THE UNIVERSITY OF SYDNEY

A decade of Australian general practice activity

2001–02 to 2010–11

Family Medicine Research Centre

Helena Britt, Graeme C Miller, Janice Charles, Joan Henderson, Clare Bayram, Lisa Valenti, Christopher Harrison, Ying Pan, Julie O'Halloran, Carmen Zhang, Tim Chambers, Salma Fahridin

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BEACH
Bettering the Evaluation and Care of Health

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

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Contents

List of tables

List of figures

Summary

This book brings 10 years of data together from the BEACH (Bettering the Evaluation and Care of Health) program, to identify changes that have occurred over the decade 2001–02 to 2010–11 in the characteristics of GPs and the patients they see, the problems they manage and the treatments they provide.

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. 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.

Changes in the population influence GP clinical work. With an ageing population a growing part of the GP workload involves older patients with multiple chronic diseases.

GPs are the first port of call in the Australian health care system. There is a universal health insurance scheme (Medicare) which paid (in part or in whole) for 118.1 million general practice consultations in 2010–11 (up from 101 million in 2001–02), 5.3 services per person.

This report is based on information from 9,801 participating GPs, about almost 1 million 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.

A companion report, *General practice activity in Australia 2010–11*, describes the 2010–11 annual results in more detail, <purl.library.usyd.edu.au/sup/9781920899868>.

The GP participants

Between 2001–02 and 2010–11:

- the age and sex distribution GP participants changed: the proportion being female increased from 36% to 38%; the proportion of participants aged 35–44 years decreased from 27% to 17%; the proportion aged 55 years or more increased (from 29% to 42%).
- an increasing proportion of participants graduated overseas and there were changes in the geographic distribution of the overseas countries of graduation.
- the proportion of GP participants holding Fellowship of the RACGP significantly increased, from 35% to 52%.
- the proportion of GPs spending: 40 or less hours per weeks in direct patient care increased from 42% to 54%; 60 or more hours decreased from 43% to 34%.
- GPs moved away from solo and small group practices to larger practices, of 5–9 (increasing from 35 to 39%) and 10 or more individual GPs (10% to 22%).
- a decreasing proportion of GP participants worked in practices providing their own after-hours care, (from 42% to 30%) or providing it in cooperation with other practices (19% to 14%). Deputising services became more widely used.
- the proportion of GPs with a computer available at their major practice increased from 90% to 98% and there was a steady increase in the proportion indicating they use a computer for clinical purposes to some extent.

- an increase in short surgery consultations from 1.1% to 2.3%, of Medicare/DVA-claimable encounters, may be related to increased practice nurse involvement. Long surgery consultations did not change overall. Encounters claimable as GP mental health care items and health assessments significantly increased.
- the length of consultations did not change over the decade, Medicare/DVA-claimable encounters lasting an average 15 minutes (median 13 minutes) in all years.

The patients at encounters

Between 2001–02 and 2010–11:

- patients aged 45 years or more, particularly those 75 years and over, accounted for an increasing proportion of encounters.
- encounters with new patients to the practice decreased (from 9% to 7%). The proportion of encounters with patients holding a Commonwealth concession card remained relatively stable and there was no change in the proportion with Indigenous patients or with patients from a Non-English-speaking background.
- there was a significant increase in the number of patient reasons given for their encounter (RFEs), from 149 to 156 per 100 encounters. When extrapolated this equates to about 35 million extra RFEs presented nationally.
- symptoms or complaints were the most frequent type of RFE but their frequency decreased. There were increased patient requests for: test results (a 70% increase); administrative procedures (doubled); medications, treatments and therapeutics (e.g. repeat prescriptions) (22%); diagnostic and preventative procedures (e.g. immunisation) (11%).
- patients presented for their diabetes increased by 40%, equating to a national increase of 650,000 encounters with this RFE. Requests for a referral doubled, and presentations for depression increased by 15%, coinciding with the Better Access initiative. RFEs relating to headaches and neck complaints, asthma, back complaints and throat complaints all decreased over the decade.

Problems managed at encounters

GPs managed more problems at encounters in 2010–11 (153 per 100 encounters) than in 2001–02 (143 per 100), suggesting 36.8 million more problems managed by GPs nationally in 2010–11. This was reflected in an increased management rate of chronic conditions, from 49 per 100 encounters in 2001–02 to 53 per 100, suggesting 13.5 million more GP contacts with chronic problems in Australia in 2010–11 than in 2001–02.

There were significant increases in the management rate of problems classified as 'diagnostic and preventive procedures', 'results' and 'administrative procedures', suggesting: 5.4 million more contacts with problems classed as 'diagnostic and preventive procedures'; 1.1 million more test result contacts; and 900,000 more contacts with problems classified as administrative were managed in 2010–11 than in 2001–02.

Problems related to the respiratory system remained the most common type of problem managed. There were significant increases in the management rate of some problems types. When extrapolated to general practice across Australia these suggest that when compared with 2001–02, in 2010–11 there were 7.9 million more 'general and unspecified' problems managed; 4.7 million endocrine and metabolic problems; 4.1 million more psychological problems; 2.6 million more digestive problems; 980,000 more urological problems and 950,000 more male genital system problems.

The most common individual problems managed in general practice over the decade were hypertension, check-up, immunisation/vaccination, and upper respiratory tract infection.

Over the decade there were significant increases in the management rate of depression, diabetes, general check-ups, prescriptions, oesophageal disease, test results and abnormal test results (which may reflect the increase in the rate of pathology testing) pregnancy, atrial fibrillation, vitamin/nutritional deficiency, administrative procedures. There were significant decreases in the management rate of asthma, sprain/strain and menopausal problems managed over the decade. The increases in the management rate of the above chronic conditions may be related to increases in the proportion of GP encounters accounted for by older patients. Introduction of Medicare items for health assessments at specified ages may have contributed to the increased rate of general check-ups.

Management actions

Medications

The number of medications prescribed, GP supplied, or advised for the over-the-counter purchase significantly decreased, from 73 to 69 per 100 problems managed. Prescribed medications decreased from 61 to 56 per 100 problems managed – so an average 5.5 fewer prescriptions were written for every 100 problems managed in 2010–11 than 10 years earlier.

This was counteracted by an increase in the number of medications supplied by the GP, from 5 to 7 per 100 problems managed. The majority of these were vaccines, and rates for many of them increased significantly over the period. There was no change in the rate at which OTC medications were advised for over-the-counter purchase.

There were many changes in prescription rates of specific drug groups including increases in prescription of agents acting on the renin-angiotensin system; psychoanaleptics; serum lipid-modifying agents; antithrombotics; and thyroid medications. Conversely, there were decreases in prescriptions for psycholeptics, drugs for obstructive airways disease, and systemic anti-inflammatory medications.

One of the individual medications with the greatest increase was oxycodone, with an extrapolated estimated 1.5 million more prescriptions made in 2010–11 than 10 years earlier. There were significant decreased prescribing rates of some specific drug including: simvastatin, celecoxib, and cefaclor monohydrate.

Clinical treatments

Between 2001–02 and 2010–11:

- GP use of clinical treatments decreased from 27 to 23 per 100 problems. The drop occurred in 2004–05 coinciding with the introduction of practice nurse item numbers. Since then the rate has steadily increased but remained lower in 2010–11 than in 2001–02.
- general advice and education was the most common clinical treatment provided.
- counselling and advice about nutrition and weight fell from 4 to 3 per 100 problems managed. We estimate 730,000 fewer occasions of provision of counselling and advice about nutrition and weight given in 2010–11 than in 2001–02.
- there was an increased use of clinical treatment(s) in management of tobacco abuse, from 0.3 to 0.6 per 100 encounters and this equates to 410,000 more occasions on which clinical treatments were provided for tobacco abuse nationally in 2010–11.

Procedures

Procedures increased from 10 to 11 per 100 problems managed and this was reflected in higher rates of dressings/pressure/compression/tamponade, and local injections (excluding all local injection/infiltrations performed for immunisations). Female genital check up/pap smear remained the problem most often managed with a procedure.

Referrals

Referrals to other health providers increased, from 7 to 9 per 100 problems influenced by increases in those to medical specialists, allied health services, and emergency departments.

This suggests there were about 6 million more referrals made nationally in 2010–11 than in 2001–02. Over time there was also an increasing likelihood that the patient would receive at least one referral at encounter (at 13% in 2010–11 compared with 10% in 2001–02).

Referrals to medical specialists increased, particularly those to cardiologists, with marginal increases in referrals to urologists and gastroenterologists.

Referrals to allied health services increased from 1.6 to 2.8 per 100 problems managed, particularly to psychologists – results suggest about 600,000 more referrals to psychologists in 2010–11 than in 2001–02. Referrals to podiatrists or chiropodists, and to dentists also increased, with marginal increases in those to dietitians or nutritionists, and physiotherapists.

There was also a significant increase in the rate of referrals to emergency departments and a marginal decrease in the rate of referral/admission to hospitals.

Tests and investigations

Between 2001–02 and 2010–11:

- pathology tests ordered increased by 37%, from 22 to 30 orders per 100 problems, the rise occurring in the early part of the decade, with no further increase since 2006–07 and the proportion of problems managed that were tested increased from 11% to 13%
- likelihood of pathology testing increased from 14% to 18% of encounters which is over 7 million additional encounters at which pathology was ordered in 2010–11
- imaging orders also increased (but to a lesser degree), most of this change also occurred in the earlier part of the decade.

The largest increase was in orders for chemical pathology, followed by haematology and microbiology tests. Orders for ultrasound increased from 1.7 tests to 2.5 per 100 problems managed. Orders for computerised tomography increased from 0.5 to 0.7 per 100.

Practice nurse

Between 2005–06 and 2010–11, the proportion of encounters involving a practice nurse doubled from 4%to 8.0%. The proportion of problems in which they were involved in management increased significantly from 3% to 5%. Extrapolation of these results to national Medicare claims for GP consultations in these years suggests that practice nurses were actively involved in provision of care at about 10.3 million encounters in 2010–11, about 6.1 million more than in 2005–06. They took over an increasing proportion (23% to 38%) of the procedures at the GP encounters. Practice nurse provision of clinical treatments (such as advice and health education) remained infrequently recorded.

The proportion of practice nurse activity encounters for which a practice nurse item number was recorded did not significantly change between 2005–06 and 2010–11, sitting between 35% and 45%.

Between 2005–06 and 2010–11, there were decreases in the following procedures conducted by the practice nurse: dressing/pressure/compression; repair/fixation; electrical tracing; excisions/removals/ biopsies. International normalised ratio (INR) blood testing done by a nurse rose from 2 to 7 per 100 practice nurse encounters.

Substudies of patient risk factors

Alcohol consumption (*n* = 30,000–34,000 per year): Between 2001–02 and 2010–11 prevalence of at-risk alcohol consumption among adults (18+ years) remained static at about 25–26%.

Smoking (*n* = 31,000–34,000 per year): Among adults (18+ years) there were decreases in prevalence of current daily smoking (18% to 15%) and occasional smoking (4.1% to 2.7%).

Body mass index:
Adults (*n* = 30,000–32,000 per year): Between 2001–02 and 2010–11 prevalence of overweight and obesity in adults (18+ years) increased from 55% to 62%. Prevalence of obesity rose from 22% to 27% and this increase was apparent in males and females. Prevalence of overweight rose from 34% to 35%.

Children (*n* = 3,000–4,000): Prevalence of overweight and obesity in children (aged 2–17 years) remained static from 2001–02 to 2010–11, with 10–11% of children being obese and about 18% overweight.

1 Introduction

This report is the 30th book in the series from the Bettering the Evaluation of Care and Health (BEACH) program. It includes summary results from the most recent 10 years of the program, from 2001–02 to 2010–11 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 13th year (March 2011) its database included records for 1,283,100 GP–patient encounters from 12,831 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 2010–11*,[1] available at <purl.library.usyd.edu.au/sup/9781920899868>.

From April 1998 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 collaboration ceased in March 2011. Since then, the FMRC has continued to conduct the BEACH program.

This book brings the most recent 10 years of data together to identify changes that have occurred over the decade 2001–02 to 2010–11 in the GP workforce, the patients they see, the problems managed and the treatments they provide. This report is based on information from 9,801 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, specific chapters for each type of management action and a chapter on practice nurse activity. Changes in prevalence of some 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 in results between 2001–02 and 2010–11 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 chapter from Chapter 5 to Chapter 13 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 analyses for morbidities classed in the National Health Priority Areas[2] was published in July 2009 in *General practice in Australia, health priorities and policies 1998 to 2008*.[3]

1.1 Background

In December 2010, the population of Australia was estimated to be 22.48 million people.[4] Like the rest of the developed world, Australia has an ageing population: the median age (the age at which half the population is older and half is younger) increased by 5.2 years over two decades, from 32.1 years at 30 June 1990 to 37.3 years at 30 June 2011. Over the next several decades, population ageing is projected to have significant implications for Australia, including for health.[5] 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 2008–09 was $112.8 billion, an average $5,190 per Australian, and 9.0% of GDP in 2008–09. Governments funded 69.7%, with the remainder (31.1%) being paid by the non-government sector.[6]

GPs are usually the first port of call in the Australian health care system. Payment for GP visits is largely on a fee-for-service system, there being no compulsory 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 2008 in Australia, there were 24,029 practising primary care practitioners (vocationally recognised GPs and other medical practitioners), making up 23,188 full-time equivalents (based on a 40 hour week), or 107.9 per 100,000 people.[7]

In 2009–10, about 83% of the Australian population claimed at least one GP service from Medicare (personal communication, Department of Health and Ageing (DoHA), June 2010). From April 2010 to March 2011, Medicare paid rebates for about 118.1 million general practice services (excluding practice nurse items),[8] at an average of about 5.3 GP visits per head of population or 6.3 visits per person who visited at least once. This equates to about 2.3 million GP-patient encounters per week.

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 these encounters and of the services and treatments that GPs provide. 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 2010–11* (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 <www.fmrc.org.au>.

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 1 week, 50 weeks a year
- each GP can be selected only once per quality assurance (QA) triennium (that is, once every 3 years)
- 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 general practice A1 Medicare items in the most recently available 3-month Medicare data period (which equates to 1,500 A1 Medicare claims 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, leaving out of the sample frame any GPs already randomly sampled in the current triennium, and draws a new sample from those currently 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 the DoHA.

- Over the following 10 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 3 months.
- Participating GPs earn clinical audit points towards their QA 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 QA process, each receives an analysis of his or her results 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 6 months later.

2.3 Ethics approval and informed patient consent

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

Although the data collected by the GPs is not sufficient to identify an individual patient, informed consent for inclusion 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 requirements for ethics approval 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 Australian College of Rural and Remote Medicine 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 (whether new or continuing medication for this problem for this patient) and 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 at the encounter.

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 at the encounter (see Section 6.3); all types of management are directly related to the problem being managed.

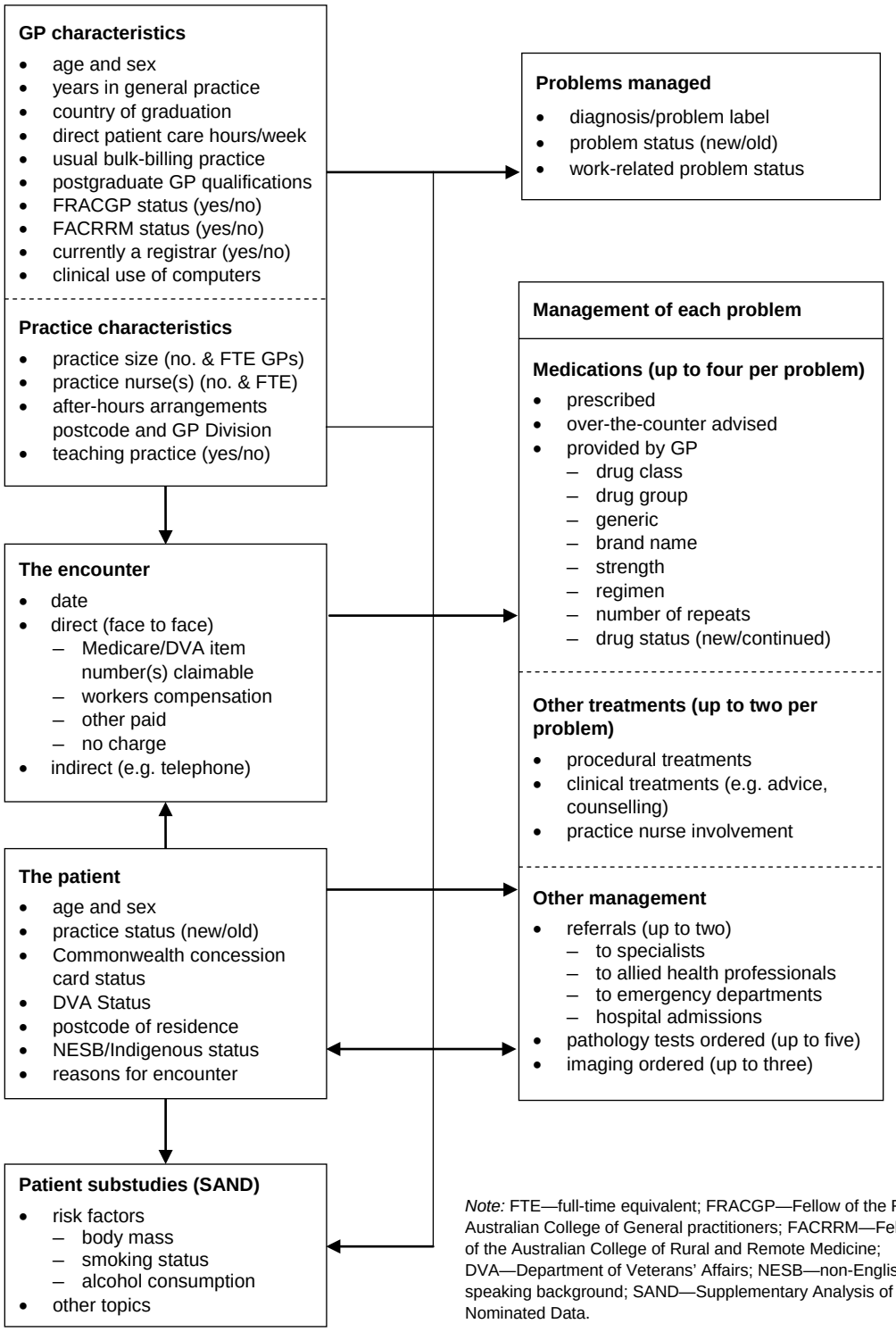


Figure 2.1: The BEACH relational database

2.6 Supplementary Analysis of Nominated Data

A section at the bottom of each recording form investigates aspects of patient health or health care 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 10 blocks, each of 5 weeks, with three substudies per block. The research team aims to include data from about 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 14. 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 and these vary throughout the year.
- 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 was 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 2011 have been published. Those:

- from April 1998 to March 1999 were published in M*easures of health and health care delivery in general practice in Australia*[9]
- from April 1999 to July 2006 were published in *Patient-based substudies from BEACH: abstracts and research tools 1999–2006*[10]
- conducted between August 2006 and March 2010 have been published in each of the general practice activity annual reports[11-14]
- conducted in the 2010–11 BEACH year are provided in Chapter 15 of the companion publication *General practice activity in Australia 2010–11*.[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 9.1.3.[15] When originally published, data from 2001–02 to 2004–05 were analysed using SAS version 6.12[16] (with additional programming to adjust for the cluster sample study design). In this report (and others published since 2007) these data have been re-analysed using SAS version 9.1.3 (which adjusts for the cluster design without the need for additional programming). This has resulted in slightly tighter confidence intervals and minor variations in point estimates (of up to 0.1) when compared with data published in earlier annual reports for the 1998–99 to 2004–05 data years.

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 9.1.3 are used to calculate the intracluster correlation and adjust the confidence intervals accordingly.[15]

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.[14]

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. In general, the results present the number of observations (*n*), the rate per 100 encounters and the 95% confidence interval.

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, 95% confidence interval.

- 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 differences unless otherwise stated.

2.8 Changes over time

For the 10 years 2001–02 to 2010–11, patient reasons for encounter and problems managed are reported as rates per 100 encounters. In the past, 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).

Readers should be aware that there may be discrepancies between data in this report and data published in earlier BEACH reports. SAS version 9.1.3[15] was used for all analyses in this report, but some changes in method or approach have occurred occasionally over the 10 years of results.

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 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 2010–11 results are compared with those from 2001–02 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 2010–11.

Each table includes the most frequent events occurring in 2010–11, 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 arising in 2010–11. Results are in general presented in decreasing order of 2010–11 frequency.

The direction and type of change between 2001–02 and 2010–11 is indicated for each result in the far right column of the tables:

- ↑/↓ indicates a statistically significant linear (on line of best fit) change
- ↑/↓ indicates a marginally significant linear (on line of best fit) change
- § indicates a non-linear significant or marginal change
- — indicates there was no change.

2.9 Extrapolated national estimates

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

Where the results demonstrate a significant change over time, the estimated national change across total GP Medicare services from 2001–02 to 2010–11 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 13 inclusive.

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

- divide the 'rate per 100 encounters' of the selected event for 2001–02 by 100, and then multiply by the total number of general practitioner service items claimed through Medicare in 2001–02, 99.9 million (rounded to the nearest 100,000, see Table 2.1) to give the estimated national number of events in 2001–02.
- repeat the process using data from 2010–11.

The difference between the two estimates gives the estimated national change in the frequency of that event between 2001–02 and 2010–11. Estimates 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 2010–11.

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 medication type was prescribed in Australia in 2010–11, when compared with 2001–02.

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 then multiply by the total number of general practitioner service items claimed through Medicare in that year (rounded to the nearest 100,000, see Table 2.1) to give the estimated national number of events in that year.

Table 2.1 provides the total number of general practice professional service items claimed from Medicare in each financial year from 2001–02 to 2010–11. In this report, extrapolations are calculated using the number of GP Medicare items claimed rounded to the nearest 100,000.

Table 2.1: Number of general practice professional services claimed from Medicare Australia each financial year, 2001–02 to 2010–11 ('000)

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11[(a)]
Number of GP MBS items	99,921	96,919	96,330	98,180	101,095	103,433	109,518	113,045	116,646	118,126
Rounded number of GP MBS items	99,900	96,900	96,300	98,200	101,100	103,400	109,500	113,000	116,600	118,100

(a) Medicare data for the 2010–11 year included data from the April 2010 to March 2011 quarters because the 2010–11 financial year data were not available at the time of preparation of this report.

Source: Medicare statistics.[8]

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

There was a significant increase in the number of problems managed at encounter, from 143.4 per 100 encounters in 2001–02 to 152.5 in 2010–11 (see Table 7.2). The calculation used to extrapolate the effect of this change across Australia is:

(143.4/100) x 99.9 million = 143.3 million problems managed nationally in 2001–02, and
(152.5/100) x 118.1 million = 180.1 million problems managed nationally in 2010–11.

This suggests there were 36.9 million (180.1 million minus 143.2 million) more problems managed at GP-patient encounters in Australia in 2010–11 than in 2001–02.

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.

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 encounters per year – an additional 5% or so of BEACH encounters annually include encounters paid by sources other than Medicare, such as DVA, state governments, workers compensation insurance, and employers.
- an underestimate of activities of relatively low frequency with a skewed distribution across individual GPs. For example, a study of early uptake of some enhanced primary care items by GPs demonstrated that almost half the enhanced primary care items claimed through the MBS came from about 6% of active GPs.[17] Where activity is so skewed across the practising population, a national random sample will provide an underestimate of activity because the sample reflects the population rather than the minority.

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 13).

Medicare/DVA-claimable encounters

For the first 7 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.[18]

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.

Chapter 13 provides a breakdown of the practice nurse Medicare items claimed, the morbidity managed with the assistance of the practice nurse, and the other treatments given by the practice nurse as recorded by the GP participants from 2005–06 to 2010–11.

When viewing these results, it must be remembered that these practice nurse data do not include activities done by the practice nurse during the GP's BEACH recording period that were performed outside the recorded encounter. These could include Medicare-claimable activities (for example, immunisations/vaccinations) provided under instruction from the GP but not provided at the time of the encounter recorded in BEACH, or provision of other activities not currently claimable from Medicare (for example, dietary advice on a one-to-one basis, or in a group situation).

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 practice nurse.

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):[19]

- 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,[20] and is the declared national standard in Australia for reporting of health data from general practice and patient self-reported health information.[21]

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 processes of care, including referrals, other (non-pharmacological) treatments and orders for pathology and imaging, are classified in these process components of ICPC-2. Component 2 (diagnostic, screening and prevention) is also often applied in describing the problem managed (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, reliability of data

entry using ICPC-2 alone, requires a thorough knowledge of the classification for correct classification of a concept to be ensured.

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

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

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

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.[22] 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),[23] 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 1998–2010 (about 1.2 million encounters), which together make up about 2.7 million encounter records, involving more than 4 million free text descriptions of problems managed and a further 4 million for patient reasons for encounter. These terms are classified according to ICPC-2 to ensure international standards for reporting. Readers interested in seeing how coding works can download the ICPC-2 PLUS Demonstrator at <www.fmrc.org.au/icpc2plus/demonstrator.htm>.

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: <purl.library.usyd.edu.au/sup/9781920899875>.

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 (but be only part of) multiple ICPC-2 codes. For example, osteoarthritis is classified in ICPC-2 in multiple broader codes according to site – for example, L92 – shoulder syndrome (includes bursitis, frozen shoulder, osteoarthritis of shoulder, rotator cuff syndrome). When reporting osteoarthritis in this publication, all the more specific osteoarthritis ICPC-2 PLUS terms are grouped within all the appropriate ICPC-2 codes. 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 A4.1 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 6 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[24] 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 are coded very specifically in ICPC-2 PLUS, 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. The team therefore regrouped all pathology and imaging ICPC-2 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, give an opportunity to derive the prescribed daily dose for any prescribed medication or group of medications.

CAPS is mapped to the Anatomical Therapeutic Chemical (ATC)[25] classification, 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 lower 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.

In measuring changes in medications over time, the team chose to report at Level 2 of the ATC (which is more stable over time than Level 3), and in CAPS for the generic-level drugs.

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. Further logical data checks are conducted 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.[26] 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 were 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.[27] Other studies have reported the degree to which GP-reported patient RFEs and problems managed accurately reflect those recalled by the patient[28] and the reliability of secondary coding of RFEs[29] and problems managed.[23] The validity of ICPC as a tool with which to classify the data has also been investigated in earlier work.[30]

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[31] and Barsky[32] 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.[33] 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.[34,35] 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. In a direct observational study of consultations via a one-way mirror, Bentsen demonstrated differences in the way practitioners labelled problems, and suggested that clinical experience may be an important influence on the identification of problems within the consultation.[31] Two other factors that might affect GPs' descriptions of patient RFEs have been identified: even when individuals 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).[36]

The extent to which therapeutic decisions may influence the diagnostic label selected has also been discussed. Howie[37] and Anderson[34] 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.

Anderson has also pointed out that the therapeutic decision may be influenced by fashion, and, in turn, this affects the selection of the problem label. He gives the example of a rise in the occurrence of neurotic depression in parallel with a decrease in the use of menopause as a diagnosis in the United Kingdom, and suggests this may be the result of a change in the preferred treatment from oestrogen therapy to antidepressants.[34] This should be remembered when considering the changes in general practice described in this report.

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.[38] Crombie stated that in the second and third national morbidity surveys in the United Kingdom there was 'enormous variability in the rates at which doctors perceive and record illnesses'. He concluded that the probable cause arose from the different ways in which GPs gave priority in their perceptions and recording of certain morbidities, while discounting or ignoring others. He was unable to account statistically for this variation by the effect of geography, age, sex or class differences in the practice populations.[39] Differences in the way male and female GPs label problems also appear to be independent of such influences.[40]

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, the GP often having to draw up general diagnostic hypotheses related to probability, severity and consequences.[41] 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'.[34] In any case, doctors base their actions on problems as they perceive them.

While these findings on limitations in the reliability and validity of practitioner-recorded morbidity should be kept in mind, they apply equally to data drawn from medical records, whether paper or electronic, as they do to active data collection methods.[42,43] 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.[44]

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.

Table 3.1 shows the number of encounter records contained in each year of the BEACH program since April 2001, and the size of the database for those 10 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, 2001–02 to 2010–11 (final weighted data)

Variable	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	Total 10 years
General practitioners	983	1,008	1,000	953	1,017	930	953	1,011	988	958	9,801
Encounters	96,973	100,987	98,877	94,386	101,993	91,805	95,898	96,688	101,349	95,839	974,795
Reasons for encounter	144,654	152,341	148,521	141,215	153,309	138,434	146,696	151,282	157,071	149,005	1,482,528
Problems managed	139,092	146,336	144,674	137,330	149,088	136,333	145,078	149,462	155,373	146,141	1,448,907
Medications	101,350	104,813	103,210	95,816	106,493	93,193	98,439	102,737	108,001	100,817	1,014,869
Other treatments	51,130	53,676	50,775	51,632	44,504	41,011	49,130	49,048	53,243	50,235	494,384
Referrals	10,167	11,261	11,507	10,890	12,242	11,230	12,017	13,251	13,481	13,526	119,572
Imaging	7,645	8,678	8,121	7,840	9,003	8,229	9,143	9,469	9,877	9,370	87,374
Pathology	30,086	33,234	34,831	34,652	39,358	38,963	41,375	44,066	45,594	43,313	385,472

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 10 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 become relevant. Therefore, for some characteristics we have data over the full 10-year period, and for some, shorter periods.

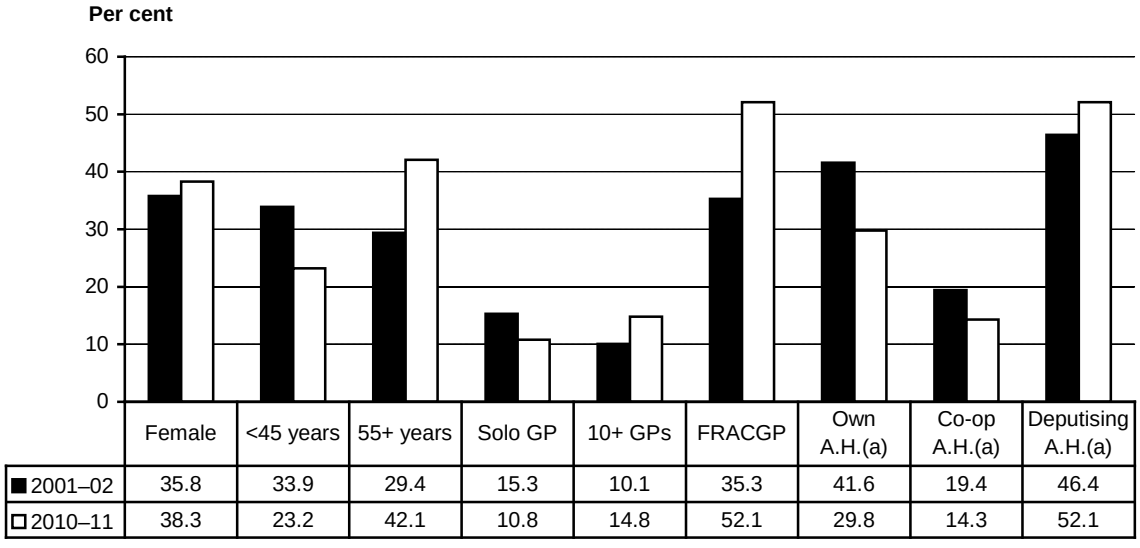
Over the period 2001–02 to 2010–11 some trends have emerged in the characteristics of GP BEACH participants (Table 4.1). The most noticeable changes over the 10 years are listed below and some are presented in Figure 4.1.

- 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 35.8% in 2001–02 to 38.3% in 2010–11. This change reflects change in the sample frame of all recognised GPs claiming more than 375 general practice Medicare items of service in the previous quarter (32.5% in 2001–02[45] and 37.8% in 2010–11), as provided each year by DoHA, from Medicare claims data. As reported last year (2009–10), the 'spike' occurring in that year 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).[14]
- From 2001–02 to 2010–11 there was a significant change in the age distribution of participants, with a decrease in the proportion aged 35–44 years (from 26.8% to 16.7%), and an increase in the proportion aged 55 years and over (from 29.4% to 42.1%). Again, these changes reflect the differences in the sample frame from Medicare claims data, where a decrease was observed from 27.1%[45] to 19.9% for GPs aged 35–44 years, and an increase from 28.8%[45] to 41.3% for GPs aged 55 years or older.
- The increasing age of GPs was reflected in the increasing proportion of GPs who had worked in general practice for 20 years or longer, from 50.5% in 2001–02 to 64.3% in 2010–11.
- There was a significant increase in the proportion of GPs working 21–40 hours per week on direct patient care (from 41.6% in 2001–02 to 54.0% in 2010–11), and a significant decrease in the proportion working 41–60 hours (42.8% in 2001–02 to 34.2% in 2010–11) or more than 60 hours (from 4.1% to 2.4%) in direct patient care.
- There was a significant decrease over the decade in the proportion of Australian GPs who had graduated from their primary medical degree in Australia, from 76.1% in 2001–02 to 69.2% in 2010–11. There were also significant changes in the geographic distribution of country of graduation for those trained overseas.
- There was a significant increase in the proportion of participants who provide < 25% of their consultations in a language other than English (from 17.8% in 2003–04 to 21.9% in 2010–11), and a reduction in the proportion who were doing so at > 50% of their consultations, from 2.4% to 1.9% over the same period.
- The proportion of GP participants holding Fellowship of the RACGP significantly increased, from 35.3% in 2001–02 to 52.1% in 2010–11.

4.2 Characteristics of participants' major practice

Over the period 2001–02 to 2010–11 some trends have emerged in the characteristics of the GP participants' major practices (Table 4.2). The most noticeable changes over the 10 years are listed below.

- The proportion of participants in solo practice significantly decreased between 2001–02 and 2010–11, and the proportion in smaller practices of 2–4 GPs also decreased. There was an associated significant increase in the proportion of GPs working in practices with 5–9 individual GPs, from 34.8% in 2001–02 to 38.6% in 2010–11. The proportion of practices with 10 or more individual GPs more than doubled over the decade, from 10.0% in 2001–02 to 22.2% in 2010–11. 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 41.6% in 2001–02 to 29.8% in 2010–11. The proportion at practices providing after-hours services in cooperation with other practices also decreased, from 19.4% in 2001–02 to 14.3% in 2010–11. However, the proportion of GPs working in practices who use a deputising service for provision of after-hours care increased significantly over the 10-year period, from 46.4% in 2001–02 to 52.1% in 2010–11. Multiple responses were allowed to this question.
- The proportion of GPs with a computer available at their major practice increased significantly, from 89.8% in 2001–02 to 98.0% in 2010–11. Actual use of the computer has only been collected since 2004–05. From then on, there was a steady increase in the proportion of GPs indicating that they use a computer to some extent in their clinical activity.



	Female	<45 years	55+ years	Solo GP	10+ GPs	FRACGP	Own A.H.(a)	Co-op A.H.(a)	Deputising A.H.(a)
■ 2001–02	35.8	33.9	29.4	15.3	10.1	35.3	41.6	19.4	46.4
□ 2010–11	38.3	23.2	42.1	10.8	14.8	52.1	29.8	14.3	52.1

(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, 2001–02 and 2010–11

Table 4.1: Characteristics of participating GPs, 2001–02 to 2010–11

	Per cent of participating GPs[a]									
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
GP characteristic	(*n* = 983)	(*n* = 1,008)	(*n* = 1,000)	(*n* = 953)	(*n* = 1,017)	(*n* = 930)	(*n* = 953)	(*n* = 1,011)	(*n* = 988)	(*n* = 958)
Sex ($\chi^2_9 = 46.0$, $p < 0.0001$) (missing *n*)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Male	64.2	64.8	67.3	67.9	62.8	65.9	63.2	67.5	56.4	61.7
Female	35.8	35.2	32.7	32.1	37.2	34.1	36.8	32.5	43.6	38.3
Age ($\chi^2_{27} = 185.8$, $p < 0.0001$) (missing *n*)	(1)	(0)	(1)	(1)	(18)	(11)	(8)	(4)	(6)	(6)
< 35 years	7.1	7.3	5.8	9.0	4.7	6.8	7.8	2.6	7.1	6.5
35–44 years	26.8	26.6	24.9	25.5	22.2	22.6	22.2	14.0	21.4	16.7
45–54 years	36.7	35.2	36.5	31.8	34.3	35.6	36.4	37.5	36.7	34.7
55+ years	29.4	30.9	32.7	33.6	38.7	35.0	33.5	45.9	34.8	42.1
Years in general practice ($\chi^2_{36} = 252.2$, $p < 0.001$) (missing *n*)	(4)	(6)	(9)	(5)	(13)	(13)	(7)	(6)	(7)	(8)
< 2 years	0.3	0.6	1.3	0.4	0.6	0.6	0.6	0.1	1.1	1.0
2–5 years	7.3	7.5	5.4	10.3	4.9	7.9	9.9	3.4	8.9	8.5
6–10 years	13.5	13.5	10.7	12.6	12.1	11.1	12.9	5.7	12.3	9.9
11–19 years	28.5	28.0	28.1	25.4	24.0	23.5	20.6	19.3	23.3	16.3
20+ years	50.5	50.4	54.6	51.3	58.5	57.0	55.9	71.5	54.3	64.3
Sessions per week ($\chi^2_{14} = 49.6$, $p < 0.0001$) (missing *n*)	(15)	(8)	(7)	(8)	(6)	(7)	(9)	(6)	. .	. .
< 6 per week	16.2	18.7	17.2	14.4	17.3	17.0	15.4	12.4	NAv	NAv
6–10 per week	68.8	67.9	69.2	74.2	70.7	73.4	73.7	78.0	NAv	NAv
11+ per week	15.0	13.4	13.6	11.4	12.0	9.6	10.9	9.6	NAv	NAv

(continued)

Table 4.1 (continued): Characteristics of participating GPs, 2001–02 to 2010–11

	Per cent of participating GPs[a]									
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
GP characteristic	(*n* = 983)	(*n* = 1,008)	(*n* = 1,000)	(*n* = 953)	(*n* = 1,017)	(*n* = 930)	(*n* = 953)	(*n* = 1,011)	(*n* = 988)	(*n* = 958)
Direct patient care hours per week (χ^2_{32} = 113.4, p < 0.0001) (missing *n*)	. .	(12)	(28)	(29)	(34)	(28)	(25)	(16)	(15)	(16)
≤ 10	NAv	0.8	0.4	0.3	0.8	1.0	0.3	0.3	0.3	0.6
11–20	NAv	10.7	10.0	8.7	9.8	11.3	8.7	7.3	10.3	8.7
21–40	NAv	41.6	42.4	49.2	47.1	47.9	52.4	49.5	56.2	54.0
41–60	NAv	42.8	42.3	37.9	39.0	36.9	36.6	40.2	30.8	34.2
61+	NAv	4.1	4.9	3.9	3.4	2.9	1.9	2.7	2.4	2.4
Place of graduation[b] (χ^2_{54} = 90.6, p = 0.001) (missing n)	(0)	(0)	(1)	(1)	(5)	(1)	(3)	(2)	(1)	(3)
Australia	76.1	72.0	73.6	69.9	72.0	73.6	73.5	74.3	70.6	69.2
Overseas	23.9	28.0	26.4	30.2	28.0	26.4	26.5	25.7	29.4	30.8
Asia	8.7	10.0	9.5	10.9	10.9	10.1	9.8	8.3	9.8	12.2
United Kingdom/Ireland	7.6	9.1	7.2	7.6	8.1	7.3	6.8	10.3	8.8	7.4
Africa and Middle East	3.7	4.4	5.4	5.4	4.5	5.1	4.3	3.8	5.2	5.8
Europe	1.8	1.7	2.3	3.8	2.1	1.7	2.6	1.9	2.0	2.9
New Zealand	0.5	2.2	1.0	1.3	1.9	1.4	1.4	1.1	1.9	1.4
Other	1.6	0.6	1.0	1.3	0.6	0.8	1.6	0.3	1.6	1.2

(continued)

Table 4.1 (continued): Characteristics of participating GPs, 2001–02 to 2010–11

	Per cent of participating GPs[a]									
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
GP characteristic	(*n* = 983)	(*n* = 1,008)	(*n* = 1,000)	(*n* = 953)	(*n* = 1,017)	(*n* = 930)	(*n* = 953)	(*n* = 1,011)	(*n* = 988)	(*n* = 958)
Consultations in languages other than English[c] (χ^2_{21} = 37.6, p = 0.01)	. .	. .	(6)	(1)	(9)	(0)	(4)	(3)	(3)	(5)
< 25%	NAv	NAv	17.8	21.7	20.9	18.1	20.4	17.6	18.5	21.9
25–50%	NAv	NAv	2.9	2.4	3.6	1.6	3.1	3.5	3.6	2.9
> 50%	NAv	NAv	2.4	3.4	3.5	2.9	3.6	3.0	1.8	1.9
Currently in a GP training program (χ^2_9 = 17.2, p = 0.046) (missing *n*)	(36) 2.6	(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
Fellow of RACGP (χ^2_9 = 190.1, p < 0.0001) (missing *n*)	(5) 35.3	(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

(a) Missing data removed.

(b) For this variable p = 0.02 – significant change when comparing Australia with all overseas countries combined; p < 0.0001 – 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, 2001–02 to 2010–11

	Per cent of participating GPs[a]									
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
GP characteristic	**(*n* = 983)**	**(*n* = 1,008)**	**(*n* = 1,000)**	**(*n* = 953)**	**(*n* = 1,017)**	**(*n* = 930)**	**(*n* = 953)**	**(*n* = 1,011)**	**(*n* = 988)**	**(*n* = 958)**
Practice location by RRMA (χ^2_{54} = 93.7, p = 0.001) (missing *n*)	(0)	(0)	(2)	(1)	(0)	(0)	(1)	(0)	(0)	(0)
Capital	69.3	64.7	62.4	64.9	68.8	63.9	67.8	66.8	62.4	64.1
Other metropolitan	8.1	8.5	6.4	6.7	6.8	7.3	7.0	10.0	8.5	6.1
Large rural	5.9	5.1	7.0	5.4	5.9	7.9	6.9	5.5	7.3	6.2
Small rural	4.9	7.7	7.0	6.9	6.0	5.4	4.7	6.1	7.1	7.2
Other rural	10.5	12.0	14.2	13.0	11.1	13.6	11.3	10.3	13.3	14.8
Remote central	0.5	0.6	0.9	1.3	0.5	1.0	0.7	0.4	0.4	0.8
Other remote, offshore	0.8	1.4	2.0	1.8	0.9	1.1	1.5	0.9	1.1	0.8
Practice location by ASGC (χ^2_{36} = 48.4, p = 0.08) (missing *n*)	(0)	(0)	(2)	(2)	(0)	(0)	(1)	(0)	(0)	(0)
Major cities	71.4	69.4	65.4	67.6	72.1	66.3	72.2	73.4	69.2	69.2
Inner regional	17.3	19.1	21.8	20.1	18.8	22.7	17.4	18.0	20.2	20.6
Outer regional	10.1	9.3	10.1	10.1	7.8	9.4	8.6	7.2	9.1	8.8
Remote	0.9	1.6	1.6	1.5	0.8	1.3	1.3	0.9	1.1	1.2
Very remote	0.3	0.7	1.0	0.7	0.6	0.3	0.5	0.5	0.3	0.3
Size of practice – Number of GPs (χ^2_{21} = 147.3, p < 0.0001) (missing *n*)	(4)	(8)	(10)	(6)	(9)	(6)	. .	. .	(11)	(12)
Solo	15.3	13.7	10.6	12.3	13.1	8.2	NAv	NAv	9.2	10.8
2–4 GPs	39.8	38.4	37.8	36.4	35.2	35.7	NAv	NAv	30.0	28.4
5–9 GPs	34.8	36.1	38.7	37.7	38.4	40.3	NAv	NAv	41.4	38.6
10+ GPs	10.0	11.8	12.9	13.6	13.3	15.8	NAv	NAv	19.5	22.2

(continued)

Table 4.2 (continued): Characteristics of practices in which participating GPs worked, 2001–02 to 2010–11

	Per cent of participating GPs[a]									
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
GP characteristic	(*n* = 983)	(*n* = 1,008)	(*n* = 1,000)	(*n* = 953)	(*n* = 1,017)	(*n* = 930)	(*n* = 953)	(*n* = 1,011)	(*n* = 988)	(*n* = 958)
Size of practice – Full-time equivalents (χ^2_9 = 18.5, *p* = 0.03) (missing *n*)	. .	. .	. .	. .	. .	. .	(23)	(8)	(51)	(40)
< 2	NAv	NAv	NAv	NAv	NAv	NAv	17.6	19.6	15.2	17.2
2– < 5 GPs	NAv	NAv	NAv	NAv	NAv	NAv	41.2	42.9	48.9	43.6
5– < 10 GPs	NAv	NAv	NAv	NAv	NAv	NAv	31.9	29.4	28.8	29.6
10+ GPs	NAv	NAv	NAv	NAv	NAv	NAv	9.3	8.1	7.2	9.6
After-hours arrangements[b] (missing *n*)	(0)	(5)	(5)	(8)	(14)	(3)	(6)	(6)	(2)	(4)
Practice does its own (χ^2_9 = 122.2, *p* < 0.0001)	41.6	42.9	43.6	35.9	34.6	34.6	33.2	28.9	29.1	29.8
Cooperative with other practices (χ^2_9 = 24.7, *p* = 0.003)	19.4	16.7	20.0	16.2	15.7	15.5	14.6	15.1	17.8	14.3
Deputising service (χ^2_9 = 60.9, *p* < 0.0001)	46.4	47.6	43.8	45.8	50.8	48.1	49.5	57.9	53.1	52.1
Computer available at practice[c]	(0)	(5)	(6)	(14)	(19)	(0)	(7)	NAv	NAv	(1)
(χ^2_7 = 96.8, *p* < 0.0001) (missing *n*)	89.8	91.7	95.1	93.7	94.5	96.6	96.7			98.0
Computer use by individual GPs[d]	NAv	NAv	NAv	(54)	(60)	(71)	(63)	(3)	(1)	(1)
(χ^2_6 = 78.3, *p* < 0.0001) (missing *n*)				89.0	91.5	93.7	94.2	94.6	97.7	95.6

(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 10 years of the BEACH study from 2001–02 to 2010–11. The direction and type of change from 2001–02 to 2010–11 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

Significant linear changes in rates per 100 encounters can be extrapolated to estimate the national increase or decrease in the measured event between 2001–02 and 2010–11. Some examples of extrapolated change are provided. The method used to extrapolate to national change estimates is described in Section 2.9.

5.1 Content of the encounters

Table 5.1 provides an overview of the changes over time from data in BEACH between 2001–02 and 2010–11, and highlights the many changes that occurred during that decade.

The number of patient reasons for encounter recorded by the GP increased significantly over the decade, from 149.2 RFEs per 100 encounters in 2001–02 to 155.5 per 100 encounters in 2010–11. Changes in the individual types of RFEs are investigated in Chapter 6.

An increase in the rate of problems managed occurred over the decade, from 143.4 per 100 encounters in 2001–02 to 152.5 per 100 encounters in 2010–11. This represents an additional 36.8 million problems managed in general practice in 2010–11 than a decade earlier. There was also a significant increase in the rate of chronic problems managed, from 49.3 per 100 encounters in 2001–02 to 53.1 per 100 in 2010–11. This represents an estimated additional 13.5 million chronic problems managed in general practice nationally in 2010–11 than in 2001–02. 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. However, there was a change in the pattern used to supply medications, with an increase in medications supplied by the GP, from 7.6 per 100 encounters to 10.3 per 100. This increase equated to an additional 4.6 million medications supplied by the GP in 2010–11 than in 2001–02. 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 2001–02 and 2010–11, from 13.8 per 100 encounters to 16.9 per 100 encounters. This linear increase represents an additional 6.2 million procedures performed in 2010–11. More detail about this increase is found in Chapter 10.

The rate at which clinical treatments (such as advice and counselling) were recorded varied over the decade, and no overall linear change was apparent between 2001–02 and 2010–11. Between 2001–02 and 2004–05 there was no change in the rate of clinical treatments, 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 2010–11 was 35.5 per 100 encounters. These changes are described in further detail in Chapter 10.

Referrals increased over the decade 2001–02 to 2010–11 from 10.5 per 100 encounters to 14.1 per 100. This represented 6.2 million more referrals nationally in 2010–11 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 between 2001–02 and 2010–11 (Table 5.1). 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 2001–02 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 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 incentive payment item numbers, which override procedural item numbers, which override other Medicare item numbers. Table 5.2 includes only items claimable by GPs and shows that:

- short surgery consultations increased from 1.1% of Medicare/DVA-claimable encounters in 2001–02 to 2.3% in 2010–11. Previous research suggests that part of this increase is related to increasing practice nurse involvement associated with encounters.[46]
- long surgery consultations did not change overall. However, after a significant increase in the first half of the decade peaking at 10.5% in 2004–05, long consultations remained steady until 2007–08 then dropped, and in 2010–11 represented 7.8% of Medicare/DVA-claimable encounters.
- encounters claimable under chronic disease management items, GP mental health care items and health assessments all significantly increased.

The decrease in long surgery consultations and rise in chronic disease management items both occurred in 2007–08, and may be attributed to an increased use of chronic disease management items (including GP management plans and team care arrangements) to manage patients with chronic conditions requiring longer consultations, rather than an item for long surgery consultations.

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.[47] 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 no change in home and institution visits (together) between 2001–02 and 2010–11. Unfortunately, this change to the MBS no longer allows the measurement of home visits made by GPs through the MBS. Last year we showed that home visits had halved over the previous decade, from 1.5 per 100 encounters in 2000–01 to 0.7 per 100 in 2009–10.[48] We are investigating alternative methods to capture this important information about GP work practices on future BEACH recording forms.

5.3 Consultation length

In the subsample study for length of consultation that included start and finish times, there was no significant change in the mean length of consultation between 2001–02 and 2010–11 for A1 Medicare/DVA-claimable encounters, nor for all Medicare/DVA-claimable encounters (Table 5.3).

Table 5.1: Summary of morbidity and management, 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↕↓[a]
Variable	(*n* = 96,973)	(*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)	
Reasons for encounter	149.2 (147.4–150.9)	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)	↑
Problems managed	143.4 (141.7–145.2)	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)	↑
New problems	55.1 (53.8–56.5)	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)	—
Chronic problems	49.3 (47.7–50.9)	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)	↑
Work-related	3.0 (2.7–3.2)	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)	↓
Medications	104.5 (102.2–106.9)	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)	—
Prescribed	88.0 (85.6–90.4)	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)	—
GP-supplied	7.6 (6.6–8.7)	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)	↑
Advised OTC	8.9 (8.2–9.6)	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)	—
Other treatments	51.9 (49.5–54.2)	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)	§
Clinical	38.1 (36.1–40.1)	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)	§
Procedural	13.8 (13.1–14.5)	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)	↑

(continued)

Table 5.1 (continued): Summary of morbidity and management, 2001–02 to 2010–11

Variable	Rate per 100 encounters (95% CI)										
	2001–02 (*n* = 96,973)	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)	↑↓ (a)
Referrals	10.5 (10.1–10.9)	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)	↑
Medical specialist	7.3 (7.0–7.6)	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)	↑
Allied health services	2.3 (2.1–2.4)	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)	↑
Hospital	0.4 (0.4–0.5)	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)	↓
Emergency department	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 (0.2–0.2)	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)	↑
Other referrals	0.4 (0.3–0.4)	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)	↑
Pathology	31.0 (29.7–32.4)	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)	↑
Imaging	7.9 (7.5–8.2)	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)	↑
Other investigations	0.9 (0.8–1.0)	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)	§

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

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

Table 5.2: Type of encounter, summary of annual results (GP only items), 2001–02 to 2010–11

MBS/DVA consultation category	Percentage distribution of Medicare/DVA-claimable encounters (95% CI)										
	2001–02 (*n* = 84,196)	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)	↑↓ (a)
Short surgery consultations	1.1 (0.9–1.3)	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)	↑
Standard surgery consultations	84.1 (83.1–85.0)	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)	—
Long surgery consultations	8.7 (8.0–9.3)	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)	§
Prolonged surgery consultations	0.7 (0.5–0.8)	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)	—
Home and institution visits	1.8 (1.5–2.1)	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)	§
Residential aged care facility	1.0 (0.7–1.3)	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)	—
Chronic disease management	0.1 (0.0–0.2)	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)	↑
GP mental health care	NAv	0.0Ŧ (0.0–0.0)	0.0Ŧ (0.0–0.0)	0.0Ŧ (0.0–0.0)	0.0Ŧ (0.0–0.0)	0.2 (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)	↑
Health assessment	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)	0.3 (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)	↑
Incentive payments	0.0Ŧ (0.0–0.0)	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)	↑
Other items	2.4 (1.9–3.0)	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)	§

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

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. CI – confidence interval; MBS – Medicare Benefits Schedule; NAv – not available.

Table 5.3: Consultation length (minutes), 2001–02 to 2010–11

	Consultation length (minutes)									
Variable	**2001–02**	**2002–03**	**2003–04**	**2004–05**	**2005–06**	**2006–07**	**2007–08**	**2008–09**	**2009–10**	**2010–11**
A1 Medicare/DVA items (A, B, C, D)[(a)]	**(*n* = 35,104)**	**(*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)**
Mean	14.9 (14.7–15.2)	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)
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	1–155	1–165	1–120	1–120	1–110	1–155	1–110	1–120	1–148	1–89
All Medicare/DVA-claimable encounters (GP items)	**(*n* = 36,142)**	**(*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)**
Mean	15.0 (14.8–15.3)	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)
Median	13.0	13.0	14.0	13.0	13.0	13.0	13.0	13.0	14.0	13.0
Mode	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Range	1–180	1–165	1–175	1–180	1–110	1–155	1–110	1–120	1–148	1–95

(a) 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 10 years of the BEACH study from 2001–02 to 2010–11. The direction and type of change from 2001–02 to 2010–11 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

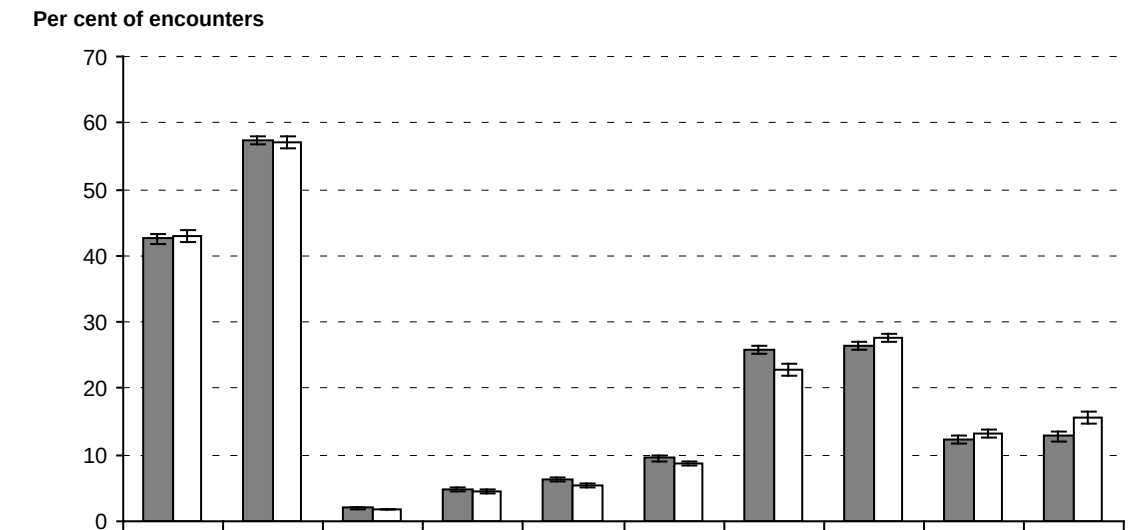
Significant linear changes in rates per 100 encounters can be extrapolated to estimate the national increase or decrease in the measured event between 2001–02 and 2010–11. Some examples of extrapolated change are provided. The method used to extrapolate to national change estimates is described in Section 2.9.

6.1 Age and sex distribution of patients at encounter

Figure 6.1 and Table 6.1 show the age and sex distribution of patients at BEACH encounters from 2001–02 to 2010–11. 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 48.6% to 43.4%, while over the same period the proportion with patients aged 45 years and over increased from 51.4% to 56.6%. Specifically, the biggest increase occurred in encounters with patients aged 75 years and over and the biggest 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 2.7 million over the decade, while the number of encounters with older patients increased by about 15.5 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*.[3]

6.2 Other patient characteristics

Over the decade there was a significant decrease in the proportion of encounters with patients who were new to the practice (from 9.2% in 2001–02 to 7.3% in 2010–11). The proportion of encounters with patients holding a Commonwealth concession card was relatively stable across the decade. Between 2003–04 and 2010–11, the proportion of encounters with patients holding a repatriation health card decreased by about a third. There was no significant change in the proportion of encounters with patients from a Non-English-speaking background or with Indigenous patients (Table 6.1).



	Male	Female	<1 year	1–4 years	5–14 years	15–24 years	25–44 years	45–64 years	65–74 years	75+ years
2001–02	42.6	57.4	2.0	4.9	6.4	9.5	25.8	26.3	12.3	12.8
2010–11	42.9	57.1	1.8	4.6	5.5	8.7	22.8	27.7	13.3	15.7

Patient characteristics

Note: Data with patient age or sex missing were removed.

Figure 6.1: Age and sex distribution of patients at encounters, 2001–02 and 2010–11 (95% confidence interval)

6.3 Patient reasons for encounter

RFEs are those concerns and expectations that patients bring to the GP. International interest in reasons for encounter has been developing over the past three decades. RFEs reflect the patient's demand for care, and can provide an indication of service use patterns that may benefit from intervention on a population level.[49]

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.

Number of reasons for encounter

Table 6.2 shows that between 2004–05 and 2010–11 there was a decrease in the proportion of encounters involving a single RFE, from 61.4% to 57.6% in 2010–11. To balance this there was an increase in the proportion of encounters with multiple RFEs, encounters with two RFEs

increasing from 27.6% in 2004–05 to 29.4% of all encounters in 2010–11, and encounters with three RFEs increasing from 11.0% to 13.0%. We estimate that the extrapolated effect of this change means there were about 12 million more encounters nationally where two or three RFEs were reported in 2010–11 than in 2001–02.

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. However, the presentation rate of symptoms or complaints decreased significantly, from 71.5 per 100 encounters in 2001–02 to 66.8 per 100 encounters in 2010–11.
- Interestingly, the rate of RFEs relating to specific diagnoses (including infections, injuries, neoplasms, congenital anomalies, and other diagnoses) decreased significantly between 2001–02 and 2004–05, then increased to a rate in 2010–11 similar to the rate in 2001–02.

Processes of care

- The rate of patient attendance to request test results increased by about 70%, equating to an estimated 4.8 million more encounters nationally with a RFE of this type in 2010–11 than in 2001–02 when extrapolated.
- The rate of requests for an administrative procedure (such as a sickness certificate) doubled, equating to an estimated increase of approximately 1.8 million requests for an administrative procedure nationally between 2001–02 and 2010–11 when extrapolated.
- Patient requests for medications, treatments and therapeutics (such as repeat prescriptions) increased by about 20%, equating to an estimated 5.2 million more such requests in 2010–11 than in 2001–02.
- Patient requests for diagnostic and preventative treatments (such as immunisation) also increased from 22.6 per 100 encounters in 2001–02 to 25.1 per 100 encounters in 2010–11.

Reasons for encounter by ICPC-2 chapter

Table 6.4 shows that between 2001–02 and 2010–11:

- there was a significant increase in the overall rate of RFEs, from 149.2 per 100 encounters in 2001–02 to 155.5 per 100 encounters in 2010–11. This increase when extrapolated equates to about 35 million extra RFEs nationally in 2010–11 than in 2001–02.
- the rate of general and unspecified RFEs increased by a third. When extrapolated, this equates to an approximate national increase of 17.7 million general and unspecified RFEs between 2001–02 and 2010–11.
- the rate of RFEs relating to the blood system increased by about 45%, this is likely linked to increased INR testing (as discussed in Chapter 12).
- RFEs related to psychological problems increased by about 15% and RFEs related to the male genital system increased by 30%.

- significant decreases in RFEs related to musculoskeletal and neurological systems.
- there were marginal decreases in rates of RFEs related to ear and respiratory problems.

Most frequent patient reasons for encounter

Table 6.5 shows that between 2001–02 and 2010–11:

- the rate of requests for a check up (all types) significantly increased from 13.3 per 100 encounters in 2001–02 to 15.2 in 2008–09. It then decreased to 13.7 per 100 encounters in 2010–11, which is not significantly different from the 2001–02 rate.
- the rate at which patients cited a need for prescription(s) as a RFE increased by about 24%, equating to 4.5 million more encounters with this RFE in 2010–11 than in 2001–02.
- the rate of RFEs for test results increased by about 70% and the rate of RFEs relating to the need for a blood test increased by over a third.
- patients presenting for their diabetes increased by 40%, equating when extrapolated to an estimated increase of 650,000 encounters with this RFE.
- RFEs relating to headaches and neck complaints decreased by a third.
- the rate at which patients presented with asthma as a RFE decreased by one quarter.
- RFEs of back complaints and throat complaints decreased by about 20%.
- the rate of request for referral as an RFE doubled.
- the rate of depression as a patient RFE increased by 15%, this increase coinciding with the introduction of the Better Access initiative.[50]

Table 6.1: Characteristics of patients at encounters, 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Patient characteristics	(*n* = 96,973)	(*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)	
Sex (missing *n*)[b]	(809)	(911)	(932)	(809)	(788)	(765)	(876)	(867)	(931)	(888)	. .
Male	42.6 (41.9–43.3)	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)	—
Female	57.4 (56.7–58.1)	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)	—
Age group (missing *n*)[b]	(760)	(895)	(905)	(925)	(769)	(779)	(784)	(704)	(781)	(771)	
< 1 year	2.0 (1.9–2.1)	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)	—
1–4 years	4.9 (4.6–5.2)	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)	—
5–14 years	6.4 (6.1–6.7)	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)	↓
15–24 years	9.5 (9.1–10.0)	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)	↓
25–44 years	25.8 (25.1–26.5)	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)	↓
45–64 years	26.3 (25.7–26.8)	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)	↑
65–74 years	12.3 (11.8–12.8)	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)	—
75+ years	12.8 (12.0–13.5)	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)	↑

(continued)

Table 6.1 (continued): Characteristics of patients at encounters, 2001–02 to 2010–11

Patient characteristics	Rate per 100 encounters (95% CI) 2001–02 (*n* = 96,973)	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)	↑↓[a]
Other characteristics[b]											
New patient to practice	9.2 (8.5–9.9)	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)	↓
Commonwealth concession card	46.1 (44.6–47.6)	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)	—
Repatriation health card	3.7 (3.4–4.0)	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)	↓
Non-English-speaking background	11.1 (9.1–13.2)	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)	—
Aboriginal person and/or Torres Strait Islander	1.1 (0.8–1.4)	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)	—

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

(b) Missing data removed.

Note: CI – confidence interval.

Table 6.2: Number of patient reasons for encounter, 2001–02 to 2010–11

Number of reasons for encounter	Rate per 100 encounters (95% CI) 2001–02 (*n* = 96,973)	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)	↑↓[a]
One RFE	61.8 (60.6–63.0)	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)	↓
Two RFEs	27.2 (26.5–28.0)	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)	↑
Three RFEs	11.0 (10.3–11.6)	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)	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, and — indicates there was no change.

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

Table 6.3: Patient reasons for encounter by ICPC-2 component, 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
ICPC component	**(*n* = 96,973)**	**(*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)**	
Symptoms and complaints	71.5 (69.7–73.4)	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)	↓
Diagnosis, diseases	29.9 (28.5–31.3)	28.6 (27.1–30.0)	27.7 (26.4–28.9)	27.2 (26.0–28.4)	29.5 (28.1–30.9)	30.6 (28.9–32.2)	30.4 (28.9–32.0)	30.3 (28.8–31.8)	30.7 (29.1–32.4)	30.9 (29.4–32.4)	§
Infections	8.0 (7.5–8.5)	7.6 (7.1–8.1)	7.5 (7.0–8.0)	7.1 (6.6–7.5)	8.4 (7.7–9.0)	8.1 (7.6–8.7)	8.0 (7.5–8.5)	8.0 (7.5–8.5)	8.0 (7.5–8.6)	7.8 (7.3–8.3)	—
Injuries	4.0 (3.8–4.2)	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)	↑
Neoplasms	0.9 (0.8–1.0)	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)	↑
Congenital anomalies	0.3 (0.3–0.4)	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)	↓
Other diagnoses, diseases	16.6 (15.7–17.6)	15.2 (14.2–16.3)	14.6 (13.7–15.5)	14.5 (13.6–15.4)	15.4 (14.4–16.4)	16.7 (15.5–17.9)	16.5 (15.3–17.6)	16.7 (15.6–17.8)	16.7 (15.6–17.9)	17.3 (16.3–18.4)	§
Diagnostic and preventive procedures	22.6 (21.7–23.6)	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)	↑
Medications, treatments and therapeutics	11.9 (11.3–12.4)	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)	↑
Results	4.7 (4.4–5.0)	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)	↑
Referrals and other RFEs	7.2 (6.7–7.7)	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)	—
Administrative	1.3 (1.2–1.5)	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)	↑
Total RFEs	**149.2 (147.4–150.9)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

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

Table 6.4: Patient reasons for encounter by ICPC-2 chapter, 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
ICPC-2 Chapter	(*n* = 96,973)	(*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)	
General and unspecified	30.8 (29.9–31.8)	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)	↑
Respiratory	23.4 (22.6–24.2)	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)	↓
Musculoskeletal	17.8 (17.3–18.4)	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)	↓
Skin	14.4 (13.9–14.9)	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)	—
Cardiovascular	11.4 (10.8–11.9)	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)	—
Digestive	10.6 (10.2–11.0)	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)	—
Psychological	7.8 (7.3–8.3)	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)	↑
Endocrine and metabolic	6.4 (6.1–6.7)	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)	—
Female genital system	5.5 (5.1–5.8)	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)	—
Neurological	5.4 (5.2–5.6)	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)	↓
Ear	4.1 (3.9–4.3)	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)	↓
Pregnancy and family planning	3.5 (3.2–3.7)	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)	—
Urology	2.5 (2.4–2.7)	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)	—

(continued)

Table 6.4 (continued): Patient reasons for encounter by ICPC-2 chapter, 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
ICPC-2 Chapter	**(*n* = 96,973)**	**(*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)**	
Eye	2.5 (2.4–2.7)	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)	—
Blood	1.1 (1.0–1.2)	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)	↑
Male genital system	1.0 (0.9–1.1)	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)	↑
Social problems	1.0 (0.9–1.1)	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)	—
Total RFEs	**149.2 (147.4–150.9)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginal change, and — indicates there was no change.

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

Table 6.5: Most frequent patient reasons for encounter, 2001–02 to 2010–11

Patient reason for encounter	Rate per 100 encounters (95% CI)										
	2001–02 (*n* = 96,973)	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)	↑↓[(a)]
Check-up – all*	13.3 (12.7–14.0)	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)	§
Prescription – all*	9.7 (9.2–10.3)	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)	↑
Test results*	4.7 (4.4–5.0)	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)	↑
Cough	6.5 (6.1–6.9)	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)	—
Immunisation/vaccination – all*	4.6 (4.2–5.0)	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)	—
Back complaint*	3.8 (3.6–4.1)	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)	↓
Throat complaint	3.8 (3.5–4.0)	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)	↓
Rash*	2.8 (2.6–3.0)	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)	—
Administrative procedure – all*	1.3 (1.2–1.5)	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)	↑
Blood test – all*	1.9 (1.7–2.1)	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)	↑
Depression*	1.9 (1.8–2.0)	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)	↑
Upper respiratory tract infection	2.3 (2.1–2.6)	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)	—
Fever	2.0 (1.8–2.2)	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)	—

(continued)

Table 6.5 (continued): Most frequent patient reasons for encounter, 2001–02 to 2010–11

Patient reason for encounter	Rate per 100 encounters[(] (95% CI)										↑↓[(a)]
	2001–02 (*n* = 96,973)	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)	
Hypertension*	2.1 (1.8–2.3)	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)	—
Observation/health education/advice – all*	1.1 (1.0–1.2)	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)	↑
Abdominal pain*	2.1 (2.0–2.2)	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)	↓
Skin symptom/complaint, other	1.3 (1.1–1.5)	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)	—
Ear pain/earache	1.7 (1.6–1.9)	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)	↓
Headache	2.0 (1.9–2.2)	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)	↓
Diabetes – all*	1.0 (0.9–1.1)	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)	↑
Sneezing/nasal congestion	1.5 (1.3–1.7)	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)	—
Weakness/tiredness	1.5 (1.4–1.6)	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)	—
Knee symptom/complaint	1.4 (1.3–1.5)	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)	—
Anxiety*	1.1 (1.0–1.2)	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)	—
Diarrhoea	1.4 (1.3–1.5)	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)	↓
Shoulder symptom/complaint	1.2 (1.1–1.3)	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)	—
Vertigo/dizziness	1.2 (1.1–1.3)	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)	—

(continued)

Table 6.5 (continued): Most frequent patient reasons for encounter, 2001–02 to 2010–11

Patient reason for encounter	Rate per 100 encounters (95% CI)										↑↓[(a)]
	2001–02 (*n* = 96,973)	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)	
Swelling (skin)*	1.1 (1.0–1.2)	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)	—
Other referrals NEC	0.5 (0.4–0.5)	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)	↑
Sleep disturbance	1.3 (1.1–1.4)	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)	—
Foot/toe complaint	1.2 (1.1–1.3)	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)	↓
Other reason for encounter NEC	1.0 (0.9–1.2)	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)	—
Chest pain	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)	1.2 (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)	↓
Leg/thigh complaint	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)	1.0 (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)	↓
Vomiting	1.1 (1.0–1.2)	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)	↓
Neck complaint	1.2 (1.1–1.3)	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)	↓
Asthma	1.1 (1.0–1.2)	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)	↓
Oral contraception*	0.9 (0.8–1.0)	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)	↓
Total RFEs	**149.2 (147.4–150.9)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, and — indicates there was no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <purl.library.usyd.edu.au/sup/9781920899875>).

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 or chronic disease, 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 10 years of the BEACH study from 2001–02 to 2010–11. The direction and type of change from 2001–02 to 2010–11 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant liner change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

Significant linear changes in rate per 100 encounters can be extrapolated to estimate the national increase or decrease in the measured event between 2001–02 and 2010–11. Some examples of extrapolated change are provided. The method used to extrapolate to national change estimates is described in Section 2.9.

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 the grouped concept at general practice encounters nationally. 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 each encounter over time. 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 encounters in Australia, this indicates there were 6.9 million more occasions where two problems were managed, 3.6 million more occasions where three problems were managed, and 1.5 million more occasions where four problems were managed by GPs in Australia in 2010–11 than in 2001–02.

There was a significant increase in the average number of problems managed at encounter, from 143.4 per 100 encounters in 2001–02 to 152.5 in 2010–11 (Table 7.2). This suggests there were an additional 36.8 million problems managed at GP encounters in Australia in 2010–11 than in 2001–02. 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 more thorough understanding of the types of problems managed during general practice encounters. Table 7.2 lists the distribution of problems managed by ICPC-2 component. In the BEACH program, participating GPs are instructed to record the problem being managed at the encounter at the highest diagnostic level possible using the currently available evidence.

There were significant increases in the management rate of problems described and classified as 'diagnostic and preventive procedures', 'results' and 'administrative procedures' between 2001–02 and 2010–11 (Table 7.2). Extrapolated to the national general practice encounters, these increases represent:

- 5.4 million additional contacts with problems classified as 'diagnostic and preventive procedures' in 2010–11 than in 2001–02
- 1.1 million more test result contacts in 2010–11 than in 2001–02
- 900,000 more contacts with problems classified as administrative were managed in 2010–11 than in 2001–02.

The management rate of problems described and classified as 'diagnoses and diseases' showed non-linear changes over the decade. The rate of these problems did not change significantly between 2001–02 and 2010–11. However, the rate did increase significantly from 2001–02 to 2007–08, then decreased to 2006–07 levels in 2010–11. There were also significant changes in the rates of the types of diagnoses and diseases managed: the management of problems classified as neoplasms and 'other' diagnoses increased, and problems classified as infections decreased from 2001–02 to 2010–11.

There was no change in the management rate of problems described and classified as 'symptoms and complaints' (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 2001–02 to 2010–11. Problems related to the respiratory system remained the most common type of problem managed since 2001–02, but there were statistically significant non-linear changes in their management rate: decreasing significantly from 2001–02 to 2007–08, then increasing in 2009–10 followed by a significant decrease 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), in particular respiratory immunisations.[1,14,51]

Management of problems related to the cardiovascular system also showed non-linear change over the decade. The management rate increased significantly from 2001–02 to 2008–09. It then decreased significantly from 2008–09 to 2009–10 and remained at the lower rate in 2010–11 (Table 7.3).

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

- 7.9 million more contacts with problems classified as 'general and unspecified' in 2010–11 than in 2001–02
- 4.7 million more contacts with endocrine and metabolic problems
- 4.1 million more contacts with psychological problems
- 2.6 million more contacts with digestive problems
- 980,000 more contacts with urological problems
- 950,000 more contacts with problems classified to the male genital system
- 590,000 more contacts with problems related to the blood system in 2010–11 than in 2001–02.

The most common individual problems managed are described in Table 7.4 for all years from 2001–02 to 2010–11. The most common problems managed in general practice over the decade were hypertension, check-up, immunisation/vaccination, and upper respiratory tract infection.

There were significant non-linear changes in some of the most common individual problems, described in Table 7.4.

- The management rate of immunisation/vaccinations did not change between 2001–02 (4.7 per 100 encounters) and 2010–11 (5.5). However there was a significant spike in the management rate in 2009–10 (7.3 per 100) that coincided with the concern about H1N1 influenza.
- The management rate of lipid disorders also showed non-linear change over the decade. There was a statistically significant linear increase from 2001–02 to 2008–09. This was followed by a significant decrease from 2008–09 to 2010–11, returning to a rate similar to the 2003–04 rate (Table 7.4).

There were several significant changes in the management rate of the problems described in Table 7.4. For example, there were statistically significant increases in the management rate of depression, diabetes, general check-ups, prescriptions, oesophageal disease, test results, pregnancy, atrial fibrillation, vitamin/nutritional deficiency, administrative procedures and abnormal test results. There were also decreases in the management rate of asthma, sprain/strain and menopausal problems managed over the decade. When extrapolated to the general practice encounters across Australia, these changes represent:

- 1.6 million more depression contacts in 2010–11 than in 2001–02
- 1.6 million more diabetes contacts
- 1.4 million more contacts with general check-up
- 1.1 million more contacts for prescriptions
- 920,000 more oesophageal disease contacts
- 1.1 million more contacts for test results and 600,000 more for abnormal test results
- 750,000 more pregnancy contacts
- 840,000 more atrial fibrillation contacts
- 1.1 million more contacts with vitamin/nutritional deficiency problems
- 900,000 more contacts for administrative procedures
- 200,000 fewer asthma contacts
- 140,000 fewer sprain/strain contacts
- 570,000 fewer contacts with menopausal problems in 2010–11 than in 2001–02.

The increase in the management rate of test results and abnormal test results may reflect the increase in the rate of pathology ordering over the decade (see Chapter 12).

The increases in the management rate of the chronic conditions: diabetes, depression, oesophageal disease and atrial fibrillation may be related to increases in the proportion of GP encounters accounted for by older patients from 2001–02 to 2010–11 (see Chapter 6). National initiatives for the prevention and management of chronic diseases (such as the National Chronic Disease Strategy,[52] and MBS items for chronic disease management[53]) are also likely to have contributed to the increases seen in the management rates of these conditions.

The 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; an assessment of 40–49 year olds at risk of Type 2 diabetes;[53] may have contributed to the increased rate of general check-ups.

The management rate of URTI decreased marginally from 6.2 per 100 encounters in 2001–02 to 5.4 in 2010–11. However, the large increase in the number of GP encounters provided in Australia (99.9 million in 2001–02 and 118.1 million in 2010–11) outweighed this decrease, resulting in about 180,000 more GP consultations for URTI nationally in 2010–11 than in 2001–02.

7.4 Most common new problems

Table 7.5 shows the most frequently managed new problems between 2001–02 and 2010–11. There was no change in the management rate of all new problems over this time.

The most common new problems managed in general practice over the decade were upper respiratory tract infection, immunisation/vaccination, check-up and acute bronchitis/bronchiolitis. Only three significant changes in the most common new problems were identified over the decade.

- The management rate of new check-ups increased significantly and is likely due to the ageing population and new MBS items (as discussed above).
- The rate of new immunisation/vaccinations did not change between 2001–02 and 2010–11. However there was a spike in the rate in 2009–10 that coincides with the concern regarding H1N1 influenza (as discussed above).
- There was a marginal decrease in the management rate of acute otitis media/myringitis (Table 7.5). When extrapolated, this decrease represents 50,000 fewer occasions where acute otitis media/myringitis was managed as a new problem in Australia in 2010–11 than in 2001–02.

7.5 Most frequently managed chronic problems

Table 7.6 shows the most frequently managed chronic problems between 2001–02 and 2010–11. The management rate of chronic conditions significantly increased from 49.3 per 100 encounters in 2001–02 to 53.1 per 100 in 2010–11, suggesting approximately 13.5 million more contacts with chronic problems in Australia in 2010–11 than in 2001–02.

The most common chronic problems managed in general practice were non-gestational hypertension, depressive disorder, non-gestational diabetes, chronic arthritis and lipid disorders (Table 7.6).

As discussed in Section 7.3, the Australian Government has invested considerable resources in the prevention and management of chronic disease.[52,53] A main reason for this focus is the ageing population[54] and the associated expected fiscal pressure (especially health care costs).[5]

From 2001–02 to 2010–11, there were significant increases in the management rate of depressive disorder, non-gestational diabetes, oesophageal disease, atrial fibrillation, and hypothyroidism. There were also significant decreases in the management rate of asthma and migraine (Table 7.6). Many of the changes noted in Table 7.6 are also noted in Table 7.4 and discussed in Section 7.3.

Table 7.1: Number of problems managed at an encounter, 2001–02 to 2010–11

Number of problems managed at encounter	Per cent of encounters (95% CI)										
	2001–02 (*n* = 96,973)	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)	↑↓[(a)]
One problem	67.7 (66.6–68.8)	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)	↓
Two problems	23.1 (22.4–23.7)	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)	↑
Three problems	7.3 (6.9–7.7)	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)	↑
Four problems	1.9 (1.6–2.2)	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)	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change.

Note: CI – confidence interval.

Table 7.2: Problems managed by ICPC-2 component, 2001–02 to 2010–11

ICPC-2 component	Rate per 100 encounters (95% CI)										↑↓[(a)]
	2001–02 (*n* = 96,973)	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)	
Diagnosis, diseases	98.2 (96.7–99.8)	97.9 (96.2–99.5)	99.2 (97.5–100.9)	98.9 (97.1–100.7)	100.2 (98.4–102.1)	101.3 (99.6–103.0)	102.6 (100.7–104.4)	105.3 (103.6–107.1)	102.2 (100.3–104.1)	101.1 (99.2–103.0)	§
Infections	26.5 (25.8–27.3)	26.5 (25.7–27.2)	25.5 (24.7–26.3)	24.6 (23.8–25.3)	25.9 (25.2–26.7)	24.7 (24.0–25.4)	25.1 (24.3–25.8)	25.1 (24.4–25.8)	25.0 (24.2–25.7)	24.8 (24.1–25.6)	↓
Injuries	7.2 (6.9–7.5)	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)	—
Neoplasms	3.5 (3.2–3.7)	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)	↑
Congenital anomalies	0.6 (0.5–0.7)	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)	—
Other diagnoses, diseases	60.4 (58.8–62.0)	59.6 (57.9–61.3)	61.6 (59.8–63.4)	61.9 (60.2–63.7)	62.1 (60.2–64.0)	63.9 (62.1–65.6)	64.9 (63.0–66.9)	67.8 (66.0–69.5)	64.9 (63.0–66.9)	64.2 (62.2–66.1)	↑
Symptoms and complaints	26.9 (26.1–27.7)	26.7 (25.9–27.5)	26.4 (25.6–27.2)	26.4 (25.5–27.3)	25.7 (24.9–26.5)	26.7 (25.9–27.4)	27.8 (27.0–28.6)	27.6 (26.8–28.4)	26.7 (25.9–27.5)	28.2 (27.4–29.1)	—
Diagnostic and preventive procedures	12.4 (11.7–13.0)	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)	↑
Medications, treatments and therapeutics	3.3 (3.0–3.6)	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)	—
Results	1.1 (0.9–1.2)	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)	↑
Referrals and other RFEs	1.1 (1.0–1.3)	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)	—
Administrative	0.4 (0.4–0.5)	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)	↑
Total problems	**143.4 (141.7–145.2)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

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

Table 7.3: Problems managed by ICPC-2 chapter, 2001–02 to 2010–11

ICPC-2 Chapter	Rate per 100 encounters (95% CI)										↑↓[a]
	2001–02 (*n* = 96,973)	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)	
Respiratory	21.4 (20.7–22.0)	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)	§
General and unspecified	14.8 (14.1–15.5)	15.8 (15.2–16.4)	15.0 (14.4–15.5)	15.1 (14.5–15.7)	15.1 (14.5–15.7)	16.2 (15.7–16.8)	17.8 (17.1–18.5)	17.0 (16.4–17.7)	19.4 (18.6–20.2)	19.2 (18.5–20.0)	↑
Skin	16.1 (15.6–16.6)	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)	—
Cardiovascular	16.1 (15.4–16.8)	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)	§
Musculoskeletal	17.5 (17.0–18.0)	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)	—
Endocrine and metabolic	10.4 (10.0–10.9)	10.6 (10.2–11.0)	11.3 (10.8–11.8)	11.7 (11.2–12.3)	11.6 (11.0–12.1)	12.1 (11.6–12.6)	12.9 (12.3–13.5)	13.5 (12.9–14.0)	12.6 (12.1–13.2)	12.8 (12.2–13.3)	↑
Psychological	10.6 (10.1–11.2)	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)	12.4 (11.9–12.9)	↑
Digestive	9.9 (9.6–10.2)	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)	↑
Female genital system	6.1 (5.7–6.4)	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)	—
Pregnancy and family planning	4.0 (3.7–4.2)	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)	—
Ear	4.2 (4.0–4.4)	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)	—
Neurological	3.7 (3.5–3.9)	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)	—
Urology	2.8 (2.7–3.0)	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)	↑
Eye	2.5 (2.4–2.6)	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)	—

(continued)

Table 7.3 (continued): Problems managed by ICPC-2 chapter, 2001–02 to 2010–11

ICPC-2 Chapter	Rate per 100 encounters (95% CI) 2001–02 (*n* = 96,973)	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)	↑↓(a)
Male genital system	1.3 (1.2–1.4)	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)	↑
Blood	1.3 (1.2–1.4)	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)	↑
Social problems	0.7 (0.6–0.8)	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)	—
Total problems	**143.4 (141.7–145.2)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

Note: CI – confidence interval.

Table 7.4: Most frequently managed problems, 2001–02 to 2010–11

Problem managed	Rate per 100 encounters (95% CI) 2001–02 (*n* = 96,973)	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)	↑↓(a)
Hypertension*	9.0 (8.5–9.5)	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)	—
Check-up – all*	5.8 (5.4–6.1)	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)	↑
General check-up*	1.8 (1.6–1.9)	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)	↑
Female genital check-up*	1.6 (1.4–1.7)	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)	—
Cardiac check-up*	1.1 (1.0–1.3)	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)	—

(continued)

Table 7.4 (continued): Most frequently managed problems, 2001–02 to 2010–11

Problem managed	Rate per 100 encounters (95% CI)										↑↓[a]
	2001–02 (*n* = 96,973)	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)	
Immunisation/ vaccination – all*	4.7 (4.3–5.1)	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)	§
Upper respiratory tract infection	6.2 (5.8–6.6)	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)	↓
Depression*	3.4 (3.2–3.6)	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)	↑
Diabetes – all*	3.1 (2.9–3.3)	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)	↑
Arthritis – all*	3.8 (3.5–4.0)	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)	—
Osteoarthritis*	2.6 (2.4–2.8)	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)	—
Lipid disorders	2.9 (2.7–3.1)	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)	§
Back complaint*	2.6 (2.4–2.8)	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)	—
Acute bronchitis/ bronchiolitis	2.7 (2.5–2.9)	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)	—
Prescription – all*	1.9 (1.6–2.1)	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)	↑
Oesophageal disease	1.8 (1.7–2.0)	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)	↑
Asthma	2.8 (2.7–3.0)	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)	↓
Anxiety*	1.6 (1.5–1.8)	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)	↑
Test results*	1.1 (0.9–1.2)	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)	↑

(continued)

Table 7.4 (continued): Most frequently managed problems, 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Problem managed	(*n* = 96,973)	(*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)	
Urinary tract infection*	1.6 (1.5–1.7)	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)	↑
Contact dermatitis	1.9 (1.8–2.0)	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)	↓
Sleep disturbance	1.6 (1.5–1.8)	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)	1.5 (1.3–1.6)	1.5 (1.4–1.6)	—
Pregnancy*	0.9 (0.8–1.0)	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)	↑
Gastroenteritis*	1.6 (1.5–1.7)	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)	↓
Sprain/strain*	1.8 (1.7–1.9)	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)	↓
Sinusitis acute/chronic	1.4 (1.3–1.5)	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)	—
Atrial fibrillation/flutter	0.7 (0.6–0.8)	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)	↑
Vitamin/nutritional deficiency	0.4 (0.4–0.5)	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)	↑
Viral disease, other/NOS	1.5 (1.3–1.7)	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)	—
Ischaemic heart disease*	1.3 (1.1–1.4)	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)	—
Solar keratosis/sunburn	1.0 (0.9–1.2)	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)	—
Administrative procedure – all*	0.4 (0.4–0.5)	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)	↑
Abnormal test results*	0.7 (0.6–0.8)	0.8 (0.7–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.9 (0.8–1.0)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.1 (1.0–1.2)	↑

(continued)

Table 7.4 (continued): Most frequently managed problems, 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
Problem managed	(*n* = 96,973)	(*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)	
Malignant neoplasm, skin	0.9 (0.7–1.0)	0.8 (0.7–0.9)	1.1 (0.9–1.3)	1.2 (1.0–1.4)	1.0 (0.9–1.1)	1.1 (1.0–1.3)	1.2 (1.0–1.4)	1.2 (1.1–1.4)	1.3 (1.1–1.4)	1.1 (1.0–1.2)	↑
Oral contraception*	0.8 (0.7–0.9)	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)	↑
Acute otitis media/ myringitis	1.3 (1.2–1.4)	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)	↓
Bursitis/tendonitis/ synovitis NOS	1.0 (0.9–1.0)	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)	↑
Tonsillitis*	1.1 (1.0–1.3)	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)	—
Observation/health education/advice – all*	0.7 (0.6–0.7)	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)	↑
Fracture*	1.1 (1.0–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	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)	↓
Osteoporosis	0.7 (0.6–0.8)	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)	—
Menopausal complaint	1.4 (1.3–1.5)	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)	↓
Total problems	**143.4 (141.7–145.2)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

* 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 which were managed at >= 1.0 per 100 encounters in any year.

Table 7.5: Most frequently managed new problems, 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
New problem managed	**(*n* = 96,973)**	**(*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)**	
Upper respiratory tract infection	4.7 (4.4–5.1)	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)	—
Immunisation/ vaccination – all*	2.7 (2.4–3.0)	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)	§
Check-up – all*	1.8 (1.7–2.0)	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)	↑
Acute bronchitis/ bronchiolitis	1.9 (1.7–2.0)	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)	—
Gastroenteritis*	1.2 (1.1–1.4)	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)	—
Urinary tract infection*	1.0 (0.9–1.1)	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)	—
Sprain/strain*	1.0 (0.9–1.1)	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)	—
Viral disease, other/NOS	1.0 (0.9–1.2)	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)	—
Sinusitis acute/chronic	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.7 (0.7–0.8)	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)	0.9 (0.8–1.0)	—
Acute otitis media/ myringitis	1.0 (0.9–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.8 (0.8–0.9)	0.9 (0.8–1.0)	0.8 (0.7–0.9)	0.8 (0.7–0.8)	0.8 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	↓
Total new problems	**55.1 (53.8–56.5)**	**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)**	—

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, and — indicates there was no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <purl.library.usyd.edu.au/sup/9781920899875>.

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

Table 7.6: Most frequently managed chronic problems, 2001–02 to 2010–11

Chronic problem managed	Rate per 100 encounters (95% CI)										
	2001–02 (*n* = 96,973)	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)	↑↓ [a]
Hypertension (non-gestational)**	9.0 (8.5–9.5)	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)	—
Depressive disorder**	3.4 (3.2–3.6)	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)	↑
Diabetes (non-gestational)**	3.1 (2.9–3.3)	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)	↑
Chronic arthritis**	3.8 (3.5–4.0)	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)	—
Lipid disorders*	2.9 (2.7–3.1)	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)	§
Oesophageal disease	1.8 (1.7–2.0)	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)	↑
Asthma	2.8 (2.7–3.0)	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)	↓
Atrial fibrillation/flutter	0.7 (0.6–0.8)	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)	↑
Ischaemic heart disease**	1.3 (1.1–1.4)	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)	—
Malignant neoplasm of skin	0.9 (0.7–1.0)	0.8 (0.7–0.9)	1.1 (0.9–1.3)	1.2 (1.0–1.4)	1.0 (0.9–1.1)	1.1 (1.0–1.3)	1.2 (1.0–1.4)	1.2 (1.1–1.4)	1.3 (1.1–1.4)	1.1 (1.0–1.2)	↑
Chronic obstructive pulmonary disease	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.7 (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)	↑
Back syndrome with radiating pain**	0.9 (0.8–1.0)	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)	—
Obesity (BMI > 30)	0.8 (0.6–0.9)	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)	—

(continued)

Table 7.6 (continued): Most frequently managed chronic problems, 2001–02 to 2010–11

Chronic problem managed	Rate per 100 encounters (95% CI)										
	2001–02 (*n* = 96,973)	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)	↑↓ (a)
Hypothyroidism/ myxoedema	0.5 (0.5–0.6)	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)	↑
Osteoporosis	0.7 (0.6–0.8)	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)	—
Migraine	0.8 (0.8–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (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)	↓
Heart failure	0.7 (0.6–0.8)	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)	—
Chronic skin ulcer	0.5 (0.5–0.6)	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)	—
Gout	0.6 (0.5–0.6)	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)	—
Shoulder syndrome (excluding arthritis)**	0.4 (0.4–0.5)	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)	↑
Dementia (including senile, Alzheimer's)	0.4 (0.3–0.5)	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)	—
Anxiety disorder**	0.4 (0.4–0.5)	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)	—
Schizophrenia	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (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)	—
Total chronic problems	**49.3 (47.7–50.9)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

** 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, <purl.library.usyd.edu.au/sup/9781920899875>).

Note: CI – confidence interval; BMI – body mass index. This table includes individual chronic problems which were managed at > 0.5 per 100 encounters in any year, and any other significant differences of interest.

8 Overview of management

This chapter provides an overview of problem management in general practice from each of the most recent 10 years of the BEACH study from 2001–02 to 2010–11. 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 changed 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 by GPs 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 2010–11 than in 2001–02, and 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 changed. The rate per 100 encounters is used as the basis of extrapolation to national estimated change.

The direction and type of change from 2001–02 to 2010–11 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

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 2001–02 and 2010–11, some trends emerged in management actions per 100 problems managed (Table 8.1a). Most noticeably, as a rate per 100 problems managed:

- the rate of all medications (prescribed, GP supplied or advised for the over-the-counter purchase) significantly decreased, from 72.9 per 100 problems managed in 2001–02 to 69.0 per 100 in 2010–11.
- the rate of prescribed medications significantly decreased, from 61.3 per 100 problems managed in 2001–02 to 55.8 per 100 in 2010–11.
- the rate of GP-supplied medications significantly increased, from 5.3 per 100 problems managed in 2001–02 to 8.9 per 100 in 2009–10, but then significantly decreased to 6.8 per 100 in 2010–11. The noticeable spike in 2009–10 coincided with the H1N1 virus pandemic, and a similar increase was noted in influenza vaccines (see Chapter 9, Section 9.2). The overall change, however, was a significant increase over the 10 years.
- the rate of clinical treatments decreased significantly from 26.5 per 100 problems in 2001–02 to 23.0 per 100 in 2010–11. The rate was steady between 2001–02 and 2004–05, and then decreased significantly coincident with the introduction of practice nurse item numbers. From 2004–05 the rate steadily increased so that it was again significantly

higher in 2010–11 than in 2004–05. However, over the decade from 2001–02 to 2010–11, the observed result was a significant decrease.

- there was an increase in the rate at which procedural treatments were undertaken, from 9.6 per 100 problems managed in 2001–02 to 11.1 per 100 problems in 2010–11.
- the rate of referrals to other health providers significantly increased, from 7.3 to 9.3 per 100 problems between 2001–02 and 2010–11, influenced by a significant increase in referrals to: medical specialists (5.1 to 5.6), allied health services (1.6 to 2.8), and emergency departments (0.1 to 0.2 per 100 problems).
- the rate of pathology tests ordered significantly increased by 37%, from 21.6 per 100 problems in 2001–02 to 29.6 in 2010–11. This change mainly occurred in the early part of the decade, with no further significant increase occurring between 2006–07 and 2010–11.
- the rate of imaging orders increased significantly, from 5.5 per 100 problems in 2001–02 to 6.4 per 100 in 2010–11, but as with pathology, this change mostly occurred in the earlier part of the decade. No increase was noted between 2005–06 and 2010–11.

Similar changes can be observed for each of these areas, in the percentage of problems for which at least one management type was provided (Table 8.2a). This reflects a change in the likelihood of each action eventuating for a problem.

The proportion of problems for which at least one:

- management action of any type (medication or other treatment, referral or investigation) was given decreased significantly between the two time points, from 87.3% of problems in 2001–02 to 85.9% in 2010–11.
- medication was provided in the management of the problem decreased significantly (from 58.0% of problems in 2001–02 to 54.0% in 2010–11), particularly prescribed medications, which decreased from 49.8% to 44.7% over this time. The latter reflects the reduction in the rate of prescribed medications reported above and shown in Table 8.1a.
- GP-supplied medication was given in the management of a problem, increased significantly from 4.3% of problems in 2001–02 to 7.2% in 2009–10, decreasing significantly again to 5.4% in 2010–11. This pattern reflects the change in GP-supplied medication observed above and shown in Table 8.1a.
- clinical treatment was provided decreased significantly between 2001–02 (23.4%of problems) and 2010–11 (20.9%). As with the rate of clinical treatments in Table 8.1a, the decrease was noted around the introduction of practice nurse item numbers in 2005–06, and from that point increased again. Over the decade, however, the change was a significant decrease between 2001–02 and 2010–11.
- procedure was done significantly increased from 9.1% in 2001–02 to 10.4% in 2010–11.
- referral was given increased significantly (from 7.3% of problems in 2001–02 to 9.2% in 2010–11), particularly to medical specialists (5.1% to 5.7%), allied health services (1.6% to 2.7%), and emergency departments (0.1% in 2001–02 to 0.2% in 2010–11).
- investigation was ordered, from 15.3% in 2001–02 to 18.2% in 2010–11. In 2001–02, the likelihood of at least one pathology test being ordered was 10.8%, and that of at least one imaging test being ordered was 5.0%. By 2010–11 these proportions had significantly increased to 13.3% and 5.7% of problems, respectively (Table 8.2a).

Table 8.1a: Summary of management (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
Management type	(*n* = 139,092)	(*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)	
Medications	72.9 (71.4–74.3)	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)	↓
Prescribed	61.3 (59.8–62.9)	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)	↓
GP-supplied	5.3 (4.6–6.1)	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)	§
Advised OTC	6.2 (5.7–6.7)	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)	—
Other treatments	36.2 (34.6–37.7)	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)	—
Clinical*	26.5 (25.2–27.9)	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)	↓
Procedural*	9.6 (9.1–10.1)	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)	↑
Referrals	7.3 (7.0–7.6)	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)	↑
Medical specialist*	5.1 (4.9–5.3)	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)	↑
Allied health service*	1.6 (1.5–1.7)	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)	↑
Hospital*	0.3 (0.3–0.3)	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)	—

(continued)

Table 8.1a (continued): Summary of management (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑/↓ (a)
Management type	(*n* = 139,092)	(*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)	
Emergency department*	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	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)	↑
Other referrals*	0.2 (0.2–0.3)	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)	↑
Pathology	21.6 (20.8–22.5)	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)	↑
Imaging	5.5 (5.3–5.7)	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)	↑
Other investigations	0.6 (0.6–0.7)	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)	↓

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4 <purl.library.usyd.edu.au/sup/9781920899875>).

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

Table 8.1b: Summary of management (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
Management type	(*n* = 96,973)	(*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)	
Medications	104.5 (102.2–106.9)	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)	—
Prescribed	88.0 (85.6–90.4)	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)	—
GP-supplied	7.6 (6.6–8.7)	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)	↑
Advised OTC	8.9 (8.2–9.6)	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)	—
Other treatments	51.9 (49.5–54.2)	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)	§
Clinical*	38.1 (36.1–40.1)	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)	§
Procedural*	13.8 (13.1–14.5)	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)	↑
Referrals	10.5 (10.1–10.9)	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)	↑
Medical specialist*	7.3 (7.0–7.6)	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)	↑
Allied health service*	2.3 (2.1–2.4)	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)	↑
Hospital*	0.4 (0.4–0.5)	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)	—

(continued)

Table 8.1b (continued): Summary of management (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
Management type	(*n* = 96,973)	(*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)	
Emergency department*	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 (0.2–0.2)	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)	↑
Other referrals*	0.4 (0.3–0.4)	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)	↑
Pathology	31.0 (29.7–32.4)	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)	↑
Imaging	7.9 (7.5–8.2)	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)	↑
Other investigations	0.9 (0.8–1.0)	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)	↓

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, and — indicates there was no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4 <purl.library.usyd.edu.au/sup/9781920899875>).

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

Table 8.2a: Problems for which at least one management was recorded (per cent of problems), 2001–02 to 2010–11

	Per cent of problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
At least one…	(*n* = 139,092)	(*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)	
Management type	87.3 (86.7–87.9)	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)	↓
Medication or other treatment	76.5 (75.7–77.3)	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)	↓
Medication	58.0 (57.1–59.0)	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)	↓
Prescription	49.8 (48.7–50.9)	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)	↓
GP-supplied	4.3 (3.8–4.9)	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)	↑
Advised OTC	5.7 (5.2–6.1)	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)	—
Other treatment	31.4 (30.2–32.6)	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)	—
Clinical treatment	23.4 (22.3–24.5)	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)	↓
Procedural treatment	9.1 (8.6–9.6)	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)	↑
Referral	7.3 (7.0–7.6)	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)	↑
Medical specialist	5.1 (4.9–5.3)	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)	↑
Allied health	1.6 (1.5–1.7)	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)	↑
Hospital	0.3 (0.3–0.4)	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)	↓

(continued)

Table 8.2a (continued): Problems for which at least one management was recorded (per cent of problems), 2001–02 to 2010–11

	Per cent of problems (95% CI)										
At least one…	2001–02 (*n* = 139,092)	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)	↑↓ (a)
Emergency department	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	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)	↑
Other referral	0.3 (0.2–0.3)	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)	↑
Investigation	15.3 14.8–15.7)	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)	↑
Pathology order	10.8 (10.4–11.2)	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)	↑
Imaging order	5.0 (4.7–5.2)	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)	↑
Other investigation	0.6 (0.6–0.7)	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)	↓

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

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), 2001–02 to 2010–11

	Per cent of encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
At least one…	(*n* = 96,973)	(*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)	
Management type	91.8 (91.3–92.3)	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)	—
Medication or other treatment	83.2 (82.5–84.0)	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)	↓
Medication	66.6 (65.7–67.5)	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)	↓
Prescription	57.4 (56.4–58.5)	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)	↓
GP-supplied	5.8 (5.1–6.5)	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)	↑
Advised OTC	8.0 (7.4–8.6)	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)	—
Other treatment	39.5 (38.1–41.0)	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)	—
Clinical treatment	29.7 (28.4–31.1)	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)	—
Procedural treatment	12.7 (12.0–13.3)	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)	↑
Referral	10.0 (9.6–10.4)	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)	↑
Medical specialist	7.0 (6.7–7.3)	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)	↑
Allied health	2.2 (2.1–2.4)	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)	↑
Hospital	0.4 (0.4–0.5)	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)	—

(continued)

Table 8.2b (continued): Encounters at which at least one management was recorded (per cent of encounters), 2001–02 to 2010–11

	Per cent of encounters (95% CI)										
At least one…	2001–02 (*n* = 96,973)	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)	↑↓ (a)
Emergency department	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 (0.2–0.2)	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)	↑
Other referral	0.4 (0.3–0.4)	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)	↑
Investigation	19.7 (19.1–20.3)	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)	↑
Pathology order	14.0 (13.5–14.5)	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)	↑
Imaging order	6.9 (6.6–7.2)	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)	↑
Other investigation	0.9 (0.8–1.0)	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)	↓

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

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 includes data about the medications prescribed, advised or supplied by general practitioners from each of the most recent 10 years of the BEACH study from 2001–02 to 2010–11. 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 linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

Significant linear 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 2001–02 and 2010–11. Some examples of extrapolated changes are given in this chapter. However, you can apply the extrapolation method described in Section 2.9 to any of significant linear changes in rate per 100 encounters.

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 10 years 2001–02 to 2010–11, are reported in two ways in this chapter: as rates per 100 problems managed (for example, Table 9.1a) and as rates per 100 encounters (for example, Table 9.1b). 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.

Table 9.1a shows that between the two data periods, total medication rates decreased significantly per 100 problems managed. However, there was no significant change in total medication rates per 100 encounters between 2001–02 and 2010–11 (Table 9.1b) because of that increase in the number of problems managed by GPs per 100 encounters over the study period (see Chapter 7). The peak in rates of GP supplied medications in 2009–10 (Tables 9.1 and 9.2) reflects a rise in influenza virus vaccine which coincided with the H1N1 influenza pandemic of 2009.

9.1 Prescribed medications

The rate at which medications were prescribed fell from 61.3 per 100 problems managed in 2001–02 to 55.8 per 100 in 2010–11. This significant decrease means that an average of 5.5 fewer prescriptions were being written for every 100 problems managed in 2010–11 than 10 years earlier (Table 9.1a). Even though the rate of prescribed medications per 100 problems decreased, there was no change per 100 encounters (Table 9.1b) and this is a direct consequence of the rise in number of problems managed at encounter. However, in 2010–11 there were 18.2 million (18%) more encounters claimed through Medicare than there were in 2001–02 (118.1 million versus 99.9 million). As a result, the extrapolated national effect of this change is 12.6 million more prescriptions given by GPs in 2010–11 than in 2001–02. If the estimated 26% increase over the 10 years in number of problems managed nationally is considered, the increase in number of prescriptions recorded would have been about 22 million if not for the decrease in GP prescribing rates.

Tables 9.2a and 9.2b show prescribing rates of common drug groups over the 10-year period at ATC drug group Level 2, because this level is the most stable of the ATC groups. Extrapolations showed 1.6 million more prescriptions for agents acting on the renin-angiotensin system, 970,000 more psychoanaleptics, 1.3 million serum lipid-modifying agents, 550,000 more antithrombotics and 190,000 more thyroid medications prescribed in 2010–11 than in 2001–02. Conversely, there were about 53,000 fewer psycholeptics, 530,000 fewer drugs for obstructive airways disease, 1.2 million fewer systemic anti-inflammatory medications, and 710,000 fewer sex hormones prescribed in 2010–11 than in 2001–02.

Tables 9.3a and 9.3b show prescribed medication rates at the individual generic level. One of the medications with the greatest increase was oxycodone, with an extrapolated estimate of 1.5 million more prescriptions in 2010–11 than 10 years earlier. The proton pump inhibitor esomeprazole was prescribed 1.1 million more times, and non-steroid anti-inflammatory meloxicam, 510,000 more times than in 2002–03, which was the year they were first recorded in sufficient quantities to allow calculation of differences over time. The lipid-lowering agent rosuvastatin was first listed on the PBS in December 2006, and was prescribed an estimated 760,000 more times in 2010–11 than in 2007–08.

A number of medications were prescribed less often than in 2001–02, such as roxithromycin with an extrapolated decrease of 100,000, simvastatin (190,000 fewer), celecoxib (500,000 fewer) and cefaclor monohydrate with an estimated decrease of 510,000 between 2001–02 and 2010–11.

Number of repeats ordered

The pattern of the number of repeat prescriptions recorded by GPs changed between 2001–02 and 2010–11 (Table 9.4). There was a significant decrease in the proportion of prescribed medications with no repeats ordered, or one or two repeats. 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 five repeats increased from 26.4% in 2001–02 to 35.4% in 2010–11.

9.2 Medications supplied by GPs

Rates of GP-supplied medications per 100 problems managed increased significantly in the 10-year period from 5.3 per 100 problems managed in 2001–02 to 6.8 per 100 in 2010–11 (Table 9.1a). Per 100 encounters, the rate increased from 7.6 to 10.3 between the two data periods (Table 9.1b). The extrapolated national effect of this change is 4.5 million more medications supplied directly to the patient by GPs in 2010–11 than in 2001–02.

Table 9.5a shows rates per 100 problems managed of individual medications most frequently supplied by GPs between 2001–02 and 2010–11. 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 0.6 per 100 problems managed in 2001–02 to 1.7 per 100 in 2010–11. The rate per 100 encounters increased from 0.9 to 2.7 (Table 9.5b), and the extrapolated national effect of this change is that influenza virus vaccine was supplied 2.3 million more times in 2010–11 than in 2001–02. 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. The vaccines can be ordered by the GP directly from the supplier. In Table 9.3, one can also see a peak in the rate of influenza virus vaccine in 2009–10 which coincided with the H1N1 influenza pandemic of 2009. GP supply of pneumococcal vaccine peaked at 0.6 per 100 problems managed in 2005–06, and has remained at 0.4 per 100 since then.

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 remained steady between 2001–02 and 2010–11. However, as a rate per 100 GP-patient encounters, there were significant increases in the rate at which vitamin D was advised, and sodium chloride was recommended for topical and nasal use (Table 9.6b).

Table 9.1a: Rates of medications prescribed, advised for over-the-counter purchase, supplied (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓ (a)
Medications	(*n* = 139,092)	(*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)	
Prescribed	61.3 (59.8–62.9)	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)	↓
GP supplied	5.3 (4.6–6.1)	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)	↑
Advised OTC	6.2 (5.7–6.7)	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)	—
Total medications	**72.9 (71.4–74.3)**	**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)**	↓

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, and — indicates there was no change.

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), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓ (a)
Medications	(*n* = 96,973)	(*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)	
Prescribed	88.0 (85.6–90.4)	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)	—
GP supplied	7.6 (6.6–8.7)	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)	↑
Advised OTC	8.9 (8.2–9.6)	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)	—
Total medications	**104.5 (102.2–106.9)**	**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)**	—

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, and — indicates there was no change.

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

Table 9.2a: Prescribed medications by ATC Level 2 (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Medications	(*n* = 139,092)	(*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)	
Antibacterials for systemic use	9.7 (9.3–10.1)	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)	—
Analgesics	5.6 (5.3–6.0)	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)	—
Agents acting on the renin-angiotensin system	3.5 (3.3–3.7)	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)	↑
Psycholeptics	3.6 (3.3–3.8)	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)	↓
Psychoanaleptics	2.1 (2.0–2.2)	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)	↑
Drugs for obstructive airway disease	3.6 (3.3–3.8)	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)	↓
Lipid modifying agents	1.7 (1.6–1.8)	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)	↑
Anti-inflammatory and antirheumatic products	3.7 (3.5–3.9)	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)	↓
Drugs for acid related disorders	1.8 (1.6–1.9)	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)	↑
Drugs used in diabetes	1.5 (1.4–1.7)	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)	↑
Corticosteroids, dermatological preparations	2.0 (1.9–2.1)	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)	↓
Sex hormones and modulators of the genital system	2.6 (2.5–2.8)	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)	↓
Antithrombotic agents	1.1 (1.0–1.2)	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)	↑
Calcium channel blockers	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.5 (1.4–1.6)	1.4 (1.3–1.5)	1.5 (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)	↓

(continued)

Table 9.2a (continued): Prescribed medications by ATC Level 2 (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
ATC Level 2	**(*n* = 139,092)**	**(*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)**	
Beta blocking agents	1.2 (1.1–1.3)	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)	—
Ophthalmologicals	1.0 (0.9–1.1)	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)	—
Vaccines	2.7 (2.4–2.9)	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)	↓
Corticosteroids for systemic use	0.9 (0.9–1.0)	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)	—
Diuretics	1.2 (1.1–1.3)	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)	↓
Nasal preparations	0.6 (0.6–0.7)	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)	—
Other nervous system drugs	0.4 (0.3–0.6)	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)	—
Otologicals	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 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	—
Drugs for functional gastrointestinal disorders	0.6 (0.6–0.7)	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)	—
Antiepileptics	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 (0.4–0.5)	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)	↑
Thyroid therapy	0.4 (0.3–0.4)	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)	↑
Cardiac therapy	0.8 (0.7–0.9)	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)	↓
Total prescribed medications	**61.3 (59.8–62.9)**	**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)**	↓

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change and — indicates there was no change.

Note: CI – confidence interval.

Table 9.2b: Prescribed medications by ATC Level 2 (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
ATC Level 2	(*n* = 96,973)	(*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)	
Antibacterials for systemic use	13.9 (13.4–14.4)	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)	—
Analgesics	8.1 (7.7–8.5)	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)	—
Agents acting on the renin-angiotensin system	5.0 (4.7–5.3)	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)	↑
Psycholeptics	5.1 (4.8–5.5)	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)	↓
Psychoanaleptics	3.0 (2.8–3.2)	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 (3.3–3.6)	3.7 (3.5–3.9)	3.9 (3.6–4.1)	4.0 (3.8–4.3)	↑
Drugs for obstructive airway diseases	5.1 (4.8–5.5)	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)	↓
Lipid modifying agents	2.4 (2.3–2.6)	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)	↑
Anti-inflammatory and antirheumatic products	5.3 (5.1–5.6)	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)	↓
Drugs for acid related disorders	2.5 (2.4–2.7)	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)	↑
Drugs used in diabetes	2.2 (2.0–2.4)	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)	↑
Corticosteroids, dermatological preparations	2.8 (2.7–3.0)	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)	↓
Sex hormones and modulators of the genital system	3.8 (3.6–4.0)	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)	↓
Antithrombotic agents	1.5 (1.4–1.7)	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)	↑

(continued)

Table 9.2b (continued): Prescribed medications by ATC Level 2 (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
ATC Level 2	(*n* = 96,973)	(*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)	
Calcium channel blockers	2.2 (2.0–2.4)	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)	↓
Beta blocking agents	1.8 (1.6–1.9)	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)	—
Ophthalmologicals	1.5 (1.4–1.6)	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)	—
Vaccines	3.8 (3.5–4.2)	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)	↓
Corticosteroids for systemic use	1.3 (1.2–1.5)	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)	—
Diuretics	1.7 (1.5–1.9)	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)	↓
Nasal preparations	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 (0.6–0.8)	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)	—
Other nervous system drugs	0.6 (0.4–0.8)	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)	↑
Otologicals	0.9 (0.8–1.0)	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)	—
Drugs for functional gastrointestinal disorders	0.9 (0.8–1.0)	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)	—
Antiepileptics	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (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)	↑
Thyroid therapy	0.6 (0.5–0.6)	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)	↑
Cardiac therapy	1.2 (1.1–1.3)	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)	↓
Total prescribed medications	**88.0 (85.6–90.4)**	**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)**	—

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change and — indicates there was no change.

Note: CI – confidence interval.

Table 9.3a: Most frequently prescribed medications by CAPS generic (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Generic drug	(*n* = 139,092)	(*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)	
Amoxycillin	2.0 (1.9–2.2)	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)	—
Cephalexin	1.4 (1.3–1.5)	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)	↑
Paracetamol [plain]	2.1 (2.0–2.3)	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)	↓
Amoxycillin/potassium clavulanate	1.1 (1.0–1.2)	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)	↑
Paracetamol/codeine [all]	1.6 (1.4–1.7)	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)	↓
Atorvastatin	0.7 (0.6–0.8)	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)	↑
Oxycodone	0.2 (0.2–0.3)	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)	↑
Salbutamol	1.4 (1.3–1.5)	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)	↓
Metformin	0.7 (0.6–0.7)	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)	↑
Esomeprazole	0.0[∓] (0.0–0.0)	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)	↑
Warfarin sodium	0.6 (0.5–0.7)	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)	↑
Perindopril	0.5 (0.5–0.6)	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)	↑
Roxithromycin	1.0 (0.9–1.1)	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)	↓

(continued)

Table 9.3a (continued): Most frequently prescribed medications by CAPS generic (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Generic drug	(*n* = 139,092)	(*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)	
Diazepam	0.7 (0.6–0.8)	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)	—
Temazepam	0.9 (0.9–1.0)	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)	↓
Meloxicam	0.0[‡] (0.0–0.0)	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)	↑
Rosuvastatin	N/A	N/A	N/A	N/A	N/A	0.0[‡] (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)	↑
Chloramphenicol eye	0.6 (0.5–0.6)	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)	—
Tramadol	0.5 (0.4–0.5)	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)	↑
Fluticasone/salmeterol	0.4 (0.4–0.5)	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)	↑
Irbesartan	0.5 (0.5–0.6)	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)	—
Betamethasone topical	0.6 (0.5–0.7)	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)	—
Levonorgestrel/ ethinyloestradiol	0.8 (0.8–0.9)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	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)	↓
Atenolol	0.7 (0.6–0.8)	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 (0.6–0.7)	0.6 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.5)	↓
Irbesartan/ hydrochlorothiazide	0.4 (0.3–0.4)	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)	↑
Doxycycline	0.6 (0.5–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.5 (0.5–0.6)	0.4 (0.4–0.5)	0.5 (0.4–0.5)	—

(continued)

Table 9.3a (continued): Most frequently prescribed medications by CAPS generic (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑/↓ (a)
Generic drug	**(*n* = 139,092)**	**(*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)**	
Generic medications frequently prescribed in previous years											
Simvastatin	0.7 (0.6–0.7)	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)	↓
Celecoxib	1.0 (0.9–1.1)	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)	↓
Influenza virus vaccine	1.0 (0.9–1.2)	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)	↓
Cefaclor monohydrate	0.8 (0.7–0.8)	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)	↓
Total prescribed medications	**61.3 (59.8–62.9)**	**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)**	↓

(a) linear of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant change, ↑/↓ indicates a marginally significant linear change and — indicates there was no change.

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), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Generic drug	(*n* = 96,973)	(*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)	
Amoxycillin	2.9 (2.7–3.1)	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)	—
Cephalexin	2.0 (1.9–2.2)	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)	↑
Paracetamol	3.1 (2.8–3.4)	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)	—
Amoxycillin/ potassium clavulanate	1.6 (1.4–1.7)	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)	↑
Paracetamol/codeine [all]	2.2 (2.1–2.4)	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)	↓
Atorvastatin	1.0 (0.9–1.1)	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)	↑
Oxycodone	0.3 (0.3–0.4)	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)	↑
Salbutamol	2.0 (1.8–2.1)	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)	↓
Metformin	0.9 (0.8–1.0)	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)	↑
Esomeprazole	0.0[∓] (0.0–0.0)	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)	↑
Warfarin sodium	0.9 (0.8–1.0)	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)	↑
Perindopril	0.7 (0.7–0.8)	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)	↑
Roxithromycin	1.4 (1.3–1.5)	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)	↓
Diazepam	1.0 (0.9–1.2)	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)	—

(continued)

Table 9.3b (continued): Most frequently prescribed medications by CAPS generic (rate per 100 encounters), 2001–02 to 2010–11

Generic drug	Rate per 100 encounters (95% CI)										↑↓[a]
	2001–02 (*n* = 96,973)	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)	
Temazepam	1.3 (1.2–1.5)	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)	↓
Meloxicam	0.0[‡] (0.0–0.1)	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)	↑
Rosuvastatin	N/A	N/A	N/A	N/A	N/A	0.0[‡] (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)	↑
Chloramphenicol eye	0.8 (0.7–0.9)	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)	—
Tramadol	0.7 (0.6–0.8)	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)	↑
Fluticasone/salmeterol	0.6 (0.5–0.7)	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)	↑
Irbesartan	0.8 (0.7–0.9)	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)	—
Betamethasone topical	0.9 (0.8–1.0)	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)	—
Levonorgestrel/ ethinyloestradiol	1.2 (1.1–1.3)	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)	↓
Atenolol	1.0 (0.9–1.1)	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)	↓
Irbesartan/ hydrochlorothiazide	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.8 (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)	↑
Doxycycline	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.7 (0.7–0.8)	0.7 (0.6–0.8)	0.8 (0.7–0.9)	0.6 (0.6–0.7)	0.7 (0.6–0.8)	—
Thyroxine	0.5 (0.5–0.6)	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)	↑

(continued)

Table 9.3b (continued): Most frequently prescribed medications by CAPS generic (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑/↓ (a)
Generic drug	**(*n* = 96,973)**	**(*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)**	
Erythromycin	0.6 (0.5–0.7)	0.5 (0.4–0.6)	0.6 (0.5–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	—
Pantoprazole	0.4 (0.3–0.5)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	0.4 (0.4–0.5)	0.5 (0.4–0.6)	0.5 (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)	↑
Mometasone	0.8 (0.7–0.9)	0.6 (0.6–0.7)	0.5 (0.5–0.6)	0.8 (0.7–0.9)	0.7 (0.6–0.7)	0.7 (0.6–0.7)	0.8 (0.7–0.8)	0.7 (0.6–0.7)	0.6 (0.5–0.7)	0.7 (0.6–0.7)	↓
Ramipril	0.6 (0.5–0.7)	0.7 (0.6–0.7)	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)	0.8 (0.7–0.9)	0.7 (0.6–0.8)	0.7 (0.6–0.7)	—
Generic medications frequently prescribed in previous years											
Simvastatin	0.9 (0.8–1.0)	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)	↓
Diclofenac sodium systemic	0.9 (0.8–1.0)	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)	↓
Celecoxib	1.4 (1.3–1.5)	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)	↓
Cefaclor monohydrate	1.1 (1.0–1.2)	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)	↓
Influenza virus vaccine	1.5 (1.2–1.7)	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)	↓
Omeprazole	0.8 (0.8–0.9)	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)	↓
Total prescribed medications	**88.0 (85.6–90.4)**	**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)**	—

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change and — indicates there was no change.

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 for prescribed medications, 2001–02 to 2010–11

	Per cent of prescriptions (95% CI)[a]										
Number of repeats	2001–02 (*n* = 96,973)	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* = 84,540)	2010–11 (*n* = 81,542)	↑↓[b]
No repeats	38.3 (36.7–39.4)	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)	↓
One repeat	17.6 (16.8–18.3)	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)	↓
Two repeats	13.1 (12.3–14.0)	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)	↓
Three or four repeats	4.5 (4.1–4.9)	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 (4.0–5.2)	4.4 (4.0–4.8)	3.5 (3.1–3.9)	4.1 (3.5–4.6)	—
Five repeats	26.4 (25.2–27.7)	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)	↑
Six or more repeats	0.0 ǂ (0.0–0.0)	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)	—

(a) Missing data removed.

(b) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, and — indicates there was no change.

ǂ 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), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Generic medication	(*n* = 139,092)	(*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)	
Influenza virus vaccine	0.6 (0.5–0.8)	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)	§
Pneumococcal vaccine	0.0Ŧ (0.0–0.0)	0.0Ŧ (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)	§
Vitamin B12 (Cobalamin)	0.0Ŧ (0.0–0.0)	0.0Ŧ (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)	↑
Diphtheria/pertussis/ tetanus/hepatitis B/ polio/Hib vaccine	N/A	N/A	N/A	0.0Ŧ (0.0–0.1)	0.0Ŧ (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	↑
Mumps/measles/rubella 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)	0.2 (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)	↑
Triple antigen (diphtheria/pertussis/ tetanus)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (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)	—
Rotavirus vaccine	0.0Ŧ (0.0–0.1)	0.0Ŧ (0.0–0.1)	0.0Ŧ (0.0–0.1)	0.0Ŧ (0.0–0.1)	0.0Ŧ (0.0–0.1)	0.0Ŧ (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)	—
Diphtheria/pertussis/ tetanus/polio vaccine	N/A	N/A	N/A	0.0Ŧ (0.0–0.0)	0.0Ŧ (0.0–0.1)	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 (0.1–0.2)	↑
ADT/CDT (diphtheria/tetanus) vaccine	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 (0.1–0.2)	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)	—
Meningitis vaccine	0.0Ŧ (0.0–0.0)	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)	↑
Total GP-supplied medications	**5.3 (4.6–6.1)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, § indicates a non-linear significant change, and — indicates no change.

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), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
Generic medication	**(*n* = 96,973)**	**(*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)**	
Influenza virus vaccine	0.9 (0.7–1.1)	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)	§
Pneumococcal vaccine	0.0[Ŧ] (0.0–0.1)	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)	§
Vitamin B12 (Cobalamin)	0.0[Ŧ] (0.0–0.1)	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)	↑
Diphtheria/pertussis/ tetanus/hepatitis B/ polio/Hib vaccine	N/A	N/A	N/A	0.1 (0.0–0.1)	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)	↑
Mumps/measles/rubella vaccine	0.2 (0.1–0.2)	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)	↑
Triple antigen (diphtheria/pertussis/ tetanus)	0.2 (0.1–0.2)	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)	↑
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] (0.0–0.1)	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)	↑
Diphtheria/pertussis/ tetanus/polio vaccine	N/A	N/A	N/A	0.0[Ŧ] (0.0–0.0)	0.1 (0.0–0.1)	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 (0.2–0.3)	↑
ADT/CDT (diphtheria/tetanus) vaccine	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 (0.2–0.3)	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)	—
Meningitis vaccine	0.0[Ŧ] (0.0–0.0)	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)	↑
Total GP supplied medications	**7.6 (6.6–8.7)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, § indicates a non-linear significant change, and — indicates there was no change.

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), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓ (a)
Generic drug	**(*n* = 139,092)**	**(*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)**	
Paracetamol	1.5 (1.3–1.7)	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)	—
Ibuprofen	0.3 (0.3–0.4)	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)	—
Saline bath/solution/ gargle	0.1 (0.0–0.1)	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)	—
Sodium chloride topical nasal	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)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	—
Loratadine	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 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	—
Cetirizine	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 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	—
Ergocalciferol (vitamin D analogue)	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 (0.0–0.0)	0.0Ŧ (0.0–0.1)	0.1 (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	—
Diclofenac topical	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 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	—
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 (0.1–0.1)	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)	—
Clotrimazole topical	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 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	—
Total advised medications	**6.2 (5.7–6.7)**	**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)**	—

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: — indicates there was no change.

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), 2001–02 to 2010–11

Generic drug	Rate per 100 problems (95% CI)										↑↓ (a)
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	
	(*n* = 139,092)	(*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)	
Paracetamol	2.1 (1.9–2.4)	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)	—
Ibuprofen	0.5 (0.4–0.6)	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)	—
Saline bath/solution/ gargle	0.1 (0.0–0.1)	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)	↑
Sodium chloride topical nasal	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)	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)	↑
Loratadine	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (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)	—
Cetirizine	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 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	—
Ergocalciferol (vitamin D analogue)	0.0ŦŦ (0.0–0.0)	0.0ŦŦ (0.0–0.0)	0.0ŦŦ (0.0–0.0)	0.0ŦŦ (0.0–0.0)	0.0ŦŦ (0.0–0.0)	0.0ŦŦ (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)	↑
Diclofenac topical	0.2 (0.1–0.2)	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)	—
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)	0.1 (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)	—
Clotrimazole topical	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	—
Total advised medications	**8.9 (8.2–9.6)**	**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)**	—

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change and — indicates there was no change.

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 includes data about the other (non-pharmacological) treatments provided in general practice from each of the 10 years of the BEACH study from 2001–02 to 2010–11. Other treatments included clinical and procedural treatments provided. These groups 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. Between 2005–06 and 2010–11 the GPs were also asked to indicate (using a tick box) whether the recorded treatment was provided by a practice nurse. In this chapter all 'other treatments' are reported, irrespective of whether they were done by the GP or by the practice nurse. 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, injections given in provision of vaccines were removed, as this action was already been counted and reported in medications. Treatments provided by the practice nurse (including the injections given for vaccination) are reported separately in Chapter 13.

Routine clinical measurements or observations, such as measurements of blood pressure and physical examinations, were not included between 2001–02 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.

Other treatments data for the 10 years 2001–02 to 2010–11, are reported in two ways: as rates per 100 problems managed (for example, Table 10.1a) and as rates per 100 encounters (for example, 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.

The direction and type of change from 2001–02 to 2010–11 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

Significant linear changes in the rate per 100 encounters can be extrapolated to estimate the national increase or decrease in the other treatments provided between 2001–02 and 2010–11. Examples of extrapolated change are given. The method used to extrapolate to national change estimates is described in Section 2.9.

10.1 Clinical treatments

Overall, there was a significant decline in the rate of clinical treatments provided for the management of patient problems in general practice from 26.5 per 100 problems managed in 2001–02 to 23.3 per 100 problems managed in 2010–11 (Table 10.1a). However the change was not linear. Table 10.1a shows that the number of clinical treatments provided by GPs remained steady from 2001–02 to 2004–05. This was followed by a sharp decline in clinical treatments to 20.0 per 100 problems in 2005–06. Since then, rates slowly increased to reach 23.3 per 100 problems in 2010–11, but there remained a significant decrease over the 10 years. When this is considered as a rate per 100 encounters, we can extrapolate this change to

encounters across Australia which equates to 3.9 million fewer clinical treatments given by GPs nationally in 2010–11 than 10 years earlier.

The overall result was reflected in the rates of specific types of clinical treatments.

- General advice and education was the most common clinical treatment provided. Although there was no overall change over the decade, the rate at which general advice and education was provided decreased from 4.8 in 2004–05 to 3.3 per 100 problems in 2005–06. From there, rates have slowly returned to a level just below that of 2001–02.
- Counselling and advice about nutrition and weight fell from 3.8 per 100 problems in 2001–02 to 2.6 in 2010–11 (Table 10.1a). From Table 10.1b we estimate there were 730,000 fewer occasions of provision of counselling and advice about nutrition and weight given in 2010–11 than in 2001–02.
- There was also a significant decrease in the rate at which advice and education about treatment was provided from 3.6 per 100 problems in 2001–02 to 2.2 per 100 in 2010–11 (Table 10.1a). When considered as a rate per 100 encounters, this equates to 1 million fewer occasions at which advice and education about treatment was given in 2010–11 than in 2001–02 (Table 10.1b).
- There was no overall change in the rate at which advice and education about medication was provided over the decade, however, there were significant changes during this time. The rate of advice and education about medication more than halved from 2.3 per 100 problems managed in 2004–05 to 1.1 in 2005–06. Since then, advice and education about medication has steadily increased significantly to reach 1.8 per 100 problems in 2010–11 (Table 10.1a).

While there was a significant decline in the number of clinical treatments given per 100 problems managed over the decade, as more problems were managed per 100 encounters in 2010–11 than in 2001–02 (see Section 7.1) there was no significant change in the total number of clinical treatments provided per 100 encounters (Table 10.1b).

In 2010–11, 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 100 encounters in 2010–11, GPs provided clinical treatment(s) in the management of depression 1.8 times.

The only significant change in the most common problems managed with clinical treatment(s) was an increase in the provision of clinical treatment(s) in the management of tobacco abuse. We estimate this increase from 0.3 per 100 encounters in 2001–02 to 0.6 per 100 in 2010–11 equates to 410,000 more occasions where clinical treatments were provided for tobacco abuse nationally in 2010–11 than a decade earlier (Table 10.2). The significant increase occurred over the most recent three years and may be associated with the availability of prescribed medications to assist in smoking cessation, and to government anti-smoking campaigns promoting discussion with GPs as a strategy towards quitting.

10.2 Procedures

Overall, the rate at which procedures were performed in the management of patient problems increased between 2001–02 and 2010–11, from 9.6 per 100 problems to 11.1 per 100 problems (Table 10.3a). This increase was reflected in the rates of specific types of procedures.

- As a group, the frequency of dressings/pressure/compression/tamponade rose over the decade from 1.3 per 100 problems in 2001–02 to 1.7 per 100 in 2010–11 (Table 10.3b). When considered as a rate per 100 encounters, this increase from 1.8 per 100 encounters in 2001–02 to 2.5 per 100 encounters in 2010–11 extrapolates to nearly 1.2 million more dressings/pressure/compression/tamponade procedures undertaken nationally in 2010–11 than in 2001–02.
- The provision of local injections (excluding all local injection/infiltrations performed for immunisations) doubled from 0.8 to 1.6 per 100 problems over this period (Table 10.3a). From Table 10.3b we estimate a national increase of 1.6 million more occasions in 2010–11 where local injections were given than in 2001–02.

In contrast, Table 10.3a shows a significant decrease in the rate in the provision of physical medicine/rehabilitation (1.5 per 100 problems in 2001–02 to 0.8 per 100 in 2009–10) and other therapeutic procedures/surgery NEC (1.0 per 100 in 2001–02 to 0.5 per 100 in 2010–11).

There was also an overall increase in the number of problems managed with procedural treatments from 2001–02 to 2010–11. Female genital check up/pap smear continued to be the most common problem to be managed with a procedure, increasing from 0.6 procedures per 100 total problems managed in 2001–02 to 0.9 per 100 in 2010–11 (Table 10.4). When considering the rate per 100 encounters, we can extrapolate this change to encounters across Australia which equates to an estimated 460,000 more procedures performed by GPs nationally for female genital check-up/pap smear in 2010–11 than a decade earlier.

Table 10.1a: The most frequent clinical treatments (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
Treatment	**(*n* = 139,092)**	**(*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)**	
Advice/education NEC*	4.4 (3.9–4.9)	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)	§
Counselling – problem*	3.2 (2.8–3.7)	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)	—
Counselling/advice – nutrition/weight*	3.8 (3.5–4.1)	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)	↓
Advice/education – treatment*	3.6 (3.2–3.9)	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)	↓
Counselling – psychological*	2.2 (2.0–2.4)	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)	—
Advice/education – medication*	2.0 (1.8–2.2)	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)	§
Other administration/ document*	1.1 (1.0–1.2)	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)	—
Sickness certificate*	0.8 (0.6–0.9)	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)	↑
Counselling/advice – exercise*	1.4 (1.3–1.6)	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)	↓
Reassurance, support	1.0 (0.9–1.2)	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)	—
Counselling/advice – smoking*	0.6 (0.5–0.6)	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)	—
Total clinical treatments	**26.5 (25.2–27.9)**	**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)**	§

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginal linear change, § indicates a non-linear significant or marginal change and — indicates there was no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.4, <purl.library.usyd.edu.au/sup/9781920899875>).

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

Table 10.1b: The most frequent clinical treatments (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
Treatment	(*n* = 96,973)	(*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)	
Advice/education NEC*	6.3 (5.6–7.0)	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)	§
Counselling – problem*	4.7 (4.0–5.3)	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)	—
Counselling/advice – nutrition/weight*	5.5 (5.0–5.9)	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)	↓
Advice/education – treatment*	5.1 (4.6–5.6)	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)	↓
Counselling – psychological*	3.2 (2.8–3.5)	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)	—
Advice/education – medication*	2.8 (2.6–3.1)	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)	§
Other administration/ document*	1.5 (1.4–1.7)	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)	§
Sickness certificate*	1.1 (0.9–1.3)	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)	↑
Counselling/advice – exercise*	2.1 (1.8–2.3)	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)	↓
Reassurance, support	1.5 (1.3–1.7)	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)	—
Counselling/advice – smoking*	0.8 (0.7–0.9)	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)	—
Counselling/advice – lifestyle*	0.4 (0.3–0.5)	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)	—
Counselling/advice – prevention*	0.3 (0.2–0.4)	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)	—

(continued)

Table 10.1b (continued): The most frequent clinical treatments (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑/↓ (a)
Treatment	(*n* = 96,973)	(*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)	
Counselling/advice – health/body*	0.3 (0.3–0.4)	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)	—
Counselling/advice – alcohol*	0.4 (0.3–0.4)	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)	—
Family planning*	0.3 (0.3–0.4)	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)	↓
Observe/wait*	0.3 (0.2–0.4)	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)	—
Counselling/advice – pregnancy*	0.3 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.4)	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)	—
Counselling/advice – other*	0.2 (0.1–0.2)	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)	↑
Counselling/advice – relaxation*	0.4 (0.3–0.4)	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)	↓
Total clinical treatments	**38.1 (36.1–40.1)**	**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)**	§

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginal linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.4, <purl.library.usyd.edu.au/sup/9781920899875>).

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

Table 10.2: The most common problems managed with a clinical treatment, 2001–02 to 2010–11

	Rate at which a clinical treatment was given for the selected problem, per 100 encounters [a] (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓ [b]
Problem managed	(*n* = 96,973)	(*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)	
Depression*	1.7 (1.6–1.9)	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)	—
Upper respiratory tract infection	2.0 (1.7–2.2)	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)	—
Hypertension*	1.3 (1.2–1.5)	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)	—
Diabetes – all*	1.0 (0.9–1.1)	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)	—
Anxiety*	0.8 (0.7–0.9)	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)	—
Lipid disorders	1.0 (0.9–1.1)	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)	↓
Gastroenteritis*	0.9 (0.8–1.0)	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)	↓
Back complaint*	0.6 (0.5–0.7)	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)	—
Tobacco abuse	0.3 (0.2–0.3)	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)	↑
Test results*	0.4 (0.3–0.4)	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)	↑
Obesity	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.5 (0.4–0.5)	0.5 (0.4–0.6)	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 (0.3–0.5)	0.5 (0.4–0.5)	—
Viral disease, other/NOS	0.6 (0.5–0.7)	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)	↓

(continued)

Table 10.2 (continued): The most common problems managed with a clinical treatment, 2001–02 to 2010–11

	Rate at which a clinical treatment was given for the selected problem, per 100 encounters[a] (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[b]
Problem managed	(*n* = 96,973)	(*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)	
Acute bronchitis/ bronchiolitis	0.5 (0.4–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.4 (0.3–0.5)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.4–0.5)	—
Acute stress reaction	0.4 (0.4–0.5)	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)	—
Asthma	0.7 (0.6–0.8)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.4–0.6)	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.5)	↓
Total problems with clinical treatments	**33.6 (31.9–35.2)**	**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)**	**—**

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

(b) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginal linear change, and — indicates there was no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <purl.library.usyd.edu.au/sup/9781920899875>).

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), 2001–02 to 2010–11

Treatment	Rate per 100 problems (95% CI)										↑↓[(a)]
	2001–02 (*n* = 139,092)	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)	
Excision/removal tissue/ biopsy/destruction/ debridement/cauterisation*	1.9 (1.7–2.1)	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)	—
Dressing/pressure/ compression/tamponade*	1.3 (1.2–1.4)	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)	↑
Local injection/ infiltration*[(b)]	0.8 (0.6–1.0)	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)	↑
Physical medicine/ rehabilitation*	1.5 (1.3–1.7)	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)	↓
Incision/drainage/flushing/ aspiration/removal body fluid*	0.8 (0.7–0.9)	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)	—
Pap smear*	0.6 (0.5–0.7)	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)	—
Repair/fixation – suture/ cast/prosthetic device (apply/remove)*	0.6 (0.6–0.7)	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)	↓
Other therapeutic procedures/surgery NEC*	1.0 (0.8–1.2)	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)	↓
INR test	N/A	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)	↑
Other preventive procedures/ high-risk medication*	0.0[Ŧ] (0.0–0.0)	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)	↑
Check-up – practice nurse*	N/A	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)	↑
Electrical tracings*	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	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)	↑

(continued)

Table 10.3a (continued): The most frequent procedural treatments (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[(a)]
Treatment	(*n* = 139,092)	(*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)	
Physical function test*	0.3 (0.2–0.4)	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)	—
Urine test*	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 (0.2–0.2)	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)	↑
Other diagnostic procedures*	0.1 (0.0–0.1)	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 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	↑
Total procedural treatments	**9.6 (9.1–10.1)**	**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)**	**↑**

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginal linear change, and — indicates there was no change.

(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, <purl.library.usyd.edu.au/sup/9781920899875>).

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

Note: CI – confidence interval; NEC – not elsewhere classified; N/A – not applicable.

Table 10.3b: The most frequent procedural treatments (rate per 100 encounters), 2001–02 to 2010–11

Treatment	Rate per 100 encounters (95% CI)										↑↓[(a)]
	2001–02 (*n* = 96,973)	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)	
Excision/removal tissue/ biopsy/destruction/ debridement/cauterisation*	2.7 (2.5–3.0)	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)	—
Dressing/pressure/ compression/tamponade*	1.8 (1.7–1.9)	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)	↑
Local injection/ infiltration*[(b)]	1.2 (0.9–1.4)	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)	↑
Physical medicine/ rehabilitation*	2.2 (1.9–2.4)	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)	↓
Incision/drainage/flushing/ aspiration/removal body fluid*	1.1 (1.0–1.2)	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)	—
Pap smear*	0.9 (0.8–1.0)	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)	—
Repair/fixation – suture/ cast/prosthetic device (apply/remove)*	0.9 (0.8–1.0)	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)	—
Other therapeutic procedures/surgery NEC*	1.4 (1.2–1.7)	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)	↓
INR test	N/A	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)	↑
Other preventive procedures/ high-risk medication	N/A	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)	↑
Check-up – practice nurse*	N/A	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)	↑
Electrical tracings*	0.3 (0.2–0.3)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.3 (0.3–0.4)	0.4 (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)	↑

(continued)

Table 10.3b (continued): The most frequent procedural treatments (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Treatment	**(*n* = 96,973)**	**(*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)**	
Physical function test*	0.4 (0.3–0.5)	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)	—
Urine test*	0.2 (0.2–0.3)	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)	↑
Other diagnostic procedures*	0.1 (0.1–0.1)	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)	**↑**
Pregnancy test*	0.3 (0.2–0.3)	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)	—
Glucose test*	0.2 (0.2–0.3)	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)	—
Total procedural treatments	**13.8 (13.1–14.5)**	**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)**	**↑**

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginal linear change, and — indicates there was no change.

(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, <purl.library.usyd.edu.au/sup/9781920899875>)

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; NEC – not elsewhere classified.

Table 10.4: The most common problems managed with a procedural treatment, 2001–02 to 2010–11

Problem managed	Rate at which a procedural treatment was given for the selected problem, per 100 encounters[a] (95% CI)										
	2001–02 (*n* = 96,973)	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)	↑↓[b]
Female genital check-up/ Pap smear*	0.6 (0.5–0.7)	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)	↑
Solar keratosis/sunburn	0.7 (0.6–0.9)	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)	—
Laceration/cut	0.5 (0.4–0.5)	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)	↑
Excessive ear wax	0.6 (0.5–0.6)	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)	—
Malignant neoplasm skin	0.3 (0.3–0.4)	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)	↑
Warts	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 (0.5–0.6)	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)	—
Chronic ulcer skin (including varicose ulcer)	0.3 (0.3–0.4)	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)	↑
General check-up*	0.2 (0.1–0.2)	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)	↑
Atrial fibrillation/flutter	0.0[Ŧ] (0.0–0.1)	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 (0.1–0.1)	0.2 (0.2–0.3)	0.3 (0.2–0.4)	0.3 (0.2–0.4)	0.4 (0.3–0.4)	↑
Sprain/strain*	0.5 (0.5–0.6)	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)	↓
Vitamin/nutritional deficiency	0.1 (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)	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)	↑
Back complaint*	0.5 (0.4–0.5)	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)	↓
Skin symptom/complaint, other	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)	0.3 (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)	↑

(continued)

Table 10.4 (continued): The most common problems managed with a procedural treatment, 2001–02 to 2010–11

	Rate at which a procedural treatment was given for the selected problem, per 100 encounters[a] (95% CI)										
Problem managed	**2001–02 (*n* = 96,973)**	**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)**	↑/↓[b]
Asthma	0.2 (0.1–0.2)	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)	↑
Skin disease, other	0.2 (0.2–0.3)	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)	—
Skin infection, post traumatic	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)	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)	**↑**
Osteoarthritis*	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 (0.1–0.2)	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)	↓
Total problems with procedural treatments	**13.1 (12.4–13.7)**	**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)**	**↑**

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

(b) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: **↑/↓** indicates a statistically significant linear change, ↑/↓ indicates a marginal linear change, and — indicates there was no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <purl.library.usyd.edu.au/sup/9781920899875>).

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.

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. Only new referrals arising at the encounter were included (that is, continuations were not recorded). 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 10 years, 2001–02 to 2010–11, 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.

The direction and type of change from 2001–02 to 2010–11 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

Significant linear changes in the rate per 100 encounters can be extrapolated to estimate the national increase or decrease in referrals provided between 2001–02 and 2010–11. Examples of extrapolated change are given. The method used to extrapolate to national change estimates is described in Section 2.9.

The rate of referral increased significantly, from 10.5 per 100 encounters in 2001–02 to 14.1 in 2010–11 (Table 11.1b). This suggests there were approximately 6.2 million more referrals given at GP encounters in 2010–11 than in 2001–02. Table 11.1b also shows that over time there was an increasing likelihood that GP–patient encounters would involve a referral (at 13.0% of encounters in 2010–11 compared with 10.0% in 2001–02).

There was a significant increase in the overall number of referrals, from 7.3 per 100 problems managed in 2001–02 to 9.3 in 2010–11 (Table 11.1a). Referrals to medical specialists significantly increased (per 100 problems), reflected in a significant increase in referrals to cardiologists, and marginal increases in referrals to urologists and gastroenterologists.

The rate of referral to allied health services increased significantly over the decade from 1.6 per 100 problems in 2001–02 to 2.8 per 100 in 2010–11. There was a significant increase in the rate of referrals to psychologists. Extrapolation of the rate per 100 encounters suggests there were approximately 610,000 more referrals to psychologists in 2010–11 than in 2001–02. Referrals to podiatrist or chiropodists and dentists also showed significant increases. There were marginal increases in the rate of referral to dietitians or nutritionists, and to physiotherapists per 100 problems. Extrapolation of the rate per 100 encounters shows approximately 230,000 more referrals to physiotherapists in 2010–11 than in 2001–02.

In 2010–11 there was a significant increase in the rate of referrals to emergency departments since 2001–02 (Table 11.1a), and there was a marginal decrease in the rate of referral/admission to hospitals.

Table 11.1a: The most frequent referrals (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Referral	(*n* = 139,092)	(*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)	
At least one referral	7.3 (7.0–7.6)	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)	↑
Medical specialist	5.1 (4.9–5.3)	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)	↑
Surgeon	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (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)	—
Orthopaedic surgeon	0.5 (0.5–0.6)	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)	—
Dermatologist	0.4 (0.4–0.5)	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)	—
Ophthalmologist	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.6)	0.5 (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)	↓
Cardiologist	0.3 (0.3–0.3)	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)	↑
Gastroenterologist	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (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)	↑
Ear, nose and throat	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.4 (0.3–0.4)	0.3 (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)	—
Gynaecologist	0.4 (0.3–0.4)	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)	—
Urologist	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 (0.2–0.3)	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)	↑
Neurologist	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)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	—
Paediatrician	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)	0.1 (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)	—

(continued)

Table 11.1a: The most frequent referrals (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Referral	(*n* = 139,092)	(*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)	
Psychiatrist	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)	0.1 (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)	—
Clinic/centre	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)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	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 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	—
Allied health service	1.6 (1.5–1.7)	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)	↑
Physiotherapy	0.6 (0.6–0.7)	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)	↑
Psychologist	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 (0.2–0.2)	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)	↑
Podiatrist/chiropodist	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.2 (0.1–0.2)	0.2 (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)	↑
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 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	↑
Dietitian/nutritionist	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 (0.1–0.2)	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)	↑
Hospital	0.3 (0.3–0.3)	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)	↓
Emergency department	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	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)	↑
Other referrals	0.2 (0.2–0.3)	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)	↑
Total referrals	**7.3 (7.0–7.6)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant change, ↑/↓ indicates a marginal change, and — indicates there was no change.

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; NOS – not otherwise specified.

Table 11.1b: The most frequent referrals (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Referral	(*n* = 96,973)	(*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)	
At least one referral	10.0 (9.6–10.4)	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)	↑
Medical specialist	7.3 (7.0–7.6)	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)	↑
Surgeon	0.8 (0.7–0.8)	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)	↑
Orthopaedic surgeon	0.7 (0.7–0.8)	0.8 (0.7–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.7 (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)	—
Dermatologist	0.6 (0.5–0.7)	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)	—
Ophthalmologist	0.7 (0.7–0.8)	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)	↓
Cardiologist	0.4 (0.4–0.5)	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)	↑
Gastroenterologist	0.4 (0.3–0.5)	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)	↑
Ear, nose and throat	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	0.5 (0.5–0.6)	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)	—
Gynaecologist	0.5 (0.5–0.6)	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)	—
Urologist	0.2 (0.2–0.3)	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)	↑
Neurologist	0.2 (0.2–0.2)	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)	↑
Paediatrician	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 (0.2–0.3)	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)	↑
Psychiatrist	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)	0.2 (0.2–0.3)	0.2 (0.2–0.3)	0.2 (0.2–0.2)	0.2 (0.2–0.3)	—

(continued)

Table 11.1b (continued): The most frequent referrals (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Referral	(*n* = 96,973)	(*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)	
Allied health service	2.3 (2.1–2.4)	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)	↑
Physiotherapy	0.9 (0.8–1.0)	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)	↑
Psychologist	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 (0.4–0.5)	0.7 (0.6–0.7)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	0.9 (0.8–1.0)	↑
Podiatrist/chiropodist	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 (0.2–0.3)	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)	↑
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 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.4 (0.3–0.4)	↑
Dietitian/nutritionist	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 (0.2–0.3)	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)	↑
Hospital	0.4 (0.4–0.5)	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)	↓
Emergency department	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 (0.2–0.2)	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)	↑
Other referrals	0.4 (0.3–0.4)	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)	↑
Total referrals	**10.5 (10.1–10.9)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginal linear change, and — indicates there was no change.

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

12 Investigations

Investigations data for the 10 years, 2001–02 to 2010–11, 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 2001–02 to 2010–11 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

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).

Significant linear changes in the rate per 100 encounters can be extrapolated to estimate the national increase or decrease in the other treatments provided between 2001–02 and 2010–11. Examples of extrapolated change are given. The method used to extrapolate to national change estimates is described in Section 2.9.

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.[55]
- a report on imaging orders by GPs in Australia in 1999–00 using BEACH data, published as an AIHW–University of Sydney book in the GP series in 2001.[56]
- 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.[57]
- a review of GP pathology ordering in the National Health Priority Areas and other selected problems between 2000 and 2008, reported in Chapter 5 of the AIHW–University of Sydney publication *General practice in Australia, health priorities and policies 1998 to 2008*.[58]
- a report *Evidence-practice gap in GP pathology test ordering: a comparison of BEACH pathology data and recommended testing*, produced for the Australian Government Quality Use of Pathology Program in June 2009.[59]

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

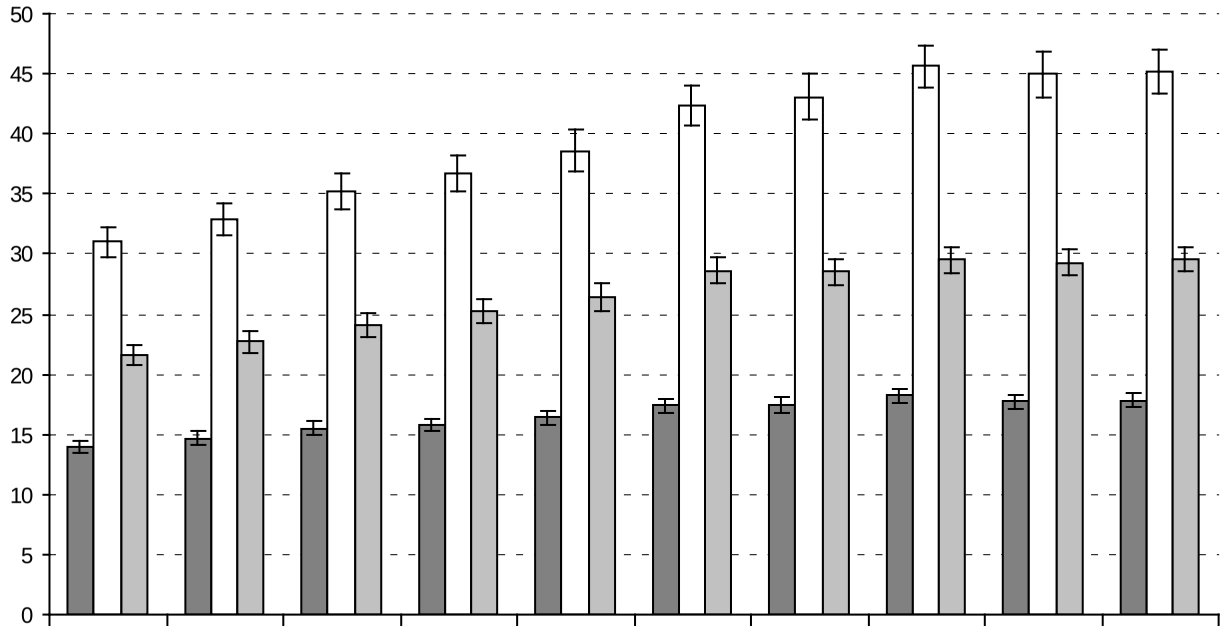
Table 12.1a shows there was a significant increase in the proportion of problems for which pathology and/or imaging was ordered, from 14.9% in 2001–02 to 18.2% in 2010–11.

- The likelihood of ordering at least one pathology test increased from 10.8% of all problems managed in 2001–02 to 13.3% in 2010–11.
- The proportion of problems generating imaging orders increased from 5.0% in 2001–02 to 5.7% in 2010–11.

Between 2001–02 and 2010–11, the number of problems managed per 100 encounters rose from 143.4 to 152.5 (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 and/or imaging test, from 19.2% in 2001–02 to 24.1% in 2010–11 (Table 12.1b). This equates to almost 9.3 million more encounters at which tests were ordered in 2010–11 than a decade earlier.

- The likelihood of ordering at least one pathology test increased from 14.0% of encounters in 2001–02 to 17.8% in 2010–11, which is over 7 million additional encounters at which pathology was ordered in 2010–11 than 10 years earlier.
- The proportion of encounters generating imaging orders increased from 6.9% in 2001–02 to 8.4% in 2010–11, resulting in an estimated 3 million more encounters nationally at which imaging was ordered in 2010–11 than in 2001–02.

Both the likelihood of ordering pathology and the total number of pathology tests ordered per 100 problems or per 100 encounters have significantly increased over the 10 years to 2010–11 (Figure 12.1). However, 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 increased from an average of 1.92 tests/batteries per tested problem in 2001–02 to 2.32 per tested problem in 2010–11.



	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Per cent of encounters generating pathology test orders	14.0	14.7	15.5	15.7	16.4	17.4	17.4	18.2	17.7	17.8
Pathology test orders per 100 encounters	31.0	32.9	35.2	36.7	38.6	42.4	43.1	45.6	45.0	45.2
Pathology test orders per 100 problems	21.6	22.7	24.1	25.2	26.4	28.6	28.5	29.5	29.3	29.6

Figure 12.1: Encounters where pathology was ordered, and pathology test order rates per 100 encounters and per 100 problems, 2001–02 and 2010–11 (95% confidence interval)

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.[60]

The number of pathology tests ordered increased from 21.6 tests/ batteries of tests per 100 problems managed in 2001–02 to 29.6 per 100 problems in 2010–11 (Table 12.2a).

The largest increase was in orders for chemical pathology, which increased from 11.5 per 100 problems in 2001–02 to 17.2 per 100 in 2010–11. Haematology increased at a slower rate, from 4.3 per 100 problems in 2001–02 to 5.3 in 2010–11. Microbiology test orders increased from 3.4 per 100 problems in 2001–02 to 4.3 in 2010–11. There was a far smaller increase in order rates for immunology, a marginal increase in orders for other tests not elsewhere classified and simple tests, and no increases in the other test groups.

The number of pathology tests ordered per 100 encounters increased from 31.0 tests/batteries of tests per 100 encounters in 2001–02 to 45.2 in 2010–11, which extrapolates to approximately 22.4 million more test orders in 2010–11 than in 2001–02 nationally (Table 12.2b).

The largest increase was in orders for chemical pathology, which increased from 16.5 per 100 encounters in 2001–02 to 26.2 in 2010–11. This extrapolates to an estimated 14.5 million additional chemistry test orders in 2010–11 than 10 years earlier. Haematology increased at a slower rate, rising from 6.2 tests per 100 encounters in 2001–02 to 8.1 in 2010–11, a national increase of approximately 3.4 million tests. Microbiology test orders increased from 4.8 per 100 encounters in 2001–02 to 6.5 in 2010–11, extrapolating to an increase of about 2.9 million additional test orders in 2010–11. There were far smaller increases in order rates for immunology and 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 2001–02 to 2010–11.

Total imaging test orders increased significantly from 5.5 per 100 problems in 2001–02 to 6.4 per 100 in 2010–11 (Table 12.3a). Ultrasound imaging increased from 1.7 tests per 100 problems in 2001–02 to 2.5 per 100 in 2010–11. Computerised tomography increased from 0.5 per 100 problems in 2001–02 to 0.7 in 2010–11. Magnetic resonance imaging increased from less than 0.05 per 100 problems in 2001–02 to 0.1 in 2010–11. Diagnostic radiology and nuclear medicine order rates did not change during this period.

Total imaging test orders per 100 encounters also increased significantly from 7.9 in 2001–02 to 9.8 in 2010–11, suggesting a national increase of 3.7 million encounters generating an order for imaging (Table 12.3b). Ultrasound imaging increased from 2.5 tests per 100 encounters in 2001–02 to 3.8 per 100 in 2010–11, a national increase of almost 2 million encounters with ultrasound orders. Computerised tomography increased from 0.7 per 100 encounters in 2001–02 to 1.1 in 2010–11, equating to an additional 600,000 encounters. Magnetic resonance imaging increased from less than 0.05 per 100 encounters in 2001–02 to 0.1 in 2010–11. Diagnostic radiology and nuclear medicine order rates did not change during this period.

Table 12.1a: Problems for which pathology or imaging was ordered (per cent of problems), 2001–02 to 2010–11

	Per cent of problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓ (a)
Test ordered	(*n* = 139,092)	(*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)	
At least one test ordered	14.9 (14.4–15.3)	15.8 (15.3–16.2)	16.1 (15.6–16.6)	16.4 (16.0–16.9)	17.2 (16.6–17.7)	17.8 (17.3–18.3)	17.7 (17.2–18.2)	18.1 (17.6–18.6)	17.8 (17.3–18.3)	18.2 (17.7–18.7)	↑
At least one pathology test ordered	10.8 (10.4–11.2)	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)	↑
At least one imaging test ordered	5.0 (4.7–5.2)	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)	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change.

Note: CI – confidence interval.

Table 12.1b: Encounters at which pathology or imaging was ordered (per cent of encounters), 2001–02 to 2010–11

	Per cent of encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓ (a)
Test ordered	(*n* = 96,973)	(*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)	
At least one test ordered	19.2 (18.6–19.8)	20.3 (19.7–21.0)	20.8 (20.1–21.5)	21.2 (20.6–21.8)	22.1 (21.4–22.7)	23.0 (22.3–23.7)	23.4 (22.7–24.1)	24.2 (23.5–24.8)	23.8 (23.1–24.5)	24.1 (23.4–24.8)	↑
At least one pathology test ordered	14.0 (13.5–14.5)	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)	↑
At least one imaging test ordered	6.9 (6.6–7.2)	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)	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change.

Note: CI – confidence interval.

Table 12.2a: Pathology orders by MBS pathology groups (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓ (a)
Pathology test ordered	(*n* = 139,092)	(*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)	
Chemistry*	11.5 (10.9–12.0)	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)	↑
Haematology*	4.3 (4.1–4.5)	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)	↑
Microbiology*	3.4 (3.2–3.6)	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)	↑
Cytopathology*	1.1 (1.0–1.2)	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)	—
Other NEC*	0.5 (0.4–0.5)	0.5 (0.4–0.6)	0.6 (0.5–0.6)	0.6 (0.5–0.7)	0.5 (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)	↑
Immunology*	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 (0.4–0.5)	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)	↑
Tissue pathology*	0.3 (0.3–0.4)	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)	—
Infertility/pregnancy*	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)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.1–0.2)	—
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 (0.1–0.1)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.1–0.2)	↑
Total pathology tests	**21.6 (20.8–22.5)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginal linear change, and — indicates there was no change.

* Includes multiple ICPC-2 and ICPC-2 PLUS codes (see Appendix 4, Table A4.8, <purl.library.usyd.edu.au/sup/9781920899875>).

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

Table 12.2b: Pathology orders by MBS pathology groups (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓ (a)
Pathology test ordered	(*n* = 96,973)	(*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)	
Chemistry*	16.5 (15.6–17.3)	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)	↑
Haematology*	6.2 (5.8–6.5)	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)	↑
Microbiology*	4.8 (4.5–5.2)	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)	↑
Cytolopathology*	1.6 (1.4–1.7)	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)	—
Other NEC*	0.7 (0.6–0.8)	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)	—
Immunology*	0.5 (0.4–0.5)	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)	↑
Tissue pathology*	0.5 (0.4–0.6)	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)	—
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 (0.2–0.3)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	0.3 (0.2–0.3)	0.3 (0.2–0.3)	—
Simple tests*	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 (0.1–0.2)	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)	↑
Total pathology tests	**31.0 (29.7–32.4)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, and — indicates there was no change.

* Includes multiple ICPC-2 and ICPC-2 PLUS codes (see Appendix 4, Table A4.8, <purl.library.usyd.edu.au/sup/9781920899875>).

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

Table 12.3a: Imaging orders by MBS imaging groups (rate per 100 problems), 2001–02 to 2010–11

	Rate per 100 problems (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Imaging test ordered	(*n* = 139,092)	(*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)	
Diagnostic radiology*	3.1 (3.0–3.3)	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)	—
Ultrasound*	1.7 (1.6–1.8)	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)	↑
Computerised tomography*	0.5 (0.5–0.6)	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)	↑
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 (0.0–0.0)	0.0Ŧ (0.0–0.1)	0.0Ŧ (0.0–0.1)	0.1 (0.1–0.1)	0.1 (0.1–0.1)	↑
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 (0.1–0.1)	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)	—
Total imaging tests	**5.5 (5.3–5.7)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 for imaging is indicated for each result: ↑/↓ indicates a statistically significant linear change, and — indicates there was no change.

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, <purl.library.usyd.edu.au/sup/9781920899875>).

Note: CI – confidence interval.

Table 12.3b: Imaging orders by MBS imaging groups (rate per 100 encounters), 2001–02 to 2010–11

	Rate per 100 encounters (95% CI)										
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓ (a)
Imaging test ordered	(*n* = 96,973)	(*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)	
Diagnostic radiology*	4.5 (4.3–4.7)	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)	—
Ultrasound*	2.5 (2.3–2.6)	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)	↑
Computerised tomography*	0.7 (0.7–0.8)	0.8 (0.7–0.9)	0.8 (0.7–0.9)	1.0 (0.9–1.1)	1.0 (0.9–1.1)	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)	↑
Magnetic resonance imaging*	0.0‡ (0.0–0.0)	0.0‡ (0.0–0.0)	0.0‡ (0.0–0.1)	0.0‡ (0.0–0.0)	0.0‡ (0.0–0.1)	0.0‡ (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)	↑
Nuclear medicine*	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)	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 imaging tests	**7.9 (7.5–8.2)**	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 for imaging is indicated for each result: ↑/↓ indicates a statistically significant linear change, and — indicates there was no change.

‡ 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, <purl.library.usyd.edu.au/sup/9781920899875>).

Note: CI – confidence interval.

13 Practice nurse activity

This section investigates changes in the activities of practice nurses in association with the GP–patient encounters for the years 2005–06 to 2010–11.

In November 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.[18] The BEACH recording form for the 2005–06 BEACH year 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 earlier BEACH years.
- 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.

The survey form allowed GPs to record up to two other treatments for each problem managed at the encounter. Other treatments include all clinical and procedural treatments provided at the encounters. These groups are defined in Appendix 4, Tables A4.4 and A4.5.

Over the year more practice nurse item numbers were added to the Medicare Schedule.

This section investigates changes in:

- the distribution of the practice nurse Medicare items recorded as claimable at encounters
- treatments provided by practice nurses in association with the GP-recorded encounters
- problems for which the practice nurse provided the treatment in association with the GP-recorded encounters.

In Chapter 10, all treatments (other than medications) recorded by the GPs were reported, irrespective of whether they were provided by the GP or by a practice nurse. As in previous years, injections recorded in the provision of immunisations and vaccinations were not included, as these are already counted as pharmacological management. In contrast, in this description of practice nurse activity only the treatments indicated as being given by a practice nurse (including the injections for immunisation/vaccination that were not counted in Chapter 10) are included. GPs are also instructed not to record their own taking of routine clinical measurements, such as blood pressure. However, where the practice nurse undertook these activities at the consultation and it was recorded as a practice nurse activity, they are included in the analysis in this chapter.

When viewing these results, it must be remembered that these practice nurse data will not include activities undertaken by the practice nurse 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 under instruction from the GP but not at the time of the encounter.

In measuring the changes that have occurred in practice nurse activity over the six years, the direction and type of change is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally

significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

Significant linear changes in the rate per 100 encounters can be extrapolated to estimate the national increase or decrease in the other treatments provided between 2001–02 and 2010–11. Examples of extrapolated change are given. The method used to extrapolate to national change estimates is described in Section 2.9, and these methods can be applied to any significantly linear change per 100 encounters reported.

13.1 Overview of practice nurse activity

Encounters involving a practice nurse as a proportion of all recorded encounters almost doubled from 4.2% in 2005–06 to 8.0% in 2010–11. The proportion of problems for which practice nurses were involved in association with the GP-patient encounter also increased significantly from 2.8% to 5.4%. Encounters including a recorded practice nurse Medicare item number formed an increasing proportion of all encounters, rising from 1.7% in 2005–06 to 4.1% in 2009–10. In 2010–11 there was a marginal decrease to 3.2%, but this proportion remained significantly higher than in 2005–06. Extrapolation of these results to national Medicare claims for GP consultations in these years suggests that in 2010–11, practice nurses were actively involved in provision of care at about 10.3 million encounters, about 6.1 million more than in 2005–06.

There was no statistically significant change in the proportion of practice nurse activity encounters for which a Medicare practice nurse item number was recorded, the proportion sitting between 35% and 45% over the 10-year period (Table 13.1).

13.2 Distribution of practice nurse 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 3.2 per 100 in 2010–11 (Table 13.2). 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. 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.[8]

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 68.0%, and the 2010–11 sample 62%. 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.

There was only one significant change over the six year period in the distribution of practice nurse item numbers claimed for work associated with the BEACH encounters: there was an increase in the proportion of claims made for practice nurse services to a person with a chronic disease, since this item was first introduced in 2007–08.

Last year we reported a large increase in the proportion of claims accounted for by immunisations from 63.5% of practice nurse items recorded in 2008–09, to 74.9% in 2009–10, but this increase was not supported by the 2010–11 data which reverted to the 2006–07 level, at 67%. This recent change was also reflected in the Medicare claims data[8] which demonstrated a decrease from 5.5 million claims for immunisation practice nurse items in 2009–10 but only 3.7 million such claims in 2010–11. The transient rise in Medicare claims for practice nurse immunisations in 2009–10 may reflect increased patient demand resulting in increased immunisations/vaccinations during the H1N1 epidemic.

Further, the proportion of claims accounted for by wound treatment, had sat steady at about one-third of all BEACH recorded practice nurse item claims, decreased significantly in 2009–10, to 21.3%. However 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 13.2).

13.3 Treatments provided by practice nurses

The rate at which procedures (including tests) were undertaken by practice nurses at GP–patient encounters doubled from 4.0 per 100 encounters in 2005–06 to 8.0 per 100 in 2009–10, the largest portion of this increase occurring between 2008–09 and 2009–10. Practice nurses also took over an increasing proportion of the procedural work at the GP encounters, increasing from 22.7% in 2005–06 to 38.0% in 2010–11.

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 0.7 per 100 in 2010–11. Further, nurses did a significantly greater proportion of the clinical treatments recorded at encounters, rising from 0.7% in 2005–06 to 2.0% in 2010–11. Overall in 2010–11 practice nurses provided 15.4% of all 'other treatments' recorded at the encounters, a significantly greater proportion than in 2005–06 (9.0%) (Table 13.3).

Individual treatments

There was also a significant increase in the number of treatments provided by the practice nurse at encounters in which they were involved, from 107.4 per 100 encounters in 2005–06 to 112.8 per 100 in 2010–11. Paralleling the reversion in the number of Medicare claims for practice nurses immunisations, described above, local injections/infiltrations reverted to the 2005–06 level of about 41 per 100 practice nurse involved encounters. The significant decrease in dressing/pressure/compression/tamponade procedures done by practice nurses that was noted last year was retained and decreases were also apparent in their rates of repair/fixations, electrical tracing, excisions/removals/biopsies. 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.

In clinical treatments, practice nurse provision of administrative procedures (excluding sickness certificates) increased from 0.7 per 100 practice nurse involved encounter in 2005–06, to 2.3 per 100 in 2008–09 and remained steady to 2010–11, nurse consultation with a primary care provider increased from 0.2 to 0.7 per 100 practice nurse involved encounters, perhaps reflecting their increasing contribution to the care of patients with chronic disease (reflected in the claims data in Table 13.2).

13.4 Problems managed with practice nurse

Paralleling the decreases in claims for immunisations by practice nurses between 2009–10 and 2010–11 discussed earlier in this chapter, in 2010–11 immunisations/vaccination reverted to earlier levels of about 30 per 100 encounters – down from its peak of 40.6 per 100 practice nurse involved encounters in 2009–10.

Increases in nurse management of atrial fibrillation/flutter, diabetes, post-traumatic skin infections, cystitis/urinary infection and 'other preventive procedures' were apparent, with decreases in the frequency of their involvement in chronic ulcer skin (including varicose ulcer) and malignant skin neoplasms.

Table 13.1: Summary of practice nurse involvement at encounter, and claims made, 2005–06 to 2010–11

Variable	Number						↑↓ (a)
	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	
Total encounters	101,993	91,805	95,898	96,688	101,349	95,839	. .
Encounters involving practice nurse	4,295	4,769	5,791	6,183	9,154	7,625	. .
Encounters at which practice nurse activity described	4,013	4,710	5,712	6,052	8,999	7,432	. .
Encounters with practice nurse item number but activity not described	282	59	79	131	155	195	. .
Encounters at which one or more MBS practice nurse item numbers were recorded as claimable	1,683	1,823	2,060	2,416	4,161	3,068	. .
Total problems managed	149,088	136,333	145,078	149,462	155,373	146,141	. .
Problems managed with practice nurse involvement	4,111	4,922	5,909	6,281	9,542	7,826	. .
	Per cent (95% CI)						
Encounters involving the practice nurse 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)	↑
Problems involving the practice nurse 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)	↑
Practice nurse 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)	↑
Proportion of practice nurse involved encounters for which one or more MBS practice nurse 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)	—

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change; § indicates a non-linear significant or marginal change, and — indicates there was no change

Note: 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 activity those encounters at which an item number was recorded but no practice nurse activity was described.

Table 13.2: Distribution of practice nurse item numbers recorded at encounter, 2005–06 to 2010–11

Medicare item number	Short descriptor	Per cent of total (95% CI) 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)	↑↓ (a)
00711/10986 (b)	Health assessment of four year old who has had/ is having 4 year old immunisation, by practice nurse or registered Aboriginal health worker	N/A	N/A	N/A	0.1 (0.0–0.2)	0.3 (0.1–0.5)	0.2 (0.0–0.4)	—
10993 (c)	Immunisation by practice nurse	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)	§
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)	—
10995 (d)	Cervical smear and preventive checks – women 20–69 years, no smear in previous 4 years	N/A	0.1 (0.0–0.2)	0.1 (0.0–0.2)	0.4 (0.0–0.9)	0.0Ŧ (0.0–0.1)	0.0Ŧ (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)	—
10999 (f)	Cervical smear – women 20–69 years, no smear in previous 4 years	0.5 (0.0–0.9)	0.2 (0.0–0.4)	0.3 (0.0–0.8)	0	0.0Ŧ (0.0–0.1)	0.0Ŧ (0.0–0.0)	—
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)	§
10997 (e)	Service to a person with a chronic disease by a practice nurse or registered Aboriginal health worker	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)	↑
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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change; § indicates a non-linear significant or marginal change, and — indicates no change.

(b) Item 00711 – Health check by a practice nurse or registered Aboriginal health worker was introduced in 2008 and replaced with item 10986 in May 2010

(c) Item numbers introduced in 2004.

(d) Item number introduced in November 2006.

(e) Item number introduced in November 2007.

(f) Item numbers introduced in November 2004, but broadened in 2006, so they are not limited to services in rural areas.

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

Note: N/A – Not applicable. There were no recordings in any year of items: 10987 – Follow-up by practice nurse or registered Aboriginal health worker for Indigenous person who has received a health assessment; 10988 – Immunisation provided by a registered Aboriginal health worker; 10989 – Wound treatment provided by a registered Aboriginal health worker; 16400 – Antenatal services provided by midwives, practice nurses and Aboriginal health workers in rural and remote areas.

Table 13.3: Summary of treatments provided by practice nurse, 2005–06 to 2010–11

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)	↑↓[(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)	↑
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)	↑
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)**	↑
	Per cent of each activity that was performed/assisted by the practice nurse (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)	↑
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)	↑
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)**	↑

(a) The direction and type of change from 2005–06 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change.

(b) 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.

Table 13.4: Most frequent treatments done by practice nurses, 2005–06 to 2010–11

Treatment	Rate per 100 encounters where practice nurse 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)	↑↓[(a)]
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)**	—
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)	§
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)	↓
Check-up – practice nurse*	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	—
International normalised ratio (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)	↑
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)	—
Repair/fixation-suture/cast/prosthetic device (apply/remove – all*	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)	—
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)	—
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)	↓
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)	—
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)	—
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)	—
Other diagnostic procedures NEC*	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)	↑

(continued)

Table 13.4 (continued): Most frequent treatments done by practice nurses, 2005–06 to 2010–11

Treatment	Rate per 100 encounters where practice nurse 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)	↑↕↓[(a)]
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)	—
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)	—
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)	—
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)	↑
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)**	↑
Other administrative procedure/document (excluding 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)	↑
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)	—
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)	—
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)	↑
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)	—
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)	↑
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)	↑
Total practice nurse activities at encounter	**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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change and — indicates no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Tables A4.4–A4.6 <purl.library.usyd.edu.au/sup/9781920899875>).

Note: CI – confidence interval; NOS – not otherwise stated; NAv – data not available.

Table 13.5: The most common problems managed with involvement of practice nurse, 2005–06 to 2010–11

Problem managed	Rate per 100 problem contacts with practice nurse 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)	↑↓[(a)]
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)	§
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	—
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)	—
Chronic ulcer skin (including 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)	↓
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)	↑
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)	↑
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)	—
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)	↓
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)	↑
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)	↑
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)	—
Repair/fixation-suture/cast/prosthetic device (apply/remove) – all*	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)	—
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)	—
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)	—

(continued)

Table 13.5 (continued): The most common problems managed with involvement of practice nurse, 2005–06 to 2010–11

Problem managed	Rate per 100 contacts with practice nurse 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)	
Cystitis/urinary infection, other	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)	↑
Other preventive procedures*	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)	↑
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)	—
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)	—
Observation/health education/advice – 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)	—
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)	—
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)	—
Skin symptom/complaint 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)	—
Contraception, other than oral	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)	—
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)	↓
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)	—
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)**	↑

(a) The direction and type of change from 2001–02 to 2010–11 is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, and — indicates no change.

* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 4, Table A4.1, <purl.library.usyd.edu.au/sup/9781920899875>).

Note: Includes only those problems managed by practice nurses at a rate of 1% or higher in any of the years reported; CI – confidence interval; NEC – not elsewhere classified.

14 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 2009–10, 83% of Australians visited a GP at least once (personal communication DoHA, June 2010). GPs, through ongoing professional education, have substantial knowledge of population health, screening programs and other interventions. They are therefore 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 health care 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.

In brief, measured patient risk factors include self-reported height and weight (to calculate BMI), alcohol consumption and smoking status. Each GP completes patient risk factors data for a subsample of 40 forms. An example of the encounter form with the patient risk factor SAND questions is included in Appendix 1. The methods used to investigate patient risk factors are summarised in each section of this chapter. Further detail is provided in Chapter 14 of the companion report *General practice activity in Australia 2010–11*.[1]

This chapter includes data about the risk behaviours of general practice patients from each of the most recent 10 years of the BEACH study from 2001–02 to 2010–11. The direction and type of change from 2001–02 to 2010–11 is indicated for each result in the far right column of the tables: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, § indicates a non-linear significant or marginal change, and — indicates there was no change.

14.1 Body mass index

Method

Patient BMI was investigated for a subsample of 40 of the 100 patient encounters. 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[61] 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).[62,63]

Adults

Overall prevalence of overweight and obesity in adults attending general practice increased significantly from 55.0% in 2001–02 (95% CI: 54.1–55.8) to 61.8% in 2010–11 (95% CI: 60.9–62.6) (results not tabulated).

Looking at obesity and overweight individually:

- there was a significant increase in the prevalence of obesity in adults attending general practice, from 21.5% in 2001–02 to 26.7% in 2010–11 (Table 14.1). The significant increase in obesity was apparent in both male and female patients (Tables 14.2 and 14.3).
- the prevalence of overweight in adults also increased from 33.5% in 2001–02 to 35.1% in 2010–11 (Table 14.1). This significant increase in overweight was only apparent in female patients (Tables 14.2 and 14.3).

Children

The prevalence of overweight and obesity in children aged 2–17 years attending general practice remained static from 2001–02 to 2010–11, with about 10–11% of children being obese and about 18% overweight (Table 14.1).

14.2 Smoking

Method

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 18.4% and 4.1% respectively in 2001–02 to 14.8% and 2.7% in 2010–11 (Table 14.1). These decreases were apparent in both male and female patients (Tables 14.2 and 14.3).

14.3 Alcohol consumption

Method

To measure alcohol consumption, BEACH uses AUDIT-C[64] which is the first three items from the WHO Alcohol Use Disorders Identification Test (AUDIT),[65] with scoring for an Australian setting.[66] The AUDIT-C has demonstrated validity and internal consistency and performs as well as the full AUDIT tool.[67] 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).[64] 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.[66]

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

The rates of at-risk levels of alcohol consumption among adults attending general practice remained static at about 25–26% of adult patients between 2001–02 and 2010–11 (Table 14.1).

Table 14.1: Patient risk factors, 2001–02 to 2010–11

Risk factor	Per cent (95% CI) 2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Adults (aged 18 years and over)											
Body mass index class[b] (*n*)	**31,789**	**32,367**	**31,890**	**30,476**	**33,101**	**32,334**	**31,062**	**33,526**	**31,932**	**31,315**	. .
Obese	21.5 (20.8–22.2)	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)	↑
Overweight	33.5 (32.9–34.1)	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)	↑
Normal	42.1 (41.3–42.9)	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)	↓
Underweight	3.0 (2.8–3.2)	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)	↓
Smoking status (*n*)	**31,966**	**32,651**	**32,718**	**31,295**	**33,558**	**31,176**	**31,652**	**34,194**	**32,744**	**32,160**	. .
Daily	18.4 (17.7–19.2)	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)	↓
Occasional	4.1 (3.8–4.4)	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)	↓
Previous	27.8 (27.0–28.6)	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)	—
Never	49.7 (48.7–50.7)	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)	↑
Alcohol consumption (*n*)	**31,559**	**32,140**	**31,721**	**30,414**	**32,753**	**30,347**	**30,796**	**33,347**	**31,771**	**31,190**	. .
At-risk alcohol level	26.0 (25.1–26.8)	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)	—
Responsible drinker	44.1 (43.3–45.0)	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)	—
Non-drinker	29.9 (28.9–30.9)	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)	—

(continued)

Table 14.1 (continued): Comparative results for all patient risk factors, 2001–02 to 2010–11

Risk factor	Per cent (95% CI)										↑↓[a]
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	
Children (aged 2–17 years)[c] (*n*)	**3,518**	**3,380**	**3,189**	**3,018**	**3,338**	**3,087**	**3,046**	**2,970**	**3,183**	**3,008**	. .
Obese	10.9 (9.7–12.1)	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)	—
Overweight	17.9 (16.5–19.3)	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))	—

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant linear change, and — indicates there was no change.

(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) 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 2001–02 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 14.2: Patient risk factors among adult males, 2001–02 to 2010–11

Risk factor	Per cent (95% CI)										↑↓[(a)]
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	
Body mass index class[(b)] (*n*)	**12,512**	**12,450**	**12,434**	**12,288**	**12,882**	**12,715**	**12,126**	**13,595**	**11,945**	**12,322**	. .
Obese	20.0 (19.1–20.9)	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)	↑
Overweight	41.0 (40.0–42.0)	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)	—
Normal	37.4 (36.3–38.6)	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)	↓
Underweight	1.5 (1.3–1.8)	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)	↓
Smoking status (*n*)	**12,547**	**12,521**	**12,692**	**12,613**	**13,016**	**12,257**	**12,335**	**13,841**	**12,260**	**12,600**	. .
Daily	21.6 (20.5–22.6)	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)	↓
Occasional	4.6 (4.1–5.1)	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)	↓
Previous	36.6 (35.4–37.9)	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)	—
Never	37.2 (36.0–38.4)	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)	↑
Alcohol consumption[)] (*n*)	**12,464**	**12,391**	**12,334**	**12,294**	**12,792**	**12,005**	**12,071**	**13,583**	**11,974**	**12,321**	. .
At-risk alcohol level	32.0 (30.8–33.2)	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)	—
Responsible drinker	46.8 (45.7–48.0)	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)	—
Non-drinker	21.2 (20.1–22.2)	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)	—

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, and — indicates there was no change.

(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.

Note: CI – confidence interval.

Table 14.3: Patient risk factors among adult females, 2001–02 to 2010–11

Risk factor	Per cent (95% CI) 2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	↑↓[a]
Body mass index class[b] (*n*)	**19,039**	**19,670**	**19,214**	**17,976**	**19,976**	**19,410**	**18,703**	**19,671**	**19,735**	**18,741**	. .
Obese	22.4 (21.6–23.2)	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)	↑
Overweight	28.5 (27.8–29.3)	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)	↑
Normal	45.2 (44.2–46.1)	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)	↓
Underweight	3.9 (3.6–4.2)	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)	↓
Smoking status (*n*)	**19,182**	**19,875**	**19,780**	**18,468**	**20,288**	**18,718**	**19,081**	**20,079**	**20,224**	**19,301**	. .
Daily	16.4 (15.6–17.2)	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)	↓
Occasional	3.8 (3.4–4.1)	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)	↓
Previous	22.0 (21.2–22.9)	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)	—
Never	57.8 (56.7–58.9)	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)	↑
Alcohol consumption (*n*)	**19,095**	**19,749**	**19,387**	**18,120**	**19,961**	**18,342**	**18,715**	**19,764**	**19,979**	**18,869**	. .
At-risk alcohol level	22.0 (21.1–22.9)	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)	—
Responsible drinker	42.4 (41.3–43.4)	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)	—
Non-drinker	35.6 (34.4–36.9)	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)	—

(a) The direction and type of change is indicated for each result: ↑/↓ indicates a statistically significant linear change, ↑/↓ indicates a marginally significant linear change, and — indicates there was no change.

(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.

Note: CI – confidence interval.

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Abbreviations

ABS	Australian Bureau of Statistics
ACE	angiotensin-converting enzyme
ACRRM	Australian College of Rural and Remote Medicine
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
MBS	Medicare Benefits Schedule
M,C&S	microscopy, culture and sensitivity
NESB	non-English-speaking background
OTC	over-the-counter (medications advised for over-the-counter purchase)
PBS	Pharmaceutical Benefits Scheme
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

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 linear increase over time
🡇	indicates a statistically significant linear decrease over time
↑	indicates a marginally significant increase over time
↓	indicates a marginally significant decrease over time
§	indicates a non-linear significant or marginal change over time
–	Indicates no change over time

Glossary

A1 Medicare items: Medicare item numbers 1, 2, 3, 4, 13, 19, 20, 23, 24, 25, 33, 35, 36, 37, 38, 40, 43, 44, 47, 48, 50, 51, 601, 602.

Aboriginal: The patient identifies himself or herself as an Aboriginal person.

Activity level: The number of general practice A1 Medicare items claimed during the previous 3 months by a participating GP.

Allied and other health professionals: Those who provide clinical and other specialised services in the management of patients, including physiotherapists, occupational therapists, dietitians, dentists and pharmacists.

Chapters (ICPC-2): The main divisions within ICPC-2. There are 17 chapters primarily representing the body systems.

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

Commonwealth concession card: An entitlement card provided by the Australian Government that entitles the holder to reduced cost medicines under the Pharmaceutical Benefits Scheme and a limited number of 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 6 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 exposures or that a pre-existing condition has been significantly exacerbated by work activity or workplace exposure.

Encounter: 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.

  Direct encounters can be further divided into:

  - *Medicare-claimable*
    - *Surgery consultations:* encounters identified by any one of MBS item numbers 3, 23, 36, 44, 52, 53, 54, 57, 5000, 5020, 5040, 5060, 5200, 5203, 5207, 5208.
    - *Home or institution visits (excluding residential aged care facilities):* encounters identified by any one of MBS item numbers 4, 19, 24, 33, 37, 40, 47, 50, 58, 59, 60, 65, 87, 89, 90, 91, 003, 5023, 5043, 5063, 5220, 5223, 5227, 5228.
    - *Residential aged care facility:* encounters identified by any one of MBS item numbers 20, 35, 43, 51, 92, 93, 95, 96, 5010, 5028, 5049, 5067, 5260, 5263, 5265, 5267.
    - *Health assessments:* encounters identified by any one of MBS item numbers 700, 702, 704, 706, 708, 709, 710, 712, 713, 714, 717, 718.
    - *Chronic disease management items:* encounters identified by any one of MBS item numbers 720, 721, 722, 723, 724, 725, 726, 727, 729, 730, 731.
    - Case conferences: encounters identified by any one of MBS item numbers 734, 736, 738, 740, 742, 744, 762, 765, 773, 775, 778.
    - *Attendances associated with practice incentive payments:* encounters identified by any one of MBS 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, 2668, 2673, 2675, 2677, 2704, 2705.
    - *Other MBS encounters:* encounters identified by an MBS item number that does not identify place of encounter (see *A1 Medicare items*).
  - *Workers compensation:* Encounters paid by workers compensation insurance.
  - *Other paid:* Encounters paid from another source (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: 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.

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.
- *Continuation:* The medication prescribed/provided at the encounter/advised is a continuation or repeat of previous therapy for this problem.
- *Old:* See *Continuation*.

Morbidity: Any departure, subjective or objective, from a state of physiological wellbeing. In this sense, sickness, illness and morbid conditions are synonymous.

Patient status: The status of the patient to the practice.

- *New patient*: The patient has not been seen before in the practice.
- *Old patient:* The patient has attended the practice before.

Practice nurse involvement: Encounters at which a practice nurse MBS item number and/or a treatment (either clinical or procedural) was recorded as done by a practice nurse.

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 health care system.

Reasons for encounter (RFEs): The subjective reasons given by the patient for seeing or contacting the general practitioner. These can be expressed in terms of symptoms, diagnoses or the need for a service.

Recognised GP: A medical practitioner who is:

- vocationally recognised under Section 3F of the *Health Insurance Act*, ***or***
- a holder of the Fellowship of the Royal Australian College of General Practitioners who participates in, and meets the requirements for, quality assurance and continuing medical education as defined in the 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 professionals, and for hospital and residential aged care facility admissions arising at a recorded encounter are included. Continuation referrals are not included. Multiple referrals can be recorded at any one encounter.

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 results. Statistical significance is measured at the 95% confidence level in this report.

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 2010–11 recording form

BEACH (Bettering the Evaluation And Care of Health) - Morbidity and Treatment Survey - National © BEACH The University of Sydney 1996 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)

BA13

Appendix 2: GP characteristics questionnaire, 2010–11

THE UNIVERSITY OF SYDNEY

GP profile

Australian General Practice Statistics and Classification Centre

a collaborating unit of the Australian Institute of Health and Welfare

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. At your major practice...

a) is a computer available?..... **Yes / No**

b) do YOU use the computer?..... **Yes / No**

*If '**yes**' to b) 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

Which clinical software is used? *(please specify)* _____

12. 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

13. 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**

14. Postcode of major practice address.....

15. In which GP Division is your major practice?

_____

16. For your major practice, please specify the number of...

(a) individual GPs (including yourself)? .....
(b) full time equivalent GPs (including yourself)?.....
(Full time equivalent ≈ 35-45hrs/wk)
(c) individual practice nurses? *(none = 0)*.....
(d) full time equivalent practice nurses? .....
(Full time equivalent ≈ 35-45hrs/wk)

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.

AGPSCC, Westmead Hospital, WESTMEAD, 2145.
Ph: 02 98458151 fax: 02 98458155 email: jan.charles@sydney.edu.au Web http://www.fmrc.org.au

GP13 (V1)

Appendix 3: Patient information card, 2010–11

THE UNIVERSITY OF SYDNEY

Australian General Practice Statistics and Classification Centre
Family Medicine Research Centre

a collaborating unit of the
Australian Institute of Health and Welfare

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 Australian General Practice Statistics and Classification Centre, University of Sydney, with the Australian Institute of Health and Welfare.

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)

AGPSCC, Acacia House, Westmead Hospital, PO Box 533,WENTWORTHVILLE, 2145.
Ph: 02 98458151 fax: 02 98458155 email: jan.charles@sydney.edu.au Web http://www.fmrc.org.au

BEACH © Program Details

This program has been approved by the Ethics Committees of the University of Sydney and the Australian Institute of Health and Welfare (AIHW). The data are being collected under the AIHW ACT 1987 and in accordance with the Privacy Act 1988 (Amended 2001).

Organisations contributing financially to the conduct of this study in 2010–2011 are:

- ✦ The Australian Institute of Health and Welfare
- ✦ The Australian Government Department of Health and Ageing
- ✦ AstraZeneca Pty Ltd (Australia)
- ✦ Janssen-Cilag Pty Ltd
- ✦ Sanofi-Aventis Australia Pty Ltd
- ✦ Pfizer Australia Pty Ltd
- ✦ GlaxoSmithKline Australia Pty Ltd
- ✦ CSL Biotherapies 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:

Australian General Practice
Statistics and Classification Centre
The University of Sydney
Acacia House, Westmead Hospital
Westmead 2145

Phone: (02) 9845 8151
Fax: (02) 9845 8155
Email: jan.charles@sydney.edu.au
Web: http://www.fmrc.org.au

Any person with concerns or complaints about the conduct of a 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/9781920899875>, see 'Electronic editions and downloads'.

This report highlights changes in general practice activity in Australia over the most recent decade (April 2001 to March 2011) of the BEACH program, a national cross-sectional study of general practice activity. Over this time 9801 participating GPs provided details of 981,000 GP–patient encounters. The report highlights changes that have occurred in the characteristics of general practitioners 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 adults and 3,000 children each year.

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