



Health Outcomes

Health Service Use

Stage 3

Epidemiological Series Report # 2011 - 23

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Introduction

The following overview presents information on health service use in the twelve months prior to Stage 3 among the participants of the North West Adelaide Health Study, and the demographics chronic conditions and risk factors associated with fair or poor health. Stage 1 of the study was conducted between 2000 and 2003, with Stage 2 conducted from 2004 to 2006, and Stage 3 conducted from 2008 to 2010.

Measurement and definition of health service use

A question regarding use of health services in South Australia in the last twelve months was asked of participants in the self-completed questionnaire at Stages 1, 2 and 3 of the study. Participants were able to select if they had used more than one health service, from a number of predetermined medical, allied health, mental health or alternative health services. Participants were also asked how many times they used each of these health services in the last twelve months. In Stage 2, an extra category "Social worker/Counsellor" was added. In Stage 3, an additional category of "Dentist" was added.

Proportion of health service use – Stage 1, Stage 2 & Stage 3

The proportion of use of different health services for participants for Stages 1, 2 and 3 is shown in Table 1. Overall, in Stage 1, **93.9%** (95% CI 93.2-94.6) and in Stage 2, **95.1%** (95% CI 94.3-95.8) and in Stage 3, **97.7%** (95% CI 96.7-98.5) of study participants reported using a health service at least once in the last 12 months.

Table 1: Proportion of health service use

	Stage 1		Stage 2		Stage 3	
	n	%	n	%	n	%
General practitioner	3584	88.5	3171	91.0	2399	92.8
Community health centre	163	4.0	128	3.7	139	5.4
District nurse or other community nurses	77	1.9	82	2.4	94	3.5
Psychologist	119	2.9	72	2.0	109	4.2
Psychiatrist	128	3.2	106	3.0	83	3.2
Day surgery	459	11.3	412	11.8	382	14.7
Hospital - Accident & Emergency Dept	501	12.4	366	10.5	382	14.7
Hospital - Clinic (OPD/spec/allied health)	579	14.3	432	12.4	515	19.8
Eye specialist/ophthalmologist	941	23.3	438	12.5	484	18.6
Other specialist doctor (not in hospital)	683	16.9	774	22.1	673	25.8
Physiotherapist	546	13.5	595	17.0	549	21.1
Chiropractor	528	13.0	496	14.2	477	18.3
Alternative therapist (eg naturo/osteopath)	179	4.4	256	7.3	266	10.2
Podiatrist	343	8.5	334	9.5	365	14.0
Dietician	95	2.4	71	2.0	86	3.3
Nurse educator	36	0.9	44	1.3	52	2.0
Social worker/Counsellor	-	-	79	2.3	75	2.9
Dentist	-	-	-	-	1382	53.1
Other (please specify)	206	5.1	1177	33.6	87	3.3

* Note: Multiple responses recorded

Explanation of statistical terms used in this report

Incident rate is a measure of risk of developing a condition or risk factor within a specified period of time, often one year but in this report per 1000 person years. This allows for different amounts of observation times among participants between the baseline and Stage 3 results (ranging from 2000-2003 to 2008-2010). The incident rates were calculated without adjusting for age in this report. *For example, in a population of 1000 people, if 28 people develop a disease over two years, this would be expressed as 14 incident cases over 1000 person years (28 cases per 1000 divided by 2 years).*

Hazard ratio (HR) is the ratio of the hazard rates corresponding to a chronic condition or risk factor developing in the different groups over time – in this case, the time since the baseline examination (between 2000 and 2003). This allows for different amounts of observation times among participants between the baseline and Stage 3 results (ranging from 2000-2003 to 2008-2010). *For example, looking at cardiovascular disease, a hazard ratio of 2 for overweight or obese people implies that twice as many people with this risk factor have developed cardiovascular disease in this time compared to the reference group (those who are underweight or who have a healthy weight with a hazard ratio of 1).*

Adjusting for age is a technique used to better allow populations to be compared when the age profiles of the populations are quite different.

Tables 2 and 3 present the incidence rate per 1000 person years among those participants who did not report using a health service at baseline Stage 1 (153 incident cases).

Demographic profile of people using health services

The risk of using a health service among study participants who did not report using a health service at baseline was statistically significantly higher among those aged 60 years and over, those related or unrelated adults living together or adults living in a step, sole, shared or other parenting arrangement (Table 2).

Table 2: Hazard ratios for demographic variables associated with using health services

Variable	n	New Cases (N) [†]	Incidence rate (1000 person yrs) [†]	HR (95%CI)**	p value**
Sex					
Male	117	99	180.5	1	
Female	59	54	201.1	1.19 (0.79-1.79)	0.399
Age group					
Up to 49 years	111	94	171.7	1	
50 to 59 years	36	34	193.4	1.12 (0.66-1.93)	0.672
60 years and over	27	26	263.7	2.43 (1.58-3.75)	<0.001
Highest education level obtained*					
Secondary	71	62	187.6	1	
Trade/apprenticeship/cert/diploma	67	59	180.3	0.82 (0.53-1.26)	0.357
Bachelor degree or higher	33	27	201.9	1.31 (0.82-2.08)	0.256
Gross annual household income*					
Up to \$20,000	25	24	219.7	1	
\$20,001- 40,000	46	40	170.4	0.89 (0.47-1.69)	0.732
\$40,001- 60,000	44	32	155.2	0.97 (0.55-1.71)	0.918
More than \$60,000	46	45	226.1	1.48 (0.34-1.28)	0.222
Family structure*					
Family & children, two biological/ adoptive parents	66	59	182.1	1	
Adult living with partner, no children	39	36	232.6	1.22 (0.74-2.02)	0.443
Adult living alone	16	15	236.9	1.00 (0.57-1.79)	0.996
Adults – related/unrelated, living together	13	13	241.6	1.87 (1.02-3.41)	0.042
Step/sole/shared parenting & other	14	13	248.9	1.77 (1.08-2.90)	0.022
Marital status*					
Married or living with partner	112	99	185.5	1	
Separated/divorced	20	17	209.0	1.20 (0.72-2.00)	0.480
Widowed	7	6	299.6	1.84 (0.98-3.48)	0.060
Never married	38	31	169.9	1.13 (0.69-1.82)	0.630
Work status*					
Full time employed	84	69	185.6	1	
Part time/casual employed	25	23	166.5	0.52 (0.25-1.07)	0.077
Unemployed	11	11	221.4	1.59 (0.80-3.18)	0.187
Home duties/retired	43	39	221.8	0.99 (0.61-1.63)	0.978
Student/other	12	11	141.5	0.59 (0.29-1.18)	0.137

* Don't know/ refused/ not stated category not reported

** All variables adjusted for age (except for age group) to calculate hazard ratio

† Not adjusted for age

Chronic conditions and risk factors of people using health services

The risk of using a health service among study participants who did not report using a health service at baseline was statistically significantly lower among those who were current smokers, than those without this risk factor (Table 3).

Table 3: Hazard ratios for risk factors and chronic diseases associated with using health services

Variable	n	New Cases (N) [†]	Incidence rate (1000 person yrs) [†]	HR (95%CI)**	p value**
Diabetes					
No	167	146	186.7	1	
Yes	9	7	200.9	0.89 (0.39-2.05)	0.787
Arthritis					
No	133	119	188.6	1	
Yes	25	24	266.4	1.23 (0.76-1.98)	0.397
Current mental health condition					
No	164	142	187.4	1	
Yes	11	10	183.1	0.65 (0.29-1.44)	0.287
Smoking*					
Non-smoker	85	74	192.8	1	
Ex-smoker	40	37	233.4	1.35 (0.88-2.07)	0.169
Current smoker	50	42	154.2	0.61 (0.38-1.00)	0.049
Alcohol Risk					
Non-drinker/ No risk	110	95	186.7	1	
Low risk	54	51	196.3	1.05 (0.67-1.57)	0.816
Intermediate to very high risk	11	7	151.1	0.81 (0.31-2.09)	0.663
Physical activity					
Sedentary	38	36	211.2	1	
Undertakes some exercise	104	84	178.8	0.94 (0.63-1.41)	0.762
BMI[^]					
Underweight/Normal (under 25)	63	55	164.6	1	
Overweight (25 to 29.9)	68	56	195.4	1.19 (0.73-1.91)	0.486
Obese (30 and over)	45	42	214.6	1.34 (0.88-2.05)	0.171
High waist/hip ratio (>1.0 men, >0.85 women)[^]					
No	152	130	179.3	1	
Yes	24	23	251.7	1.62 (0.96-2.72)	0.068
High blood pressure (≥140/90mmHg)[^]					
No	127	112	186.7	1	
Yes	48	41	189.1	0.85 (0.49-1.48)	0.569

* Don't know/ refused/ not stated category not reported

** All variables adjusted for age (except for age group) to calculate hazard ratio

† Not adjusted for age

[^] Biomedical measurement

This document is one of a series of reports concerning Stage 3 of the North West Adelaide Health Study. Please see the website for other reports in the series - www.health.adelaide.edu.au/pros/data/nwahs/.

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