8 (3.6–4.1)	3.7 (3.4–4.0)	3.6 (3.3–3.9)	—
Children (aged 2–17 years)[d] (*n*)	**3,380**	**3,189**	**3,018**	**3,338**	**3,087**	**3,046**	**2,970**	**3,183**	**3,008**	**3,093**	. .
Obese	11.9 (10.5–13.2)	11.8 (10.5–13.2)	10.8 (9.5–12.2)	10.9 (9.7–12.1)	10.6 (9.3–11.9)	11.2 (10.0–12.5)	10.5 (9.3–11.7)	9.6 (8.4–10.8)	10.6 (9.3–12.0)	11.1 (9.8–12.5)	—
Overweight	18.3 (16.9–19.6)	19.2 (17.7–20.7)	17.7 (16.3–19.1)	17.9 (16.5–19.2)	18.6 (17.2–20.0)	17.1 (15.7–18.5)	16.7 (15.3–18.2)	18.0 (16.7–19.4)	17.7 (16.2–19.1)	17.6 (16.2–19.0)	—
Normal	60.9 (59.1–62.7)	57.9 (56.0–59.7)	60.6 (58.7–62.5)	60.7 (58.9–62.5)	61.2 (59.3–63.0)	61.7 (59.7–63.6)	62.9 (61.0–64.8)	62.3 (60.4–64.1)	61.8 (59.9–63.8)	60.3 (58.4–62.3)	—
Underweight	8.9 (7.9–10.0)	11.1 (9.9–12.4)	10.9 (9.7–12.1)	10.5 (9.3–11.7)	9.7 (8.6–10.8)	10.1 (8.9–11.2)	9.9 (8.8–11.1)	10.1 (9.0–11.3)	9.9 (8.7–11.0)	11.0 (9.7–12.2)	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; ↑/↓ indicates a marginally significant change in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

(b) Adult patients aged 18 years and over with a recorded height outside the Australian Bureau of Statistics height range based on age and sex were excluded.

(c) Being overweight or obese, a daily smoker or an at-risk drinker are the risk factors an adult may have. A risk

(d) Children (aged 2–17 years) with height outside the Australian Bureau of Statistics or Centres for Disease Control, height range based on age and sex were excluded. Child BMI was re-calculated for 2002–03 to 2005–06, and will differ from data previously published to incorporate this exclusion and to apply a more precise method for calculating child BMI.

Note: CI – confidence interval.

Table 13.2: Patient risk factors among adult males, 2002–03 to 2011–12

Risk factor	Per cent (95% CI)										↑↓[a]
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	
Body mass index class[b] (*n*)	**12,450**	**12,434**	**12,288**	**12,882**	**12,715**	**12,126**	**13,595**	**11,945**	**12,322**	**12,531**	. .
Obese	19.9 (19.1–20.8)	20.7 (19.8–21.5)	21.3 (20.4–22.3)	21.6 (20.7–22.5)	22.4 (21.6–23.3)	23.1 (22.1–24.1)	25.0 (24.1–26.0)	25.5 (24.6–26.5)	26.1 (25.2–27.1)	26.4 (25.4–27.4)	↑
Overweight	41.5 (40.5–42.4)	42.3 (41.3–43.2)	42.0 (41.0–43.0)	42.6 (41.6–43.6)	42.3 (41.4–43.3)	43.0 (42.0–44.0)	43.6 (42.7–44.6)	42.1 (41.1–43.0)	42.2 (41.2–43.2)	42.5 (41.5–43.5)	—
Normal	37.2 (36.2–38.3)	35.6 (34.5–36.7)	35.3 (34.2–36.5)	34.3 (33.3–35.4)	34.0 (32.9–35.1)	32.7 (31.6–33.8)	30.3 (29.3–31.4)	31.6 (30.2–32.3)	30.6 (29.5–31.6)	29.9 (28.8–30.9)	↓
Underweight	1.4 (1.1–1.6)	1.5 (1.3–1.7)	1.4 (1.1–1.6)	1.5 (1.3–1.7)	1.2 (1.0–1.4)	1.2 (1.0–1.4)	1.0 (0.8–1.2)	1.2 (1.0–1.4)	1.1 (0.9–1.3)	1.3 (1.1–1.5)	—
Smoking status (*n*)	**12,521**	**12,692**	**12,613**	**13,016**	**12,257**	**12,335**	**13,841**	**12,260**	**12,600**	**12,777**	. .
Daily	20.4 (19.4–21.4)	21.0 (20.0–22.0)	21.2 (20.2–22.3)	20.7 (19.7–21.8)	19.4 (18.3–20.5)	19.8 (18.8–20.8)	18.1 (17.2–19.0)	18.1 (17.1–19.1)	17.8 (16.9–18.7)	18.0 (17.1–19.0)	↓
Occasional	4.5 (4.0–5.0)	4.5 (4.0–4.9)	4.3 (3.9–4.7)	4.1 (3.7–4.6)	3.8 (3.4–4.2)	3.3 (2.9–3.7)	3.0 (2.6–3.4)	3.1 (2.8–3.5)	3.1 (2.7–3.5)	2.9 (2.6–3.3)	↓
Previous	36.4 (35.2–37.6)	37.3 (36.2–38.5)	36.5 (35.3–37.6)	35.7 (34.5–36.9)	37.1 (35.8–38.4)	36.5 (35.3–37.7)	37.9 (36.8–39.1)	36.9 (35.8–38.1)	36.8 (35.6–38.0)	36.3 (35.1–37.4)	—
Never	38.7 (37.5–40.0)	37.2 (36.0–38.4)	38.0 (36.8–39.2)	39.5 (38.2–40.7)	39.7 (38.5–41.0)	40.4 (39.2–41.6)	41.0 (39.8–42.2)	41.8 (40.6–43.0)	42.3 (41.1–43.5)	42.8 (41.6–44.0)	↑
Alcohol consumption (*n*)	**12,391**	**12,334**	**12,294**	**12,792**	**12,005**	**12,071**	**13,583**	**11,974**	**12,321**	**12,572**	. .
At-risk alcohol level	32.8 (31.6–34.1)	33.1 (31.9–34.3)	32.6 (31.3–33.8)	31.6 (30.3–32.8)	32.5 (31.2–33.8)	31.7 (30.5–32.9)	30.1 (28.9–31.2)	31.6 (30.4–32.8)	30.0 (28.8–31.2)	29.3 (28.1–30.5)	↓
Responsible drinker	46.6 (45.5–47.8)	47.3 (46.1–48.5)	47.7 (46.4–48.9)	47.9 (46.7–49.1)	48.0 (46.7–49.2)	47.6 (46.4–48.8)	48.9 (47.8–50.1)	47.6 (46.4–48.8)	47.7 (46.5–48.9)	46.7 (45.5–48.0)	—
Non-drinker	20.5 (19.5–21.5)	19.6 (18.5–20.7)	19.8 (18.7–20.9)	20.5 (19.4–21.6)	19.5 (18.5–20.6)	20.7 (19.6–21.8)	21.0 (20.0–22.0)	20.8 (19.7–21.9)	22.3 (21.2–23.5)	24.0 (22.8–25.2)	↑

(continued)

Table 13.2 (continued): Patient risk factors among adult males, 2002–03 to 2011–12

Risk factor	Per cent (95% CI)										↑↓[(a)]
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	
Adult males (aged 18 years and over)											
Number of risk factors[(c)] (*n*)	**12,058**	**11,999**	**11,900**	**12,572**	**11,662**	**11,784**	**13,228**	**11,613**	**11,955**	**12,252**	. .
Zero	22.3 (21.3–23.3)	21.1 (20.2–22.1)	20.7 (19.8–21.6)	21.1 (20.1–22.0)	20.3 (19.4–21.2)	20.2 (19.2–21.1)	19.0 (18.1–19.8)	19.6 (18.7–20.5)	19.2 (18.3–20.0)	18.9 (18.0–198.)	↓
One	46.2 (45.2–47.2)	46.9 (45.9–47.9)	47.0 (46.0–48.1)	47.3 (46.3–48.3)	48.0 (47.0–49.1)	48.0 (47.0–49.0)	50.5 (49.6–51.5)	49.0 (48.0–50.0)	50.9 (49.8–51.9)	51.5 (50.4–52.5)	↑
Two	25.9 (24.9–26.9)	25.9 (24.9–26.8)	26.7 (25.7–27.6)	25.7 (24.8–26.7)	26.2 (25.2–27.2)	25.9 (24.9–26.9)	25.0 (24.1–25.9)	25.8 (24.9–26.8)	24.7 (23.7–25.6)	24.3 (23.3–25.2)	—
Three	5.6 (5.1–6.0)	6.1 (5.6–6.6)	5.6 (5.1–6.1)	5.9 (5.5–6.4)	5.5 (5.0–6.0)	5.9 (5.4–6.4)	5.5 (5.0–5.9)	5.6 (5.1–6.1)	5.3 (4.9–5.8)	5.4 (4.9–5.8)	—
Male children (aged 2–17 years)[(d)] (*n*)	**1,620**	**1,485**	**1,451**	**1,640**	**1,509**	**1,484**	**1,415**	**1,499**	**1,450**	**1,487**	. .
Obese	12.5 (10.7–14.4)	13.7 (11.8–15.6)	10.8 (9.1–12.6)	11.6 (9.9–13.3)	11.6 (9.8–13.4)	11.9 (10.1–13.7)	10.3 (8.6–11.9)	10.5 (8.9–12.2)	11.2 (9.4–12.9)	11.8 (10.0–13.7)	—
Overweight	18.9 (16.9–20.9)	20.3 (18.2–22.4)	17.4 (15.3–19.4)	17.1 (15.3–19.0)	19.7 (17.7–21.7)	17.3 (15.4–19.3)	18.2 (16.1–20.4)	17.4 (15.3–19.5)	17.4 (15.4–19.5)	17.8 (15.7–19.8)	—
Normal	60.3 (57.7–62.9)	56.0 (53.4–58.6)	60.4 (57.7–63.1)	60.3 (57.8–62.8)	58.8 (56.2–61.4)	61.1 (58.5–63.5)	62.0 (59.3–64.7)	62.2 (59.6–64.9)	62.4 (59.7–65.2)	60.1 (57.4–62.9)	—
Underweight	8.3 (6.8–9.7)	9.9 (8.3–11.5)	11.4 (9.7–13.2)	11.0 (9.3–12.6)	9.9 (8.4–11.5)	9.6 (8.0–11.3)	9.5 (8.0–11.1)	9.8 (8.2–11.4)	9.0 (7.4–10.6)	10.3 (8.6–12.0)	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; indicates there was no significant change in 2011–12 compared with 2002–03.

(b) Adult patients aged 18 years and over with a recorded height outside the Australian Bureau of Statistics height range based on age and sex were excluded.

(c) The risk factors for an adult included being: overweight or obese, a daily smoker or an at-risk drinker.

(d) Children (aged 2–17 years) with height outside the Australian Bureau of Statistics or Centres for Disease Control, height range based on age and sex were excluded. Child BMI was re-calculated for 2002–03 to 2005–06, and will differ from data previously published to incorporate this exclusion and to apply a more precise method for calculating child BMI.

Note: CI – confidence interval.

Table 13.3: Patient risk factors among adult females, 2002–03 to 2011–12

Risk factor	Per cent (95% CI) 2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	↑↓[a]
Body mass index class[b] (*n*)	**19,670**	**19,214**	**17,976**	**19,976**	**19,410**	**18,703**	**19,671**	**19,735**	**18,741**	**19,605**	. .
Obese	21.5 (20.7–22.3)	23.0 (22.1–23.8)	23.2 (22.4–24.1)	22.6 (21.7–23.4)	24.2 (23.3–25.1)	24.3 (23.5–25.2)	25.6 (24.8–26.4)	26.2 (25.3–27.0)	27.2 (26.3–28.1)	26.7 (25.8–27.5)	↑
Overweight	29.0 (28.2–29.8)	29.4 (28.6–30.1)	29.3 (28.6–30.1)	29.3 (28.6–30.0)	30.1 (29.4–30.9)	30.4 (29.7–31.2)	30.9 (30.2–31.6)	29.6 (28.9–30.3)	30.3 (29.6–31.0)	30.2 (29.5–30.9)	—
Normal	45.7 (44.7–46.8)	44.1 (43.1–45.1)	43.8 (42.7–44.8)	44.6 (43.6–45.6)	42.2 (41.2–43.2)	41.9 (40.9–43.0)	40.0 (39.1–41.0)	41.1 (40.1–42.0)	39.3 (38.3–40.3)	40.2 (39.3–41.2)	↓
Underweight	3.8 (3.5–4.2)	3.6 (3.3–3.9)	3.6 (3.3–4.0)	3.5 (3.2–3.8)	3.5 (3.2–3.8)	3.3 (3.0–3.6)	3.4 (3.2–3.7)	3.2 (2.9–3.5)	3.2 (2.9–3.5)	2.9 (2.6–3.1)	↓
Smoking status (*n*)	**19,875**	**19,780**	**18,468**	**20,288**	**18,718**	**19,081**	**20,079**	**20,224**	**19,301**	**20,060**	. .
Daily	15.2 (14.4–15.9)	15.4 (14.6–16.1)	15.7 (15.0–16.5)	14.7 (14.0–15.4)	14.0 (13.3–14.8)	14.4 (13.7–15.2)	13.3 (12.6–14.0)	13.3 (12.6–14.0)	12.9 (12.2–13.6)	12.6 (11.8–13.3)	↓
Occasional	3.9 (3.5–4.3)	4.2 (3.9–4.6)	3.3 (3.0–3.7)	3.3 (3.0–3.6)	2.7 (2.5–3.0)	2.6 (2.4–2.9)	2.4 (2.2–2.7)	2.4 (2.2–2.7)	2.4 (2.2–2.7)	2.2 (2.0–2.4)	↓
Previous	21.5 (20.7–22.3)	22.0 (21.2–22.8)	22.2 (21.3–23.0)	21.5 (20.7–22.3)	23.3 (22.5–24.2)	22.3 (21.4–23.1)	22.5 (21.7–23.3)	22.8 (22.0–23.7)	22.7 (21.8–23.5)	22.6 (21.8–23.5)	—
Never	59.4 (58.3–60.5)	58.4 (57.3–59.5)	58.8 (57.7–59.9)	60.5 (59.5–61.6)	59.9 (58.8–61.0)	60.7 (59.6–61.7)	61.7 (60.7–62.7)	61.5 (60.4–62.5)	62.1 (61.0–63.1)	62.6 (61.6–63.7)	↑
Alcohol consumption (*n*)	**19,749**	**19,387**	**18,120**	**19,961**	**18,342**	**18,715**	**19,764**	**19,979**	**18,869**	**19,685**	. .
At-risk alcohol level	22.1 (21.2–23.0)	22.6 (21.7–23.6)	22.2 (21.3–23.2)	22.2 (21.3–23.2)	23.5 (22.5–24.5)	22.6 (21.6–23.6)	21.8 (20.8–22.7)	23.4 (22.5–24.4)	21.4 (20.5–22.3)	21.5 (20.6–22.5)	—
Responsible drinker	42.7 (41.7–43.8)	43.5 (42.4–44.5)	43.0 (41.9–44.0)	42.8 (41.8–43.9)	42.4 (41.3–43.5)	42.6 (41.6–43.7)	42.6 (41.6–43.7)	42.5 (41.5–43.6)	41.5 (40.4–42.6)	41.8 (40.8–42.8)	—
Non-drinker	35.2 (33.9–36.5)	33.9 (32.7–35.2)	34.8 (33.4–36.2)	35.0 (33.6–36.3)	34.1 (32.8–35.4)	34.8 (33.5–36.1)	35.6 (34.3–36.9)	34.0 (32.8–35.3)	37.1 (35.7–38.5)	36.7 (35.3–38.0)	—

(continued)

Table 14.3 (continued): Patient risk factors among adult females, 2002–03 to 2011–12

Risk factor	Per cent (95% CI)										↑↓[a]
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	
Adult remales (aged 18 years and over)											. .
Number of risk factors[c] (*n*)	**19,094**	**18,714**	**17,518**	**19,504**	**17,724**	**18,218**	**19,204**	**19,182**	**18,222**	**19,149**	
Zero	32.6 (31.5–33.6)	31.2 (30.2–32.2)	31.2 (30.2–32.2)	31.7 (30.7–32.7)	29.8 (28.8–30.7)	29.9 (28.9–30.8)	29.1 (28.1–30.0)	29.5 (28.6–30.4)	28.8 (27.9–29.7)	29.5 (28.6–30.5)	↓
One	49.4 (48.5–50.3)	50.4 (49.5–51.2)	50.1 (49.2–50.9)	50.4 (49.5–51.2)	51.0 (50.1–51.9)	51.4 (50.6–52.3)	52.7 (51.8–53.5)	51.2 (50.3–52.0)	53.1 (52.2–53.9)	52.5 (51.7–53.4)	↑
Two	15.6 (15.0–16.3)	15.9 (15.2–16.5)	15.9 (15.3–16.6)	15.4 (14.7–16.0)	16.6 (15.9–17.3)	15.8 (15.2–16.5)	15.6 (15.0–16.3)	16.6 (15.9–17.2)	15.5 (14.8–16.2)	15.5 (14.8–16.1)	—
Three	2.4 (2.1–2.7)	2.6 (2.3–2.9)	2.8 (2.6–3.1)	2.6 (2.3–2.8)	2.6 (2.3–2.9)	2.9 (2.6–3.2)	2.6 (2.4–2.9)	2.8 (2.5–3.0)	2.6 (2.3–2.9)	2.5 (2.2–2.8)	—
Female children (aged 2–17 years)[d] (*n*)	**1,760**	**1,704**	**1,567**	**1,698**	**1,578**	**1,562**	**1,555**	**1,684**	**1,558**	**1,606**	
Obese	11.3 (9.6–12.9)	10.2 (8.6–11.8)	10.8 (9.1–12.6)	10.3 (8.7–11.8)	9.6 (8.1–11.2)	10.6 (8.9–12.2)	10.7 (9.1–12.3)	8.7 (7.3–10.2)	10.1 (8.4–11.8)	10.5 (8.8–12.1)	—
Overweight	17.7 (15.9–19.6)	18.2 (16.4–20.0)	17.9 (16.1–19.8)	18.6 (16.7–20.5)	17.5 (15.6–19.4)	16.8 (14.9–18.8)	15.4 (13.5–17.2)	18.6 (16.6–20.5)	17.8 (15.9–19.7)	17.4 (15.6–19.3)	—
Normal	61.5 (59.1–63.9)	59.4 (57.0–61.9)	60.8 (58.3–63.3)	61.1 (58.8–63.5)	63.4 (60.9–66.0)	62.2 (59.6–64.7)	63.7 (61.1–66.2)	62.3 (59.8–64.8)	61.3 (58.8–63.8)	60.5 (58.0–63.1)	—
Underweight	9.5 (8.1–11.0)	12.2 (10.6–13.9)	10.4 (8.9–11.9)	10.0 (8.5–11.6)	9.4 (7.9–11.0)	10.4 (8.8–12.1)	10.3 (8.7–11.9)	10.4 (8.7–12.0)	10.7 (9.1–12.3)	11.6 (9.9–13.3)	—

(a) The direction and type of change from 2002–03 to 2011–12 is indicated for each result: ↑/↓ indicates a statistically significant change (increase or decrease) in 2011–12 compared with 2002–03; — indicates there was no significant change in 2011–12 compared with 2002–03.

(b) Adult patients aged 18 years and over with a recorded height outside the Australian Bureau of Statistics height range based on age and sex were excluded.

(c) The risk factors for an adult included being: overweight or obese, a daily smoker or an at-risk drinker.

(d) Children (aged 2–17 years) with height outside the Australian Bureau of Statistics or Centres for Disease Control, height range based on age and sex were excluded. Child BMI was re-calculated for 2002–03 to 2005–06, and will differ from data previously published to incorporate this exclusion and to apply a more precise method for calculating child BMI.

Note: CI – confidence interval.

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Abbreviations

ACRRM	Australian College of Rural and Remote Medicine
AHW	Aboriginal health worker
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)
CT	computerised tomography
DoHA	Australian Government Department of Health and Ageing
DVA	Australian Government Department of Veterans' Affairs
FACRRM	Fellow of the Australian College of Rural and Remote Medicine
FMRC	Family Medicine Research Centre
FRACGP	Fellow of the Royal Australian College of General Practitioners
FTE	full-time equivalent
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
LCL	lower confidence limit
MBS	Medicare Benefits Schedule
OTC	over-the-counter (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
RRMA	Rural, Remote and Metropolitan Area classification
SAND	Supplementary Analysis of Nominated Data
SAS	Statistical Analysis System
UCL	upper confidence limit

URTI	upper respiratory tract infection
WHO	World Health Organization
Wonca	World Organization of Family Doctors

Symbols

. .	intentionally left blank
<	less than
>	more than
n	number
N/A	not applicable
NAv	not available
NEC	not elsewhere classified
NOS	not otherwise specified
🡅	indicates a statistically significant increase in 2011–12 when compared with the first year of data reported
🡇	indicates a statistically significant decrease in 2011–12 when compared with the first year of data reported
↑	indicates a marginally significant increase in 2011–12 when compared with the first year of data reported
↓	indicates a marginally significant decrease in 2011–12 when compared with the first year of data reported
§	indicates a noteworthy change during the decade.
–	indicates no significant change in 2011–12 when compared with the first year of data reported

Glossary

A1 Medicare items: see *MBS/DVA items: A1 Medicare items*.

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 health services: Clinical and other specialised health services provided in the management of patients by allied and other health professionals 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.

Chronic problem: see *Diagnosis/problem: Chronic problem*.

Commonwealth concession card: An entitlement card provided by the Australian Government, which entitles the holder to reduced-cost medicines under the Pharmaceutical Benefits Scheme and some other concessions from state and local government authorities.

Complaint: A symptom or disorder expressed by the patient when seeking care.

Component (ICPC-2): In ICPC-2 there are seven components that 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, including follow-up for a problem or an initial presentation of a problem previously assessed by another provider.
- *Chronic problem:* A medical condition characterised by a combination of the following characteristics: duration that has lasted or is expected to last six months or more, a pattern of recurrence or deterioration, a poor prognosis, and consequences or sequelae that impact on an individual's quality of life. (*Source:* O'Halloran J, Miller GC, Britt H 2004. Defining chronic conditions for primary care with ICPC-2. Fam Pract 21(4):381–6).
- *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 exposure, 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 (for example, prescription, referral).
- *Direct:* Encounter where there is a face-to-face meeting of the patient and the GP. These can be further divided into:
  - MBS/DVA-claimable: Encounters for which GPs have recorded at least one MBS item number as claimable, where the conditions of use of the item require that the patient be present at the encounter.
  - Workers compensation: Encounters paid by workers compensation insurance.
  - Other paid: Encounters paid from another source (for example, 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).

GP consultation service items: see *MBS/DVA items: GP consultation service items*.

Marginally significant: See *Significant*

MBS/DVA items: MBS item numbers recorded as claimable for activities undertaken by GPs and staff under the supervision of GPs. In BEACH a MBS item number may be funded by Medicare or by the Department of Veterans' Affairs (DVA).

- *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.
- *GP consultation service items:* Includes GP services provided under the MBS professional services category including MBS items classed as A1, A2, A5, A6, A7, A14, A17, A18, A19, A20, A22 and selected items provided by GPs classified in A11, A15 and A27.
- *MBS/DVA item categories:* (Note: item numbers recorded in BEACH in earlier years which are no longer valid are mapped to the current MBS groups)
  - *Surgery consultations:* identified by any of the following item numbers: short 3, 52, 5000, 52003; standard 23, 53, 5020, 5203; long 36, 54, 5040; prolonged 44, 57, 5060, 5208.
  - *Residential aged care facility:* identified by any of the following item numbers: 20, 35, 43, 51, 92, 93, 95, 96, 5010, 5028, 5049, 5067, 5260, 5263, 5265, 5267.
  - *Home or institution visits (excluding residential aged care facilities):* identified by any of the following item numbers:: 4, 19, 24, 33, 37, 40, 47, 50, 58, 59, 60, 65, 87, 89, 90, 91, 503, 507, 5003, 5023, 5043, 5063, 5220, 5223, 5227, 5228.
  - *GP mental health care:* identified by any of the following item numbers: 2700, 2701, 2702, 2704, 2705, 2710, 2712, 2713, 2715, 2717, 2721, 2723, 2725.
  - *Chronic disease management items:* identified by any of the following item numbers: 720, 721, 722, 723, 724, 725, 726, 727, 729, 730, 731, 732.
  - *Health assessments:* identified by any of the following item numbers: 700, 702, 703, 704, 705, 706, 707, 708, 709, 710, 712, 713, 714, 715, 717, 718, 719.
  - *Case conferences:* identified by any of the following item numbers: 734, 735, 736, 738, 739, 740, 742, 743, 744, 750, 762, 765, 773, 775, 778.

- *Attendances associated with Practice Incentives Program payments:* identified by any of the following item numbers: 2497, 2501, 2503, 2504, 2506, 2507, 2509, 2517, 2518, 2521, 2522, 2525, 2526, 2546, 2547, 2552, 2553, 2558, 2559, 2574, 2575, 2577, 2598, 2600, 2603, 2606, 2610, 2613, 2616, 2620, 2622, 2624, 2631, 2633, 2635, 2664, 2666, 2667, 2668, 2673, 2675, 2677, 2704, 2705.
- *GP bulk-billed incentive payment:* identified by any of the following item numbers: 10990,10991,10992,74990,74991.
- *Practice nurse/Aboriginal health worker/allied health worker services:* identified by any of the following item numbers: 711, 10950, 10951, 10960, 10966, 10970, 10986, 10987, 10989, 10993, 10994, 10995, 10996, 10997, 10998, 10999, 16400, 82210.
- *Acupuncture:* identified by any of the following item numbers: 173, 193, 195, 197, 199.
- Diagnostic procedures and investigations: identified by item numbers: 11000–12533.
- *Therapeutic procedures:* identified by item numbers: 13015–25205 (excluding 16400).
- *Surgical operations:* identified by item numbers: 30001–53706.
- *Diagnostic imaging services:* identified by item numbers: 55028–64991.
- *Pathology services:* identified by item numbers: 65060–74999.

Medication: Medication that is prescribed, provided by the GP at the encounter or advised for over-the-counter purchase.

Medication rates: The rate of use of all medications, including medications that were prescribed, supplied by the GP and advised for over-the-counter purchase.

Medication status:

- *New:* The medication prescribed/provided at the encounter/advised is being used for the management of the problem for the first time.
- *Continued:* The medication prescribed/provided at the encounter/advised is a continuation or repeat of previous therapy for this problem.
- *Old:* See *Continued*.

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.
- *Patient seen previously:* The patient has attended the practice before.

Prescribed rates: The rate of use of prescribed medications (that is, does not include medications that were GP-supplied or advised for over-the-counter purchase).

Problem managed: See *Diagnosis/problem*.

Provider: A person to whom a patient has access when contacting the healthcare 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 Royal Australian College of General Practitioners (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. (*Source:* Commonwealth Department of Health and Aged Care 2001. Medicare benefits schedule book. Canberra: DHAC).

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 services, 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.

Repatriation health card: An entitlement card provided by the Department of Veterans' Affairs that entitles the holder to access a range of repatriation health care benefits, including access to prescription and other medications under the Pharmaceutical Benefits Scheme.

Rubric: The title of an individual code in ICPC-2.

Significant: This term is used to refer to a statistically significant difference between two results, and is measured through non-overlapping 95% confidence intervals. The exception is Chapter 4 (The Participating GPs), where statistical significance is measured with the chi square statistic, ($p = 0.01$). Marginally significant refers to results for which the confidence intervals around two results butt together.

Torres Strait Islander: The patient identifies himself or herself as a Torres Strait Islander person.

Work-related problem: See *Diagnosis/problem*.

Appendices

Appendix 1: Example of a 2011–12 recording form

BEACH (Bettering the Evaluation And Care of Health) - Morbidity and Treatment Survey - National DOC ID

Encounter Number | Date of encounter ___/___/___ | Date of Birth ___/___/_ _ _ _ | Sex M ☐ F ☐ | Patient Postcode

	Yes / No
New Patient	☐ ☐
Health Care/Benefits Card	☐ ☐
Veterans Affairs Card	☐ ☐
NESB	☐ ☐
Aboriginal	☐ ☐
Torres Strait Islander	☐ ☐

PATIENT SEEN BY GP ☐
PATIENT NOT SEEN BY GP ☐

Medicare Item Nos: (if applicable)
1. _____
2. _____
3. _____

Workers comp paid ☐
State Govt/Other paid ☐
No charge ☐

START Time ___ : ___ AM / PM (please circle)

Patient Reasons for Encounter
1.
2.
3.

Diagnosis/ Problem ①: **Problem Status** New ☐ Old ☐ Work related ☐

Drug Name AND Form for this problem	Strength of product	Dose	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. Prac Nurse? ☐ 2. Prac Nurse? ☐

Diagnosis/ Problem ②: **Problem Status** New ☐ Old ☐ Work related ☐

Drug Name AND Form for this problem	Strength of product	Dose	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. Prac Nurse? ☐ 2. Prac Nurse? ☐

Diagnosis/ Problem ③: **Problem Status** New ☐ Old ☐ Work related ☐

Drug Name AND Form for this problem	Strength of product	Dose	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. Prac Nurse? ☐ 2. Prac Nurse? ☐

Diagnosis/ Problem ④: **Problem Status** New ☐ Old ☐ Work related ☐

Drug Name AND Form for this problem	Strength of product	Dose	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. Prac Nurse? ☐ 2. Prac Nurse? ☐

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
3. _____ - _____ 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 reported
Height: ___ cm
Weight: ___ kg

To the patient if 18+: Which best describes your smoking status?
Smoke daily ☐
Smoke occasionally ☐
Previous smoker ☐
Never smoked ☐

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 ☐

FINISH Time ___ : ___ AM / PM (please circle)

BA14

Appendix 2: GP characteristics questionnaire, 2011–12

THE UNIVERSITY OF SYDNEY

GP profile

Family Medicine Research Centre

Doctor Identification Number | | | | | |

Please fill in boxes or circle answers

1. Sex ..... **Male / Female** *(Please circle)*

2. Age .....

3. How many years have you spent in general practice? .....

4. Country of graduation *(primary medical degree)*:

☐ Australia ☐ Other: *(specify)* _____

5. How many direct patient care hours do you work per week?

(Include hours of direct patient care, instructions, counselling etc and other services such as referrals, prescriptions, phone calls etc.) .....

6. Do you conduct any of your consultations in a language other than English?

☐ No ☐ Yes 25–50%
☐ Yes <25% ☐ Yes >50%

7. Are you a GP registrar (i.e. in training)?..... **Yes / No**

8. Do you hold FRACGP? ..... **Yes / No**

9. Do you hold FACRRM? ..... **Yes / No**

10. Do you bulk bill patients?..... **All / Some / None**

11. Is a computer available at your major practice? ..... **Yes / No**

If '**yes**', which clinical software is used? *(specify)* _____

12. Do **YOU** use the computer at your major practice? ..... **Yes / No**

*If '**yes**', please tick to indicate which functions of the computer/clinical software you use*

☐ Prescribing
☐ Internet
☐ Email

Active medical records:
☐ Completely paperless
☐ Combination of computer and paper
☐ Paper only

Pathology:
☐ Electronic ordering (online)
☐ Print/produce orders
☐ Receive results electronically

Imaging:
☐ Electronic ordering (online)
☐ Print/produce orders
☐ Receive results electronically

13. Did any of your BEACH consultations take place in an Aboriginal Community Controlled Health Service?

No.....1
Yes - all 2
Yes - some (which dates) _____3

14. Over the past four weeks have you provided any patient care...

(a) in a residential aged care facility? ..... **Yes / No**
(b) as a salaried/sessional hospital medical officer? ..... **Yes / No**

15. Postcode of major practice address.....

16. For your major practice, please specify the number of individuals (ie. headcount) and number of full time equivalents (FTE*) for each type of professional:

**Each FTE is defined as working 35-45 hours per week e.g. 2 GPs each working 20 hours/wk is recorded as 2 individual GPs and 1 FTE; 1 enrolled nurse working 20 hours/wk is recorded as 1 individual and 0.5 FTE.*

	No. individuals	No. FTEs
(a) GPs (including yourself)		
(b) Enrolled nurses		
(c) Registered nurses		
(d) Nurse practitioners		
(e) Midwives		
(f) Aboriginal health workers		

17. Is your major practice accredited?..... **Yes / No**

18. Are any of the following health services located or available at your major practice?

(includes services in the same building or within 50 metres, available on a daily or regular basis) *(Circle all that apply)*

Physiotherapist 1
Psychologist 2
Pathology lab/collection centre 3
Imaging 4
Specialist 5
Other *(specify)* _____ 6
None 7

19. What are the normal after-hours arrangements for your major practice? *(Circle all that apply)*:

Practice does its own 1
Co-operative with other practices 2
Deputising service 3
Other 4
None 5

20. Is your major practice a teaching practice? *(Circle all that apply)*:

For undergraduates 1
For junior doctors 2
For GP registrars 3
No 4

*Thank you for participating in the **BEACH PROGRAM.***
Please return this form with the completed BEACH pad.

FMRC, PO Box 533, Westmead Hospital, Wentworthville, 2145.
GP(14)V1) Ph: 02 9845 8151 fax: 02 9845 8155 email: jan.charles@sydney.edu.au Web: www.fmrc.org.au

Appendix 3: Patient information card, 2011–12

THE UNIVERSITY OF SYDNEY

Family Medicine Research Centre

INFORMATION FOR PATIENTS

The *BEACH* © Project

Today your doctor is taking part in a National Survey of general practice called *BEACH* © *(Bettering the Evaluation and Care of Health)*. This study is being done by the Family Medicine Research Centre, University of Sydney.

Your Doctor will be recording information about each patient he/she sees (age, gender etc), the problems that you see the Doctor about and the treatments given to you. **There are no names on the forms so you cannot be identified.** The information about today's visit to the doctor will be one record in a set of 100,000 records collected in general practices across Australia over the year.

This information will be used by researchers to describe what happens in general practice and to look at different aspects of health care; by government departments to help them plan for our future health; and by pharmaceutical companies to gain a picture of the people who use their drugs and of the problems being treated with the drugs they produce.

Remember: your name will not be on the form and no information will ever be released which could possibly let anyone know who you are. However, if you do not wish your doctor to record any unidentified information about you or your visit **please tell your Doctor as soon as you go in**. Such a decision will not affect the care your doctor is providing in any way.

SEE OVER FOR PROJECT DETAILS

(page 1 / 2)

FMRC, Acacia House, Westmead Hospital, PO Box 533,WENTWORTHVILLE, 2145.
Ph: 02 9845 8151 fax: 02 9845 8155 email: jan.charles@sydney.edu.au Web: www.fmrc.org.au

BEACH © Program Details

This program has been approved by the Ethics Committee of the University of Sydney. The data are being collected in accordance with the Privacy Act 1988 as amended.

Organisations contributing financially to the conduct of this study in 2010–2011 are:

- The Australian Government Department of Health and Ageing
- AstraZeneca Pty Ltd (Australia)
- Pfizer Australia Pty Ltd
- Sanofi-Aventis Australia Pty Ltd
- CSL Biotherapies Pty Ltd
- GlaxoSmithKline Australia Pty Ltd
- Merck Sharp & Dohme (Australia) Pty Ltd
- Novartis Pharmaceuticals Australia Pty Ltd

BEACH is endorsed by the Royal Australian College of General Practitioners

BEACH is endorsed by the Australian Medical Association

AMA

FURTHER INFORMATION:

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Any person with concerns or complaints about the conduct of this research study can contact The Manager, Human Ethics Administration, University of Sydney on +61 2 8627 8176 (Telephone); +61 2 8627 8177 (Facsimile); ro.humanethics@sydney.edu.au (Email).

(page 2/2)

Appendix 4: Code groups from ICPC-2 and ICPC-2 PLUS

Available at: <purl.library.usyd.edu.au/sup/9781743320204>, see 'Electronic editions and downloads'.

This report highlights changes in general practice activity in Australia over the most recent decade (April 2002 to March 2012) of the BEACH program, a national cross-sectional study of general practice activity. Over this time 9,802 GPs provided details of 980,200 GP–patient encounters. The report highlights changes that have occurred over the decade in the characteristics of GPs and the patients they see, the problems managed, and the treatments provided. Changes in prevalence of overweight and obesity, smoking status and alcohol use are also described for subsamples of more than 30,000 adult patients each year.

SYDNEY UNIVERSITY PRESS
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ISBN: 978-1-74332-021-1
9 781743 320211