



APPENDIX Q3

Health

Q3 HEALTH

This appendix supports Chapter 19, Social Environment, of the Draft EIS by providing and comparing information on several health indicators in Roxby Downs and South Australia.

Information is sourced from:

- data on social and mental health indicators and compensable injuries on the Public Health Information Development Unit, University of Adelaide website, accessed in October 2006, March 2007 and August 2008
- data on hospital admissions supplied by the SA Department of Health in December 2006 and 2008.

Q3.1 HEALTH INDICATORS

Information on social health indicators is taken from the Public Health Information Development website (2006a, 2006b, 2006c, 2008a and 2008b). This includes indicators of health status and risk factors (see Table Q3.1), use of services (see Table Q3.2), hospital admissions by diagnosis (Table Q3.3) and mental health indicators (Table Q3.4). Information on compensable injuries includes claims made through the compulsory third-party insurance scheme, workers' compensation claims and road traffic accident data (see Table Q3.5).

Information is based on either age-standardised rates (per 1,000 people unless otherwise stated) or age-standardised ratios, which show the number in an area compared with the number expected. The rates in the Roxby Downs statistical local area (SLA) (which covers the municipality) are compared with South Australia and country South Australia (excluding Gawler), where this information is available. Standardised ratios are used where comparisons between areas are likely to be affected by variations in the age profile. Differences in age-standardised ratios therefore reflect the incidence of factors other than age.

The age-standard ratio for South Australia is set at 100, to enable comparisons to be made with other parts of the state. A higher standard ratio means the area has a higher incidence. A lower standardised ratio means the area has a lower incidence. For example, a score of 110 means the area is 10% higher than South Australia on that indicator, a score of 85 means the area is 15% lower.

Table Q3.1 Social health indicators in Roxby Downs and South Australia: Age-standardised ratio and rate per 1,000 people

Social health indicator	Data period	Number in Roxby Downs	Roxby Downs	South Australia	Country South Australia
Children and pregnancy					
Low birth-weight babies (%)	2003–2005	20	8.1	7.0	7.0
Perinatal risk factor	2003–2005	n.a.	Low	n.a.	High
Termination of pregnancy	2003–2005	50	Rate: 20.8 Ratio: 130	Rate: 11.6 Ratio: 100	Rate: 16.0 Ratio: 72
Smoking during pregnancy (%)	2003–2005	55	22.3	19.7	24.9
Immunisation at 12 months (%)	2006	99	95.1	94.6	94.5
Overweight four-year-old boys (%):	2004–2007				
– not obese		11	12.2	12.7	12.8
– obese		0	0	4.6	4.5
Overweight four-year-old girls (%):	2004–2007				
– not obese		16	18.2	15.7	15.7
– obese		0	0	6.2	6.6
Cancer					
Cancer incidence	2000–2005	33	Rate: 5.1 Ratio: 92	Rate: 5.5 Ratio: 100	Rate: 5.5 Ratio: 101
Mortality					
Total deaths 15–64 years	2001–2005	15	Rate: 1.8 Ratio: 84	Rate: 2.1 Ratio: 100	Rate: 2.3** Ratio: 111**
Deaths from external causes 15–64 years	2001–2005	7	Rate: 0.5 Ratio: 124	Rate: 0.4 Ratio: 100	Rate: 0.5** Ratio: 125**
Avoidable mortality 0–74 years	2001–2005	14	Rate: 1.8 Ratio: 91	Rate: 2.0 Ratio: 100	Rate: 2.2** Ratio: 110**
Cancer screening participation and outcomes					
Breast screening participation (females 50–69 years)	2005–2006	51	Rate: 383** Ratio: 65**	Rate: 592 Ratio: 100	Rate: 638** Ratio: 108**
Cervical screening participation (females 20–69 years)	2001–2002	643	Rate: 684.4 Ratio: 106	Rate: 646.0 Ratio: 100	Rate: 641.9 Ratio: 99

Social health indicator	Data period	Number in Roxby Downs	Roxby Downs	South Australia	Country South Australia
Cervical screening outcome – high grade abnormality	2001–2002	7	Rate: 8.5 Ratio: 135	Rate: 6.3 Ratio: 100	Rate: 6 Ratio: 95
Cervical screening outcome – low grade abnormality	2001–2002	22	Rate: 29.4 Ratio: 97	Rate: 30.4 Ratio: 100	Rate: 285.5** Ratio: 94**

Source: Public Health Information Development Unit (2006a, 2008a and 2008b)

* Statistically significant at the 5% confidence level.

** Statistically significant at the 1% confidence level.

Table Q3.2 Use of services in Roxby Downs and South Australia: Age-standardised ratio and rate per 1,000 people

Type of services	Data period	Number in Roxby Downs	Roxby Downs	South Australia	Country South Australia
General medical practitioner (full-time equivalent) ¹	2002/03	2.2	1:1,681 people	1:1,126 people	1:1,238 people
Community mental health service clients (one-to-one clients)	2005/06	27	Rate: 6.6** Ratio: 59**	Rate: 11.1 Ratio: 100	Rate: 11.1 Ratio: 99
Child and Adolescent Mental Health Services (0–19 years old, one-to-one clients)	2004/05 – 2006/07	123	Rate: 31.9** Ratio: 170**	Rate: 18.8 Ratio: 100	Rate: 26.6** Ratio: 142**
Families SA clients receiving emergency financial assistance	2005/06	11	Rate: 2.2** Ratio: 27*	Rate: 8.4 Ratio: 100	Rate: 1.2** Ratio: 141**
Non-referred attendances for general medical practitioner services	2005/06	11,423	Rate: 3,531.1** Ratio: 72**	Rate: 4,936.5 Ratio: 100	Rate: 4,487.6** Ratio: 91**

Source: Public Health Information Development Unit (2006a and 2008b)

¹ Information from the Department of Health suggests that the ratio of general practitioners per head of population in Roxby Downs in 2008 is greater than one per 2,000 people, based on recent population estimates. Information from the Rural Doctors Workforce Agency indicates there are around 420 general practitioners in country South Australia (pers com 2008), which would equate to a ratio of approximately one general practitioner per 1,000 people.

* Statistically significant at the 5% confidence level.

** Statistically significant at the 1% confidence level.

Table Q3.3 Hospital admissions by residence: Age-standardised ratio and rate per 1,000 people¹

Hospital admission and diagnosis	Data period	Number in Roxby Downs	Roxby Downs	South Australia	Country South Australia
Total admissions	2005/06	760	Rate: 260.1** Ratio: 79**	Rate: 330.9 Ratio: 100	Rate: 260.5** Ratio: 128**
Total admissions males	2005/06	352	Rate: 235.1** Ratio: 77**	Rate: 305.8 Ratio: 100	Rate: 304.8 Ratio: 100
Total admissions females	2005/06	408	Rate: 300** Ratio: 84**	Rate: 355.4 Ratio: 100	Rate: 367.8** Ratio: 103**
Infectious and parasitic diseases	2005/06	10	Rate: 2.2* Ratio: 49*	Rate: 4.5 Ratio: 100	Rate: 4.9** Ratio: 108**
Cancer	2005/06	31	Rate: 2.0* Ratio: 4.9*	Rate: 2.9 Ratio: 100	Rate: 2.6** Ratio: 91**
Mental and behavioural disorders	2005/06	16	Rate: 4.0** Ratio: 36**	Rate: 1.1 Ratio: 100	Rate: 1.4** Ratio: 122**
Circulatory system diseases	2005/06	17	Rate: 1.4* Ratio: 57*	Rate: 2.4 Ratio: 100	Rate: 2.6** Ratio: 109**
Respiratory system diseases	2005/06	44	Rate: 1.3 Ratio: 61	Rate: 2.0 Ratio: 100	Rate: 2.3** Ratio: 112**
Digestive system diseases	2005/06	112	Rate: 3.8 Ratio: 93	Rate: 4.1 Ratio: 100	Rate: 4.1 Ratio: 100
Musculoskeletal system and connective tissue diseases	2005/06	61	Rate: 2.4 Ratio: 99	Rate: 2.4 Ratio: 100	Rate: 2.6** Ratio: 110**
Genitourinary system diseases	2005/06	32	Rate: 1.1** Ratio: 59**	Rate: 1.8 Ratio: 100	Rate: 1.8 Ratio: 100
Injury, poisoning and consequences of other external causes	2005/06	105	Rate: 3.0** Ratio: 133**	Rate: 2.3 Ratio: 100	Rate: 2.9** Ratio: 128**

Source: Public Health Information Development Unit (2008b)

¹ Includes admissions to all public and private hospitals in South Australia by the principal diagnosis and Statistical Local Area (SLA) at the usual place of residence. This is equivalent to the Local Government Area in Roxby Downs.

* Statistically significant at the 1% confidence level.

** Statistically significant at the 5% confidence level.

Table Q3.4 Mental health indicators in Roxby Downs and South Australia: Age-standardised ratio and rate per 1,000 people, 2004/05

Mental health indicator	Number in Roxby Downs	Roxby Downs statistical local area	South Australia	Country South Australia
Hospital admissions (number of people)				
Mental health-related principal diagnosis	26	Rate: 7.5** Ratio: 54**	Rate: 13.7 Ratio: 100	Rate: 15.7 Ratio: 114
Mental health-related any diagnosis	40	Rate: 15.1** Ratio: 53**	Rate: 28.3 Ratio: 100	Rate: 31.8** Ratio: 113**
Neurotic, stress-related and somatoform disorders	7 (i)	Rate: 2.0 Ratio: 111	Rate: 1.8 Ratio: 100	Rate: 2.8** Ratio: 154**
Intentional self-harm	9	Rate: 2.2 Ratio: 127	Rate: 1.7 Ratio: 100	Rate: 1.9 Ratio: 110
Community mental health clients (number of people)				
Total clients	460	Rate: 123.7** Ratio: 66**	Rate: 186.3 Ratio: 100	Rate: 121.7** Ratio: 65**
Total clients 0–19 years old	141	Rate: 124.2 Ratio: 90	Rate: 137.3 Ratio: 100	Rate: 135.7 Ratio: 99
Total clients 20–44 years old	292	Rate: 164.8** Ratio: 66**	Rate: 249.2 Ratio: 100	Rate: 169.1** Ratio: 68**
Total clients 45–64 years old	27	Rate: 47.5** Ratio: 30**	Rate: 157.1 Ratio: 100	Rate: 91.9** Ratio: 58**
Mental/behavioural disorders due to substance abuse 20–44 years	16	Rate: 9.4** Ratio: 331**	Rate: 2.8 Ratio: 100	Rate: 3.1 Ratio: 110
Schizophrenia, schizotypal and delusional disorders	100	Rate: 25** Ratio: 33**	Rate: 76.7 Ratio: 100	Rate: 27.6** Ratio: 36**
Mood (affective) disorders	127 (ii)	Rate: 46.2 Ratio: 118	Rate: 39.1 Ratio: 100	Rate: 30.5** Ratio: 78**
Neurotic, stress-related and somatoform disorders (a)	150 (iii)	Rate: 37** Ratio: 204**	Rate: 18.2 Ratio: 100	Rate: 18.7** Ratio: 103**
Behavioural and emotional disorders with usual onset in childhood and adolescence	8	Rate: 1.6** Ratio: 28**	Rate: 5.8 Ratio: 100	Rate: 5.7 Ratio: 98

Source: Public Health Information Development Unit (2006b)

* Statistically significant at the 95% confidence level.

** Statistically significant at the 99% confidence level.

(i) All clients are 20–44 years old, representing a rate of 9.4 per 1,000 people (which is statistically significant at the 99% confidence level).

(ii) 87% are 20–44 years old, representing a rate of 16.3 per 1,000 people (which is statistically significant at the 99% confidence level).

(iii) 62% are 0–19 years old and 37% are 20–44 years old, representing a rate of 79.5 per 1,000 people and 28.5 per 1,000 people respectively (which is statistically significant at the 99% confidence level).

(a) Somatisation is when physical symptoms develop through stress or emotional problems.

Table Q3.5 Compensable injury in Roxby Downs, South Australia and country South Australia: age-standardised ratio and rate per 100,000 people

Compensable indicator	Number in Roxby Downs	Roxby Downs statistical local area	South Australia	Country South Australia
Compulsory Third Party Insurance Scheme 2002/03				
Claims opened	7	Rate: 183.1	Rate: 655	Rate: 437.5
Average cost	9	\$4,337	\$21,459	\$21,454
Workers compensation through WorkCover 2004/05				
Claims	71	Rate: 2,642.9	Rate: 1,857.6	Rate: 1,789.3
General practice services	246	Rate: 9,099.2	Rate: 7,155.1	Rate: 6,093.4
Physiotherapy services	71	Rate: 2,640.1	Rate: 5,398.9	Rate: 4,300.9
Road traffic accident data				
Drivers involved in road accidents, 2002	16	Rate: 460.1	Rate: 933.9	Rate: 677.9
Hospital admissions: workers compensation, 2003/04	32	Rate: 1,278.3	Rate: 441.2	Rate: 501.9

Source: Public Health Information Development Unit (2006c)

Q3.2 HOSPITAL ADMISSIONS

The SA Department of Health provided data on admissions to all public and private hospitals in South Australia by residential location and diagnoses (2006 and 2008). Diagnoses were classified according to the International Classification of Diseases codes (ICD). The Roxby Downs population was defined by postcode 5725. Rates per 1,000 people were calculated using ABS estimated resident populations (ABS 2007). Population estimates between censuses were based on the annual average increase over the previous five years.

Figure Q3.1 compares the reason for admission to all South Australian hospitals in 2007/08 as a rate per 1,000 people, based on the major ICD code and residential location. This shows that rates of hospital admissions are generally lower among Roxby Downs' residents.

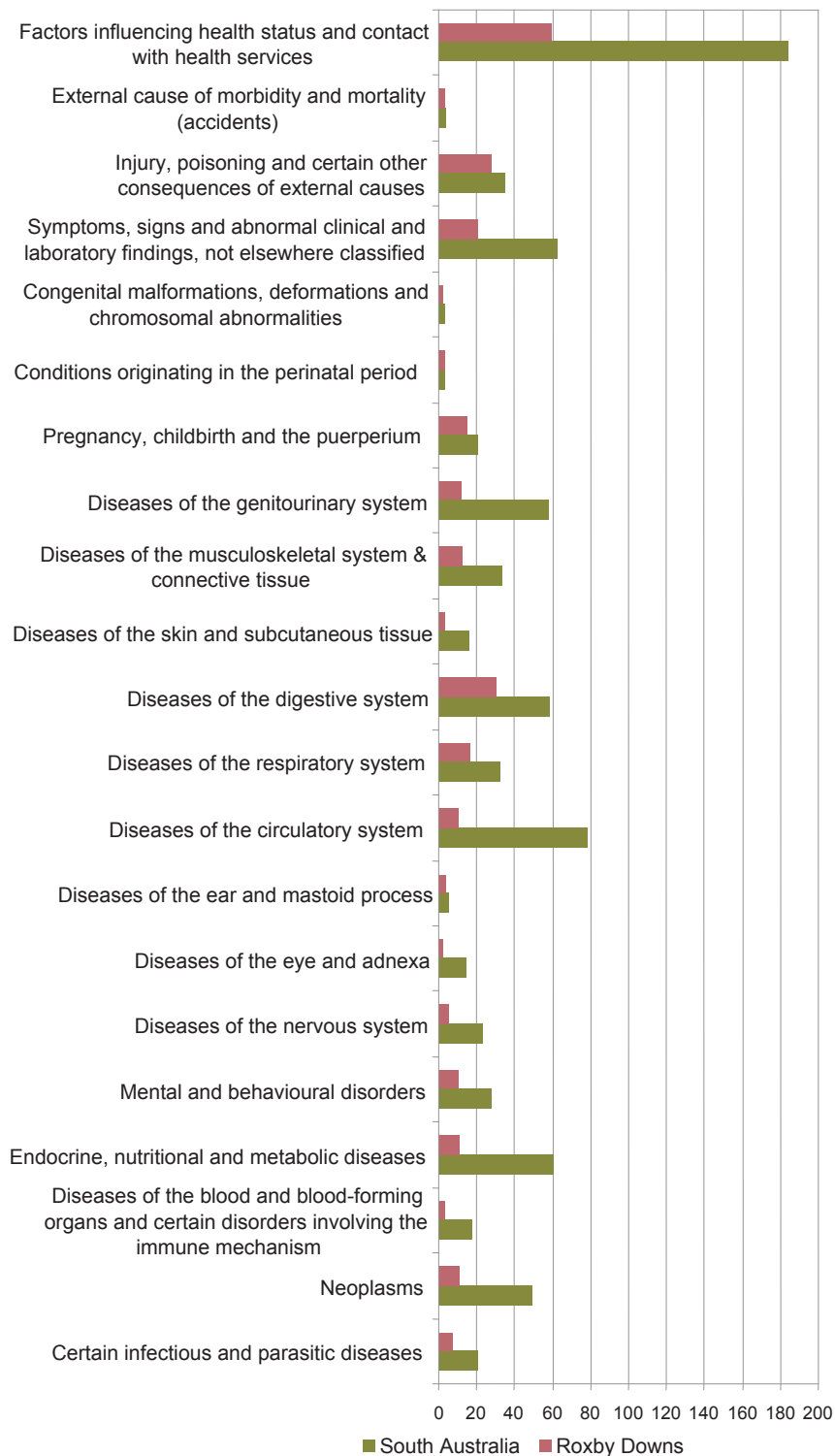
Table Q3.6 shows the changes in rates of hospital admission at all South Australian hospitals for asthma and drugs and other substances for Roxby Downs and South Australian residents from 1996 to 2007. These two ICD codes were selected because of concerns expressed by the community and service providers in the Roxby Downs Community Plan (Roxby Downs Community Board 2005) and during the EIS consultation program.

Table Q3.6 Rates of admission to all SA hospitals by residence for asthma and drugs and other substances as a rate per 1,000 people, 1996–2007

Year	Asthma		Drugs and other substances ¹	
	Roxby Downs	SA	Roxby Downs	SA
1996	2.6	22.7	1.1	7.3
1997	4.0	24.0	1.4	7.2
1998	7.4	23.7	0.9	7.3
1999	7.2	23.7	8.6	7.9
2000	6.6	20.5	6.0	8.1
2001	3.0	19.1	7.4	8.5
2002	4.9	17.0	8.1	8.8
2003	2.7	15.1	5.3	9.1
2004	9.5	11.0	4.7	8.7
2005	1.4	11.1	2.9	8.9
2006	3.0	11.6	2.8	9.2
2007	2.0	11.6	3.4	9.1

Source: SA Department of Health (2006 and 2008)

¹ Includes mental and behavioural disorders due to drugs and other substances.



Source: SA Department of Health (2008)

¹ Includes admissions to all public and private hospitals for selected diagnosis codes (principal and secondary).

Figure Q3.1 Separations in all SA hospitals by residence and diagnosis, as a rate per 1,000 population, 2007/08¹

Table Q3.7 shows the rate of inpatient separations at Roxby Downs Health Service compared to hospitals in country South Australia and South Australia as a rate per 1,000 people. Lower rates of separation at Roxby Downs Health Service might be expected because of the younger age profile of the Roxby Downs population and the more limited range of services available at the health service compared to other South Australia hospitals.

Table Q3.7 Inpatient separations as a rate per 1,000 population, 2003/04–2007/08

	2003/04	2004/05	2005/06	2006/07	2007/08
Roxby Downs Health Service	99	95	62	94	78
Country South Australia hospitals	210	206	206	203	207
South Australian hospitals	236	235	243	249	238

Source: SA Department of Health (2008)

Table Q3.8 shows the 10 most common diagnoses at the Roxby Downs Health Service compared to all South Australian hospitals in 2007/08, as a per cent of inpatient separations and as a rate per 1,000 people. This is based on the major diagnostic category (MDC) classification system, which refers to the body system.

Table Q3.8 Most common diagnoses at Roxby Downs

Roxby Downs Health Service			South Australian hospitals		
Major diagnostic category (MDC)	Per cent of patient separations (%)	Rate per 1,000 people	Major diagnostic category	Per cent of patient separations (%)	Rate per 1,000 people
Injury/poisoning/toxic effects of drugs and substances	15.7	12.2	Kidney/urinary tract	18.3	43.6
Muscular skeletal connective tissue	12.2	9.5	Circulatory system	9.4	22.3
Digestive system	11.0	8.6	Digestive system	9.2	21.9
Circulatory system	10.7	8.4	Muscular skeletal connective tissue	7.5	17.9
Nervous system	7.8	6.1	Pregnancy/childbirth/ puerperium	7.3	17.4
Respiratory system	7.5	5.9	Respiratory system	6.3	15.0
Ear, nose, mouth, throat	7.2	5.7	Nervous system	5.1	12.2
Pregnancy/childbirth/puerperium	5.2	4.1	Other factors influencing health status	4.9	11.6
Mental disorders/disturbance	4.9	3.8	Ear, nose, mouth, throat	4.4	10.5
Endocrine/nutritional/metabolic	2.9	2.3	Skin/subcutaneous tissue/ breast	4.3	10.3
Other	14.8	11.5	Other	23.1	54.9

Source: SA Department of Health (2008)

Table Q3.9 provides more detail on the most common diagnoses at Roxby Downs Health Service, as a per cent of all inpatient separations. This is based on the Diagnosis Related Group (DRG) classification system, which is used to categorise patients with respect to diagnosis and treatment, with each major diagnostic category (MDC) (see Table Q3.8) containing a number of diagnosis related groups (DRGs).

Table Q3.9 Most common diagnosis at Roxby Downs Health Service by Diagnosis Related Group (DRG)¹, 2007/08

Diagnosis related group	Inpatient separations (%)
Injuries	7.2
Chest pain	5.5
Oesophagitis ² , gastroenteritis and digestive system disorders	4.9
Poisoning/toxic effect of drugs and other substances	4.1
Injury to shoulder, arm, elbow, knee, leg or ankle	2.9
Otitis media ³ and upper respiratory illnesses	2.9
Abdominal pain or mesenteric adenitis ⁴	2.6
Diabetes	2.3
Injury to forearm, wrist, hand or foot	2.3
Antenatal and other obstetric	2.0

Source: SA Department of Health (2008)

¹ Each major diagnostic category (MDC) contains a number of diagnosis related groups (DRGs).

² Commonly associated with alcohol and smoking.

³ Bacterial or viral infection of the middle ear.

⁴ Inflammation of the lymph glands.

Table Q3.10 compares the rate of presentations at the emergency department of the Roxby Downs Health Service compared to other hospitals in country South Australia as a rate per 1,000 people. This shows that Roxby Downs Health Service has a relatively high rate of accident and emergency presentations.

Table Q3.10 Presentations at emergency departments, as a rate per 1,000 people

	2003/04	2004/05	2005/06	2006/07	2007/08
Roxby Downs Health Centre	730	503	559	551	561
Country SA Hospitals	396	371	376	372	395

Source: SA Department of Health (2008)

Q3.3 REFERENCES

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