

Environmental Health & Wellbeing Survey

2002

*Prepared for:
Environmental Health Branch
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CHAPTER 1: BACKGROUND AND METHODOLOGY

1.1 Background

Following residential and community action group concerns regarding the environment surrounding Castalloy Manufacturing Pty Ltd at North Plympton, a survey of the area was commissioned by the Environmental Health Branch of the SA Department of Human Services. It was proposed that a CATI (Computer Assisted Telephone Interviewing) survey be conducted to compare measures of general health status, including environmental problems or issues, health problems or symptoms of ill health and quality of life, of the residents living in the immediate vicinity of Castalloy Manufacturing Pty Ltd. A comparison control survey was simultaneously done in another area in Adelaide that is similar in socio-economic status so that comparisons can be made.

The Centre of Population Studies in Epidemiology, which specialises in epidemiological population surveys, undertook the fieldwork using the Health Monitor survey. The Health Monitor is a telephone monitoring system designed to provide high quality health data on samples of the South Australian population. It is particularly applicable for surveys where planning information is required on health problems, use of health services and consumer perspectives. Some of the issues examined in previous Centre for Population Studies in Epidemiology (CPSE) surveys include: reported information on health status including quality of life; health activities and behaviours; the context of health problems; use of health services; and, satisfaction with services.

1.2 Survey objectives

The objectives of this survey were to:

- Examine environmental issues within the target area for the survey;
- Examine modification of behaviour to avoid odour and/or noise in the area (eg limiting outdoor activities at home);
- Examine the quality of life;
- Examine perceived health of self and other family members living in the household;
- Estimate the prevalence of symptoms of ill health (eg throat problems, disturbed sleep, nausea, wheezing, sneezing, hay fever, itching or burning eyes), health conditions (eg asthma, cardiovascular disease, emphysema, bronchitis and other respiratory diseases) and risk factors (eg smoking status).

1.3 Survey design

1.3.1 Sample selection

The sample was selected from two distinct areas:

- Area 1 was a random selection from the suburbs of Kurralta Park and Marlestone. This selection was based on SEIFA codes and proximity to the area in question.
- Area 2 was based on selected streets around the Castalloy factory. Street names and house numbers were determined at the cut off point approximately 500m radius from the point of interest. The sample was then randomly drawn from within that area.

All households in the selected areas that had a telephone connected and the telephone number listed in the Electronic White Pages (EWP) were eligible for selection in the sample. Telephone numbers were randomly selected from the Adelaide EWP telephone listings based on these boundaries. Each of the households selected was sent an introductory letter explaining the purpose of the survey (Appendix 1).

On contact, the person in the household who was last to have a birthday and was aged 18 years or older was selected for interview. There was no replacement for non-contactable persons.

1.3.2 Questions

Where possible and for consistency, questions previously included in other surveys were used. The questionnaire used in the survey is contained in Appendix 2. At no stage in the questionnaire was Castalloy named, environmental concerns were generalised eg. industry/ factories, aeroplanes and road traffic.

1.3.3 Pilot testing

Before the main survey, the questionnaire was pilot tested (n=50). The original questionnaire was amended slightly on the basis of the information obtained.

1.4 Data collection

Data collection was undertaken by the contracted agency, Harrison Health Research, in September and October 2002. Telephone calls were made between 9.30 am and 9.00 pm, seven days a week. Professional interviewers conducted the interviews and were supervised by Harrison Health Research and CPSE personnel. Disposition codes were supplied to CPSE staff daily, or as required, to ensure careful monitoring of survey activities.

1.4.1 CATI

The CATI III (Computer Assisted Telephone Interview) system was used to conduct the interviews. This system allows immediate entry of data from the interviewer's questionnaire screen to the computer database. The main advantages of this system are the precise ordering and timing of callbacks and correct sequencing of questions as specific answers are given. The CATI system enforces a range of checks on each response with most questions having a set of pre-determined response categories. In addition, CATI automatically rotates response categories, when required, to minimise bias. When open-ended responses were required, these were transcribed exactly by the interviewer.

1.4.2 Call backs

Up to ten callbacks were made to the telephone number to interview the selected person. Different times of the day or evening were scheduled for each callback. If a person could not be interviewed immediately they were re-scheduled for interview at a time suitable to them. Where a refusal was encountered, another interviewer (at the discretion of the supervisor) called later, in an endeavour to obtain the interview. Replacement interviews for persons who could not be contacted or interviewed were not permitted.

1.4.3 Validation

Of each interviewer's work, 10% was selected at random for validation by the supervisor. In addition, Harrison Health Research is a member of Interviewer Quality Control Australia (IQCA), a national quality control assurance initiative of the Market Research Society of Australia. Accredited organisations must strictly adhere to rigorous quality assurance requirements and are subject to regular audits by IQCA auditors.

1.4.4 Interviews undertaken

The overall sample participation rate was 67.9%. Initially a sample of 1066 was drawn. Sample loss of occurred due to non-connected numbers (147), non-residential numbers (21), fax/modem connections (11) and residents not being in the specified area (26).

From the eligible sample of 861, the response rate was calculated as shown in Table 1.1.

Table 1.1: Participation/ response rate

	n	%
Initial eligible sample	861	100.0
Refusals	135	15.7
Non-contact after ten attempts	139	16.1
Respondent unable to speak English	48	5.6
Respondent unavailable	25	2.9
Incapacitated	38	4.4
Terminated	3	0.4
Completed interviews	473	54.9

Response rate = total interviews/(initial sample drawn – sample loss) = 54.9%

Participation rate = total interviews/(initial sample drawn – sample loss – contact not established) = 67.9%

1.5 Data processing

1.5.1 Analysis

Raw data from the CATI system were imported into SPSS for Windows format. Data were then analysed using SPSS Version 11.0.

1.5.2 Weighting

The data were weighted by age, gender and probability of selection in the household to the Statistical Local Areas (SLAs) from where the sample was selected. The population for the SLAs of West Torrens (East) and Marion (North), as obtained from the Australian Bureau of Statistics 2001 Estimated Residential Population, was used to weight the data, so that the estimates provided would be representative of the adult population within these areas.

The weighting of the data results in occasional rounding effects for the numbers. In all instances the percentages should be the point of reference rather than the actual numbers of respondents. For example cell sizes presented of 1, 2 and 4 could in fact be 1.3, 2.4 and 4.4, which results in a slight variation from the totals presented (7 vs 8). The percentages presented in this report have been processed on the figures pre rounding.

Chi-square tests and t-tests were used where appropriate to test for statistical differences between groups. Differences reported with \wedge or \vee mean that there is a statistically significant difference between the two areas at the $p < 0.05$ level. Caution should be exercised in the interpretation of some of the results in this report. In some of the tables presented, small cells sizes are apparent and confidence intervals around the estimates could be large. The symbol # is used to indicate where at least one relevant comparison cell has less than 5 respondents. In this case Chi-square tests are invalid and statistical testing may be inappropriate.

Any comments reported within the document are verbatim comments as entered by the interviewers.

CHAPTER 2: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

2.1 Introduction

This section presents all of the relevant demographic characteristics of the survey respondents within the two areas of interest.

2.2 Gender, age, household size, and marital status of respondents

Table 2.1 shows the profile of respondents by gender, age group, household size and area of residence.

Table 2.1: Demographic characteristics - gender, age, household size, and marital status of respondents

Variable	Area 1		Area 2	
	n	%	n	%
Sex				
Male	101	48.2	124	47.4
Female	109	51.8	138	52.6
Age group				
18 to 24 years	40	19.0 [^]	19	7.4 ^v
25 to 34 years	42	19.9	55	20.9
35 to 44 years	48	22.7 [^]	36	13.9 ^v
45 to 54 years	23	10.9 ^v	46	17.4 [^]
55 to 64 years	16	7.4	34	12.8
65 to 74 years	21	9.8	31	11.9
75 year or more	22	10.3	41	15.6
Household size (Persons 18 years or over)				
1	59	28.2 [^]	46	17.4 ^v
2	116	54.9	153	58.4
3 or more	36	16.9	64	24.2
Children under 18 years living in household				
No	149	70.5	202	77.0
Yes	62	29.5	60	23.0
Marital status				
Married / living with a partner	112	52.9 ^v	166	63.4 [^]
Separated / divorced	19	9.0	16	6.2
Widowed	16	7.7	27	10.1
Never married	64	30.4 [^]	53	20.2 ^v
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

2.3 Country of birth

Table 2.2 shows the country of birth of respondents. Overall, the majority of respondents were from Australia (77.0%) with the second most common place of birth being the UK or Ireland (5.6%).

Table 2.2: Demographic characteristics – country of birth

Variable	Area 1		Area 2	
	n	%	n	%
Country of birth				
Australia	166	78.5	199	75.8
English speaking countries	8	4.0	25	9.6
Non-English speaking countries	37	17.5	38	14.6
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

2.4 Length of time living in the area, education level, household income

Table 2.3 shows the length of time spent living in the area, the education level and the household income for both groups. Respondents in area 2 were significantly more likely to have lived in the area for over 20 years.

Table 2.3: Length of time living in the area, education level and household income

Variable	Area 1		Area 2	
	n	%	n	%
Length of time living in area				
Less than one year	19	9.0	13	5.1
1 year to less than 5 years	59	27.8	63	23.9
5 years to less than 10 years	34	16.3	39	15.1
10 years to less than 20 years	50	23.7	45	17.2
Over 20 years	49	23.2 [∨]	102	38.8 [^]
Highest educational qualification obtained				
Never attended school	-	- #	1	0.2 #
Some primary school	1	0.4 #	7	2.8 #
Completed primary school	9	4.1	13	4.8
Some high school	68	32.5	89	33.8
Completed high school	53	25.1	50	19.2
TAFE/ Trade Certificate/ Diploma	39	18.5	61	23.3
University/ CAE/ Tertiary degree	41	19.4	42	16.0
Gross household annual income				
Up to \$12,000	33	15.5	27	10.3
\$12,001 - \$20,000	30	14.4	53	20.2
\$20,001 - \$40,000	42	19.7	56	21.2
\$40,001 - \$60,000	31	14.9	51	19.5
\$60,001 - \$80,000	27	12.8	23	8.9
More than \$80,000	15	7.0	23	8.8
Don't know	23	10.8	22	8.3
Not stated	10	5.0	7	2.8
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] [∨] Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

2.5 Employment status

Table 2.4 shows the employment status, type of work and the place of employment for all respondents. Respondents from area 1 were significantly more likely to work in the southern suburbs when compared to respondents from area 2.

Table 2.4: Employment status, place of employment, type of employment done for most of life

Variable	Area 1		Area 2	
	n	%	n	%
Work Status				
Full time employed/ part time employed	116	55.1	138	52.6
Unemployed, Home duties, Retired, Student,	89	42.2	119	45.5
Other (Disability/ Invalid/ Widows/ Carers pension, Maternity Leave)	6	2.7	5	1.8
Total	211	100.0	262	100.0
Suburb of work				
Plympton/ North Plympton/ Camden Park/ Netley/ Marlestone/ Kurralta Park	16	14.1	30	21.9
Adelaide/ North Adelaide	28	24.2	30	22.1
Various suburbs	12	10.4	19	14.0
Southern suburbs	26	22.5 [^]	17	12.6 ^v
Western suburbs	20	17.2	19	14.1
Eastern suburbs/ Northern suburbs/ Country regions/ All of state and rest of country/ Other	13	11.7	21	15.4
Total	115	100.0	138	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

2.6 Days unable to work or carry out normal activities because of health

Respondents were asked whether, in the last four weeks, they had been unable to work or carry out their normal duties because of their health and whether, in the last four weeks they had to cut down what they did or had not got as much done due to their health. The responses are shown in Table 2.5.

Table 2.5: Number of days unable to carry out duties or unable to get as much done

Variable	Area 1		Area 2	
	n	%	n	%
Unable to work in last four weeks				
No work missed	162	76.9	214	81.7
1 to 2 days	30	14.4 [^]	15	5.7 ^v
3 to 7 days	12	5.9	27	10.4
Over 7 days	6	2.8	6	2.2
Total	211	100.0	262	100.0
Had to cut down activity or not got as much done				
Did not cut down or have to do less	180	85.5	220	84.0
1 to 2 days	11	5.1 [#]	4	1.4 [#]
3 to 7 days	9	4.4	17	6.5
Over 7 days	11	5.0	21	8.2
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

[#] Insufficient numbers for statistical tests

CHAPTER 3: QUALITY OF LIFE AND RISK FACTORS

3.1 Introduction

This chapter presents the responses relating to quality of life and health risk factors.

3.2 Quality of Life

All respondents (n=473) were asked how they rated their health. Overall, 82.1% of those in area 1 classified themselves as in excellent, very good or good health compared to 80.0% of those in area 2. The results are summarised in Table 3.1.

Table 3.1: General health

Variable	Area 1		Area 2	
	n	%	n	%
In general would you say your health is?				
Excellent	28	13.4	31	11.8
Very good	81	38.4	108	41.1
Good	64	30.3	71	27.1
Fair	31	14.8	36	13.6
Poor	6	3.0	17	6.4
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

When compared to one year ago, the majority of respondents considered that their health was about the same (68.9% and 61.6% respectively). Significantly more respondents in area 2 considered their health somewhat worse now when compared to respondents in area 1. The results are summarised in Table 3.2.

Table 3.2: Compared to one year ago, how would you rate your health....?

Variable	Area 1		Area 2	
	n	%	n	%
Compared to one year ago, how would you rate your health in general now?				
Much better now	17	8.2	18	7.0
Somewhat better now	24	11.3	25	9.4
About the same	145	68.9	162	61.6
Somewhat worse now	21	10.0 v	46	17.7 ^
Much worse now	3	1.5 #	11	4.3 #
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents (n=473) were then asked to rate their quality of life at present. The majority of respondents rated their quality of life as good or very good. There were no significant differences between the areas in terms of rating of quality of life at present. The responses are summarised in Table 3.3.

Table 3.3: Rating of quality of life

Variable	Area 1		Area 2	
	n	%	n	%
How would you rate your quality of life at present				
Very good/ Good	183	86.8	219	83.5
Neither good nor poor	19	9.1	26	10.0
Poor/ Very poor	9	4.1	17	6.6
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Table 3.4 summarises the responses (n=473) relating to lack of sleep, difficulty staying asleep, being under strain and being edgy and bad tempered. Respondents in area 1 were significantly more likely to report that they had not been edgy and bad tempered any more than usual. Conversely, respondents in area 2 were significantly less likely to report that they had not been edgy and bad tempered any more than usual.

Table 3.4: Responses relating to lack of sleep and being under strain, edgy and bad tempered

Variable	Area 1		Area 2	
	n	%	n	%
In the last few weeks have you lost much sleep over worry?				
Not at all	93	44.2	111	42.4
No more than usual	78	37.1	100	38.3
Rather more/ Much more than usual	39	18.7	51	19.4
In the last few weeks have you had difficulty staying asleep				
Not at all	98	46.4	117	44.5
No more than usual	77	36.6	109	41.4
Rather more/ Much more than usual	36	17.0	37	14.1
Felt constantly under strain				
Not at all	82	39.0	108	41.2
No more than usual	95	45.2	101	38.6
Rather more/ Much more than usual	33	15.8	53	20.2
Been getting edgy and bad tempered				
Not at all	90	42.8	129	49.2
No more than usual	92	43.8 [^]	90	34.2 ^v
Rather more/ Much more than usual	28	13.3	43	16.5
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Table 3.5 shows the responses obtained for the questions relating to scared or panicky, things getting on top of respondents and feeling nervous and strung up. There were no significant differences between areas in terms of these responses.

Table 3.5: Responses relating to getting scared, things getting on top and being strung up

Variable	Area 1		Area 2	
	n	%	n	%
Been scared or panicky for no good reason?				
Not at all	173	82.1	214	81.8
No more than usual	26	12.4	37	14.3
Rather more / Much more than usual	11	5.4	10	4.0
Found everything getting on top of you				
Not at all	103	48.8	140	53.4
No more than usual	82	38.8	84	31.9
Rather more / Much more than usual	26	12.4	39	14.7
Much more than usual	5	2.5	7	2.5
Been feeling nervous and strung up all the time				
Not at all	129	61.2	180	68.5
No more than usual	53	25.2	50	19.1
Rather more / Much more than usual	29	13.6	32	12.4
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

3.3 Smoking

All respondents (n=473) were asked if smoking occurs in their home situation. There were no significant differences between the areas in terms of smoking within the home. The responses are in Table 3.6.

Table 3.6: Smoking within the home

Variable	Area 1		Area 2	
	n	%	n	%
Home situation				
My home is smoke free	178	84.3	220	83.7
People occasionally smoke in the house	21	9.9	28	10.8
People frequently smoke in the house	12	5.7	15	5.5
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents (n=473) were then asked their smoking status. Overall, 19.4% (n=92) were current smokers, 29.4% (n=139) were ex-smokers and 51.2% (n=242) were non-smokers. There were no significant differences between the areas in terms of the proportion of smokers and non-smokers. The results are summarised in Table 3.7.

Table 3.7: Proportion of smokers

Variable	Area 1		Area 2	
	n	%	n	%
Smoking status				
I smoke daily	27	12.8	32	12.2
I smoke occasionally	18	8.6	15	5.6
I don't smoke now but I used to	64	30.2	75	28.7
I've tried it a few times but never smoked regularly	19	8.8	24	9.2
I've never smoked	83	39.5	116	44.3
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

3.4 Health Symptoms

All respondents (n=473) were asked whether they had ever been told by a doctor if they have any of the following conditions. Overall the most frequent condition suffered from was high blood pressure (25.5%, n=121) and area 2 had a significantly higher prevalence of self reported high blood pressure than area 1. The responses are summarised in Table 3.8.

Table 3.8: Conditions*

Variable	Area 1		Area 2	
	n	%	n	%
Ever been told by a doctor that you have				
High blood pressure	42	19.8 √	79	30.1 ^
Stroke	6	2.7	6	2.2
Cancer (other than non melanoma skin cancer)	15	7.1	16	6.3
Respiratory problems (other than asthma)	10	4.6	14	5.4
Chronic fatigue syndrome	2	1.0 #	8	3.0 #
Heart disease	11	5.0	15	5.6
Multiple chemical sensitivity	5	2.3	7	2.5
None of these	142	67.2	160	61.0

*Multiple responses

^ √ Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents (n=473) were then asked a series of questions about specific problems. Respondents were asked whether or not they had been told by a doctor that they had asthma and whether or not they still have asthma (Table 3.9). Overall, 17.6% of respondents had been told by a doctor that they have asthma and 62.5% (n=52) of these respondents still had it. There were no significant differences between the areas in the prevalence of asthma.

Table 3.9: Prevalence of asthma

Variable	Area 1		Area 2	
	n	%	n	%
Ever been told by a doctor that you have asthma				
Yes	36	17.0	47	18.0
No	173	82.3	215	82.0
Don't know/ not sure	1	0.7 #	-	- #
Total	211	100.0	262	100.0
Do you still have asthma				
Yes	23	63.2	29	61.9
No	12	34.7	18	38.1
Don't know/ not sure	1	2.1 #	-	- #
Total	36	100.0	47	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents (n=473) were asked if they had ever been told by a doctor that they have any other respiratory problem. Overall 4.6% (n=22) had been told that they have another respiratory condition and 43.2% (n=10) of these still had it. The responses are summarised in Table 3.10. There were no significant differences between the areas in terms of the prevalence of respiratory problems.

Table 3.10: Prevalence of respiratory problems

Variable	Area 1		Area 2	
	n	%	n	%
Ever been told by a doctor that you have other respiratory problem (bronchitis, emphysema, chronic lung disease) that has lasted 6 months or more				
Yes	8	3.9	14	5.2
No	202	96.1	249	94.8
Total	211	100.0	262	100.0
Do you still have this problem				
Yes	4	49.9 #	5	39.2 #
No	3	42.2 #	8	60.8 #
Don't know/ not sure	1	7.9 #	-	- #
Total	8	100.0	14	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

All respondents (n=473) were then asked about symptoms they had experienced in the last 12 months (Table 3.11). The first symptom was itchy eyes. Overall, 40.9% (n=193) of respondents had itchy eyes over the last 12 months with over 20 days being the most frequent number of times (36.2%, n=70). There were no significant differences between the areas in terms of the prevalence of itchy eyes.

Table 3.11: Prevalence of itchy eyes in the last 12 months

Variable	Area 1		Area 2	
	n	%	n	%
Have you suffered from ITCHY EYES in the last 12 months				
Yes	89	42.4	104	39.7
No	121	57.6	158	60.3
Total	211	100.0	262	100.0
How many times in the last 12 months				
1 to 5 days	25	28.4	22	20.7
6 to 10 days	16	18.0	19	17.8
11 to 20 days	8	9.1	14	13.2
Over 20 days	28	31.6	42	40.2
Unsure/ don't know	12	13.0	8	8.0
Total	89	100.0	104	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents (n=473) were then asked about nausea they had experienced in the last 12 months (Table 3.12). Overall, 26.6% (n=126) of respondents had nausea over the last 12 months with 1 to 5 days being the most frequent number of times (42.2%, n=53). There were no significant differences between the areas in the prevalence of nausea.

Table 3.12: Prevalence of nausea in the last 12 months

Variable	Area 1		Area 2	
	n	%	n	%
Have you suffered from NAUSEA in the last 12 months				
Yes	56	26.5	70	26.6
No	153	72.8	192	73.1
Don't know	1	0.6 #	1	0.4 #
Total	211	100.0	262	100.0
How many times in the last 12 months				
1 to 5 days	26	46.6	27	38.7
6 to 10 days	12	20.8	8	11.0
11 to 20 days	2	4.3 #	11	16.1 #
Over 20 days	11	18.8	13	19.1
Unsure/ don't know	5	9.4	11	15.2
Total	56	100.0	70	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents (n=473) were asked if they had suffered from headaches in last 12 months (Table 3.13). Overall, 58.1% (n=275) of respondents had headaches over the last 12 months with over 20 days being the most frequent number of times (32.9%, n=90). There were no significant differences between the areas in terms of prevalence of headaches.

Table 3.13: Prevalence of headaches over the last 12 months

Variable	Area 1		Area 2	
	n	%	n	%
Have you suffered from HEADACHES in the last 12 months				
Yes	125	59.1	150	57.3
No	86	40.9	112	42.7
Total	211	100.0	262	100.0
How many times in the last 12 months				
1 to 5 days	30	24.4	38	25.3
6 to 10 days	22	18.0	28	18.4
11 to 20 days	29	23.1	24	16.3
Over 20 days	37	29.9	53	35.4
Unsure/ don't know	6	4.6	7	4.6
Total	125	100.0	150	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents (n=473) were asked if they had suffered from difficulty breathing and chest tightness in last 12 months (Table 3.14). Overall, 19.8% (n=94) of respondents had headaches over the last 12 months with over 20 days being the most frequent number of times (33.9%, n=32). There were no significant differences between areas in terms of difficulty breathing and chest tightness.

Table 3.14: Prevalence of difficulty breathing and chest tightness

Variable	Area 1		Area 2	
	n	%	n	%
Have you suffered from DIFFICULTY BREATHING AND CHEST TIGHTNESS in the last 12 months				
Yes	43	20.4	51	19.3
No	168	79.6	209	79.5
Don't know	-	- #	3	1.2 #
Total	211	100.0	262	100.0
How many times in the last 12 months				
1 to 5 days	11	25.7	10	18.9
6 to 10 days	7	16.0	9	17.1
11 to 20 days	3	5.9 #	5	10.1 #
Over 20 days	15	35.5	16	32.6
Unsure/ don't know	7	16.9	11	21.3
Total	43	100.0	51	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents (n=473) were read a list of other conditions and asked if they have experienced any of the complaints over the last two weeks. The responses are summarised in Table 3.15. Overall the most frequent symptom was stuffy or runny nose (48.3%, n=229), with headache the second most common complaint (38.4%, n=181). Respondents in area 1 were significantly more likely to have experienced vomiting within the last two weeks whereas respondents in area 2 were significantly more likely to have experienced coughing in the last two weeks.

Table 3.15: Complaints or symptoms*

Variable	Area 1		Area 2	
	n	%	n	%
Complaints or symptoms				
Stuffy or runny nose	102	48.5	127	48.2
Sore or scratchy throat	70	33.3	86	33.0
Cough	67	31.9 √	108	41.2 ^
Hay fever attacks	48	22.9	54	20.5
Headache	79	37.6	102	39.0
Diarrhoea	23	11.1	25	9.6
Nausea	23	11.1	34	12.9
Vomiting	21	9.7 ^	13	5.1 √
Itching or burning eyes	54	25.5	64	24.4
Skin rashes, irritation or itching	47	22.3	64	24.4
Wheezing	15	7.0	30	11.6
Difficulty breathing	21	9.9	26	9.9
Disturbed sleep	72	34.2	88	33.5
None	33	15.8	54	20.4

*Multiple responses

^ √ Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents (n=473) were read a list and then asked if their health was seriously affected by exposure to any of the following pollutants (Table 3.16). Overall the most common responses were perfume and traffic pollution (both 12.4%, n=59). Respondents in area 2 were significantly more likely to report that their health was affected by exposure to workplace chemicals.

Table 3.16: Health affected by exposure to....*

Variable	Area 1		Area 2	
	n	%	n	%
Health affected by exposure to...				
Perfume	30	14.1	29	11.1
Traffic pollution	24	11.6	34	13.1
Household chemicals	25	12.1	32	12.0
Workplace chemicals	16	7.7 [∨]	38	14.5 [^]
Other	5	2.3	8	3.0
None	150	71.0	173	66.0
Don't know	15	7.2	25	9.5

*Multiple responses

[^] [∨] Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Other responses include:

Area 1:

- Medical drugs and tablets including penicillin/ many food allergies and alcohol/ beestings/ medical adhesive tape/ gold;
- Allergic to codeine and panadeine;
- Allergy to penicillin;
- Eryc and penicillin;
- Smoke;
- Workplace alterations to building eg wall pulled down resulting in dust in air;
- Grasses.

Area 2:

- Smog upsets the lung disease;
- Shampoos, I have sensitive skin and usually gloves when using chemicals, I also live opposite Castalloy and teary eyes quite a bit, not sure if shampoos, diet or something in the air;
- Penicillin/ morphine/ codeine;
- Soap and skin creams;
- Penicillin;
- Allergies for dust mites and pollens;
- Air conditioning.

3.5 Pets

Respondents (n=473) were then asked how many pets they had at the address (Table 3.17). Dogs (n=145) were the most common pets, with 30.8% of respondents owning at least one dog.

Table 3.17: Pets*

Variable	Area 1		Area 2	
	n	%	n	%
Pets				
Dogs	57	26.9	89	33.8
Cats	49	23.1	60	22.7
Bird	24	11.6	42	15.9
Rabbit	3	1.6	8	3.2
Other	22	10.2	16	6.2
None	105	50.1	109	41.5

*Multiple responses

Other pets included:

- Fish (20)
- Chickens (4)
- Mice
- Horse (2)
- Frog (2)
- Bird eating spider
- Turtle/ Tortoise (4)
- Guinea Pig

The numbers of each type of pet are summarised in Table 3.18.

Table 3.18: Numbers of pets

Variable	Area 1		Area 2	
	n	%	n	%
Number of dogs				
1	48	84.5	64	72.6
2	9	15.5	23	25.7
3	-	-	2	1.7
Total	57	100.0	89	100.0
Number of cats				
1	37	75.7	44	73.9
2	9	18.4	14	23.6
3	3	5.9	1	2.4
Total	49	100.0	60	100.0
Number of birds				
1	13	55.0	19	46.2
2	3	12.1	6	14.1
3	1	2.1	3	8.3
4 or more	8	30.9	13	31.4
Total	23	100.0	42	100.0
Number of rabbits				
1	3	100.0	6	74.4
2	-	-	1	12.0
6	-	-	1	13.6
Total	3	100.0	8	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

Respondents who had pets were then asked if any of these pets have been unwell in the past 12 months. Of the respondents in area 1 group who had a pet (dog, cat, rabbit or bird), 16.4% (n=16) reported that their pets had been unwell in the past 12 months. Of the respondents in area 2 who had a pet (dog, cat, rabbit or bird), 23.4% (n=34) reported that their pets had been unwell in the past 12 months. There was no significant difference between the areas in terms of reporting that pets had been unwell. The number and type of pets unwell in the past 12 months are summarised in Table 3.19.

Table 3.19: Number and type of pets unwell in the past 12 months*

Area 1	Area 2
Number and type of pets unwell	
One dog (6)	One dog (16)
One cat (2)	One cat (13)
Both dog and cat	Two cats
One cat, one bird	Three dogs
Both birds	One bird
One dog and two cats	
Both the cat and the dog	
One cat, two birds	
One bird	

*Multiple responses

Respondents whose pets had been unwell were then what the nature of the illness was as specified by the vet. The responses are described in Table 3.20 (proportion taken to the vet) and Table 3.21 (illness specified by a vet).

Table 3.20: Nature of illness

Variable	Area 1		Area 2	
	n	%	n	%
Nature of illness				
Illness as specified by vet	15	92.9	29	83.2
Not seen by a vet	1	7.1 #	6	16.8 #
Total	16	100.0	34	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Table 3.21: Illness specified by a vet*

Area 1	Area 2
Illness as specified by a vet	
Pet shop said he has a diet problem but changing his diet did not work/ he may be bored	Stomach upset – food poisoning
Bad ear infection and arthritis	One died of liver cancer
Virus – stomach	Feline urinary tract disease and abscesses
Dog – allergy	Breathing problems three or four times a month similar to wheezing
She had skin problems, itchiness	Dog – blood in urine
Cat's tail went gangrenous and had half tail cut off, dog – weepy eyes due to breed	He gets dizzy and can't walk/ lasts for 20 minute and then it has passed / the vet said he will need a neurological test like a CT scan
Allergy like hay fever to grass seeds and things	Kidneys were not working properly. His heart is not the strongest. He has taken tablets and is now fine
Gingivitis	Cat –urinary infection
Had six birds - four died when trees sprayed for fruit fly	A nervous condition
Dog has suffered from epilepsy – once every three or four months	Eating too much dry food
Dog – had a flea infestation, supposedly treated with antibiotics, cat – bite from another animal	Abscess
Cat – tumour in ear, birds just died but not checked by vet	Cancer
Skin irritation	Kidney disease
Just his age, 10	Flu
Pulls his feathers off all the time	Hay fever
	I think the dog ate something out of the garden and it had diarrhoea and vomiting. Vet put dog on a drip and it got better
	Cat – infection due to fight with other cat
	Epileptic
	Cat flu
	Sore infected ears
	Tooth abscess
	Tumours on mammary glands, they have now been removed
	She has a tumour in the leg

*Multiple responses

CHAPTER 4: ENVIRONMENTAL ISSUES

4.1 Introduction

This chapter describes the environmental issues relating to noise or odour problems in the area.

4.2 Noise or odour problems

4.2.1 Noise

All respondents (n=473) were asked how annoyed they were by noise in their neighbourhood in the last 12 months. The average rating in area 1 was 2.9 (SD 2.8) and the average rating in area 2 was 3.7 (SD 3.4) with the average rating in area 2 a significantly higher rating for being annoyed by noise than area 1 ($t=-2.8$, $p=0.005$). Respondents in area 1 were significantly more likely to report a rating below 5 and respondents in area 2 were significantly more likely to provide a rating between 6 and 10. The results are summarised in Table 4.1.

Table 4.1: How much annoyed by noise

Variable	Area 1		Area 2	
	n	%	n	%
Rating of noise				
0 (Not at all annoyed) to 4	149	70.9 [^]	147	55.9 ^v
5	28	13.2	30	11.3
6 to 10 (Very much annoyed)	33	15.9 ^v	86	32.8 [^]
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

Insufficient numbers for statistical tests

Respondents (n=473) were then asked how much their sleep had been disturbed by noise in their neighbourhood in the last 12 months. The average rating in area 1 was 1.8 (SD 2.5) and the average rating in area 2 was 2.2 (SD 2.9). There was no significant difference between the areas in terms of the average rating for how much sleep was disturbed by noise ($t=-1.8$, $p=0.07$). However respondents in area 1 were significantly more likely to report a rating below 5, than respondents in area 2. The results are summarised in Table 4.2.

Table 4.2: Sleep disturbed

Variable	Area 1		Area 2	
	n	%	n	%
Rating of sleep disturbance				
0 (Not at all annoyed) to 4	183	86.9 [^]	201	76.7 ^v
5	10	4.8	23	8.9
6 to 10 (Very much annoyed)	17	8.3	37	14.0
Don't know	-	-	1	0.4
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

Insufficient numbers for statistical tests

4.2.2 Odour

All respondents (n=473) were asked about annoyance from odour that they may or may not be experiencing in their neighbourhood (Table 4.3) and respondents were asked to rate their degree of annoyance. Respondents in area 1 were significantly more likely to report no annoyance or very slight annoyance from the odour and conversely respondents in area 2 were significantly more likely to report annoyance ranging from distinct to unbearably serious.

Table 4.3: Annoyance from odour

Variable	Area 1		Area 2	
	n	%	n	%
Annoyance from odour				
None/ Very slight annoyance	200	95.0 [^]	132	50.3 ^v
Distinct annoyance to unbearably serious	11	5.0 ^v	129	49.2 [^]
Don't know	-	- #	2	0.6 #
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

The next set of questions were only asked of respondents who reported being annoyed by the odour (n=250; area 1, n=59; area 2, n=191). The responses about how the odour had affected them in recent times are summarised in Table 4.4 to Table 4.10.

Respondents who were annoyed by the odour (n=250) were asked if they looked forward to coming home (Table 4.4). Respondents in area 1 were significantly more likely to look forward to going home than those in area 2.

Table 4.4: Don't look forward to coming home

Variable	Area 1		Area 2	
	n	%	n	%
You don't look forward to coming home				
Never	47	79.3 [^]	111	58.0 [∨]
Rarely/ sometimes	11	19.0	58	30.1
Often/ very often	1	1.7 #	21	11.2 #
Don't know/ not sure	-	- #	1	0.8 #
Total	59	100.0	191	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] [∨] Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

These respondents (n=250) were asked if the odour was disruptive to outdoor activities (Table 4.5). While overall, 43.5% (n=109) of respondents never found the odour disruptive to outdoor activities, respondents in area 1 were significantly more likely to report that outdoor activities were never disrupted. Respondents in area 2 were significantly more likely to report that outdoor activities were rarely or sometimes disrupted.

Table 4.5: Disruptive to outdoor activities

Variable	Area 1		Area 2	
	n	%	n	%
Disruptive to outdoor activities				
Never	44	75.0 [^]	65	33.8 [∨]
Rarely/ Sometimes	11	19.4 [∨]	79	41.5 [^]
Often/ Very often	3	5.5 #	47	24.8 #
Total	59	100.0	191	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] [∨] Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

The respondents (n=250) were asked if the odour prevents them going to sleep (Table 4.6). Respondents in area 1 were significantly more likely to report that the odour never prevents them from getting to sleep. Respondents in area 2 were significantly more likely to report that they rarely or sometimes were prevented from going to sleep.

Table 4.6: Prevents getting to sleep

Variable	Area 1		Area 2	
	n	%	n	%
Prevents you getting to sleep				
Never	53	89.5 [^]	131	68.6 ^v
Rarely/ Sometimes	6	10.5 ^v	46	23.9 [^]
Often/ Very often	-	- #	14	7.5 #
Total	59	100.0	191	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

The respondents who were annoyed by the odour (n=250) were asked if the odour had caused headaches in recent times (Table 4.7). Respondents in area 1 were significantly more likely to report that the odour never caused them headaches.

Table 4.7: Odour causes headaches

Variable	Area 1		Area 2	
	n	%	n	%
Causes headaches				
Never	46	78.3 [^]	116	60.4 ^v
Rarely/ Sometimes	11	18.3	41	21.3
Often/ Very often	1	2.5 #	15	7.8 #
Don't know/ not sure	1	0.8 #	20	10.6 #
Total	59	100.0	191	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

These respondents (n=250) were asked if the odour causes irritability (Table 4.8). Respondents in area 1 were significantly more likely to report that the odour never caused irritability.

Table 4.8: Odour causes irritability

Variable	Area 1		Area 2	
	n	%	n	%
Causes irritability				
Never	42	71.7 [^]	98	51.2 ^v
Rarely/ Sometimes	13	21.4	64	33.5
Often/ Very often	4	6.9 #	22	11.6 #
Don't know/ not sure	-	- #	7	3.7 #
Total	59	100.0	191	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

These respondents (n=250) were asked if the odour wakes them at night (Table 4.9). There were no significant differences between the areas in terms of whether respondents were woken at night by the odour.

Table 4.9: Odour wakes up at night

Variable	Area 1		Area 2	
	n	%	n	%
Wakes up at night				
Never	50	84.4	151	79.0
Rarely/ Sometimes	7	11.8	32	16.9
Often/ Very often	1	2.5 #	8	4.1 #
Don't know/ not sure	1	1.3 #	-	- #
Total	59	100.0	191	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

These respondents (n=250) were asked if the odour had caused nausea. Respondents in area 1 were significantly more likely to report that the odour had never caused nausea.

Table 4.10: Odour had caused nausea in recent times

Variable	Area 1		Area 2	
	n	%	n	%
Causes nausea				
Never	53	90.2 [^]	135	70.6 ^v
Rarely/ Sometimes	3	5.5 #	33	19.0 #
Often/ Very often	3	4.3 #	12	6.1 #
Don't know/ not sure	-	- #	8	4.3 #
Total	59	100.0	191	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

CHAPTER 5: COMMUNITY ISSUES

5.1 Introduction

This chapter presents the responses relating to how respondents feel about the environment and the community in which they live.

5.2 Community issues

All respondents (n=473) were asked whether they believed their community is becoming a healthier place to live (Table 5.1). Respondents in area 2 were significantly more likely to disagree/ disagree strongly and significantly less likely to agree/ strongly agree with the statement that their community is becoming a healthier place.

Table 5.1: Community is becoming a healthier place

Variable	Area 1		Area 2	
	n	%	n	%
Community is becoming healthier				
Agree strongly/ Agree	97	45.9 [^]	82	31.1 ^v
Neither agree nor disagree	46	21.8 [^]	33	12.6 ^v
Disagree/ Disagree strongly	65	30.9 ^v	143	54.6 [^]
Don't know	3	1.4 [#]	5	1.7 [#]
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

[#] Insufficient numbers for statistical tests

Respondents (n=473) were then asked if they were aware of environmental factors, which may put the health and well being of the community at risk. Of all respondents, 52.5% were aware of factors, 45.6% were not and 1.9% didn't know. Respondents in area 2 were significantly more likely to be aware of environmental factors were they believe may put the health and well being of the community at risk (Table 5.2).

Table 5.2: Aware of environmental factors in the your community which you believe may put the health and well being of your community at risk

Variable	Area 1		Area 2	
	n	%	n	%
Aware of environmental factors which believe put health and well being of community at risk				
Yes	54	25.6 ∨	194	74.1 ∧
No	151	71.7 ∧	65	24.7 ∨
Don't know	6	2.7 #	3	1.2 #
Total	211	100.0	262	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

∧ ∨ Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Those respondents (n=248) who were aware of health factors were then asked if aeroplanes, road traffic, industry/ factories or something else was the most likely cause of the problem. Respondents in area 1 were significantly more likely to report that the problem was due to road traffic whereas those in area 2 were significantly more likely to report that the problem was due to industry or factories. The responses are summarised in Table 5.3.

Table 5.3: Most likely cause of environmental health problems in your area

Variable	Area 1		Area 2	
	n	%	n	%
Most likely cause of environmental problems				
Aeroplanes	-	- #	4	2.0 #
Road traffic	21	39.6 ^	6	2.9 v
Industry/ factories	22	41.4 v	182	93.5 ^
Other air pollution issues	2	2.8 #	1	0.4 #
Water pollution issues	3	5.2 #	1	0.6 #
Land pollution issues	1	1.8 #	1	0.5 #
Other	4	7.3 #	-	- #
Don't know/ no opinion	1	1.9 #	-	- #
Total	54	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

All respondents who were able to provide a cause of the environmental health problems (n=247) were asked to briefly specify the problem.

Table 5.4 describes the problem for those respondents who highlighted that aeroplanes were the most likely cause of environmental problems.

Table 5.4: Description of cause for those highlighting that aeroplanes were a problem[#]

Variable	Area 1		Area 2	
	n	%	n	%
Description of cause of environmental problems				
Air pollution and/ or odour	-	-	2	44.4
Noise	-	-	1	35.5
Other	-	-	1	20.1
Total	-	-	4	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Table 5.5 describes the problem for those respondents who highlighted road traffic was the most likely cause of environmental problems.

Table 5.5: Description of cause for those highlighting that road traffic was a problem[#]

Variable	Area 1		Area 2	
	n	%	n	%
Description of cause of environmental problems				
Air pollution and/ or odour	7	30.7	1	13.4
Noise	-	-	1	17.5
Traffic speed	2	8.9	1	26.1
Traffic volume	5	22.3	2	29.6
Air pollution and noise	3	16.3	-	-
Traffic volume and speed	1	2.3	-	-
Noise and traffic volume	2	9.2	1	13.3-
Lack of trees and traffic volume	1	2.1	-	-
Air pollution and traffic volume	1	3.5	-	-
Noise and traffic speed	1	4.7	-	-
Total	21	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Table 5.6 describes the problem for those respondents who highlighted that industry/factories were the most likely cause of environmental problems.

Table 5.6: Description of cause for those highlighting that industry or factories were a problem

Variable	Area 1		Area 2	
	n	%	n	%
Description of cause of environmental problems				
Air pollution and/ or odour	17	75.0	116	63.8
Noise	2	7.0 #	3	1.9 #
Air pollution and noise	1	3.4 #	47	25.8 #
Noise and traffic volume and air pollution	-	- #	1	0.8 #
Air pollution and traffic volume	-	- #	1	0.6 #
Air pollution and other	-	- #	2	0.7 #
Other	3	14.6 #	12	6.4 #
Total	22	100.0	182	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Table 5.7 describes the problem for those respondents who highlighted that something else was the most likely cause of environmental problems.

Table 5.7: Description of cause for those highlighting that something else was a problem[#]

Variable	Area 1		Area 2	
	n	%	n	%
Description of cause of environmental problems				
Air pollution and/ or odour	2	16.7	2	59.6
Lack of trees	1	6.3	-	-
Air pollution and noise	1	12.5	-	-
Other	6	64.6	1	40.4
Total	10	100.0	3	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who could provide a likely cause of environmental health problems in their area (n=247) were asked when they first became aware of the problem. Respondents in area 1 were significantly more likely only to have become aware of the problem in the last year (Table 5.8).

Table 5.8: When did you first become aware of the problem

Variable	Area 1		Area 2	
	n	%	n	%
When did you become aware of the problem				
In the last year	11	21.5 [^]	14	7.2 [∨]
2 to five years ago	21	40.3	85	43.9
Between 5 and 10 years	7	13.5	47	24.2
More than 10 years ago	13	24.7	46	23.7
Don't know	-	- #	2	0.9 #
Total	53	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] [∨] Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

These respondents (n=247) were asked if during a usual week do they personally see/ smell/ hear the problem (Table 5.9). Respondents in area 2 were significantly more likely to see, hear or smell the problem. Conversely in area 1, respondents were significantly more likely to report not personally seeing or smelling or hearing the problem.

Table 5.9: During a usual week do you personally see/ smell/ hear the problem

Variable	Area 1		Area 2	
	n	%	n	%
See/ smell/ hear the problem				
Yes	33	63.0 [∨]	154	79.4 [^]
No	20	37.0 [^]	39	20.4 [∨]
Not applicable	-	- #	1	0.2 #
Total	53	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] [∨] Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who could provide a likely cause of environmental health problems in their area (n=247) were then asked to rate the extent to which the problem that they had identified has caused them to experience the following concerns. Firstly respondents were asked how much they thought the problem had affected their health. Respondents in area 1 were significantly more likely to state that they did not think the problem had affected their health at all or had only slightly affected their health, whereas respondents in area 2 were significantly less likely to feel that the problem had not affected their health. The responses are summarised in Table 5.10.

Table 5.10: How much problem has affected your health

Variable	Area 1		Area 2	
	n	%	n	%
How much problem has affected health				
Not at all/ slight	42	78.6 [^]	122	63.2 ^v
Moderate/ high/ extreme	8	14.9	47	24.3
Don't know / not sure	3	6.5 #	24	12.5 #
Total	53	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who had family and did not live alone (n=209) were then asked how much they thought the problem had affected the health of other household members. Respondents in area 1 were significantly more likely to state that the health of others in the household had not or had only slightly been affected. Conversely respondents in area 2 were significantly less likely to report the problem had not or had only slightly affected the health of others. All responses are summarised in Table 5.11.

Table 5.11: How much do you think problem has affected the health of other household members

Variable	Area 1		Area 2	
	n	%	n	%
Has problem affected health of others				
Not at all/ slight	32	76.8 [^]	95	56.5 ^v
Moderate/ high/ extreme	9	20.7	59	35.5
Don't know / not sure	1	2.4 #	13	8.0 #
Total	42	100.0	167	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who felt that the health of other household members was affected (n=131) were asked who in particular is affected. Overall, partner was the most common response (61.0%, n=80).

Area 1:

- Children (42.4%);
- Partner (58.3%);
- Siblings (7.6%);
- Parents (8.6%);
- Grandparents (5.1%)
- Don't know/ not sure (7.0%)
- Other responses (10.9%):
 - Flatmate;
 - Myself.

Area 2:

- Children (42.8%);
- Partner (61.5%);
- Other relative (1.0%);
- Siblings (3.0%);
- Parents (8.3%);
- Don't know/ not sure (3.6%);
- Other responses (7.0%):
 - Border and grandchildren;
 - Flatmate;
 - Daughter does not live here now but had a lot of problems with asthma (also included smoke in rooms prior to the change in smoking legislation);
 - Myself (3);
 - Myself and grandchildren.

All respondents who could provide a likely cause of environmental health problems in their area (n=247) were then asked how much the problem has affected those working on or visiting their property (Table 5.12). There were no significant differences between areas in terms of whether respondents thought that workers or visitors had been affected by the problem.

Table 5.12: How much do you think this problem has affected those working on, or visiting your property

Variable	Area 1		Area 2	
	n	%	n	%
Affected health of those working or visiting on property				
Not at all/ slight	45	85.3	146	75.4
Moderate/ high/ extreme	7	12.5	36	18.6
Don't know / not sure	1	2.3 #	12	6.0 #
Total	53	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who could provide a likely cause of environmental health problems in their area (n=247) were then asked to rate concerns relating to the possibility of having to move house. Respondents in area 1 were significantly more likely to report that they were not at all, or only slightly concerned, about the possibility of having to

move house, whereas those in area 2 were significantly more likely to report that they were moderately concerned, highly concerned or were extremely concerned about the possibility of having to move house. The responses are summarised in Table 5.13.

Table 5.13: Possibility of having to move house

Variable	Area 1		Area 2	
	n	%	n	%
Possibility of having of move house				
Not at all/ slight	46	85.9 [^]	131	67.7 ^v
Moderate/ high/ extreme	7	14.1 ^v	57	29.5 [^]
Don't know / not sure	-	- #	1	0.7 #
Not applicable	-	- #	4	2.1 #
Total	53	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

These respondents (n=247) were then asked about concerns that they may have regarding any effect on the value of their property. Respondents in area 1 were significantly more likely to report that they were not at all, or only slightly concerned, about the effect of the environment on the value of their property. Conversely, respondents in area 2 were significantly more likely to report that they were moderately concerned, highly concerned or extremely concerned about the effect of the problem on the value of their property. The responses are summarised in Table 5.14.

Table 5.14: The effect on the value of property

Variable	Area 1		Area 2	
	n	%	n	%
Effect on value of property				
Not at all/ slight	39	73.3 [^]	86	44.6 ^v
Moderate/ high/ extreme	6	10.9 ^v	93	48.1 [^]
Don't know / not sure	2	4.7 #	10	5.3 #
Not applicable	6	11.2 #	4	1.9 #
Total	53	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who provided a most likely cause of environmental health problems in their area, had family and did not live alone (n=209) were then asked how much they thought the problem had affected relationships between household members. There were no significant differences between the areas in terms of affecting relationships between household members. All responses are summarised in Table 5.15.

Table 5.15: The effects on relationships between household members

Variable	Area 1		Area 2	
	n	%	n	%
Effects on relationships				
Not at all/ slight	40	94.6	143	85.5
Moderate/ high/ extreme	2	5.4 #	23	14.0 #
Don't know / not sure	-	- #	1	0.5 #
Total	42	100.0	167	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who felt that the relationships of other household members were affected (n=43) were asked who in particular was affected. Overall, partner was the most common response (71.7%, n=31).

Area 1:

- Children (41.8%);
- Partner (100%).

Area 2:

- Children (25.9%);
- Partner (69.2%);
- Other relative (4.3%);
- Siblings (8.3%);
- Parents (10.3%);
- Other responses (7.1%):
 - Neighbour;
 - Housemate and other visitors.

All respondents who provided a most likely cause of environmental health problems in their area (n=247) were asked if there had been effects on relationships with neighbours. There was no significant difference between areas in reporting that the problem affected relationships with neighbours. The responses are summarised in Table 5.16.

Table 5.16: Effects on relationships with neighbours

Variable	Area 1		Area 2	
	n	%	n	%
Effects on neighbour relationships				
Not at all/ slight	48	86.7	180	92.9
Moderate/ high/ extreme	5	10.4	8	4.1
Don't know / not sure	-	- #	6	3.0 #
Total	53	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

These respondents (n=247) were then asked to rate the effects on relationships with other friends. There were no significant differences between the areas in terms of the problem having affected relationships with other friends. The responses are summarised in Table 5.17.

Table 5.17: The effects of relationships with other friends

Variable	Area 1		Area 2	
	n	%	n	%
Effects on relationships with other friends				
Not at all/ slight	52	98.1	181	93.4
Moderate/ high/ extreme	1	1.1 #	13	6.6 #
Don't know / not sure	1	0.8 #	-	- #
Total	53	100.0	194	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

The respondents who provided a most likely cause of environmental health problems in their area (n=247) were then asked specifically how the problem affected them. Overall, general enjoyment of life in the area was affected (40.1%, n=99). Respondents in area 2 were significantly more likely to report that the problem affected their general enjoyment of life in the area, whereas respondents in area 1 were significantly more likely to report that there had been no effect of the problem on any of the activities listed below. All responses are summarised in Table 5.18.

Table 5.18: Has the problem affected your....*

Variable	Area 1		Area 2	
	n	%	n	%
Is your affected				
Mental health	6	11.1	28	14.4
Social activities	9	16.7	54	28.1
Sporting activities	3	5.0 #	15	7.9 #
General enjoyment of your life in the area	13	25.2 √	86	44.2 ^
None	35	65.3 ^	91	46.8 √
Other/ Don't know / not sure	2	0.9 #	6	2.2 #

*Multiple response

^ √ Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who believed that the problem had affected them in terms of their sporting activities, mental health, social activities and general enjoyment of life (n=120) were then asked if they had formally complained to anybody about the problem. There was no significant difference between areas in terms of the lodging of formal complaints. Responses are summarised in Table 5.19.

Table 5.19: Have you formally complained to anybody about any of these problems

Variable	Area 1		Area 2	
	n	%	n	%
Complained				
Yes	6	31.9	52	50.8
No	12	68.1	50	49.2
Total	18	100.0	102	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Those who complained (n=57) were then asked who they had complained to. Most commonly respondents in area 2 had complained to the Environment Protection Authority and respondents from area 1 had complained to the local government. The responses are summarised in Table 5.20.

Table 5.20: Summary of who respondent have complained to[#]

Variable	Area 1		Area 2	
	n	%	n	%
Who have complained to				
Environment Protection Authority	-	-	28	54.1
Department of Human Services	-	-	2	4.6
Councillor	2	42.2	8	16.1
Local Government Officer	3	57.8	13	24.4
Neighbours	1	9.0	-	-
Industry			12	22.8
Community group	-	-	9	17.1
Politician/ Member of Parliament	-	-	8	15.2
Industry and politician	-	-	1	2.2
Industry and community group	-	-	1	1.0
Community group and politician	-	-	1	0.9
Community group and neighbours	-	-	1	2.5
Unassigned	-	-	2	3.1

*Multiple response

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who had complained (n=57) were asked what the result of their complaint was. The responses are summarised in Table 5.21, with “other” responses generally describing the progress of a complaint through the system.

Table 5.21: What was the result of the complaint[#]

Variable	Area 1		Area 2	
	n	%	n	%
Result of the complaint				
Still waiting for a response/ Don't know	1	9.0	14	27.1
Satisfied with response	-	-	3	6.5
Other	5	91.0	34	66.4
Total	6	100.0	52	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who had been affected by the problem but who had not complained (n=62) were asked why they had not complained. The responses are summarised in Table 5.22. “Other” responses ranged from signing petitions to acknowledgment that it is an industrial area.

Table 5.22: Reasons why had not complained[#]

Variable	Area 1		Area 2	
	n	%	n	%
Why had not complained				
No problem/ Problem not serious enough	4	28.9	3	5.1
Waste of time/ Didn't know who to complain to	2	16.8	8	15.9
No time	1	5.4	4	7.7
Already being done by others	3	21.4	11	22.3
Other	3	27.6	23	46.0
Don't know/ Not sure	-	-	2	3.0
Total	12	100.0	50	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who believed that the problem had affected them in terms of their sporting activities, mental health, social activities and general enjoyment of life (n=120) were then asked whether the environmental problem has caused them to change their lifestyle activities at home. Over half of the respondents in each area believed that it had and there was no significant difference between the areas. The responses are summarised in Table 5.23.

Table 5.23: Caused change to lifestyle activities at home

Variable	Area 1		Area 2	
	n	%	n	%
Changed lifestyle				
Yes	11	59.6	65	63.6
No	7	40.4	37	36.4
Total	18	100.0	102	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ ∨ Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

All respondents who believed that their lifestyle had changed (n=75) were read a list of possible lifestyle changes and asked if their lifestyle had changed in these, or other ways. The majority of respondents responded that they kept windows closed (91.8%) or avoided outdoor activities (84.0%). Respondents in area 2 were significantly more likely to report that they avoided outdoor activities than those in area 1. The responses are summarised in Table 5.24. “Other” responses ranged from changing exercise habits to cleaning more.

Table 5.24: In what way have lifestyle activities at home changed*

Variable	Area 1		Area 2	
	n	%	n	%
In what way has lifestyle changed				
Keep windows closed	11	100.0	58	90.5
Moved bedroom to another part of the house	3	23.4 #	10	15.1 #
Avoid outdoor activities	6	52.3 ∨	58	89.2 ^
Vacate home for a period of time	5	43.0	13	20.2
Not invite people around	3	28.2 #	26	40.7 #
Dry clothes indoors	5	44.9	28	43.5
Change gardening habits	-	- #	2	3.4 #
Change use of airconditioning	-	- #	2	3.0 #
Other	1	13.9 #	19	29.8 #

*Multiple response

^ ∨ Groups statistically significantly different (Fisher exact test, $p < 0.05$)

Insufficient numbers for statistical tests

These respondents were then asked which of the following could be done to provide a healthier environment and lifestyle in their suburb. Overall, the most common responses were “Relocate industry/ factories (85%), “Control industrial emissions” (71.8%) and “Enforce environmental legislation (65.4%). Respondents in area 1 were significantly more likely to provide responses such as “plant more trees” or “add more parks” than the respondents in area 2. All responses are summarised in Table 5.25.

Table 5.25: Which of the following could be done to provide a healthier environment and lifestyle in your suburb*

Variable	Area 1		Area 2	
	n	%	n	%
Healthier environment and lifestyle				
Plant more trees	9	80.8 [^]	22	34.4 ^v
Plant more trees along the street	8	72.0 [^]	17	26.1 ^v
Add more parks, gardens, playgrounds, walk and bike ways	8	72.0 [^]	17	25.8 ^v
Control industrial emissions	6	53.5	49	75.0
Enforce environmental legislation	8	69.8	42	64.6
Relocate industry/ factories	9	72.7	57	87.2
Other	3	27.3	16	24.8
Nothing	-	-	1	0.7

*Multiple response

[^] ^v Groups statistically significantly different (Fisher exact test, $p < 0.05$)

Insufficient numbers for statistical tests

Respondents who believed that the problem had affected them in terms of their sporting activities, mental health, social activities and general enjoyment of life (n=120) were then asked if they thought their suburb was affected by industrial or chemical pollution. Respondents in area 2 were significantly more likely to report that this was the case. The responses are summarised in Table 5.26.

Table 5.26: Do you think your suburb is affected by industrial or chemical pollution

Variable	Area 1		Area 2	
	n	%	n	%
Affected by industrial or chemical pollution				
Yes	7	39.1 ^v	101	98.5 [^]
No	11	55.5 #	1	1.5 #
Don't know	1	5.4 #	-	- #
Total	19	100.0	102	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

[^] ^v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

All respondents (n=108) who thought that their suburb was affected by industrial or chemical pollution were asked what they thought was the major cause of the pollution. The responses were categorised and are summarised below in Table 5.27.

Table 5.27: Major cause of pollutant[#]

Variable	Area 1		Area 2	
	n	%	n	%
Major cause of pollutant				
Other industry	4	58.6	27	26.5
Specific industry	1	14.2	68	67.2
Cars and traffic	1	6.7	1	1.0
Other	2	20.5	4	3.6
Don't know	-	-	2	1.7
Total	7	100.0	101	100.0

Note: The weighting of the data can result in rounding discrepancies or totals not adding (see Section 1.5.2)

^ v Groups statistically significantly different (χ^2 test, $p < 0.05$)

Insufficient numbers for statistical tests

APPENDIX 1: PRIMARY APPROACH LETTER

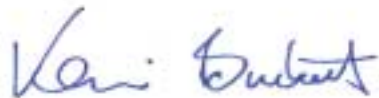
Dear householder

I am writing to seek your assistance in an important general health and well-being survey in relation to environmental issues being conducted by the Department of Human Services, South Australia at the request of the Minister for Health.

Should you be able to assist us, one of our interviewers will be contacting you in the next couple of weeks to conduct a telephone interview. This interview will take approximately 10 to 15 minutes. **All information collected will be confidential.** This research aims to bring benefit to the community by increasing our understanding of community health and the extent of any concerns and about environmental health issues.

If you have any queries about the survey or if you do not wish to participate, please contact Anne Taylor, Programme Co-ordinator on **1800 635 352**.

Yours sincerely,

A handwritten signature in blue ink that reads "Kevin Bucket".

Dr Kevin Bucket
Director
Environmental Health Branch

APPENDIX 2: QUESTIONNAIRE

SERCIS

ENVIRONMENTAL HEALTH AND WELL- BEING SURVEY OF THE PLYMPTON / CAMDEN PARK / NETLEY AREA

September 2002

Introduction

Good My name is I am calling on behalf of the South Australian Department of Human Services. We are conducting a survey about various environmental health issues in your local area. You should have received a letter recently about the survey on behalf of the Department of Human Services.

Did you receive the letter?

(Single response)

1. Yes []
2. No []
3. Don't know []

Could I please speak with the person in the household, aged 18 and over, who was the last to have a birthday?

I can assure you that all information given will remain confidential. The answers from all people interviewed will be gathered together and presented in a report. No individual answers will be passed on.

Interviewer select the appropriate type:

1. Respondent []
2. Foreign language interviewer required []
3. Refusal []

A. DEMOGRAPHICS

As some of the next questions relate to certain groups of people only, could you please tell me....

A.1 What is the Postcode of the house?

(Single Response. If postcode is not known enter 5999)

1. 5033 (Marleston)
2. 5037 (North Plympton / Netley / Kurralta Park) []
3. 5038 (Plympton / Camden Park) []
4. Other [] Go to B.
5. Unknown [5999]

A.2 What suburb do you live in?

(Single Response. Enter town/suburb)

1. Plympton []
2. North Plympton []
3. Camden Park []
4. Netley []
5. Marleston []
6. Kurralta Park []
7. Other [] Go to B.

Sequence Guide: If not 5037, 5038, 5033 or 5999 (or not Plympton / North Plympton / Camden Park / Netley / Marleston / Kurralta Park) Go to B. ... Terminate

A.3 How old are you?

(Single Response. Enter 999 if not stated)

A.4 Voice (ask if unsure)

1. Male []
2. Female []

A.5 Including yourself how many people aged 18 and over live in this household?

(Single Response. Enter number of people 18 years and over)

[]

A.6 How many children under 18 years live in your household?

(Single Response. Enter number of people 18 years and over. Enter 0 if none)

A.7 How long have you lived at this address?

(Single Response Enter number if years and number of months)

1. Years_____ months_____

B. TERMINATE

It is important that we speak to somebody who lives in the area we are covering. Unfortunately, that excludes you from the study - thankyou very much for your time.

C. QUALITY OF LIFE

These next questions ask for your views about your health.

C.1 In general, would you say your health is:

(Read Options. Single Response)

- | | |
|---------------------|-----|
| 1. Excellent | [] |
| 2. Very good | [] |
| 3. Good | [] |
| 4. Fair | [] |
| 5. Poor | [] |

C.2 Compared to one year ago, how would you rate your health in general now? Would you say it is:

(Read Options, Single Response)

- | | |
|-------------------------------|-----|
| 1. Much better now | [] |
| 2. Somewhat better now | [] |
| 3. About the same | [] |
| 4. Somewhat worse now | [] |
| 5. Much worse now | [] |

C.3 How would you rate your quality of life at present? Would you say it is:

(Read Options, Single Response,
Interviewer note: fair = neither good nor poor)

- | | |
|---------------------------------|-----|
| 1. Very good | [] |
| 2. Good | [] |
| 3. Neither good nor poor | [] |
| 4. Poor | [] |
| 5. Very poor | [] |

C.4 In the last few weeks have you lost much sleep over worry?

(Read Options, Single Response)

- | | |
|----------------------------------|-----|
| 1. Not at all | [] |
| 2. No more than usual | [] |
| 3. Rather more than usual | [] |
| 4. Much more than usual | [] |

C.5 [In the last few weeks have you] Had difficulty staying asleep?

(Read Options, Single Response)

- | | |
|----------------------------------|-----|
| 1. Not at all | [] |
| 2. No more than usual | [] |
| 3. Rather more than usual | [] |
| 4. Much more than usual | [] |

C.6 [In the last few weeks have you] Felt constantly under strain?

(Read Options, Single Response)

- | | |
|----------------------------------|-----|
| 1. Not at all | [] |
| 2. No more than usual | [] |
| 3. Rather more than usual | [] |
| 4. Much more than usual | [] |

C.7 [In the last few weeks have you] Been getting edgy and bad-tempered?

(Read Options, Single Response)

- | | |
|----------------------------------|-----|
| 1. Not at all | [] |
| 2. No more than usual | [] |
| 3. Rather more than usual | [] |
| 4. Much more than usual | [] |

C.8 [In the last few weeks have you] Been getting scared or panicky for no good reason?

(Read Options, Single Response)

1. **Not at all** []
2. **No more than usual** []
3. **Rather more than usual** []
4. **Much more than usual** []

C.9 [In the last few weeks have you] Found everything getting on top of you?

(Read Options, Single Response)

1. **Not at all** []
2. **No more than usual** []
3. **Rather more than usual** []
4. **Much more than usual** []

C.10 [In the last few weeks have you] Been feeling nervous and strung-up all the time?

(Read Options, Single Response)

1. **Not at all** []
2. **No more than usual** []
3. **Rather more than usual** []
4. **Much more than usual** []

D. RISK FACTORS - Smoking

I would now like to ask you some questions about tobacco smoking. This includes cigarettes, cigars and pipes.

D.1 Which of the following best describes your home situation?

(Single Response)

1. **My home is smoke free** (includes smoking is allowed outside) []
2. **People occasionally smoke in the house** []
3. **People frequently smoke in the house** []
4. **Don't know** []
5. **Refused** []

D.2 Which of the following best describes your smoking status?

(Read Options, Single Response)

1. **I smoke daily** []
2. **I smoke occasionally** [] Go to D.4
3. **I don't smoke now but I used to** [] Go to D.5
4. **I've tried it a few times but never smoked regularly** [] Go to E.1
5. **I've never smoked** [] Go to E.1
6. **Refused** [] Go to E.1

D.3 How soon after you wake up do you usually smoke your first cigarette?

(Single Response)

1. 0 – 14 minutes []
2. 15 – 29 minutes []
3. 30 – 59 minutes []
4. 1 – 2 hours []
5. More than 2 hours []

D.4 On average how many cigarettes do you smoke per day or each week?

(Single Response. Enter number)

1. *Daily* ___
2. *Weekly* ___
3. *Monthly* ___
4. **Don't know** []

Sequence guide: go to D.6

D.5 When did you finally stop smoking daily?

(Single Response. *Interview note: refer to the most recent stop smoking date*)

1. *Day* _____
2. *Month* _____
3. *Year* _____
- OR**
4. *No of weeks ago* _____
5. **OR** *No of months ago* _____
6. **OR** *No of years ago* _____
- OR**
7. *Age stop smoking* _____
8. **Don't know / can't remember** []

D.6 At what age did you first start smoking daily?

(Single Response. Enter number)

1. Enter age _____
2. Don't know []

E. HEALTH SYMPTOMS**E.1 Have you ever been told by a doctor that you have any of the following conditions?**

(Read Options. Multiple Response)

1. High blood pressure / hypertension []
2. Stroke []
3. Cancer (other than non melanoma skin cancer) []
4. Respiratory problems (other than asthma) []
5. Chronic fatigue syndrome []
6. Heart disease []
7. Multiple chemical sensitivity []
8. None []

E.2 Have you ever been told by a doctor that you have asthma?

(Single response)

1. Yes []
2. No [] Go to E.4
3. Don't know / not sure [] Go to E.4

E.3 Do you still have asthma?

(Single response)

1. Yes []
2. No []
3. Don't know / not sure []

E.4 Have you ever been told by a doctor that you have any other respiratory problem (Bronchitis, Emphysema, Chronic Lung Disease) that has lasted six months or more?

(Single response, Interviewer note: at least 6 months continuously)

1. Yes []
2. No [] Go to E.6
3. Don't know [] Go to E.6

E.5 Do you still have these (this) other respiratory problem(s)?

(Single response)

1. Yes []
2. No []
3. Don't know []

For the next questions, we are interested in symptoms that occurred in the last 12 months.

E.6 Have you suffered from ITCHY EYES in the last 12 months?

(Single response)

1. Yes []
2. No [] Go to E.8
3. Don't know [] Go to E.8

E.7 How many times in the last 12 months have you suffered from ITCHY EYES?

(Single response, Interviewer note: number of days)

1. Specify number of days _____
2. Unsure / don't know []

E.8 Have you suffered from NAUSEA (felt like vomiting but didn't actually vomit) in the last 12 months?

(Single response)

1. Yes []
2. No [] Go to E.10
3. Don't know [] Go to E.10

E.9 How many times in the last 12 months have you suffered from NAUSEA (felt like vomiting but didn't actually vomit)?

(Single response, *Interviewer note: number of days*)

1. Specify number of days _____
2. Unsure / don't know []

E.10 Have you suffered from HEADACHES in the last 12 months?

(Single response)

1. Yes []
2. No [] Go to E.12
3. Don't know [] Go to E.12

E.11 How many times in the last 12 months have you suffered from HEADACHES?

(Single response, *Interviewer note: number of days*)

1. Specify number of days _____
2. Unsure / don't know []

E.12 Have you suffered from DIFFICULTY BREATHING AND CHEST TIGHTNESS in the last 12 months?

(Single response)

1. Yes []
2. No [] Go to E.14
3. Don't know [] Go to E.14

E.13 How many times in the last 12 months have you suffered from DIFFICULTY BREATHING AND CHEST TIGHTNESS?

(Single response, *Interviewer note: number of days*)

1. Specify number of days _____
2. Unsure / don't know []

E.14 During the last two weeks, have you experienced any of the following complaints or symptoms?

(Read Options. Multiple Response)

1. **Stuffy or runny nose** []
2. **Sore or scratchy throat** []
3. **Cough** []
4. **Hay fever attacks** []
5. **Headache** []
6. **Diarrhoea** []
7. **Nausea (felt sick but did not vomit)** []
8. **Vomiting** []
9. **Itching or burning eyes** []
10. **Skin rashes, irritation or itching** []
11. **Wheezing** []
12. **Difficulty breathing** []
13. **Disturbed sleep** []
14. **None** []

E.15 Is your health seriously affected by exposure to any of the following?

(Read Options, Multiple Response, Rotate Responses)

1. **Perfume** []
2. **Traffic pollution** []
3. **Household chemicals** []
4. **Workplace chemicals** []
5. **Other (specify)** []
6. **Don't know** []

The following questions relate to any pets you have.

E.16 How many of the following pets do you have at this address?

(Read Options. Multiple Response, Enter number)

1. **Dog** []
2. **Cat** []
3. **Bird** []
4. **Rabbit** []
5. **Other (specify)** _____ Go to F.
6. **None** []
7. **Unsure / don't know** []

E.17 Have any of these pets been unwell in the past 12 months?

1. Yes (specify number and type of pet) _____
2. No Go to F.

E.18 What is the nature of the illness as specified by a vet?

1. Specify _____
2. Not seen by a vet
3. Unsure / Don't know

F. NOISE OR ODOUR PROBLEMS

Now we'd like to ask you some questions about any problems you may or may not be experiencing with noise or odour in your home environment or neighbourhood. Firstly we will ask you about noise.

F.1 Thinking about the last 12 months, what number from zero to ten best shows how much you are annoyed by noise in your neighbourhood with zero being not at all annoyed and 10 being very much annoyed.

(Read Options. Single Response)

0. **Not at all annoyed**
1.
2.
3.
4.
5.
6.
7.
8.
9.
10. **Very much annoyed**
11. Don't know

F.2 Thinking about the last 12 months, what number from zero to ten best shows how much your sleep is disturbed by noise in your neighbourhood.

(Read Options. Single Response)

0. **Not at all disturbed**
1.
2.
3.
4.
5.
6.
7.
8.
9.
10. **Very much disturbed**
11. Don't know

Now we will ask you about any annoyance from odour that you may or may not be experiencing in your neighbourhood.

F.3 How would you rate the degree of annoyance due to odour in your neighbourhood?

(Read Options. Single Response)

1. **None** Go to G.
2. **Very slight annoyance**
3. **Distinct annoyance**
4. **Serious annoyance**
5. **Very serious annoyance**
6. **Unbearably serious annoyance**
7. Don't know

The following statements are in relation to how often in recent times the odour has affected you in the following ways.

F.4 You don't look forward to coming home

(Read Options, Single Response)

1. **Never** []
2. **Rarely** []
3. **Sometimes** []
4. **Often** []
5. **Very often** []
6. Don't know / not sure []

F.5 Disruptive to your outdoor activities (eg BBQs, gardening etc)

(Read Options, Single Response)

1. **Never** []
2. **Rarely** []
3. **Sometimes** []
4. **Often** []
5. **Very often** []
6. Don't know / not sure []

[The following statements are in relation to how often in recent times the odour has affected you in the following way]

F.6 Prevents you getting to sleep

(Read Options, Single Response)

1. **Never** []
2. **Rarely** []
3. **Sometimes** []
4. **Often** []
5. **Very often** []
6. Don't know / not sure []

F.7 Causes headaches

(Read Options, Single Response)

1. **Never** []
2. **Rarely** []
3. **Sometimes** []
4. **Often** []
5. **Very often** []
6. Don't know / not sure []

[The following statements are in relation to how often in recent times the odour has affected you in the following way]

F.8 Causes irritability

(Read Options, Single Response)

1. **Never** []
2. **Rarely** []
3. **Sometimes** []
4. **Often** []
5. **Very often** []
6. Don't know / not sure []

F.9 Wakes you up at night

(Read Options, Single Response)

1. **Never** []
2. **Rarely** []
3. **Sometimes** []
4. **Often** []
5. **Very often** []
6. Don't know / not sure []

[The following statements are in relation to how often in recent times the odour has affected you in the following way]

F.10 Causes nausea

(Read Options, Single Response)

1. **Never** []
2. **Rarely** []
3. **Sometimes** []
4. **Often** []
5. **Very often** []
6. Don't know / not sure []

G. COMMUNITY

The next questions are about how you feel about the environment and the community in which you live.

Do you agree or disagree with the statement:

G.1 I believe my community is becoming a healthier place in which to live:

(Read Options, Single Response,
Interviewer note: the same = neither agree nor disagree)

1. **Agree strongly** []
2. **Agree** []
3. **Neither agree nor disagree** []
4. **Disagree** []
5. **Disagree strongly** []
6. **Don't know** []

G.2 Are you aware of any environmental factors in your community, which you believe may put the health and well-being of your community at risk?

(Single Response)

1. **Yes** []
2. **No** [] Go to H.
3. **Don't know** [] Go to H.

G.3 What do you think is the most likely cause of the environmental health problem(s) in your area?

(Read Options, Single Response,
Rotate Responses)

1. **Aeroplanes** []
2. **Road traffic** []
3. **Industry / factories** []
4. **Something else** (specify) _____
5. **Don't know / no opinion** [] Go to G.24

G.4 Could you briefly describe the problem?

(Single Response)

1. **Specify** _____
2. **Don't know** []

G.5 When did you first become aware of the problem?

(Single Response)

1. **In the last year** []
2. **In the last 2 years** []
3. **In the last 3 years** []
4. **Between 3 and 5 years ago** []
5. **Between 5 and 10 years ago** []
6. **Between 10 and 15 years ago** []
7. **Between 15 and 20 years ago** []
8. **More than 20 years ago** []
9. **Don't know** []

G.6 During a usual week do you personally see/smell/hear etc the problem?

(Single Response)

1. **Yes** []
2. **No** []
3. **Not applicable** []

For the following questions please rate the extent to which the problem that you have identified has caused you to experience the following concerns.

G.7 How much do you think this problem has affected your health?

(Read Options. Single Response)

1. **Not at all** []
2. **Slight** []
3. **Moderate** []
4. **High** []
5. **Extreme** []
6. **Don't know / not sure** []
7. **Not applicable** []

Sequence guide: If (A5+A6) = 1 go to G.10

G.8 How much do you think this problem has affected the health of other household members?

(Read Options. Single Response)

- 1. **Not at all** [] Go to G.10
- 2. **Slight** []
- 3. **Moderate** []
- 4. **High** []
- 5. **Extreme** []
- 6. Don't know / not sure []
- 7. Not applicable []

G.9 Who in particular is affected?

(Multiple Response)

- 1. Children []
- 2. Partner []
- 3. Other relatives []
- 4. Siblings []
- 5. Parents []
- 6. Grandparents []
- 7. Other (specify) _____
- 8. Don't know, not sure []

G.10 How much do you think this problem has affected those working on, or visiting, your property?

(Read Options. Single Response)

- 1. **Not at all** []
- 2. **Slight** []
- 3. **Moderate** []
- 4. **High** []
- 5. **Extreme** []
- 6. Don't know / not sure []
- 7. Not applicable []

Again, please rate the extent to which this problem has caused you to experience the following concerns.

G.11 The possibility of having to move house?

(Read Options. Single Response)

- 1. **Not at all** []
- 2. **Slight** []
- 3. **Moderate** []
- 4. **High** []
- 5. **Extreme** []
- 6. Don't know / not sure []
- 7. Not applicable []

G.12 The effect on the value of your property?

(Read Options. Single Response)

- 1. **Not at all** []
- 2. **Slight** []
- 3. **Moderate** []
- 4. **High** []
- 5. **Extreme** []
- 6. Don't know / not sure []
- 7. Not applicable []

Please rate the extent to which this problem has caused you to experience the following concerns.

Sequence guide: If (A5+A6) = 1 go to G.15

G.13 The effects on relationships between household members?

(Read Options. Single Response)

- 1. **Not at all** [] Go to G.15
- 2. **Slight** []
- 3. **Moderate** []
- 4. **High** []
- 5. **Extreme** []
- 6. Don't know / not sure []
- 7. Not applicable []

G.14 With who in particular is your relationship affected by the problem?

(Multiple Response)

- | | |
|--------------------------|-------|
| 1. Children | [] |
| 2. Partner | [] |
| 3. Other relatives | [] |
| 4. Siblings | [] |
| 5. Parents | [] |
| 6. Grandparents | [] |
| 7. Other (specify) | _____ |
| 8. Don't know / not sure | [] |

G.15 The effects on relationships with your neighbours?

(Read Options. Single Response)

- | | |
|--------------------------|-----|
| 1. Not at all | [] |
| 2. Slight | [] |
| 3. Moderate | [] |
| 4. High | [] |
| 5. Extreme | [] |
| 6. Don't know / not sure | [] |
| 7. Not applicable | [] |

G.16 The effects on relationships with other friends?

(Read Options. Single Response)

- | | |
|--------------------------|-----|
| 1. Not at all | [] |
| 2. Slight | [] |
| 3. Moderate | [] |
| 4. High | [] |
| 5. Extreme | [] |
| 6. Don't know / not sure | [] |
| 7. Not applicable | [] |

G.17 Has this problem affected you:

(Read options. Multiple response, Rotate Responses)

- | | |
|--|--------------|
| 1. Mental health | [] |
| 2. Social activities | [] |
| 3. Sporting activities | [] |
| 4. General enjoyment of your life in the area | [] |
| 5. Other (specify) | _____ |
| 6. Don't know | [] Go to H. |
| 7. None | [] Go to H. |

G.18 Have you formally complained to anybody about any of these problems?(Single response, *Interviewer note: lodge formal complaint by letter, telephone, or in person, exclude petition signing*)

- | | |
|---------------|----------------|
| 1. Yes | [] |
| 2. No | [] Go to G.21 |
| 3. Not stated | [] Go to G.22 |
| 4. Don't know | [] Go to G.22 |

G.19 Who did you complain to?

(Multiple Response)

- | | |
|---|-------|
| 1. Environment Protection Authority | [] |
| 2. Department of Human Services (includes environmental health hotline) | [] |
| 3. Councillor | [] |
| 4. Local Government Officer | [] |
| 5. Doctor | [] |
| 6. Other (specify) | _____ |
| 7. Don't know / not sure | [] |

G.20 What was the result of your complaint?

(Single response)

- | | |
|---------------------------------|------------------|
| 1. Still waiting for a response | [] Go to G.22 |
| 2. Satisfied with response | [] Go to G.22 |
| 3. Other (specify) | _____ Go to G.22 |
| 4. Don't know | [] Go to G.22 |

G.21 Why not?

(Single response)

- | | |
|-----------------------------------|-------|
| 1. No problem | [] |
| 2. Problem not serious enough | [] |
| 3. Waste of time | [] |
| 4. Didn't know who to complain to | [] |
| 5. Other (specify) | _____ |
| 6. Don't know / not sure | [] |

G.22 Has this environmental problem caused you to change your lifestyle activities at home?

(Single response)

1. Yes []
2. No [] Go to G.25
3. Don't know [] Go to G.25
4. Not stated [] Go to G.25

G.23 In what way? For example has it caused you or other family members to....

(Read Options, Multiple response)

1. **Keep windows closed** []
2. **Move bedroom to another part of the house** []
3. **Avoid outdoor activities** []
4. **Vacate home for a period of time** []
5. **Not invite people around** []
6. **Dry clothes indoors** []
7. Other (specify) _____

G.24 Which of the following do you think could be done to provide a healthier environment and lifestyle in your suburb?

(Multiple Response)

1. Plant more trees []
2. Plant more trees along the street []
3. Add more parks, gardens, playgrounds, walk and bike ways []
4. Control industrial emissions []
5. Enforce environmental legislation []
6. Relocate industry / factories []
7. Other (specify) _____
8. Don't know []
9. Nothing []

G.25 Do you think your suburb is affected by industrial or chemical pollution?

(Single response)

1. Yes []
2. No [] Go to H.
3. Don't know [] Go to H.
4. Not stated [] Go to H.

G.26 What do you think the major cause of this pollution is?

(Single Response)

1. Specify _____
2. Don't know []

H. DEMOGRAPHICS**Now to finish with some general questions.****H.1 Beginning yesterday, and going back 4 weeks, how many days out of the past 4 weeks were you totally unable to work or carry out your normal duties because of your health?**

(Single Response. Enter number of days off. Enter 999 if unknown)

1. None [0]
2. *Enter days* _____
3. Don't know [999]

H.2 [Apart from (that day/these days)] how many days in the past 4 weeks were you able to work and carry out your activities, but had to cut down what you did, or did not get as much done as usual because of your health?

(Single Response. Enter number of days off. Enter 999 if unknown)

1. None [0]
2. *Enter days* _____
3. Don't know [999]

H.3 In which country were you born?

(Single Response)

- | | |
|--|-------|
| 1. Australia | [] |
| 2. Austria | [] |
| 3. Bosnia-Herzegovina | [] |
| 4. Canada | [] |
| 5. China | [] |
| 6. Croatia | [] |
| 7. France | [] |
| 8. Germany | [] |
| 9. Greece | [] |
| 10. Holland / Netherlands | [] |
| 11. Hong Kong | [] |
| 12. Iran [] | |
| 13. Italy [] | |
| 14. Japan | [] |
| 15. Malaysia | [] |
| 16. New Zealand | [] |
| 17. Philippines | [] |
| 18. Poland | [] |
| 19. Slovenia | [] |
| 20. Spain | [] |
| 21. U.K. and Ireland | [] |
| 22. USA [] | |
| 23. Vietnam | [] |
| 24. Former Yugoslav Republic of Macedonia | [] |
| 25. Former Yugoslav Republics of Serbia & Montenegro | [] |
| 26. Other country (specify) | _____ |
| 27. Refused | [] |

H.4 What is your current marital status?

(Read Options. Single Response)

- | | |
|--|-----|
| 1. Married | [] |
| 2. Living with a partner (De Facto) | [] |
| 3. Divorced | [] |
| 4. Separated | [] |
| 5. Widowed | [] |
| 6. Never Married | [] |
| 7. Not stated | [] |

H.5 What is the highest level of education you have completed?(Single Response. *Interviewer note: Prompt if necessary*)

- | | |
|--|-------|
| 1. Never attended school | [] |
| 2. Some Primary school | [] |
| 3. Completed Primary School | [] |
| 4. Some High School | [] |
| 5. Completed High School (i.e. Year 12, Form 6, HSC) | [] |
| 6. TAFE or Trade Certificate or Diploma | [] |
| 7. University, CAE or some other Tertiary Institute degree | [] |
| 8. Other (specify) | _____ |

H.6 What is your work status?

(Read Options If Necessary. Single Response)

- | | |
|--------------------------------|-----------------|
| 1. Full time employed | [] |
| 2. Part time/casual employment | [] |
| 3. Unemployed | [] Go to H.9 |
| 4. Home duties | [] Go to H.9 |
| 5. Retired | [] Go to H.9 |
| 6. Student | [] Go to H.9 |
| 7. Other (Specify) | _____ Go to H.9 |

H.7 I would like to ask you about your main job, that is, the one in which you usually work the most hours. What kind of work do you do?

(Single Response)

- | | |
|---------------|-------|
| 1. Specify | _____ |
| 2. Don't know | [999] |

H.8 In which suburb do you work?

(Single Response)

- | | |
|------------------------------|-------|
| 1. Plympton | [] |
| 2. North Plympton | [] |
| 3. Camden Park | [] |
| 4. Netley | [] |
| 5. Marleston | [] |
| 6. Kurralta Park | [] |
| 7. Adelaide / North Adelaide | [] |
| 8. Marion | [] |
| 9. Various suburbs | [] |
| 10. Other (specify) | _____ |
| 11. Don't know | [999] |

H.9 Can you tell me the approximate annual gross income of your household? That is, for all people in the household before tax is taken out. I'll read out some categories and could you please tell me into which one your household's income falls?

(Read Options. Single Response)

- | | |
|------------------------|-----|
| 1. Up to \$12,000 | [] |
| 2. \$12,001 - \$20,000 | [] |
| 3. \$20,001 - \$40,000 | [] |
| 4. \$40,001 - \$60,000 | [] |
| 5. \$60,001 - \$80,000 | [] |
| 6. More than \$80,000 | [] |
| 7. Not stated/refused | [] |
| 8. Don't know | [] |

H.10 How many residential telephone numbers, including mobile phones, can be used to speak to someone in this household?(Single Response. *Interviewer note: do not include Internet or fax numbers*)

- | | |
|-----------------|------|
| 1. Enter number | __ |
| 2. Don't know | [99] |

H.11 How many times [do these / does this] number(s) appear in the White Pages?(Single Response. *Interviewer note: do not include Internet or fax numbers. Total number of entries includes numbers that are listed more than once.*)

- | | |
|-----------------|------|
| 1. Enter number | __ |
| 2. Don't know | [99] |

H.12 Do you have any further comments that you would like to add?

(Single Response)

- | | |
|------------------|-------|
| 1. Yes (specify) | _____ |
| 2. No | [] |

H.13 In a survey like this, issues often arise which require further explanation or additional clarification. In addition, some issues need further investigation. If we need to could we phone you at a later date for help?

(Single Response)

- | | |
|---|-------|
| 1. Yes (specify – record first name only) | _____ |
| 2. No | [] |

That concludes the survey.

On behalf of the South Australian Department of Human Services, thank you very much for taking part in this survey. Your answers will provide us with valuable information to assist in our understanding of the social and environmental health issues in your community. Good _____

H.14 Day of interview

H.15 Day of week interview undertaken

H.16 Time of day interview undertaken

