

INTRODUCTION

Health research has found that rural people tend to have poorer health than their metropolitan counterparts.^{1,2} Poorer health in the rural population is evidenced by higher mortality and morbidity rates, resulting in a lower life expectancy.^{1,5} Australia's rural population also has a higher hospitalisation rate for some causes of ill health,^{1,3} such as, accident and injury, road vehicle accidents, burns and scalds and diabetes.¹ There is, however, limited comprehensive information on the health status of rural Australians, making assessment of the populations health and their health service needs extremely difficult.^{2,4}

Many factors contribute to poorer health in the rural Australian population. Documented factors include geographic isolation, access to care, shortage of health care providers, lack of health services, socioeconomic differences, a higher probability of accident and injury, poorer road quality and small populations spread over a greater distance.¹ These and most Australian rural health statistics are based on overall statistics collected from states and non-metropolitan regions. Little information exists at a local level that provides a detailed understanding of the health profile of specific rural communities and compares differences between rural communities.

The aim of the Crossroads Rural Health Studies was to collect detailed information about health, health behaviours, lifestyles and access to health services in communities across the Goulburn Murray region. The information will be used to identify the needs of consumers and the local community and thus contribute to health service planning and shaping rural health policy. The Crossroads Rural Health Studies are unique, as they provide the most detailed rural health information in Australian communities.

THE TOWN OF ALEXANDRA

The township of Alexandra lies 90km northeast of Melbourne, in the Murrindindi shire and is situated on the Goulburn River¹² and is home to 2,094 people.

Prior to 1866, Alexandra and the surrounding district were occupied by squatting runs. In June 1866, a quartz reef was found approximately 2kms south east of the present site of Alexandra. Further exploration of the area led to the discovery of more gold bearing reefs soon after, with one notable reef being on the Ultima Thule Creek. Supplies were brought to the diggings on a track running through a red gate between squatting runs along the Ultima Thule Creek. A small township called Red Gate was established on the creek. Red Gate was changed to Alexandra and it was not known whether the town was named after the Princess of Wales (of the day) or the given name of one of the discoverers of gold.¹²

The settlement of Alexandra soon began to prosper from some surrounding reefs rich in gold. A school was built, town blocks were sold and a shire proclaimed in 1869.¹² By the 1870's a court house existed, a range of shops and numerous hotels were opened.

The area surrounding Alexandra comprises of rich, fertile soils, mainly used for agricultural and pastoral activities, including dairying, wool production, sheep and cattle grazing.¹² In 1909 the railway connected the town to Melbourne via a spur from the Melbourne - Mansfield line.¹² The line was seldom profitable however, as it depended on freight from timber. Saw mills grew providing a major economic boost to the town, until 1939 when bush fires stopped production. Most mills were rebuilt by 1943.¹²

Alexandra has always been a population destination for drivers, with most tourists, up to the present day, enjoying a scenic drive through the ranges. Alexandra township currently hosts a wide range of facilities including secondary schools, sporting venues, a swimming pool, hotels and camping grounds, a museum with a timber tramway and an annual agricultural show. The 30 bed Alexandra District Memorial Hospital provides specialised services of obstetric/maternity and domiciliary care.¹³ Other health services provided in Alexandra include, Physiotherapy, Chiropractic and the services of 5.8 full time equivalent GP's.

METHOD

The Crossroads Rural Health Studies are a collection of population health studies, involving residents of Shepparton and Mooroopna along with the 6 shire capitals in the region, namely Alexandra, Benalla, Cobram, Echuca, Euroa and Seymour. A total of 9,260 people participated in the studies with 1,455 undertaking a health check up.

A questionnaire was designed which included key questions used in many health studies throughout the world, so that comparisons between the Goulburn Murray and other areas could be made. In addition, some questions asked about specific local issues and respondents were given the opportunity to raise issues of concern to them. Residential addresses were randomly selected from household garbage collection/water lists. The household survey was undertaken in two parts with recruitment approaches differing between the first and second parts. All members of the household were invited to participate. Between September 2000 and December 2002 fieldworkers visited each house selected and interviewed each member of the household. For children under 16, interviews were completed by the parent/guardian. A total of 646 questionnaires were completed from residents of Alexandra. All this information was entered into the computer database and statistically analysed. The household response rate for the studies were 67%.

Some residents were again asked to attend a free, 2-hour health clinic in their own community. At this clinic, the participants were tested for, hearing eye sight and a range of undiagnosed diseases, including diabetes, heart diseases, respiratory disease, blood pressure, liver function, and cholesterol levels. Participants received a health report with the test results. The response rate for the Undiagnosed Disease Study was 61%. This information was analysed anonymously and collectively to determine the health status of each community.

FINDINGS

A total of 518 adults from Alexandra completed the survey, of these 43% were male and 57% were female (see Table 1). Of the 518 respondents, 71% were either married or living in a de facto relationship and 36% of households had residents under the age of 18 living in the home. Length of residence ranged from less than a year to over 90 years, with an average of 22 years.

Most respondents in Alexandra (79%) owned their own house or unit and 14% were living in rental accommodation. The percent of people who were living in their own home was higher than the national average of 66%.⁶ Four in ten (40%) respondents had private health insurance, less than the Australian average of 45%.⁷

Table 1: Characteristics of the Alexandra samples (Part 1 & Part 2)

<i>Characteristics</i>	<i>Alexandra</i>	<i>All Studies participants</i>
No. of Adults Surveyed	518	6,375
% Female	57%	57%
% Married/de facto	71%	67%
% Speak English at home	99%	97%
% Own their Dwelling	79%	70%
Average Length of Residence (mean)	22 years	21 years
% With Private Health Insurance	40%	43%
% Completed Secondary School	49%	47%
% Working Full-time in Paid Labour	32%	34%
% Working Part-time in Paid Labour	19%	17%
% Retired	27%	19%
Income (median)	\$588	\$580

Of the 518 adults in Alexandra who completed a household survey:

- 18% had completed a University degree, slightly higher than the national average of 9%⁶
- 49% had completed secondary school and/or trade certificate (including 18% with University degrees)
- 34% had completed year 9 and more, but not year 12
- 17% left school before year 9

In Alexandra, the employment status of respondents was:

- 32% worked full-time
- 19% worked part-time
- 27% were retired
- 3% were not working but not retired and
- 3% were unable to work due to illness

The average household weekly income varied in Alexandra, with most (65%) earning between \$300 and \$1,499 per week before tax. The median was \$588. In addition, 61% had access to a computer at least weekly and 45% had access to the internet at least weekly.

LIVING IN ALEXANDRA

All 518 respondents were asked how sorry or pleased they would be to leave Alexandra. A total of 87% of residents reported they would be very sorry or somewhat sorry to leave the town. Only 4% said they would be very pleased or somewhat pleased to leave. Nearly two thirds (62%) of residents were members of a local community club, group or organisation, with some being involved in up to eight different groups.

Respondents were asked to indicate how concerned they were about a range of issues in their local area. Respondents were provided with a four-point scale from 'not at all concerned' to 'very concerned'. Table 2 presents the percent of respondents who indicated they were concerned or very concerned. Over half the respondents were concerned about unemployment and crime.

Table 2: Concern about local issues in Alexandra

<i>Issue</i>	<i>Concerned</i>	<i>Very Concerned</i>
Unemployment	35%	36%
Crime	25%	25%
Quality of health care	21%	22%
Quality of education	14%	20%
Future of farming	28%	17%

Respondents were also asked to rate their satisfaction with local services and facilities (see Table 3). At least 6 in 10 were satisfied with the local hospital and local schools.

Table 3: Satisfaction with local services in Alexandra

<i>Issues</i>	<i>Dissatisfied¹</i>	<i>Satisfied²</i>
Local hospital	5%	84%
Local schools	5%	74%
Access to exercise facilities	19%	54%
Local government	17%	52%
Public transport	43%	28%
Local entertainment	42%	27%

¹ This includes respondents rating the item as 'dissatisfied' and 'very dissatisfied'

² This includes respondents rating the item as 'satisfied' and 'very satisfied'

HEALTH

Self reported health status is a commonly used measure of an individual's health.⁸ The proportion of respondents in Alexandra who rated their health as excellent, very good and good (83%) was similar to the Victorian average (82%).⁸ When asked to rate their own health respondents rated their health in the following ways:

- 14% as excellent
- 34% as very good
- 35% as good
- 13% as fair
- 4% as poor

As an indicator of quality of life, respondents were asked to rate their happiness:

- | | |
|--|-----|
| ➤ very happy | 24% |
| ➤ happy | 44% |
| ➤ somewhat happy | 11% |
| ➤ mixed, about equally happy and unhappy | 15% |

A further 2% described themselves as somewhat unhappy, another 2% as unhappy and 2% as very unhappy.

When asked about health checks in the past two years, residents in Alexandra reported having a similar number of health checks as the Victorian average.⁸

- 87% had their blood pressure checked, higher than the state average of 79%.
- 59% of women had a pap smear test, slightly less than the state average of 62%.
- 48% had their cholesterol measured, similar to the state average of 46%.
- 46% were tested for diabetes or high blood sugar, similar to the state average of 45%.
- 71% of women over the age of 50 had a mammogram, similar to the state average of 73%.
- 36% had a skin examination (for lesions or cancers), more than the state average of 25%.
- 56% of men over the age of 50 had a prostate check, similar to the state average of 53%.
- 16% had a bowel examination, similar to the state average of 15%.⁸

Respondents were also asked if they had a range of medical conditions (see Table 4). Eye problems (which included wearing glasses), high blood pressure, arthritis, allergies and asthma were the most common conditions. This is similar to the Australian average.⁹ In addition, 11% also indicated an injury had prevented respondents from attending work or school.

Table 4: Reported medical conditions for adults in Alexandra

Medical Conditions	Percent
Eye problems	39%
High blood pressure	28%
Arthritis	25%
Allergies	22%
Asthma or Chronic Obstructive Pulmonary Disease	16%
Skin conditions	15%
Hearing loss	14%
Cancer	13%
Digestive problems	10%
Depression	10%
Other chronic health problems	9%
Heart disease	8%
Respiratory problems	7%
High blood fats	7%
Major infections	6%
Diabetes	5%

Further, 85% had been immunized for childhood diseases, 64% had a tetanus booster in the past 10 years, 15% had a pneumonia vaccine in the past 5 years and 36% had a flu vaccine in the past 12 months. Most respondents (89%) had never donated blood.

USING HEALTH SERVICES

In the past twelve months, respondents reported consulting a GP up to 60 times but the average number of GP visits was 6. Most respondents (83%) consulted a GP in Alexandra.

Respondents waited anywhere up to 42 days for an appointment, however 79% waited one day or less, 12% waited 1-2 days, 4% waited 2-4 days and 5% waited over 4 days for an appointment with a GP. Most people reported being satisfied with their GP, 48% were very satisfied and 38% were satisfied.

Among the survey participants, 16% had been hospitalised in the past twelve months. From these, 72% had been hospitalised just once. Over half (57%) were admitted to the Alexandra District Hospital, 22% travelled to smaller hospitals in Melbourne and 13% travelled to major hospitals in Melbourne.

In the past 12 months, 17% of respondents had visited an Emergency Department. Of these, 89% had visited the Alexandra District Hospital. 8 in 10 waited under an hour to see the Doctor, 11% waited 1-3 hours, 2% waited 3-6 hours and 4% waited over 6 hours to see a Doctor.

Participants were asked if they had visited a Medical Specialist in the past 12 months. In Alexandra, 31% of respondents had seen a Medical Specialist, of these 76% travelled to Melbourne and 18% utilised the specialist services provided in Alexandra.

In addition to questions about visits to medical professionals, respondents were also asked about consultations with a wide variety of other health professionals. Listed below are the percent of those respondents who visited an:

➤ Optician or Optometrist	29%
➤ Pharmacist for advice	14%
➤ Hospital outpatients	14%
➤ Physiotherapist	14%
➤ Chiropractor or Osteopath	9%
➤ Hospital day surgery	8%
➤ Used an Ambulance	5%

In the past year, 47% of respondents had consulted a Dentist/Dental professional. For 30% it was 2 or more years since they had consulted a Dentist/Dental professional. The major reasons why respondents did not consult a Dentist were: “no need,” “cost” and “fear.”

A series of open ended questions were asked to determine what Alexandra residents thought were the key issues in obtaining health care in their local community. The first question asked about concerns with the medical care provided in the community. 474 people answered the question, giving 572 responses (some respondents gave more than one answer). From these 572 responses, 182 indicated there were 'no problems' with the local medical service and 50 responded with positive comments. Of the 340 remaining responses, the most common concerns were:

- Lack of Doctors, Nurses and Medical Specialists (64)
- Quality and competency of Doctors (58)
- High turnover of Medical Staff (31)
- Poor attitude/bedside manner of Doctors and Nurses (26)

Another question asked about concerns with the local Emergency Department. 458 people answered the question, giving 474 responses (some respondents gave more than one answer). From these 474 responses, 295 indicated there were 'no problems' with the Emergency Department and 45 responded with positive comments. Of the 134 remaining responses, the most common concern was that:

- The Doctor would not attend the hospital and the patient is treated by a Nurse (16)

The Crossroads Rural Health Studies asked local residents what they perceived to be the issues in accessing health care, or the "barriers to care". Participants were asked what they thought were the issues around accessing health care. 440 people answered the question, giving 508 responses (some respondents gave more than one answer). From these 508 responses, 230 indicated there were 'no problems' with accessing medical services and 33 responded with positive comments. Of the 245 remaining responses, the most common concerns were:

- The distance required to travel to appointments (specialists) (40)
- Lack of Doctors, Nurses and Medical Specialists (33)

LIFESTYLE

Lifestyle is related to health, and so respondents were asked about their health behaviours, including diet. Table 5 shows how often respondents in Alexandra ate takeaway food as a main meal.

Table 5: Takeaway food as a main meal in Alexandra

How Often?	Percent
Never	12%
Less than once a month	39%
2 to 3 days a month	27%
1 to 3 days a week	20%
4 to 6 days a week	2%

Respondents were asked how many serves of fruit, vegetables and dairy products they consumed each day (see Table 6). 32% of respondents were consuming the recommended serves of vegetables, 61% ate the recommended serves or more of fruit and 63% had eaten the recommended serves of dairy products. On the other hand, 68% were not eating the recommended serves of vegetables, 39% were not eating the recommended amount of fruit and 37% were not consuming the recommended amount of dairy products.

Table 6: Consumption of fruit, vegetables and dairy products for adults in Alexandra

	Recommended serve	Number of serves eaten	
Vegetables	5 serves ¹⁰	1-3 serves	68%
		4-5 serves	27%
		6 and more serves	5%
Fruit	2 serves ¹⁰	1 serve or less	35%
		2-3 serves	50%
		4 and more serves	11%
		Don't eat fruit	4%
Dairy	2-5 serves ¹⁰	1 serve or less	34%
		2-5 serves	61%
		6 and more serves	2%
		Don't eat dairy	3%

Respondents had approximately 6 drinks of alcohol in an 'average' week. The most common alcoholic drinks were wine (32%), full strength beer (25%) and light beer (20%).

Of those surveyed, 17% did not currently smoke cigarettes, cigars or pipes and 62% had never smoked. The remaining 21% smoked between 1 and 50 cigarettes per day. This is less than the Victorian average of 25% identifying themselves as current daily smokers.⁸

A total of 66% of respondents participated in physical activity and on average 4 days per week. The average length of each exercise session was 70 minutes. The most popular form of exercise was walking (39%).

When asked how often respondents deliberately took protective measures when out in the sun, 32% 'always' took protective measures, 39% 'usually' took protective measures while 4% never took protective measures. A total of 74% wore a hat as a protective measure against the sun, 65% put on sunscreen and 64% wore sunglasses.

CHILDREN

In Alexandra, parents or guardians completed a survey on behalf of 129 children. A survey was completed for all children living in the home aged between 1 and 15 years inclusive. Of these, 48% were male and 51% were female. From the children's surveys, 86% had access to a computer at least weekly and 67% had access to the internet at least weekly. Immunisation rates were high in Alexandra with 98% of the children being immunised for childhood diseases.

Of national concern are the eating patterns of children. In Alexandra, 83% of children were not eating the recommended intake of vegetables, 29% were not eating the recommended intake of fruit, however, most children were consuming the recommended amount of dairy products (See Table 7).

Table 7: Consumption of fruit ,vegetables and dairy products for children in Alexandra

	Recommended serve	Number of Serves eaten	
Vegetables	5 serves ¹⁰	1-3 serves	82%
		4-5 serves	17%
		Don't eat veggies	1%
Fruit	2 serves ¹⁰	1 serve or less	27%
		2-3 serves	56%
		4 and more serves	15%
		Don't eat fruit	2%
Dairy	3-4 serves ¹¹	1 serve or less	11%
		2-5 serves	87%
		6 and more serves	2%

Parents and guardians were asked to indicate if their children had any medical conditions. Asthma (14%) was the most common medical condition for children, which is comparable with other towns in the studies. Skin conditions (13%), allergies (13%) and eye problems (8%) were the other most commonly reported conditions.

In the past 12 months, 4% of the children had been hospitalised. Of these, 71% were hospitalised at the Alexandra District Hospital. In addition, 18% had been to an Emergency Department in the past 12 months. Of these, 84% visited the Emergency Department at the Alexandra District Hospital, 10% visited major hospitals in Melbourne and 7% visited smaller Melbourne hospitals. Approximately 78% waited less than an hour to see a Doctor, 19% waited 1-3 hours and 3% waited over 3 hours.

UNDIAGNOSED DISEASE STUDY

As part of the Crossroads Rural Health Studies, 1,455 randomly selected adults (aged 25 years and over) also attended the Undiagnosed Disease Study held in each town. The Alexandra clinics were held at the Alexandra Town Hall and the RSL Club Rooms. 141 residents from Alexandra attended these clinics.

- Alexandra residents had low rates of chronic obstructive pulmonary disease and other lung diseases (defined as reduced spirometry measures: 12%) which is comparable to the other 7 towns in the study, but high rates of hearing loss (13%). The vision impairment or vision requiring correction rates were quite low (17%).
- The rate of high blood pressure for Alexandra residents was 26% (with or without diagnosed hypertension, defined as blood pressure of 160+ mm Hg systolic and/or 100+ mm Hg diastolic). These were the second highest amongst the 8 communities in the Rural Health Studies and much higher than the Australian average of 10%.
- 37% of the study population in Alexandra was categorised as obese (defined as body mass index of 30 kgm⁻² or more). This was the highest amongst the communities in the Rural Health Studies and much greater than that found in the Australian Diabetes, Obesity and Lifestyle Study (21%).¹⁵ It is also much greater than the Australian average of 17%.⁹
- Likely mild inflammation of the liver for Alexandra residents, as indicated by serum liver enzymes, was less common than many other Rural Health Studies towns (9%).
- Renal impairment (as assessed by serum creatinine concentration above the reference range for age, sex and weight (those with diabetes excluded)) was also common (9%).
- Anaemia and rates of leucocytosis (white blood cells) were relatively low (3% and 1% respectively) compared to the other Rural Health Studies communities.

Note: This is based on preliminary data.

CONCLUSION

In Alexandra, more women than men completed the survey. Alexandra had a higher level of home ownership and lower numbers of people renting than the average in Australia.⁶ Twice as many respondents in Alexandra residents had a University degree compared with the Australian average⁶ and half the participants had completed secondary school or a trade certificate. The Crossroads Rural Health Studies found that the majority of respondents were happy to be living in Alexandra and nearly two thirds of respondents were members of local community clubs, groups or organisations. Being actively involved in the community seems to be very important to a large portion of the respondents and leads to better health.¹⁶

Alexandra respondents were particularly satisfied with the local hospital and local schools, but were less satisfied with public transport, local entertainment and were least concerned about the future of farming. Most respondents were satisfied with the services provided by the local hospital.

Happiness is an indicator of quality of life, and in Alexandra over two thirds of participants rated themselves as happy or very happy. In addition, self reported health status is a commonly used measure of an individuals health.⁸ The majority of respondents in Alexandra rated their health as good or better, which is similar to the Australian average.⁹ Alexandra residents have similar long term medical conditions as the average in Australia, most commonly eye problems, high blood pressure, arthritis and allergies.⁹ Alexandra respondents tended to have similar health checks to the Victorian average,⁸ with the exception of blood pressure and skin examinations, where more checks were completed. Although rural health research indicates that rural people tend to have poorer health than their metropolitan counterparts,^{1,2} the Crossroads Rural Health Studies illustrates that residents in Alexandra had similar health checks and that their health is on a par with the majority of Australians, rural or metropolitan.

The perceived quality and competency of Doctors in Alexandra was raised as an issue for a number of participants, along with a general concern of the lack of Doctors, Nurses and Medical Specialists in Alexandra and surrounds. A further concern was the distance required to travel to consult Medical Specialists. Over three quarters of those who consulted a Specialist Medical Practitioner had travelled to Melbourne. Overall, however, respondents in Alexandra did not have any major issues with the local health services, as the majority of people responded with 'no problems.'

In conclusion, it appears that the health status among Alexandra residents, along with the other towns in the studies (Benalla, Cobram, Echuca, Euroa, Mooroopna, Seymour and Shepparton), is not markedly different to the Victorian average, despite previous health research indicating that rural people have poorer health than their metropolitan counterparts. However, when rural people become unwell, access to medical care may become a problem. We believe that the results of the Crossroads Rural Health Studies will provide information that is both useful and meaningful to the people of Alexandra and that benefits will come from it.

**The Crossroads Team would like to Thank all those who completed a Household Survey and everyone who came along to the Undiagnosed Disease Study.
Thank You!**

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