

ACSC 2004-2005 Update

Eastern Metropolitan Region (Including Primary Care Partnerships and Local Government Areas)



Victorian Ambulatory Care Sensitive Conditions Study

Ambulatory care sensitive conditions (ACSCs) are those for which hospitalisation is thought to be avoidable if preventive care and early disease management are applied, usually in an ambulatory setting¹. In theory, access to timely and effective ambulatory care can reduce the risks of hospitalisation.

The Victorian Ambulatory Sensitive Conditions Study is updated annually by the Chronic Disease Surveillance and Epidemiology Section of the Department of Human Services (DHS). This fact sheet presents analyses of ACSCs for the DHS Eastern Metropolitan Region as a whole and for the primary care partnerships and local government areas in this region, using the Victorian Admitted Episodes Dataset (VAED) from 1995-96 to 2004-05. Rates of admission were age- and sex-standardised to the Victorian population (1996) using the direct method.

Eastern Metropolitan Region

The Eastern Metropolitan Region covers an area of 2,966 square kilometres and includes inner suburbs such as Kew and Hawthorn, large outer metropolitan suburbs such as Croydon, and semi-rural townships such as Healesville. It had an estimated population of 972,904 in 2004. The region includes two Primary Care Partnerships (PCPs) and seven Local Government Areas (LGAs).

Variations in rates of ACSCs admissions, 1995-96 to 2004-05

There were 24,551 admissions for total ACSCs in 2004-05, with an average of 5.03 bed days. The admission rate for total ACSCs increased from 17.22 per 1000 persons (16.95-17.49) in 1995-96 to 30.75 per 1000 persons (30.19-31.32) in 2004-05 (Figure 1). The increase between 2003-04 and 2004-05 may be due, in part, to a change in coding practices for diabetes complications².

Variations in rate ratios of ACSCs admissions, 1995-96 to 2004-05

During the 10-year study period the region's admission rate ratios for total ACSCs were lower than the Victorian averages (Figure 2).

Figure 1: ACSCs admission rates, Eastern Metropolitan Region, 1995-96 to 2004-05

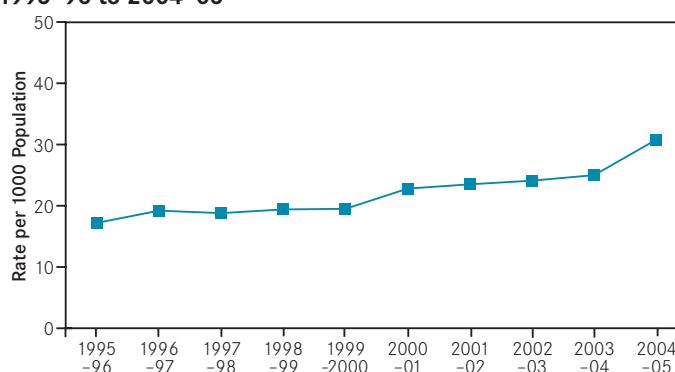
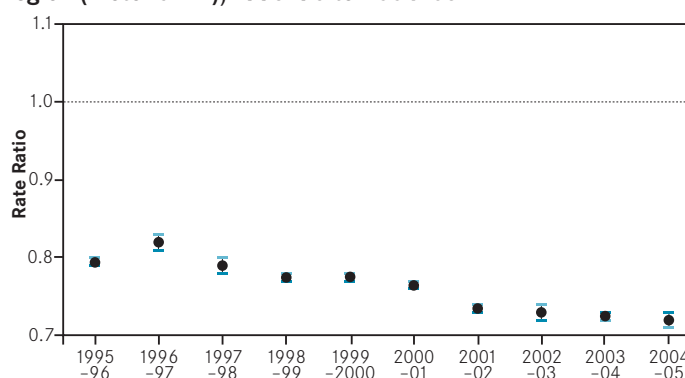


Figure 2: Total ACSCs admission rate ratios, Eastern Metropolitan Region (Victoria = 1), 1995-96 to 2004-05



1 Billings J, Zeitel L, Lukomnik J, Carey T, Blank A, Newman L. Impact of socioeconomic status on hospital use in New York City. *Health Affairs*, 1993, 12, 162-173.

2 From 1 July 2004, changes to Australian Coding Standard 0401 *Diabetes mellitus and impaired glucose regulation* impacted on ICD-10-AM diagnosis coding with respect to three codes relevant to diabetic complications ACSCs viz. E11.72, E12.72 and E13.72. These codes refer to diabetes mellitus (except Type 1) with hypertension and/or other factors (including obesity, insulin resistance, acanthosis nigricans, dyslipidaemia etc.). The higher number of admissions for diabetes complications may, in part, reflect this change (See Appendix for further details).

3 The former Boroondara and Central East Primary Care Partnerships have been combined to form the Inner East Primary Care Partnership.

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Top 10 individual ACSCs admissions, (Victoria = 1), 2004–05

Table 1 summarises the admission rates and average bed days for the top 10 ACSCs in 2004–05. In addition to including chronic ACSCs, the top five also includes admissions for dental conditions, dehydration and gastroenteritis, and pyelonephritis. The top 10 ACSCs accounted for 87.46 per cent of the total ACSCs admission in the region. The average bed days for the top 10 ACSCs was 5.21 in 2004–05.

Table 1: Top 10 ACSCs in Region 8–Eastern Metropolitan, 2004–05

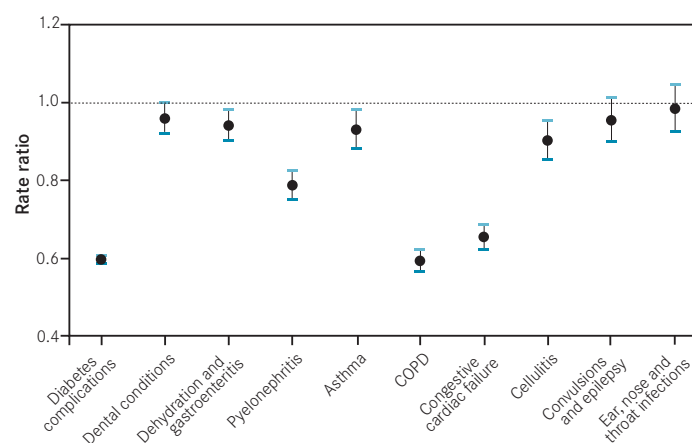
ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	13,204	11.93	11.73	12.14	6.87	90,700
Dental conditions	2,615	2.75	2.65	2.86	1.09	2,839
Dehydration and gastroenteritis	2,482	2.42	2.32	2.51	2.36	5,846
Pyelonephritis	1,917	1.81	1.73	1.89	4.21	8,067
Asthma	1,536	1.70	1.61	1.78	2.44	3,750
COPD	1,818	1.60	1.53	1.67	7.88	14,331
Congestive cardiac failure	1,827	1.52	1.45	1.59	7.63	13,945
Cellulitis	1,524	1.45	1.38	1.52	5.51	8,398
Convulsions and epilepsy	1,326	1.41	1.34	1.49	2.91	3,856
Ear, nose and throat infections	1,230	1.39	1.31	1.47	1.52	1,872

Note: CI = confidence interval.

Admission rate ratios for top 10 ACSCs, Eastern Metropolitan Region, (Victoria = 1), 2004–05

Compared with the Victorian average, the region's admission rate ratios were similar to or significantly lower for all of the top 10 ACSCs (Figure 3). The region's lowest admission rate ratio was for chronic obstructive pulmonary disease, which was 0.59 (0.57–0.62).

Figure 3: Top 10 ACSCs admission rate ratios for Eastern Metropolitan Region, (Victoria = 1), 2004–05



Key findings–Eastern Metropolitan Region

- Admission rates for ACSCs increased in the region over the ten-year period 1995–96.
- Over the period 1995–96 to 2004–05 the region's ACSCs admission rate ratios were lower than the Victorian average.
- In addition to including chronic conditions, the top 5 ACSCs also included dental conditions, dehydration and gastroenteritis and pyelonephritis.
- The region's admission rate ratios for the top ten ACSCs were similar to or significantly below the Victorian averages for 2004–05.

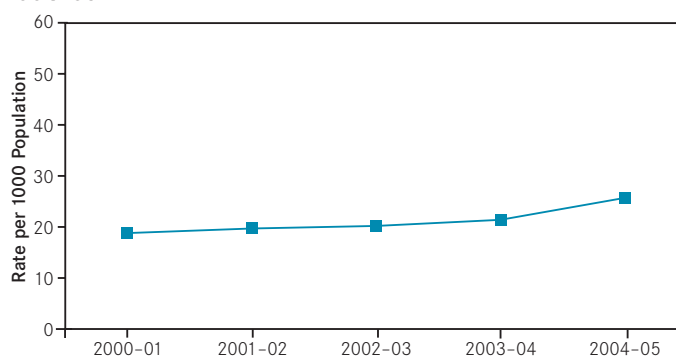


Boroondara Primary Care Partnership (PCP 4)⁴

Variations in rates of ACSCs admissions, 2000–01 to 2004–05

The Primary Care Partnership's (PCP) admission rates for total ACSCs increased over the five-year period. The admission rates for total ACSCs increased from 18.75 per 1,000 persons (18.13–19.40) in 2000–01 to 25.70 per 1,000 persons (24.97–26.44) in 2004–05 (Figure 4).

Figure 4: ACSCs admission rates in Boroondara PCP, 2000–01 to 2004–05



Top 10 individual ACSCs admissions, 2004–05

Table 2 summarises the admission rates and average bed days for the top 10 ACSCs in 2004–05. Diabetes complications were the PCP's leading cause of ACSC admissions in 2004–05. The top 10 ACSCs accounted for 88.19 per cent of the total ACSCs in the PCP. The average bed days for the top 10 ACSCs was 5.56 in 2004–05.

Table 2: Top 10 ACSCs in PCP4–Boroondara, 2004–05

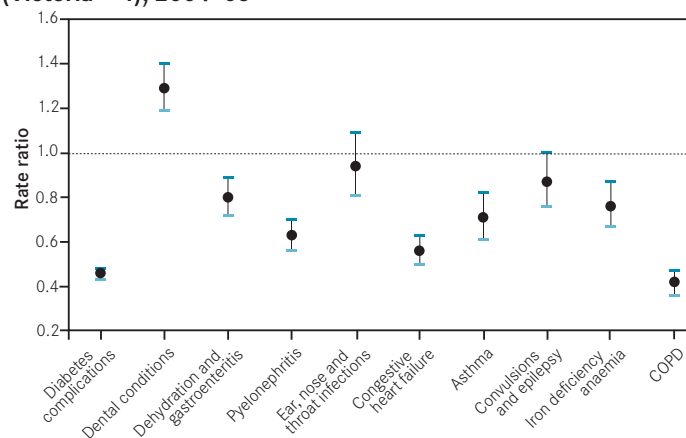
ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,751	9.11	8.69	9.54	8.30	14,542
Dental conditions	587	3.71	3.42	4.02	1.06	622
Dehydration and gastroenteritis	370	2.06	1.86	2.28	3.22	1,190
Pyelonephritis	282	1.44	1.28	1.62	4.41	1,245
Ear, nose and throat infections	182	1.33	1.15	1.54	1.45	263
Congestive heart failure	316	1.31	1.17	1.46	8.76	2,768
Asthma	182	1.29	1.12	1.49	2.62	476
Convulsions and epilepsy	202	1.29	1.12	1.48	3.19	645
Iron deficiency anaemia	221	1.12	0.99	1.28	2.26	500
COPD	232	1.12	0.98	1.27	7.81	1,812

Note: CI = confidence interval

Admission rate ratios for the top 10 individual ACSCs, (Victoria = 1), 2004–05

The PCP's admission rates for the top 10 ACSCs (except dental conditions) were significantly lower than the Victorian averages in 2004–05. The PCP's highest admission rate ratio was for dental conditions, which was 1.29 (1.19–1.40).

Figure 5: Top 10 ACSC admission rate ratios in Boroondara PCP, (Victoria = 1), 2004–05



Key findings–PCP4–Boroondara

- The PCP's admission rate for total ACSCs increased over the five-year period.
- The PCP's admission rate ratios for the top 10 ACSCs (except dental conditions) were significantly lower than the Victorian averages for 2004–05.
- The region's highest admission rate ratio was for dental conditions, which was 1.29 (1.19–1.40).

⁴ The former Boroondara Primary Care Partnership has been incorporated into the Inner East Primary Care Partnership. However, to maintain the continuity of time series data ACSCs findings are reported separately for the former Boroondara Primary Care Partnership.

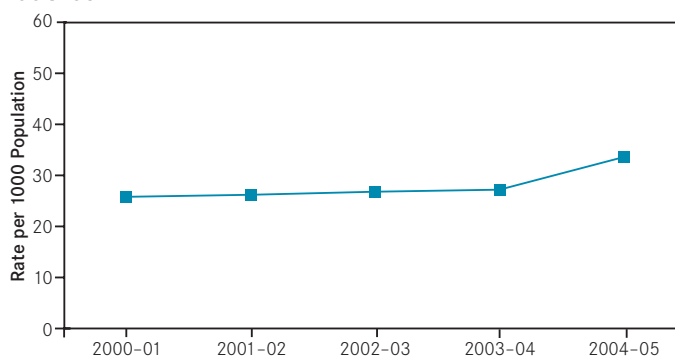


Outer East Primary Care Partnership (PCP 5)

Variations in rates of ACSCs admissions, 2000–01 to 2004–05

The Primary Care Partnership's (PCP) admission rates for total ACSCs increased over the five-year period. The admission rates for total ACSCs increased from 25.80 per 1,000 persons (25.27–26.34) in 2000–01 to 33.61 per 1,000 persons (33.03–34.20) in 2004–05 (Figure 6).

Figure 6: ACSCs admission rates in Outer East PCP, 2000–01 to 2004–05



Top 10 individual ACSCs admissions, 2004–05

Table 3 summarises the admission rates and average bed days for the top 10 ACSCs in 2004–05. Diabetes complications were the leading cause of ACSCs admission in 2004–05. The top 10 ACSCs accounted for 88.16 per cent of the total ACSCs admissions in the PCP. The average bed days for the top 10 ACSCs was 4.94 in 2004–05.

Table 3: Top 10 ACSCs in PCP5–Outer East, 2004–05

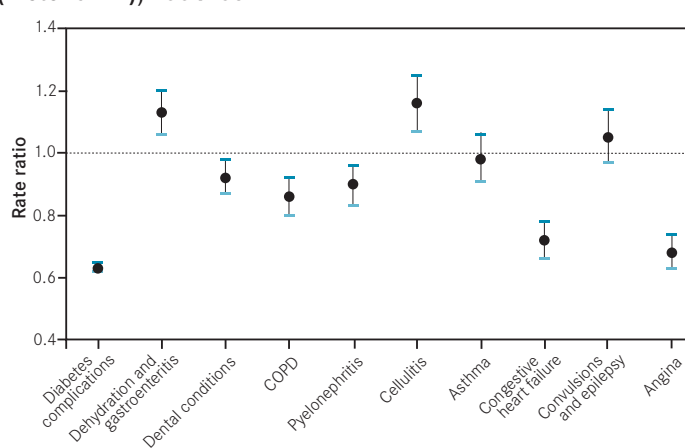
ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	4,670	12.66	12.30	13.03	6.94	32,426
Dehydration and gastroenteritis	1,109	2.90	2.73	3.07	1.88	2,082
Dental conditions	1,027	2.65	2.50	2.82	1.08	1,110
COPD	841	2.31	2.16	2.47	7.67	6,449
Pyelonephritis	786	2.06	1.92	2.21	3.68	2,892
Cellulitis	721	1.85	1.72	2.00	5.06	3,647
Asthma	690	1.79	1.66	1.93	2.37	1,638
Congestive heart failure	626	1.67	1.54	1.80	6.97	4,362
Convulsions and epilepsy	590	1.55	1.43	1.68	2.54	1,501
Angina	552	1.44	1.33	1.57	2.35	1,299

Note: CI = confidence interval

Admission Rate Ratios for the Top 10 Individual ACSCs, (Victoria = 1), 2004–05

The PCP's admission ratios for most of the top 10 ACSCs (except dehydration and gastroenteritis, and cellulitis) were similar or to significantly lower than the Victorian averages in 2004–05. The PCP's highest admission rate ratio was for cellulitis, which was 1.16 (1.07–1.25).

Figure 7: Top 10 ACSC Admission Rate Ratios in Outer East PCP, (Victoria = 1), 2004–05





Top 5 Individual ACSCs Admissions for Local Government Areas in the Outer East PCP, 2004–05

The Outer East PCP includes three local government areas (LGAs), Knox, Maroondah and Yarra Ranges. In these LGAs, diabetes complications were the leading cause of ACSCs admissions in 2004–05 (Tables 4–6). The top five ACSCs admissions accounted for 65.50 per cent, 61.57 per cent and 65.09 per cent of total ACSCs admissions in these LGAs, respectively.

Table 4: Top 5 ACSCs in the Knox LGA, 2004–05

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,884	14.51	13.87	15.18	6.22	11,719
Dehydration and gastroenteritis	375	2.63	2.38	2.91	1.84	689
Dental conditions	368	2.55	2.30	2.82	1.11	409
Cellulitis	298	2.10	1.87	2.35	4.92	1,465
COPD	268	2.06	1.83	2.32	7.90	2,117

Note: CI = confidence interval

Table 5: Top 5 ACSCs in the Maroondah LGA, 2004–05

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,395	12.77	12.11	13.45	7.32	11,719
Dehydration and gastroenteritis	298	2.85	2.54	3.19	2.26	689
Dental conditions	273	2.78	2.47	3.13	1.07	409
COPD	300	2.68	2.40	3.00	8.24	1,465
Convulsions and epilepsy	232	2.42	2.12	2.75	2.42	2,117

Note: CI = confidence interval

Table 6: Top 5 ACSCs in the Yarra Ranges LGA, 2004–05

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,391	10.78	10.23	11.36	7.55	11,719
Dehydration and gastroenteritis	436	3.20	2.91	3.51	1.65	689
Dental conditions	386	2.68	2.42	2.96	1.06	409
COPD	273	2.25	2.00	2.54	6.81	1,465
Pyelonephritis	273	2.05	1.82	2.31	3.04	2,117

Note: CI = confidence interval

Key Findings–PCP5–Outer East

- The PCP's admission rates for total ACSCs increased over the five-year period.
- The PCP's admission ratios for most of the top 10 ACSCs (except dehydration and gastroenteritis, and cellulitis) were similar to or significantly lower than the Victorian averages in 2004–05.
- The PCP's highest admission rate ratio was for cellulitis, which was 1.16 (1.07–1.25).

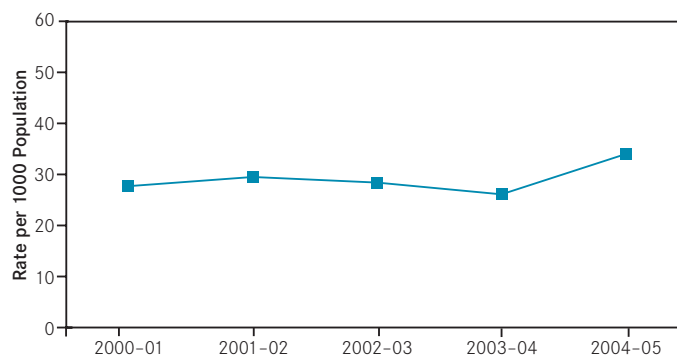


Central East Primary Care Partnership (PCP 6)⁵

Variations in rates of ACSCs admissions, 2000–01 to 2004–05

The PCP's admission rates for total ACSCs increased from 22.14 per 1,000 persons (21.71–22.57) in 2000–01 to 29.97 per 1,000 persons (29.50–30.47) in 2004–2005 (Figure 8).

Figure 8: ACSCs admission rates in Central East PCP, 2000–01 to 2004–05



Top 10 individual ACSCs admissions, 2004–05

Table 7 summarises the admission rates and average bed days for the top 10 ACSCs in 2004–05. Diabetes complications were the leading cause of ACSCs admissions in 2004–05. The top 10 ACSCs accounted for 87.41 per cent of the total ACSCs admissions in the PCP. The average bed days for the top 10 ACSCs was 5.09 in 2004–05.

Table 7: Top 10 ACSCs in PCP6–Central East, 2004–05

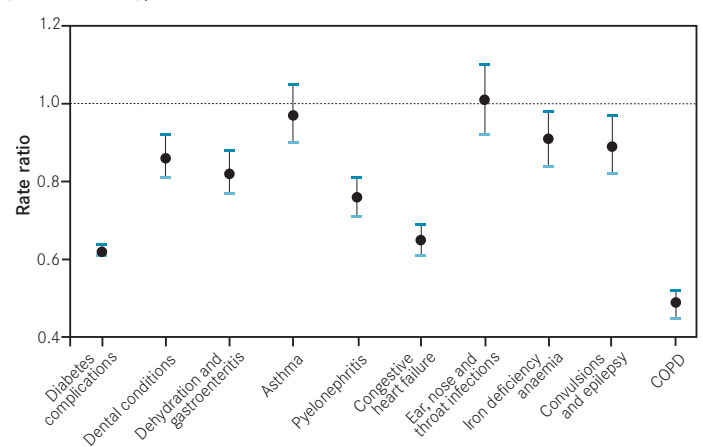
ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	6,783	12.43	12.14	12.73	6.45	43,732
Dental conditions	1,001	2.48	2.34	2.64	1.11	1,107
Dehydration and gastroenteritis	1,003	2.11	1.99	2.25	2.57	2,574
Asthma	664	1.77	1.64	1.91	2.46	1,636
Pyelonephritis	849	1.74	1.63	1.86	4.63	3,930
Congestive heart failure	885	1.50	1.41	1.61	7.70	6,815
Ear, nose and throat infections	518	1.42	1.31	1.55	1.62	840
Iron deficiency anaemia	679	1.34	1.24	1.44	1.62	1,099
Convulsions and epilepsy	534	1.32	1.21	1.43	3.20	1,710
COPD	745	1.31	1.22	1.41	8.15	6,070

Note: CI = confidence interval

Admission rate ratios for the top 10 individual ACSCs, (Victoria = 1), 2004–05

The PCP's admission rate ratios for all of the top 10 ACSCs were similar to or significantly lower than the Victorian averages in 2004–05.

Figure 9: Top 10 ACSCs admission rate ratios in Central East PCP, (Victoria = 1), 2004–05



⁵ The former Central East Primary Care Partnership has been incorporated into the Inner East Primary Care Partnership. However, to maintain the continuity of time series data ACSCs findings are reported separately for the former Central East Primary Care Partnership.



Top 5 Individual ACSCs Admissions for Local Government Areas in the Central East PCP, 2004–05

The Central East PCP includes three local government areas (LGAs), Manningham, Monash and Whitehorse. In these LGAs, diabetes complications were the leading cause of ACSCs admissions in 2004–05 (Tables 8–10). The top five ACSCs admissions accounted for 68.62 per cent, 66.21 per cent and 65.44 per cent of total ACSCs admissions in these LGAs, respectively.

Table 8: Top 5 ACSCs in the Manningham LGA, 2004–05

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	1,649	12.19	11.62	12.79	6.74	11,120
Dental conditions	291	2.71	2.42	3.04	1.11	322
Dehydration and gastroenteritis	293	2.37	2.12	2.66	2.76	808
Congestive heart failure	219	1.62	1.42	1.85	7.97	1,745
Pyelonephritis	198	1.61	1.40	1.85	5.58	1,104

Note: CI = confidence interval

Table 9: Top 5 ACSCs in the Monash LGA, 2004–05

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,787	13.20	12.72	13.70	6.28	17,505
Dental conditions	347	2.28	2.05	2.54	1.17	406
Pyelonephritis	374	2.05	1.85	2.27	3.93	1,469
Asthma	283	2.00	1.78	2.25	2.47	700
Dehydration and gastroenteritis	326	1.77	1.59	1.98	2.28	742

Note: CI = confidence interval

Table 10: Top 5 ACSCs in the Whitehorse LGA, 2004–05

ACSC	Number of admissions	Rate per 1,000 persons	Lower 95% CI	Upper 95% CI	Average bed days	Total bed days
Diabetes complications	2,347	12.11	11.63	12.61	6.44	15,107
Dental conditions	363	2.58	2.32	2.85	1.04	379
Dehydration and gastroenteritis	384	2.30	2.08	2.54	2.67	1,024
Asthma	260	1.95	1.72	2.20	2.60	675
Pyelonephritis	277	1.56	1.39	1.76	4.90	1,357

Note: CI = confidence interval

Key findings–PCP6–Central East

- The PCP's admission rates for total ACSCs increased over the five-year period.
- The PCP's admission rate ratios for the top 10 ACSCs were similar to or significantly lower than the Victorian averages for 2004–05.

Suggested Citation:

Chronic Disease Surveillance & Epidemiology Section, Public Health, Department of Human Services (2006). Ambulatory care sensitive conditions 2004–05 update: *Eastern Metropolitan Region (including Primary Care Partnerships and Local Government Areas)*. Melbourne, Victoria: Victorian Government.

Additional Information

Full details of the methodology are available from earlier ACSC reports which can be downloaded from the Department of Human Services website at:

<http://www.health.vic.gov.au/healthstatus/acsc/index.htm>

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Appendix—Impact of the change in coding practice

From 1 July 2004, changes to Australian Coding Standard 0401 Diabetes mellitus and impaired glucose regulation impacted on ICD-10-AM diagnosis coding with respect to three codes relevant to diabetic complications ACSCs viz. E11.72, E12.72 and E13.72. These codes refer to diabetes mellitus (except Type 1) with hypertension and/or other factors (including obesity, insulin resistance, acanthosis nigricans, dyslipidaemia etc.). The higher number of admissions for diabetes complications may, in part, reflect this change.

The number of ACSCs admissions for Victoria increased from 174,821 in 2003–04 to 209,183 in 2004–05 (up by about a quarter). This increase is entirely due to an increase of about 80 percent in diabetes complications, from 55,803 admissions in 2003–04 to 99,317 admissions in 2004–05. In fact, when diabetes complications are excluded, ACSCs admissions actually decreased slightly from 112,348 in 2003–04 to 109,866 in 2004–05. The increase in diabetes complications may be due, in part, to the change in coding practice effective from July 1, 2004 related to ICD-10-AM codes E11.72, E13.72 and E14.72.

After statistical analysis, we estimate that for Victoria as a whole, about three quarters of the increase in total ACSCs is due to the changed coding practice, and about one quarter would have occurred anyway. This means that when comparing ACSCs admission rates for 2003–04 and 2004–05, a good rule of thumb is to discount by three quarters the observed increase in diabetes complications. When applied to the observed increase of about a quarter for total ACSCs admissions, this implies that the real increase (apart from coding issues) is about 5 per cent.

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ACSC 2004–2005 UPDATE

