

8 Overview of management

This chapter includes an overview of management in general practice from each of the 10 years of the BEACH study from 1998–99 to 2007–08. The direction and type of change from 1998–99 to 2007–08 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 that there was no change.

Since BEACH began in 1998–99, some trends have emerged in the management of patients' problems (Table 8.1). Most noticeably, over the 10 years of the study:

- the rate of medications prescribed, supplied or advised for over-the-counter purchase has significantly decreased, from 109.7 per 100 encounters in 1998–99 to 102.7 per 100 encounters in 2007–08
 - The above reduction is a direct result of a significant decrease in the rate of prescribed medications, from 93.6 per 100 encounters in 1998–99 to 82.4 per 100 in 2007–08.
- the rate of other treatments (including clinical treatments and therapeutic procedures) increased significantly from 43.2 per 100 encounters in 1998–99 to 54.7 in 2004–05, decreased to 43.6 in 2005–06 with the introduction of the practice nurse provider numbers, but then increased again to 51.2 per 100 in 2007–08
 - The above change was reflecting changes in the rate of clinical treatments. These rose repeatedly over 6 years, from 31.4 per 100 encounters in 1998–99 to 39.2 per 100 in 2004–05, decreased sharply to 29.2 per 100 in 2005–06, and increased again to 34.5 per 100 in 2007–08.
- there has been an increase in the rate of procedural treatments undertaken in general practice, from 11.8 per 100 encounters in 1998–99 to 16.7 per 100 encounters in 2007–08
- the rate of referrals to other health providers has significantly increased, from 11.1 to 12.5 per 100 encounters between 1998–99 and 2007–08
- since 2000–01, the rate of pathology tests ordered has significantly increased by 45%, from 29.7 orders per 100 encounters to 43.2 per 100 encounters in 2007–08
- there has been a significant increase in the rate of imaging tests ordered, from 7.7 per 100 encounters in 2000–01 to 9.5 per 100 in 2007–08, and in the rate of other investigations, from 0.6 per 100 in 2000–01 to 1.0 per 100 encounters in 2007–08.

Similar changes can be observed in each of these areas, for the percentages of encounters where at least one management type was provided (Table 8.2). This reflects a change in the likelihood of each action eventuating at an encounter.

- There was a significant reduction in the likelihood of patients being provided with at least one medication (from 68.7% in 1998–99 to 64.4% in 2007–08), particularly prescribed medications, which decreased from 60.1% to 53.6% over this time. The latter reflects the reduction in the rate of prescribed medications reported above and shown in Table 8.1.
- There was an increase in the likelihood of patients receiving at least one GP-supplied medication, from 5.6% in 1998–99 to 7.9% in 2007–08.
- The likelihood of patients receiving at least one other (non-pharmacological) treatment increased from 34.5% of encounters in 1998–99 to 39.9% in 2007–08.

- The likelihood of patients receiving at least one procedural treatment at the encounter continually and significantly increased from 10.8% in 1998–99 to 15.0% in 2007–08.
- The likelihood of patients being referred increased significantly (from 10.6% in 1998–99 to 11.8% in 2007–08), particularly referrals to specialists (from 7.1% in 1998–99 to 7.7% in 2007–08) and referrals to emergency departments.
- Contributing to the increase in the rates of pathology and imaging tests ordered per 100 encounters shown in Table 8.1, there was an increase in the likelihood of the GP ordering at least one investigation, from 18.1% in 1998–99 to 23.8% in 2007–08. In 1998–99 the likelihood of at least one pathology test being ordered was 13.2%, and that of at least one imaging test being ordered was 6.3%. By 2007–08 these proportions had significantly increased to 17.4% and 8.3%, respectively (Table 8.2).

Table 8.1: Summary of management, summary of annual results, BEACH, 1998–99 to 2007–08

Management type	Rate per 100 encounters (95% CI)											↑ ^(e) ↓
	1998–99 (n = 96,901)	1999–00 (n = 104,856)	2000–01 (n = 99,307)	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)		
Medications	109.7 (107.4–112.0)	110.1 (107.8–112.4)	108.2 (105.7–110.6)	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)	↘	
Prescribed	93.6 (91.2–96.1)	93.8 (91.5–96.2)	92.3 (89.9–94.7)	88.0 (85.6–90.4)	84.3 (81.8–86.9)	86.0 (83.6–88.5)	83.4 (81.2–85.5)	85.8 (83.3–88.4)	83.3 (81.0–85.5)	82.4 (80.3–84.6)	↘	
GP-supplied	7.3 (6.5–8.1)	6.9 (5.8–7.9)	6.9 (5.7–8.1)	7.6 (6.3–9.0)	9.3 (7.6–11.0)	8.6 (7.4–9.8)	8.1 (7.3–8.9)	8.8 (8.2–9.5)	8.9 (8.2–9.6)	10.1 (9.5–10.7)	↑	
Advised OTC	8.8 (8.1–9.5)	9.4 (8.6–10.2)	9.0 (8.1–9.8)	8.9 (8.1–9.6)	10.2 (9.2–11.1)	9.8 (9.0–10.6)	10.1 (9.1–11.0)	9.8 (9.0–10.5)	9.4 (8.7–10.1)	10.0 (9.3–10.9)	–	
Other treatments	43.2 (41.3–45.1)	46.0 (44.1–47.8)	49.4 (47.1–51.7)	51.9 (49.6–54.2)	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)	↑	
Clinical	31.4 (29.7–33.0)	33.5 (31.8–35.2)	37.2 (35.1–39.3)	38.1 (36.1–40.1)	37.2 (35.0–39.4)	36.6 (34.5–38.8)	39.2 (37.1–41.4)	29.2 (27.3–31.1)	29.5 (27.6–31.4)	34.5 (32.5–36.5)	§	
Procedural	11.8 (11.2–12.5)	12.5 (11.9–13.0)	12.2 (11.6–12.8)	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)	↑	
Referrals	11.1 (10.7–11.6)	11.1 (10.7–11.6)	10.4 (10.0–10.8)	10.5 (10.1–10.9)	11.1 (10.7–11.6)	11.6 (11.1–12.1)	11.5 (11.1–12.0)	12.0 (11.5–12.5)	12.2 (11.7–12.7)	12.5 (12.0–13.0)	↑	
Specialist	7.4 (7.1–7.7)	7.2 (6.9–7.5)	7.4 (7.0–7.7)	7.3 (7.0–7.6)	7.7 (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)	§	
Allied health service	3.0 (2.8–3.2)	3.1 (2.9–3.3)	2.3 (2.2–2.5)	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)	3.5 (3.2–3.7)	§	
Hospital	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.5 (0.4–0.6)	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)	↘	
Emergency department	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 (0.1–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.2)	0.2 (0.1–0.2)	0.2 (0.2–0.3)	↑	
Other referrals/other medical services ^(b)	0.0 [†] (0.0–0.0)	0.0 [†] (0.0–0.0)	0.2 (0.1–0.2)	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)	↑	

(continued)

Table 8.1 (continued): Summary of management, summary of annual results, BEACH, 1998–99 to 2007–08

Management type	Rate per 100 encounters (95% CI)										2007–08 (n = 95,898)	↑ ^(e) ↓
	1998–99 (n = 96,901)	1999–00 (n = 104,856)	2000–01 (n = 99,307)	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)		
Pathology ^(c)	NAV	NAV	29.7 (28.4–30.9)	31.0 (29.7–32.4)	32.9 (31.5–34.4)	35.2 (33.7–36.7)	36.7 (35.2–38.2)	38.6 (36.9–40.3)	42.4 (40.7–44.2)	43.2 (41.3–45.0)	↑	
Imaging ^(c)	NAV	NAV	7.7 (7.3–8.0)	7.9 (7.6–8.2)	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)	↑	
Other investigations ^(c)	NAV	NAV	0.6 (0.5–0.7)	0.9 (0.8–1.0)	1.0 (0.8–1.2)	1.0 (0.9–1.2)	1.1 (0.9–1.3)	1.0 (0.9–1.1)	1.1 (1.0–1.2)	1.0 (0.9–1.1)	↑	

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

(b) Other referrals and other medical services have been grouped for comparability. In the first 2 years 'other medical services' and 'other referrals' were grouped and reported together.

(c) In the third year of BEACH, the data collection and data coding system for pathology, imaging and other investigations changed. Data from 1998–99 and 1999–00 are not comparable to those from 2000–01 onward.

† Rates are reported to one decimal place. This indicates that the rate is < 0.05 per 100 encounters.

Note: CI—confidence interval; NAV—not available; OTC—over-the-counter.

Table 8.2: Encounters and problems for which at least one management was recorded, BEACH, 1998–99 to 2007–08

At least one...	Per cent of encounters ^(a) (95% CI)											2007–08 (n = 95,898) ↑
	1998–99 (n = 96,901)	1999–00 (n = 104,856)	2000–01 (n = 99,307)	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)	2007–08 (n = 95,898)	
Management type	91.9 (91.5–92.4)	92.2 (91.7–92.7)	91.6 (91.0–92.2)	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)	91.9 (91.3–92.4)	
Medication or other treatment	83.7 (83.1–84.3)	83.8 (83.1–84.5)	83.5 (82.7–84.2)	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)	82.2 (81.4–82.9)	
Medication	68.7 (67.9–69.5)	68.5 (67.6–69.3)	68.0 (67.1–68.9)	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)	64.4 (63.4–65.3)	
Prescription	60.1 (59.1–61.1)	60.1 (59.1–61.1)	59.8 (58.7–60.8)	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)	53.6 (52.6–54.5)	
GP-supplied	5.6 (5.0–6.2)	5.1 (4.5–5.6)	5.1 (4.5–5.7)	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)	7.9 (7.4–8.4)	
Advised OTC	7.9 (7.3–8.5)	8.3 (7.7–8.9)	8.0 (7.3–8.6)	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)	8.9 (8.3–9.6)	
Other treatment	34.5 (33.2–35.7)	36.2 (35.0–37.4)	37.6 (36.2–39.1)	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)	39.9 (38.3–41.4)	
Clinical treatment	25.5 (24.4–26.7)	27.0 (25.8–28.2)	29.0 (27.6–30.3)	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)	27.5 (26.1–28.9)	
Procedural treatment	10.8 (10.3–11.3)	11.4 (11.0–11.9)	11.1 (10.6–11.7)	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 (14.3–15.7)	
Referral	10.6 (10.2–11.0)	10.4 (10.0–10.8)	9.9 (9.6–10.3)	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)	11.8 (11.3–12.2)	
Specialist	7.1 (6.8–7.4)	6.9 (6.6–7.2)	7.1 (6.8–7.4)	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)	7.7 (7.4–8.0)	
Allied health	2.9 (2.8–3.1)	3.0 (2.8–3.2)	2.3 (2.1–2.4)	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)	3.3 (3.1–3.5)	
Hospital	0.7 (0.6–0.8)	0.7 (0.6–0.8)	0.5 (0.4–0.6)	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)	0.4 (0.3–0.5)	

(continued)

Table 8.2 (continued): Encounters and problems for which at least one management was recorded, BEACH, 1998-99 to 2007-08

At least one...	Per cent of encounters ^(a) (95% CI)											^(b)
	1998-99 (n = 96,901)	1999-00 (n = 104,856)	2000-01 (n = 99,307)	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)		
Emergency department	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 (0.1-0.2)	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 (0.2-0.3)	↑
Other referral/other medical service ^(c)	0.0 ^f (0.0-0.0)	0.0 ^f (0.0-0.0)	0.2 (0.1-0.2)	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)	0.5 (0.4-0.6)	↑
Investigation	18.1 (17.5-18.7)	18.9 (18.3-19.5)	19.3 (18.7-19.9)	19.7 (19.1-20.3)	20.8 (20.2-21.5)	21.3 (20.7-22.0)	21.8 (21.1-22.4)	22.6 (21.9-23.3)	23.5 (22.8-24.2)	23.8 (23.1-24.5)	23.8 (23.1-24.5)	↑
Pathology order ^(d)	13.2 (12.8-13.7)	13.8 (13.3-14.3)	13.8 (13.3-14.3)	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)	17.4 (16.7-18.0)	↑
Imaging order ^(d)	6.3 (6.0-6.6)	6.7 (6.4-7.0)	7.2 (6.9-7.5)	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)	8.3 (8.0-8.6)	↑
Other investigation ^(d)	NAV	NAV	0.6 (0.5-0.7)	0.9 (0.8-1.0)	1.0 (0.9-1.1)	1.0 (0.9-1.1)	1.0 (0.9-1.1)	1.0 (0.9-1.1)	1.0 (0.9-1.1)	1.0 (0.9-1.1)	0.9 (0.8-1.0)	↑

(a) Figures will not total 100, as multiple events may occur in one encounter or in the management of one problem at encounter.

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

(c) Other referrals and other medical services have been grouped for comparability. In the first 2 years 'other medical services' and 'other referrals' were grouped and reported together.

(d) While the coding system for pathology and imaging changed in the third year of BEACH, the presence or absence of a test at the encounter was still recorded. These figures are therefore comparable with data from subsequent years.

^f Rates are reported to one decimal place. This indicates that the rate is < 0.05 per 100 encounters.

Note: OTC—over-the-counter; NAV—not available.