

A decade of Australian general practice activity 2003–04 to 2012–13

BEACH

Bettering the Evaluation and Care of Health

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Summary

Over the past decade, the population of Australia rose by about 3.1 million people, from 19.5 million in June 2002 to 22.6 million in June 2012. And the proportion of the population aged 65 years and over, increased from 12.7% to 14.2%. Population ageing is projected to have significant implications for health. As life expectancy improves, people are living longer with disease, so management of older patients with multiple chronic diseases will form an increasing part of the general practitioner's (GP's) workload.

GPs are usually the first port of call in the Australian healthcare system, generally receiving payment on a fee-for-service basis. There are no formal patient lists or registration. A universal medical insurance scheme (managed by Medicare Australia) covers all, or part of a person's costs for a GP visit.

In the April 2012–March 2013 year, about 85% of the Australian population claimed for at least one GP service from Medicare. Medicare paid rebates for about 126.8 million claimed general practice service items (excluding practice nurse items), an average of 5.59 GP visits per head of population, or 6.57 visits per person who visited at least once. A decade earlier, total Medicare claims for GP-patient encounters numbered 96.3 million, an average attendance rate of 4.3 per head of population. Administrative statistics provide information about frequencies and costs of visits claimed from GP services and some prescribed pharmaceuticals. BEACH (Bettering the Evaluation and Care of Health) gives us an understanding of the content of encounters and the services and treatments GPs provide.

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. The BEACH program began in April 1998 and is now in its 16th year.

This book investigates results of each of 10 years of data to identify changes that occurred over the decade 2003–04 to 2012–13. The report is based on information from 9,772 participating GPs, almost one million GP-patient encounters.

The GP participants and their practices (Chapter 4)

Between 2003–04 and 2012–13:

- reflecting changes in the age and sex distributions of the recognised GP workforce, females made up an increasing proportion of participants (33% in 2003–04 to 43% in 2012–13) as did the proportion aged 55 years and over (from 32.7% to 41.3%)
- average hours in direct patient care decreased – from 41 hours to 38 hours per week, resulting from a decreased proportion working 40 hours or more (from 47% to 33%)
- GPs who had gained their primary medical degree in Australia decreased from 73.6% to 66.2% over the 10 years, and there were significant changes in the geographic distribution of country of graduation among those trained overseas
- the proportion of GP participants holding Fellowship of the Royal Australian College of general practitioners increased from 33.5% to 55.7%
- the proportion of participants in solo practice stayed steady at about 10% and the proportion working in smaller practices (of 2–4 individual GPs) decreased. The proportion working in practices of ten or more individuals rose from 12% to 21%
- decreased proportions of GPs worked in practices that provide their own after-hours services (from 43% to 31%); and/or provided such care in cooperation with other practices (from 17% to 13%)

- the proportion of GPs with a computer available at their major practice increased from 95% to 98%. Since first measured in 2004–05, the proportion of GPs indicating they use a computer to some extent in their clinical activity increased from 89% to 96%.

The encounters (Chapter 5)

Over the decade there was significant change in the average length of patient encounters claimable from the Medicare Benefits Scheme (MBS) or the Department of Veterans' Affairs (DVA), the mean each year sitting at around 15 minutes. However, the distribution of services claimed differed to some degree with the introduction of new MBS item numbers over the years.

The patients at encounters (Chapter 6)

Between 2003–04 and 2012–13, the proportion of encounters with patients:

- aged 65 years and over took up an increasing proportion of encounters, rising significantly (from 27% to 30%)
- who were new to the practice significantly decreased (from 9.3% to 7.2%)
- holding a Commonwealth concession card was relatively stable
- holding a Repatriation Health Card decreased by over one-third, 3.9% to 2.3%

There was a significant increase in the overall rate of patient reasons for encounter (RFEs), from 150 per 100 encounters in 2003–04 to 155 per 100 encounters in 2012–13.

Problems managed at encounters (Chapter 7)

GPs managed significantly more problems at encounters in 2012–13 (155 per 100 encounters) than in 2003–04 (146 per 100). This suggests there were 55 million more problems managed at GP–patient encounters in Australia in 2012–13 than in 2003–04.

In all years 2003–04 to 2012–13, the most frequently managed problems were hypertension, check-up, upper respiratory tract infection and immunisation/vaccination. Statistically significant increases occurred in management rates of general check-up, diabetes, gastro-oesophageal reflux disease, test results, vitamin/nutritional deficiency, administrative procedure, atrial fibrillation/flutter, pregnancy, abnormal test results and lacerations/cuts. Marginal increases in the management rates of depression and anxiety were also apparent.

The management rate of chronic conditions rose from 52 per 100 encounters in 2003–04, to 56 per 100 in 2012–13, this change accounting for about 40% of the increase in problems managed overall. This may be partly attributed to the changes in the age distribution of presenting patients. The most common chronic problems managed were non-gestational hypertension, non-gestational diabetes, depressive disorder, chronic arthritis and lipid disorders.

There were significant increases in management rates of non-gestational diabetes (equating to 2.1 million more contacts in 2012–13 than in 2003–04); depressive disorder (1.7 million more); atrial fibrillation/flutter (1.0 million more); hypothyroidism/myxoedema; shoulder syndrome; and unspecified chronic pain.

Medications (Chapter 9)

Between 2003–04 and 2012–13, there was a significant decrease in total medication and prescribed medication rates per 100 problems managed. There were no significant changes in these as a rate per 100 encounters, suggesting that the GPs are now managing more problems at encounter but prescribing fewer medications in the management of these problems.

This hypothesis aligns with the increased attendance rate reported in the Background and with the increase in the number of medications given with five repeats (reported below).

There were significant increases in the GP prescribing rate per 100 problems managed for:

- agents acting on the renin-angiotensin system, psychoanaleptics, lipid modifying agents, and corticosteroids for systemic use
- individual medication types including: antibiotic cephalexin, the opioid oxycodone, the proton pump inhibitor esomeprazole, the lipid modifying agent rosuvastatin, and the non-steroid anti-inflammatory meloxicam.

There were significant decreases in the prescribing rate per 100 problems managed of:

- drugs for obstructive airway disease, anti-inflammatory and antirheumatic products, sex hormones and modulators of the genital system, calcium channel blockers, vaccines, diuretics, drugs for functional gastrointestinal disorders, and cardiac therapy
- some individual medication types including: the beta-blocking agent atenolol, the lipid modifying agent simvastatin, the cephalosporin antibiotic cefaclor monohydrate.

There was a significant decrease in the proportion of prescribed medications with no repeats, two, three or four repeats ordered. On the other hand, the proportion of prescriptions given with five repeats increased from 29.2% in 2003–04 to 36.6% in 2012–13. This is probably associated with the increased management rate of chronic problems.

There was little change in the rate of GP-supplied medications per 100 problems managed (6.4 per 100 in 2003–04 and 6.3 per 100 in 2012–13. The majority were vaccines.

The rate at which GPs advised over-the-counter medications remained relatively steady, the exception being a four-fold increase in the rate at which vitamin D3 (cholecalciferol) was advised per 100 encounters. This has occurred recently, in parallel with a three-fold increase in the management rate of nutritional/vitamin deficiency.

Clinical treatments (Chapter 10)

While there was no statistically significant difference in the rate at which clinical treatments were provided in 2003–04 and 2012–13, there were major changes within the decade.

The clinical treatment rate was steady from 2003–04 to 2004–05. After the introduction of practice nurse item numbers in November 2004, in 2005–06 there was a sudden significant decrease in clinical treatments provided by the GP or the practice nurse at GP-patient encounters, from 27 to 20 per 100 problems. This was followed by a significant increase from 2006–07 to 2007–08 and then a slow (but steady) increase to 24 per 100 problems in 2012–13, the level provided 10 years earlier.

This pattern of change was reflected in some specific types of clinical treatments including: general advice and education; other administrative procedure/document and sick certificates; counselling/advice about nutrition/weight.

In contrast, there were significant decreases in the rate of counselling/advice about nutrition/weight, the drop occurring in 2006–07, with no reversion to earlier levels.

Procedures (Chapter 10)

There was a significant increase in the rate at which procedures were performed from 2003–04 (10.1 per 100 problems) to 2012–13 (11.2 per 100 problems) (Table 10.3a). However, the most frequently recorded group, excision/removal tissue/biopsy/destruction/debridement/cauterisation, was provided at a similar rate throughout the decade.

The provision of local injections/infiltration (excluding those performed for immunisations) significantly increased over the decade, from 1.1 to 1.5 per 100 problems. When extrapolated, the change equates to provision of 1.4 million more local injections/infiltrations nationally in 2012–13 than in 2003–04. There were also significant increases in international normalised ratio (INR) tests, other preventive procedures/high-risk medication and PN/AHW check-ups, per 100 problems managed.

Practice nurse/Aboriginal health worker involvement (PN/AHW) (Chapter 10)

PN/AHW involvement in care provided at, or in association with, GP-patient encounters, rose from 4.2% in 2005–06 to peak at 9.0% of encounters in 2009–10. It then significantly decreased to 7.4% in 2011–12, and remained steady in 2012–13. The proportion of problems managed with PN/AHW at GP encounters also increased significantly from 2.8% in 2005–06, to peak at 6.1% in 2009–10, with no significant change by 2012–13 (5.0%).

In 2005–06, GPs recorded one or more PN/AHW MBS item numbers at 39% of encounters with recorded PN/AHW activity. By 2009–10, this proportion had risen to 45.5%. The removal of many PN/AHW item numbers in early 2012, meant that in 2012–13 claims for PN/AHW services for chronic disease accounted for 92% of recorded PN/AHW items.

While PN/AHW provision of clinical treatments (for example, advice, education, administrative) remained rare, they did increase from 2 per 1,000 encounters in 2005–06, to 11 per 1000 in 2012–13. Overall in 2012–13 PNs/AHWs provided 14% of all 'other treatments' recorded, a significantly greater proportion than in 2005–06 (9%).

Changes in the problems for which PNs/AHWs were involved in management largely reflect the changes in the activities undertaken. There were significant increases in the rate at which they were involved in management of check-ups, diabetes, atrial fibrillation/flutter and preventive procedures with high-risk patients (reflecting the increasing rate of INRs, particularly in the last four years). Some of these increases may well have been stimulated by the introduction of MBS item 10997 for services provided for a chronic disease in 2007–08.

Referrals (Chapter 11)

Over the 10 years, there were significant increases in the likelihood that GP-patient encounters would involve one or more referrals and that a problem being managed at encounter would be referred (from 8% to 9.5%).

A significant increase in the overall rate of referrals, from 7.9 per 100 problems managed in 2003–04, to 9.5 per 100 in 2012–13, was largely due to an increase in the referrals to allied health professionals, rather than to medical specialists. The rate of referral to allied health services increased from 1.8 per 100 problems managed in 2003–04 to 3.0 per 100 in 2012–13, and increases were highest among referrals to psychologists and podiatrists/chiropractors, with a marginally significant increase in referral rates to dietitians/nutritionists. However, there were marginal increases in referral rates per 100 problems to orthopaedic surgeons, cardiologists and gastroenterologists; and marginal decreases in referrals to surgeons and ophthalmologists.

Overall, referrals increased significantly, from 12 per 100 encounters in 2003–04 to 15 per 100 in 2012–13. Extrapolation of this change suggests there were about 7.6 million more GP referrals nationally in 2012–13 than in 2003–04, including about 3.7 million more referrals to medical specialists and 3.5 million more to allied health services.

Tests and investigations (Chapter 12)

Between 2003–04 and 2012–13:

- there was a significant increase in the proportion of problems managed for which pathology (from 12% to 14%) or imaging (5% to 6%) was ordered
- results suggest that nationally there were about 8 million more GP–patient encounters involving pathology orders and 4.2 million more involving imaging requests
- the number of pathology tests ordered increased from 24.1 to 30.4 tests/batteries of tests per 100 problems managed
- the largest increase was in orders for chemical pathology, (from 13 to 18 per 100 problems managed)
- haematology orders increased at a slower rate, (from 4.6 to 5.4 per 100)
- imaging test orders increased significantly from 5.6 to 6.7 per 100 problems: orders for ultrasound imaging showed the largest growth; orders for computerised tomography and for magnetic resonance imaging also significantly increased; while orders for diagnostic radiology decreased marginally.

Substudies of patient risk factors (Chapter 13)

Body mass index:

Adults ($n = 30,000$ – $32,000$ per year): prevalence of overweight/obesity in sampled adults (aged 18 years and over) increased significantly from 57% to 61%. The prevalence of obesity rose from 22% in 2003–04 to 27% in 2010–11 and then remained static. The increase was apparent among both male and female patients.

Children ($n = 3,000$ – $4,000$ per year): prevalence of obesity among sampled children aged 2–17 years decreased significantly from 12% in 2003–04 to 9% in 2012–13, but this decrease was noted only for male children (from 14% to 10%). The prevalence of overweight in children remained stable over the decade at 17–19%.

Smoking ($n = 31,000$ – $34,000$ per year): among sampled adults aged 18 years and over, there were significant decreases in the prevalence of current daily smoking (from 18% to 14%) and occasional smoking (from 4.3% to 2.6%) over the decade. Daily smoking was significantly more common among males than females in all years.

Alcohol consumption ($n = 30,000$ – $34,000$ per year): among sampled adults (18+ years), prevalence of at-risk levels of alcohol consumption declined from 27% in 2003–04 to 24% in 2012–13. The prevalence among male patients significantly decreased from 33% to 29%, while there was a marginal decrease for female patients from 23% to 21%.

Risk profile in adults ($n = 29,000$ – $32,000$ per year): there was a significant increase in the proportion of adults with one risk factor (from 49.0% in 2003–04 to 52.0% in 2012–13) and a marginal decrease in the proportion with three risk factors (from 4.0% to 3.4%).

FEATURE—Type 2 diabetes

Many aspects of the above data are brought together in a feature investigating the prevalence and management of Type 2 diabetes, and changes in management over time. See Chapter 14 of *General practice activity in Australia 2012–13*, available at <hdl.handle.net/2123/9365>

1 Introduction

This report is the 34th book in the General Practice Series from the Bettering the Evaluation of Care and Health (BEACH) program. It includes summary results from the most recent 10 years of the program, from 2003–04 to 2012–13 inclusive.

Released in parallel with this report is a more detailed report of results for 2012–13 in the BEACH program, *General practice activity in Australia 2012–13*,¹ available at <hdl.handle.net/2123/9365>.

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).

The BEACH program began in April 1998 and was the culmination of about 20 years research and development work at the University of Sydney. At the end of its 15th year (March 2013), its database included records for about 1.5 million GP–patient encounters from 14,793 GP participants, representing 9,630 individuals.

From April 1998 to March 2011, BEACH was conducted by the FMRC, University of Sydney, in collaboration with the Australian Institute of Health and Welfare (AIHW), under the AIHW Act. Since April 2011 it has been conducted by the FMRC. BEACH is currently supported financially by government and private industry (see Acknowledgments).

This book investigates results of each of 10 years of data to identify changes that occurred over the decade 2003–04 to 2012–13. The report is based on information from 9,772 participating GPs, about almost 1 million GP–patient encounters.

The structure of this report follows the usual approach of the annual BEACH reports.

Ten years of results are provided about the GPs, the patients and the problems managed, followed by an overview of management, and specific chapters for each type of management action. Changes in prevalence of some patient risk factors are also presented. Each chapter contains an overview of the section (including definitions where relevant), and a brief description of the major findings, followed by the results tables. In the tables, statistically significant changes between 2003–04 and 2012–13 are marked. The national effect of significant change can be estimated by extrapolating the BEACH results to all GP Medicare claimed encounters. The method adopted for extrapolation of the effect of a change is described in Section 2.9. Examples of extrapolation of a measured change are also provided in each of chapters 5 to 12 inclusive. The reader can apply this method to any significant change in the BEACH data presented in terms of rate per 100 encounters, to gain an estimate of the size of the national effect of this change.

In this report, changes over time in, for example, GP management actions for a specific problem, or changes in the problems managed for a selected group of patients, are not generally investigated. However, an example of this type of specific analysis for a selected topic is given for Type 2 diabetes in Chapter 14 of the companion report, *General practice activity in Australia 2012–13*.¹ Such analyses can be requested from the FMRC. Details are provided on the FMRC web site: sydney.edu.au/medicine/fmrc/.

1.1 Background

In June 2012, the population of Australia was estimated to be 22.6 million people,² up from 19.5 million in June 2002. Like the rest of the developed world, Australia has an ageing population. Between June 2002 and June 2012, the proportion of the population that was aged 65 years and over increased from 12.7% to 14.2, and this included an increase in proportion aged 85 years or more, from 1.4 % to 1.9% of the total population.² Over the next several decades, population ageing is projected to have significant implications for Australia, including for health.³ As life expectancy improves, people are living longer with disease, so a greater part of the GP workload will involve management of older patients with multiple chronic diseases.

Australia's health expenditure in 2010–11 was \$130.3 billion, an average \$5,796 per Australian, and accounted for 9.3% of GDP. Governments funded 69.9%, with the remainder (30.1%) being paid by the non-government sector.⁴ Government expenditure on general practice services (including those of the practice nurses) was almost \$5.6 billion dollars in the 2011–12 financial year.⁵

GPs are usually the first port of call in the Australian healthcare system. Payment for GP visits is largely on a fee-for-service system, there being no 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 an individual's costs for a GP visit.

In 2011 in Australia, there were 25,056 practising GPs (medical practitioners self-identifying as GPs), making up 25,063 full-time equivalents (FTE, based on a 40-hour week), or 109.7 FTE GPs per 100,000 people.⁶

In the April 2012–March 2013 year, about 85% of the Australian population claimed at least one GP service from Medicare (personal communication, Department of Health and Ageing [DoHA], June 2013). From April 2012 to March 2013, Medicare paid rebates for about 126.8 million claimed general practice service items (excluding practice nurse items),⁷ at an average of about 5.59 GP visits per head of population or 6.57 visits per person who visited at least once. This equates to about 2.44 million GP–patient encounters per week. A decade earlier, in the 2003–04 financial year, total Medicare claims for GP–patient encounters numbered 96.3 million, an average attendance rate of 4.3 per head of population.⁷

Medicare statistics provide information about frequencies and costs of visits claimed from Medicare for GP services. BEACH gives us an understanding of the content of GP–patient encounters and 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 BEACH data might wish to consolidate information from multiple sources.

Integration can provide a more comprehensive picture of the health and health care of the Australian community. Readers need to be aware of how the BEACH data differ from those drawn from other sources. A summary of differences between the BEACH datasets and those in national administrative datasets and studies is available in *General practice activity in Australia 2012–13* (Section 1.3).¹