

14 Patient risk factors

General practice is a useful intervention point for health promotion because about 88% of Australians visit a GP at least once each year.⁸ GPs, through ongoing professional education, have substantial knowledge of population health, screening programs and other interventions. They are also in an ideal position to advise patients about the benefits of health screening, and to counsel patients about their lifestyle choices on an individual basis.

Since April 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.

The patient risk factors measured include self-reported height and weight (for calculation of BMI), alcohol consumption and smoking status. Patient risk factors are investigated for a subsample of 40 of the 100 patient encounters recorded by each GP. An example of the encounter form with the patient risk factor SAND questions is included in Appendix 1. The methods used for investigating patient risk factors are described in Section 2.4.

Abstracts of results and the research tools used in all SAND substudies from April 1998 to March 2009 have been published. Those from:

- April 1998–99 were published in *Measures of health and health care delivery in general practice in Australia*¹¹
- April 1999 to July 2006 were published in *Patient-based substudies from BEACH: abstracts and research tools 1999–2006*¹²
- August 2006 to March 2007 were published in *General practice activity in Australia 2006–07*¹³
- April 2007 to January 2008 were published in *General practice activity in Australia 2007–08*¹⁰
- February 2008 to January 2009 are included in Chapter 15 of the companion report *General practice activity in Australia 2008–09*.¹

This chapter includes data about the risk behaviours of general practice patients from each of the 10 years of the BEACH study from 1999–00 to 2008–09. The direction and type of change from 1999–00 to 2008–09 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 results of the patient risk factors, BMI and smoking status are presented in tables 14.1 to 14.3 for each year from 1999–00 to 2008–09. Results for alcohol consumption are presented for each year from 2001–02 to 2008–09, as data from 1999–00 and 2000–01 are not comparable.

Patient BMI and alcohol consumption data collected in the BEACH study have been investigated in further detail and published. Interested readers can consult these publications for further information:

- prevalence of the three WHO defined levels of obesity was published in Chapter 7 of the AGPSCC publication *General practice in Australia, health priorities and policies 1998 to 2008*.⁶⁰
- overweight and obesity in children attending general practice was published in Cretikos et al. (2008).⁶¹
- the relationship between morbidity managed and alcohol consumption is reported in Proude et al. (2006).⁶²

14.1 Body mass index

Adults

Overall the rates of overweight and obesity in adults attending general practice has increased significantly from approximately 50% in 1999–00 (52.5%; 95% CI: 51.7–53.4) to 60% in 2008–09 (61.5%; 95% CI: 61.6–62.3) (results not tabulated).

Taken individually, there was a significant increase in the prevalence of overweight and obesity in adults attending general practice, from 33.1% and 19.4%, respectively, in 1999–00 to 36.1% and 25.4% in 2008–09 (Table 14.1). The significant increases in overweight and obesity are apparent in both male and female patients. The increase is largely due to an increase in prevalence of obesity, the rates of overweight only increasing by a much smaller amount (tables 14.2 and 14.3).

Children

In contrast, the rates of overweight and obesity in children aged 2–17 years have remained static from 1999–00 to 2008–09, with about 11% of children being obese and about 17% overweight (Table 14.1).

14.2 Smoking

There was a significant decrease in the rates of current daily and occasional smoking in adults aged 18 years and over, from 18.9% and 5.2%, respectively, in 1999–00 to 15.3% and 2.6% in 2008–09 (Table 14.1). This decrease was apparent in both male and female patients (tables 14.2 and 14.3).

14.3 Alcohol consumption

The rates of at-risk levels of alcohol consumption among adults at general practice encounters have remained static at around 26% of adult patients from 2001–02 to 2008–09 (Table 14.1).

Table 14.1: Comparative results for all patient risk factors, BEACH, 1999–00 to 2008–09

Risk factor	Per cent (95% CI)										↑ ↓ ^(e)
	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	
Adults (aged 18 years and over)											
BMI class^(b) (n)	(33,069)	(31,957)	(31,789)	(32,367)	(31,890)	(30,476)	(33,101)	(32,334)	(31,062)	(33,526)	
Obese	19.4 (18.8–20.0)	20.2 (19.5–20.8)	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)	↑
Overweight	33.1 (32.5–33.8)	34.1 (33.4–34.7)	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)	↑
Normal	44.3 (43.5–45.1)	42.8 (42.0–43.7)	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)	↓
Underweight	3.2 (3.0–3.5)	2.9 (2.7–3.1)	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)	↓
Smoking status (n)	(32,483)	(32,124)	(31,966)	(32,651)	(32,718)	(31,295)	(33,558)	(31,176)	(31,652)	(34,194)	
Daily	18.9 (18.1–19.6)	19.3 (18.5–20.1)	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)	↓
Occasional	5.2 (4.9–5.6)	4.4 (4.0–4.7)	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)	↓
Previous	27.1 (26.3–27.8)	27.3 (26.5–28.1)	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)	–
Never	48.8 (47.9–49.7)	49.1 (48.1–50.1)	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)	↑
Alcohol consumption^(c) (n)	..	..	(31,559)	(32,140)	(31,721)	(30,414)	(32,753)	(30,347)	(30,796)	(33,347)	
At-risk alcohol level	NAV	NAV	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)	–
Responsible drinker	NAV	NAV	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)	–
Non-drinker	NAV	NAV	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)	–

(continued)

Table 14.1 (continued): Comparative results for all patient risk factors, BEACH, 1999-00 to 2008-09

Risk factor	Per cent (95% CI)										^(a)	
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	↑	↓
Children (aged 2-17 years)^(d)	(4,053)	(3,610)	(3,518)	(3,380)	(3,189)	(3,018)	(3,338)	(3,087)	(3,046)	(2,970)		
Obese	10.4 (9.3-11.5)	11.4 (10.1-12.6)	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)		
Overweight	17.4 (16.3-18.6)	17.8 (16.5-19.2)	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)		

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

(b) Adult patients aged 18+ with a recorded height outside the ABS height range based on age and sex were excluded.

(c) From 2001-02 onwards, the wording of the responses to the first and third alcohol questions was amended to exactly reflect the AUDIT instrument from which they are derived. Therefore data from 2000-01 are not directly comparable with data from 2001-02 onwards.

(d) Children with height outside the ABS height range based on age and sex were excluded. Child BMI has been re-calculated for 1999-00 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; BMI—body mass index; NAV—not available.

Table 14.2: Comparative results for adult male patient risk factors, BEACH, 1999–00 to 2008–09

Risk factor	Per cent (95% CI)										↑ ↓ ^(e)
	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	
BMI class^(b) (n)	(13,062)	(12,800)	(12,512)	(12,450)	(12,434)	(12,288)	(12,882)	(12,745)	(12,126)	(13,595)	
Obese	18.1 (17.3–19.0)	19.2 (18.4–20.1)	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)	↑
Overweight	40.9 (39.9–41.8)	41.0 (39.9–41.8)	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)	↑
Normal	39.4 (38.3–40.4)	38.2 (37.0–39.3)	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)	↓
Underweight	1.6 (1.4–1.9)	1.6 (1.4–1.9)	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)	—
Smoking status (n)	(12,230)	(12,869)	(12,547)	(12,521)	(12,692)	(12,613)	(13,016)	(12,257)	(12,335)	(13,841)	
Daily	23.4 (22.3–24.5)	22.6 (21.5–23.7)	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)	↓
Occasional	5.4 (4.9–5.9)	4.4 (4.0–4.9)	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)	↓
Previous	36.3 (35.1–37.4)	36.5 (35.2–37.8)	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)	—
Never	35.0 (33.9–36.1)	36.5 (35.3–37.7)	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)	↑
Alcohol consumption^(c) (n)	..	..	(12,464)	(12,391)	(12,334)	(12,294)	(12,792)	(12,005)	(12,071)	(13,583)	
At-risk alcohol level	NAV	NAV	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)	—
Responsible drinker	NAV	NAV	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)	—
Non-drinker	NAV	NAV	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)	—

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

(b) Adult patients aged 18+ with a recorded height outside the ABS height range based on age and sex were excluded.

(c) From 2001–02 onwards, the wording of the responses to the first and third alcohol questions was amended to exactly reflect the AUDIT instrument from which they are derived. Therefore data from 2000–01 are not directly comparable with data from 2001–02 onwards.
 Note: CI—confidence interval; BMI—body mass index; NAV—not available.

Table 14.3: Comparative results for adult female patient risk factors, BEACH, 1999-00 to 2008-09

Risk factor	Per cent (95% CI)										↑ ↓ ^(a)
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	
BMI class^(b) (n)	(19,655)	(18,820)	(19,039)	(19,670)	(19,214)	(17,976)	(19,976)	(19,410)	(18,703)	(19,671)	
Obese	20.2 (19.5-21.0)	20.8 (20.0-21.6)	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)	↑
Overweight	27.9 (27.2-28.7)	29.4 (28.6-30.1)	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)	↑
Normal	47.6 (46.6-48.5)	46.0 (45.0-47.0)	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)	↓
Underweight	4.3 (4.0-4.6)	3.8 (3.5-4.1)	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)	↓
Smoking status (n)	(19,930)	(18,920)	(19,182)	(19,875)	(19,780)	(18,468)	(20,288)	(18,718)	(19,081)	(20,079)	
Daily	16.2 (15.4-16.9)	17.1 (16.3-17.9)	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)	↓
Occasional	5.1 (4.7-5.4)	4.3 (4.0-4.7)	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)	↓
Previous	21.4 (20.7-22.2)	20.9 (20.0-21.7)	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)	—
Never	57.4 (56.3-58.4)	57.7 (56.6-58.8)	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)	↑
Alcohol consumption^(c) (n)	..	..	(19,095)	(19,749)	(19,387)	(18,120)	(19,961)	(18,342)	(18,715)	(19,764)	
At-risk alcohol level	NAV	NAV	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)	—
Responsible drinker	NAV	NAV	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)	—
Non-drinker	NAV	NAV	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)	—

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

(b) Adult patients aged 18+ with a recorded height outside the ABS height range based on age and sex were excluded.

(c) From 2001-02 onwards, the wording of the responses to the first and third alcohol questions was amended to exactly reflect the AUDIT instrument from which they are derived. Therefore data from 2000-01 are not directly comparable with data from 2001-02 onwards. Note: CI—confidence interval; BMI—body mass index; NAV—not available.