



THE UNIVERSITY OF  
MELBOURNE

Department of  
Rural Health

# Crossroads II

A repeated population health study in  
Shepparton and Mooroopna 2016-2018



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# ACKNOWLEDGEMENTS

## A NOTE OF THANKS...

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## EXECUTIVE SUMMARY

The Crossroads II study is a population health study that repeats the original Crossroads I study undertaken in 2001-2003. Like the previous study, Crossroads II aimed to identify the health of residents of Shepparton and Mooroopna in 2016-2018 as well as their service use, access to services and rates of undiagnosed disease. Crossroads II was undertaken in partnership with nine local health services and local governments, Goulburn Valley Health, Primary Care Connect, Benalla Health, Cobram District Health, Seymour Health, Moira Shire, Goulburn Valley Primary Care Partnerships, Shepparton Access and Greater Shepparton City Council, as well as Alfred Health and the Department of Rural Health, The University of Melbourne, based in Shepparton and Wangaratta.

The study included a survey of 1,344 adults from 1800 randomly selected households (response rate 60%). This included households visited in the earlier study and additional randomly selected households from new neighbourhoods. All adults were asked to complete a questionnaire and adults were asked questions about all residents under 16 years of age. At the household, one adult was randomly selected and asked to attend a free 2-hour health screening clinic where a series of health assessments were conducted, including the Oral Glucose Tolerance Test, cholesterol, blood pressure and liver disease checks and measures of height, weight, heart function, hearing impairment, cognitive function, lung function and dental health. Together these results provide an overview of health, access to and use of services, and rates of undiagnosed disease with comparison to the results 15 years earlier.

While an older sample and more female, this study has gathered detailed information about the health of residents of Shepparton and Mooroopna. In this large, randomly selected study sample, self-rating measures of health and happiness were high. Respondents were happy with their GPs and generally happy with most service providers but were concerned about the costs of health care. Key health issues identified were chronic pain, disability, obesity, heart disease and high blood pressure. Findings also suggest that respondents could improve their vegetable intake, activity levels and consume fewer takeaway meals to improve their own health. Access issues were also identified, primarily associated with cost and waiting times.

The results of Crossroads II highlight what local services know are the key conditions and key issues in using health services. The results provide evidence of the observations of local health services and arm local services and consumers with information to address key issues. The key findings include:

- Residents of Shepparton and Mooroopna rate their own health higher than the state average and this was found in Crossroads I in 2001-2003.
- Study participants were happier than 15 years earlier.
- Levels of community participation were reported to be similar or slightly lower than 15 years earlier.
- Self-reported rates of smoking have declined and were below the state average; this suggests efforts to promote quit smoking in the region have been successful.
- Healthy eating could be improved. Like the consumption of alcohol, self-reported eating and drinking behaviours remained similar to 15 years earlier. Further, reported physical activity had increased and rates of obesity had also increased. There are significant efforts in Shepparton by Goulburn Valley Primary Care Partnerships, Primary Care Connect, Goulburn Valley Health and Greater Shepparton City Council to encourage healthy weights and improve eating patterns and physical activity among local residents, particularly children.
- The self-reported rates of chronic and long-term conditions were higher in this study than the previous study, including the proportion of respondents with eye problems, high blood pressure, arthritis, allergies, high blood fats, depression, hearing loss, skin conditions, digestive problems, respiratory problems, heart problems, cancer, thyroid trouble, osteoporosis, diabetes and circulatory problems. Multiple services, including Goulburn Valley Health, Primary Care Connect, Goulburn Valley Primary Care Partnerships and Greater Shepparton City Council, are working to promote healthy lifestyles and prevent chronic disease.
- Self-reported rates of depression had increased and levels of psychological distress were slightly higher than the state average. While use of mental health services has increased, these results suggests there is unmet demand for services. There are efforts by Goulburn Valley Health and other services to improve access to, and the quality of, mental health services.

- Service providers are aware of the high prevalence of chronic pain and Primary Care Connect and Goulburn Valley Health have clinics and projects to assist in better pain management.
- There is a significant proportion of residents reporting a disability; Shepparton Access and other services are aware of the extent of disability and provide services appropriately.
- 93% of respondents said they had visited a GP in the past 12 months and more respondents said they were able to see a GP within three days than in the Crossroads I study 15 years earlier.
- Use of medical specialists was reported to have increased over the past 15 years; Goulburn Valley Health has increased access to a range of medical specialists and this study suggests these services are used and appreciated.
- Satisfaction with GPs and medical specialists increased from the previous study.

Scrolling through this report provides specific data about key conditions and related issues and changes over the past 15 years. It is hoped this information can be utilised when needed to support projects, health interventions and access to funding to address the key issues.

In summary, this study suggests that health care, health prevention activities and healthy lifestyles could be improved and acknowledges that satisfaction with services have improved over the last 15 years. Further, many residents rate themselves as healthy and happy and responded positively about local health services. A range of local services are working on improving the health of the community, with a new Chronic Pain Clinic, healthy lifestyles programs in many health services and public health plans and programs working across the sector to prevent obesity, social isolation and chronic disease.

A final note is made about loneliness, as identified during data collection. There is a large proportion of residents in Shepparton and Mooroopna living alone with few social contacts. Some are fearful to go out, some struggle with physical mobility and others lack information, access, inclusion, motivation and enthusiasm to venture far from their homes. Rather, they spend a lot of time alone and were keen to chat with researchers about their health, their families and their lives. While this was not investigated in this study, attempts to engage those who do not go out and engage with others frequently by addressing their fear, mobility, access and interests would seem to be a worthwhile community initiative.

Given the findings, this study proposes three recommendations:

- 1. Local services are needed and should be continued.** Local services are well used and needed by the community. The decrease in undiagnosed disease in the past 15 years suggests these services are screening and diagnosing key health conditions. The number and type of health services available in Shepparton and Mooroopna has increased; further new services in areas of need have been developed, including pain services, cancer services and other medical specialists. Support, funding and continuation of these services are important to local residents.
- 2. Promote healthy living.** The increase in chronic and long-term conditions that prevent quality of life and healthy ageing call for a whole-of-community approach to promoting healthy lifestyles (see Allender et al., 2015). Promotion of physical activity, healthy diets and moderation of alcohol consumption are key to our community's health and wellbeing, both now and in the future. Expanding and integrating current strategies as well as engaging all sectors of the community in healthy living would provide a holistic approach.
- 3. Address factors limiting local residents' ability to manage their health well.** Known as the social determinants of health (see WHO, 2019), addressing key issues in people's lives enables healthier living and improved access to health care for those who need it. This includes income, employment, education, housing, transport, social connection and social inclusion. Addressing these issues for residents with disability, chronic pain, mental ill-health and/or who are socially isolated as well as for residents who are marginalised due to low income, low English proficiency and other cultural barriers is important for overall health, wellbeing and inclusion. Like the previous recommendation, a whole-of-community approach is required that will (i) integrate current initiatives, (ii) develop improved environments for access, inclusion and participation, (iii) challenge exclusionary behaviours and language, and (iv) engage new sectors of the community so that Shepparton and Mooroopna can improve the quality of life and conditions of daily living for all local residents.

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# INTRODUCTION

## WHAT WAS THE STUDY ABOUT?

While it is well known that rural residents have less access to health services, lower rates of health service utilisation and poorer health outcomes, there is little accurate health data about specific rural places and populations (AIHW, 2017a; DHHS, 2017; Terry et al., 2015). This study was undertaken in partnership with health and community services in Shepparton and Mooroopna to provide these local services with improved understanding of the health of their population and assist in planning for services in the coming years.

Named Crossroads II, this study was undertaken in 2016–2018 and is a follow up from a baseline study conducted 2001–2003. The aim of Crossroads II was to identify the health of the residents of Shepparton and Mooroopna as well as their service use, access to services and rates of undiagnosed disease. Much of the information presented in this report draws on the perspectives of individuals about their own health because they are viewed as experts on their own lives. In addition, some clinical data was also collected. We hope this report provides useful information on service use, access to services and health generally for the residents, communities, and health services in Shepparton and Mooroopna.



# METHODS

## HOW WAS THE STUDY UNDERTAKEN?

A total of 1,800 households were randomly selected in Shepparton and Mooroopna from a council list which included 1,422 households that participated in the original study (2001–2003). Of the 1,800 selected households, 1,553 were residential addresses eligible to participate. Ineligible addresses included those that had been changed from residential to business, were vacant at the time of being visited and those occupied by residents

**1,344 participants**

**60% response rate**



**343 local residents completed a 2-hour screening clinic**

**59% response rate**

who had not lived in the locality for a minimum of six months. Trained research assistants approached each household in pairs to ask for participation in the study by all adults. Where residents were not home or the time was inconvenient, multiple follow up visits were made to contact all adults in the household. Adults were asked to complete an additional questionnaire for each child under the age of 16 years. Interviewers asked a set of questions about health conditions, service use, concerns about health care and other wellbeing, social participation and demographic questions. Using this method, 934 of the 1,553 eligible households participated in the questionnaire for a response rate of 60%. In these 934 households, 1,344 adults completed a questionnaire and a further 385 children's questionnaires were also completed.

For those households completing the questionnaire, a randomly selected person (using a random number generator at the household) was also invited to a health screening clinic. People under the age of 18 or pregnant women were ineligible to participate. The clinics were

held at Primary Care Connect, Shepparton Medical Clinic and the Department of Rural Health, University of Melbourne in Shepparton. The clinics were timed around the Oral Glucose Tolerance Test, in which a fasting blood-test is taken, 75g of glucose is consumed and a second blood test is taken two hours later. A series of health assessments were conducted within the 2 hour period, including cholesterol, blood pressure, liver disease, height and weight, heart function, hearing impairment, cognitive function, lung function and dental health. Individuals attending were asked to fast the night before the clinic. At the conclusion of the clinic, participants were offered breakfast. A total of 580 participants were invited to the clinic and 343 attended and completed the clinic, resulting in a response rate of 59%.

Both the household survey and the clinics were conducted between October 2016 and October 2018. For more detail on the methods of this study, see Glenister et al. (2018).

Measures were largely based on the original Crossroads I study which was conducted in 2001-2003. In this earlier study, 3,566 adults were surveyed asking most of the same questions. Like the current study, households were randomly selected, visited by researchers who interviewed all adults and a parent/guardian was interviewed on behalf of children under 16 years of age. Clinics were also voluntary and run as a 2-hour screening clinic. These data are referred to for comparison to identify changes over the 15 year period.

Data were recorded into a large dataset and then cleaned and coded. Analysis of each question has been undertaken and an overview of findings is presented in this report. The figures presented are based on the number of respondents answering each question. In addition, differences between men and women, those born in and not born in Australia, and those who had completed secondary school were tested using a t-test or chi-square. Differences in age by year were tested using a Pearson's correlation. While most questions were tested for these differences, they are only reported where both a statistically significant difference and substantive differential was found. Further, results were compared to the earlier study and differences are noted where they were identified.

# RESULTS

## WHAT DID THE STUDY FIND?

### Questionnaire Participants

A total of 1,344 adult residents of Shepparton and Mooroopna completed the questionnaire at their place of residence. Of these, 57% identified as female and 43% as male. Further, 2% identified as Aboriginal and/or Torres Strait Islander, which is an under-representation of the Aboriginal and Torres Strait Islander population in the region. Ages reported ranged from 16 to 97 with a mean (average) of 52 years (see Table 1). This suggests an older sample than the Australian population, in part because participants were aged 16 years and older.

**Table 1: Age of Shepparton participants (n=1329)**

Age	Frequency	Percent
16-29	205	15
30-39	188	14
40-49	188	14
50-59	214	16
60-69	273	21
70-79	167	13
80 or older	94	7

Almost two-thirds reported that they were married (56%) or de facto (8%), a slightly lower proportion than the earlier Crossroads study (61% and 7%, respectively). Further, 16% described themselves as never married, 7% indicated they were divorced, 5% reported they were separated and 7% indicated they were widowed. Education levels varied. 60% indicated they had completed Year 12 or higher and 47% said they had participated in some tertiary education. Overall, education levels had increased since the earlier Crossroads I study.

**Table 2: Participants' highest level of education, in percent**

Education Level	Crossroads I 2001-2003	Crossroads II 2016-2018	Victoria*
Year 8 or less	12	5	10
Year 9	21	8	
Year 10		14	8
Year 11		13	6
Year 12	36	13	16
TAFE or other tertiary	16	21	24
University Degree	15	26	24

\*Source: ABS (2018) with 12% not stated/other

**Employment Status:** Adults surveyed were asked about their employment status. While there was variation and many engaged in multiple employment situations (e.g., two part-time jobs, part-time work and study, etc.), 31% said they were primarily in full-time work, 18% reported working part-time (often casual) and 26% described themselves as retired. A further 6% reported 'home duties,' 4% said they were not working, 4% indicated they were not able to work and 6% indicated they were students, either full-time (5%) or part-time (1%). Others described their roles as 'carers,' 'transitioning to retirement,' 'working on and off' and doing 'volunteer work.'

**Country of Birth:** Most, 82%, responded that they were born in Australia. The remaining 18% said they were born in 37 different countries, most commonly India, United States, New Zealand, Philippines and Italy. For those indicating they were not born in Australia, almost one-quarter reported relocating to Australia in the past five years, half said they had lived in Australia for 11 years or less while one third reported living in Australia for 30 years or more. In the earlier study, 88% of Shepparton respondents said they were born in Australia and the remaining 12% said they were born in 57 different countries. The most common countries of birth identified in the earlier study, other than Australia, were England, Italy, Holland, Turkey and Scotland. This suggests that the cultural and ethnic background of the population has changed over the 15 years between the two studies.

**Ethnicity:** When asked about ethnicity, around eight in ten participants described themselves as European/Anglo/Caucasian. A further 5% described their ethnic background as South Asian, 2% described their ethnic background as Middle Eastern, 2% described their ethnic background as East Asian, 2% as other Asian, 1% as African, 1% as Polynesian and 1% as Pacific. When asked about ethnicity of their parents, 83% described their parents as European/Anglo/Caucasian and other ethnicities varied greatly. Most in the current study, 91%, reported that they spoke English at home while the remaining 9% spoke one of 25 different languages at home.

**Length of residence:** Respondents reported living in Shepparton for up to 88 years with a mean of 27 years and a median of 24 years. Just over half of respondents (55%) had lived in the same house for all the time they had lived in Shepparton or Mooroopna. A further 26% had lived in two houses and 10% had lived in three houses. Another 4% had lived in four houses and the remaining 5% had lived in 5 or more houses in Shepparton or Mooroopna.

**Dwelling:** When asked about their dwelling, 71% reported living in a house/unit that was owned and 23% reported living in house/unit that was rented while others said they were boarding or living with family or friends. This reflects a slight increase in home ownership from 2001 where 68% owned their dwelling and 22% rented.

Participants reported that most dwellings had three bedrooms (52%) or four bedrooms (30%). Most (60%) houses were said to be occupied by 2 adults and 22% said their house was occupied by one adult. A further 10% said the house was occupied by three adults and the remaining 6% were reported to have four or more adults living in the house. While slightly more than two-thirds of the households (68%) indicated they had no children under 16 years, the study found 12% had one child, 13% had two children, 5% had three children and 2% had more than three children living in the house.

**Health Insurance:** A total of 36% of participants responded they had no health insurance while 47% indicated they had some private health insurance, including 198 participants (15%) with minimal insurance and 431 (32%) with higher coverage. 307 respondents (23%) said they had a health care card, 171 or 13% indicated having an aged pension card and 16 respondents (1%) said they had insurance through Department of Veterans Affairs. It is important to note that some respondents had more than one of these. In the earlier study, 53% had no health insurance and 48% had some private insurance.

**Previous Crossroads study:** In the current study, 135 participants remembered participating in the 2001-2003 study, which is 13% of all those participating in both projects. Many of these 135 individuals remembered the clinic and talked clearly about their experience in the earlier study.

## Clinic Participants

One adult from each household who had completed the household survey was randomly selected and invited to attend a free, comprehensive health check-up. In total, 343 people from Shepparton and Mooroopna attended a clinic. Of these, 45% were male and the average age was 57 years, although ages ranged from 18 to 88 years.

## Social Participation

As indicated earlier, 1,344 adults answered a series of questions at their residence. Over half, 52%, of these adults described participating in a community club, group or organisation, most commonly a sporting club (slightly less than 55% in the earlier study). Groups identified ranged from sporting clubs and fitness groups to churches and religious groups, service clubs, community house groups, dance, craft, cooking and art groups to more specialised environmental groups, health and support groups and cultural groups. Of the 656 residents who responded to this question, 317 said they participated in more than one community club, group or organisation. Some individuals participated in up to 8 groups. Of all participants, 25% said they participated in one group, a slightly smaller proportion than in the earlier study in 2001-2003, and 24% of all participants indicated being involved in more than one group, just less than 27% in the earlier study. Furthermore, of the 656 participating in groups and activities in the current study, 278 reported having a formal role in these clubs, groups or organisations. In addition, 388 respondents said they spent more than 10 hours per month involved with and volunteering for their club, group or organisation. This is 29% of all respondents which is slightly lower than 32% spending 10 hours or more 15 years earlier. This suggests the proportion of residents participating in local clubs, groups and organisations is similar or only slightly less than 15 years ago.

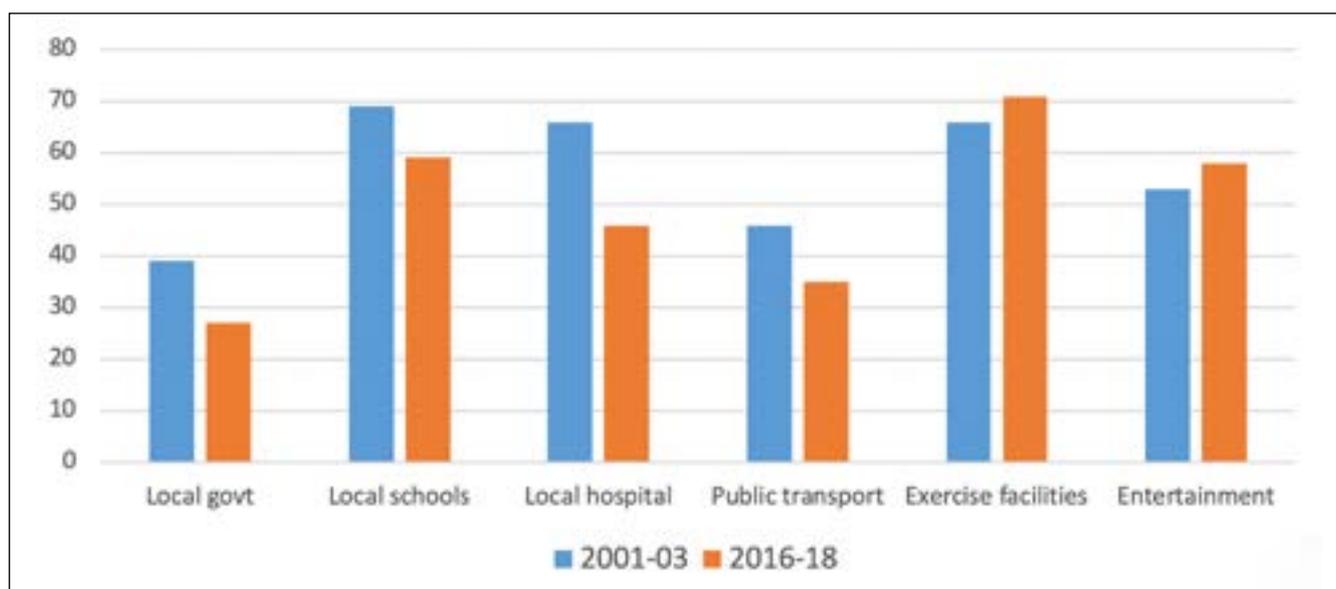
As another measure of social connection, participants were asked 'of the 10 houses closest to your home, how many have you been in? Older people were more likely to have been in more of their neighbours' homes. Respondents indicated:

- 26% had not been in any of these houses.
- 15% in one house
- 14% in two houses
- 13% in three houses
- 23% in 4-6 houses
- 9% in 7 or more households

A total of 343 adults from Shepparton and Mooroopna completed the clinic where they were asked how sorry or pleased they would be to leave the area. 71% suggested they would be 'very sorry' or 'somewhat sorry' to leave, slightly lower than the earlier study 15 years ago. A further 18% said it would make no difference while 11% indicated they would be 'pleased' or 'very pleased' to leave. In the earlier study, 74% said they would be very sorry or somewhat sorry to leave, 17% indicated it would make no difference and 9% responded they would be pleased or very pleased to leave.

Clinic participants were also asked to rate their level of satisfaction with local services (see Figure 1). Most were satisfied with the exercise facilities, schools and entertainment in the Shepparton/ Mooroopna areas. Satisfaction with local government, local hospitals and public transport rated lower and had declined over the past 15 years.

**Figure 1: Percent of clinic participants satisfied with local services**



### General Health, Happiness and Wellbeing

Compared to adults in the state of Victoria, participants in this household survey rated their health better than the state as a whole (see Table 3). In Shepparton and Mooroopna, 50% rated their health as ‘excellent or very good’ compared to 42% in Victoria. In addition, 18% rated their health as ‘fair’ or ‘poor’ in Shepparton and Mooroopna compared to 20% of Victorian adults (DHHS, 2017). The results are similar to the findings in 2001-2003 for Shepparton and Mooroopna. Those born in Australia rated their health slightly better than those not born in Australia.

**82% rate their health good or better**

As a general assessment of health, the original EQ-5D scale was employed to measure health status (van Reenen and Janssen, 2015). As part of this measure, respondents were asked to rate their ‘own health today’ on a scale of 0-100. Their ratings of their own health ranged from 0 (one person) to 100 (83 people). Half of respondents rated their health above 80 and 20% rated their health over 90. This suggests that perception of one’s own health varied among respondents.

**Table 3: Self-reported health status by Shepparton and Mooroopna participants and Victorian residents**

Rating of own health	Crossroads I 2001-2003 (%)	Crossroads II 2016-2018 (%)	Victoria (%) (DHHS, 2017)
Excellent	14	14	42
Very Good	35	36	
Good	35	32	38
Fair	13	13	20
Poor	3	5	
TOTAL	100	100	100

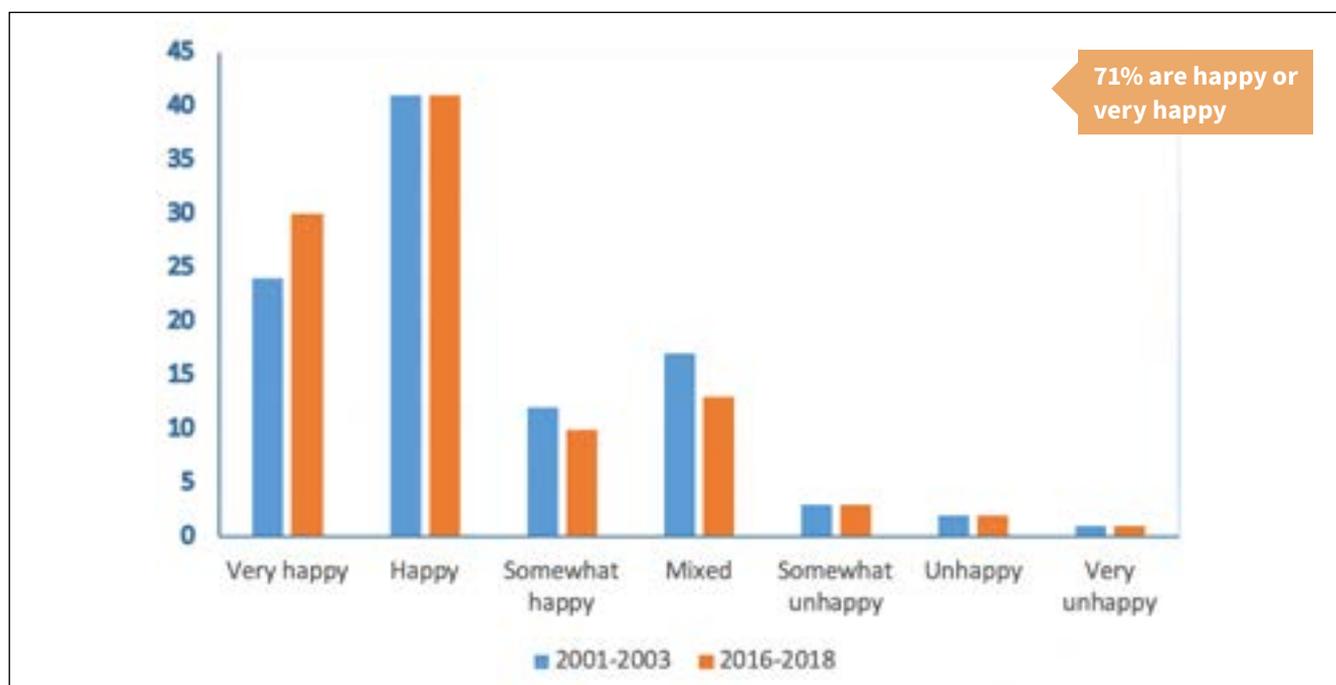
As another part of the EQ-5D, respondents were asked to rate whether five health dimensions were not a problem, a moderate problem or a severe problem (see Table 4). Few indicated problems with self-care and 81% reported 'no problems' with their usual activities. One quarter indicated that depression or anxiety and mobility were problematic and almost half reported that pain was problematic for them in daily living.

**Table 4: Self-reported health problems reported by Shepparton and Mooroopna participants**

	Not a problem	Moderate problem	Severe problem
Self-care	96	4	0
Usual activities	81	18	1
Anxiety or depression	75	20	5
Mobility	74	25	1
Pain or discomfort	54	42	4

The majority of respondents indicated they were happy or very happy (71%). A further 10% said they were 'somewhat happy,' 13% said they were 'mixed' (both happy and unhappy) and 6% indicated they were 'somewhat unhappy,' 'unhappy' or 'very unhappy' (see Figure 2). This is slightly higher than the earlier Crossroads study in 2001-2003 where 64% were happy or very happy.

**Figure 2: How happy have you been in the past month, in percent**



## Mental Health

The Kessler-10 scale is routinely used to screen for psychological distress. Among the 343 clinic participants, 68% had a score indicating low levels of psychological distress, 13% had moderate levels of distress, 14% had high levels and 5% had very high levels of psychological distress. These results are slightly higher than for Victorian residents where 17% have high or very high levels of psychological distress (DHHS, 2017) compared to 19% in this study. Another measure of mental ill-health, the PHQ9 scale, found 31% of respondents to be psychologically at risk. This is higher than found in a study of GP patients in Australia where 24% were found to be psychologically at risk (Carey et al., 2014). Together these suggest residents of Shepparton and Mooroopna experience above average levels of psychological distress.

## Obesity

Respondents were asked during the household survey to provide their height and weight. Using this self-reported information, Body Mass Index (BMI) was calculated using kg/m<sup>2</sup>. According to this self-reporting, it was found that:

- 1% were underweight (BMI less than 18.5)
- 31% were of a normal weight (BMI 18.5-24.9)
- 39% were overweight (BMI 25-29.9)
- 29% were obese (BMI 30 and over).

This is higher than the Victorian average where 30% were found to be overweight and 19% were identified as obese, and in rural Victoria where 31% were identified as overweight and 23% were classified as obese (DHHS, 2017). Further, there was no statistical association with age.

Those attending the clinic also had their height and weight measured by clinic researchers. At the clinic, higher BMIs were found. It was identified that 40% of clinic participants were overweight and 36% were obese. By gender, 86% of men had a BMI in the overweight or obese category and 71% of women were categorised as overweight or obese. The proportion of those classified as obese was higher than the 2001-2003 study (see Table 5). In the earlier study, men also had higher BMIs; 77% of men and 60% of women were identified as overweight or obese in the clinics.

**Table 5: Participants overweight and obese, in percent**

BMI Category	Clinical measures*	
	Crossroads I 2001-2003	Crossroads II 2016-2018
Overweight	42	40
Obese	26	36

\* Height and weight were measured by researchers

Waist circumference was also measured at the clinic and 79% of males were found to have a waist circumference of greater than the recommended threshold of 94cm, placing them at increased risk of chronic disease. Further, 87% of females had a waist circumference greater than the recommended 80cm. These percentages were higher than the 59% of males and 65% of females with waist circumferences over the recommended size reported by the national health survey (ABS, 2015).

## Injury

A total of 14% of survey participants reported an injury that resulted in them staying away from work or school in the past 12 months. This is slightly higher than the previous study where 11% reported an injury in the past year that resulted in time away from work or school. These injuries occurred most frequently at home (33%), at work (30%) or while engaging in sport/recreation (20%). In the earlier study, the setting where the injury occurred was different with 46% at work, 20% during sport or recreation and 19% at home, highlighting a reduction in workplace injuries.

Over half (54%) of those with injury said they had stayed away from school or work for less than five days while 14% said they had not been able to attend work or school for over a month and 10% for over two months. These findings are

similar to results 15 years earlier where 54% said they had stayed away less than five days, 13% indicated staying away more than a month and 8% for over two months. Furthermore, of those with injuries, 54% said they saw a GP while 20% reported attending the Emergency Department, 10% consulting a medical specialist and 16% said they did not consult a doctor. 16% of those with injuries reported being admitted to hospital. These rates of medical service use are higher than 15 years earlier where 39% of those injured said they went to a GP, 15% to the Emergency Department, 10% to a Medical Specialist while 14% indicated they sought no medical treatment.

## Health Checks

Respondents were asked if they had undergone key health checks in the past two years (see Table 6). Blood pressure checks were reported to have been undertaken by 88%, just higher than in the earlier Crossroads study in 2001-2003. Other checks varied and were more age relevant. Compared to the previous study 15 years earlier, cholesterol, diabetes, bowel and prostate checks were reported to have increased while the proportion of women stating they had undergone a pap smear had decreased.

**Table 6. Percent of participants reporting health screens in the past year**

Health Check	Crossroads I 2001-2003	Crossroads II 2016-2018
Blood pressure check	84	88
Cholesterol check	48	68
Test for diabetes	50	64
Pap smear (women only)	68	50
Prostate check (men only)	29	43
Skin examination	32	39
Bowel examination	16	36
Mammogram (women only)	38	33

In the current study, older residents were significantly more likely to report having had all these health checks in the past two years, except for the pap smear among women. While women were slightly more likely to indicate having a blood pressure check, men were more likely to state they had a bowel or skin examination in the previous two years. Those born in Australia were more likely to indicate they had had a skin examination, mammogram, and pap test (women only) in the past two years. Those who had completed year 12 were more likely to report having a cholesterol or bowel check in the past two years.

## Health Conditions

Respondents were also asked if they had ever suffered from any of the key conditions listed in Table 7. More information about specific health conditions is provided in the later sections of this report, specifically disability, chronic pain, heart disease and stroke, diabetes and respiratory conditions.

Older residents were more likely to report having heart problems, eye problems, hearing loss, cancer, high blood pressure, arthritis, osteoporosis, high cholesterol, and experiencing a disability. Women were more likely to report being diagnosed with osteoporosis and slightly more likely to report digestive issues, eye problems, thyroid trouble, allergies, asthma, depression and chronic pain. Men were slightly more likely to report heart and hearing problems. Those born in Australia were slightly more likely to indicate having digestive problems, kidney disease, liver disease, hearing loss, skin conditions, eye problems, high blood pressure and arthritis. Those participants who had completed Year 12 or further education were less likely to report heart, circulatory, digestive or eye problems as well as less likely to say they experienced hearing loss, cancer, disability, high blood pressure, arthritis, osteoporosis, high cholesterol, depression or chronic pain.

**Table 7. Percent of participants reporting diagnosis of specific conditions**

<b>Health Condition</b>	<b>Crossroads I 2001-2003</b>	<b>Crossroads II 2016-2018</b>
Eye problems	33	72
High blood pressure	21	34
Arthritis	17	31
Allergies	15	28
High blood fats	7	24
Depression	11	22
Chronic pain	NA	22
Hearing loss	11	20
Skin conditions	14	20
Asthma	16	19
Digestive problems	10	18
Disability	NA	18
Heart problems	8	14
Respiratory problems	5	13
Cancer	8	13
Thyroid trouble	4	9
Osteoporosis	3	9
Diabetes	5	9
Circulatory problems	4	7
Major infections	4	4
Kidney disease	4	4
Liver disease	1	3
Stroke	2	3
COPD	1	2
Epilepsy	1	1

Compared to the earlier study, the proportion of participants reporting experience of these conditions had generally increased over time (see Table 7). Major infections, kidney disease and epilepsy were the only conditions reported to have not have an increased over this time and these remained the same proportion.

In the current study, when asked about ‘other’ conditions (not in Table 7) suffered by respondents, a diverse range of conditions were mentioned. The most common were:

- Migraines (21 respondents)
- Back problems (19 respondents)
- Hip and Knee problems (15 respondents)
- Anxiety (13 respondents)

## Health Behaviours

### Diet

Respondents were asked how many serves of fruit, vegetables and dairy products they ate each day (see Table 8). When asked about diet, 11% reported eating the recommended 5 serves of vegetables or more per day. Half reported eating two serves of vegetables or less daily. This is above the state average and similar to reported consumption of vegetables in Shepparton and Mooroopna in the earlier study in 2001-2003. Older people and those who had completed Year 12 were slightly more likely to indicate eating more vegetables.

**Table 8: Consumption of Vegetables by respondents, in percent**

Number of serves	Crossroads I 2001-2003	Crossroads II 2016-2018	Victoria – rural*	All of Victoria*
Less than 1	1	4	6	7
1	21	18	57	59
2	51	29		
3		24	28	24
4	23	14		
5		7	8	7
6 or more	4	4		

\*Source: DHHS (2017)

Almost six of every 10 respondents (59%) reported eating the recommended daily intake of fruit (two or more serves) (see Table 9). This is similar to the proportion identified in the earlier Crossroads study and higher than the average in Victoria.

**Table 9: Consumption of Fruit by respondents, in percent**

Number of serves	Crossroads I 2001-2003	Crossroads II 2016-2018	Victoria – rural*	Victoria*
Less than 1	4	12	55	55
1	41	29		
2	45	38	44	43
3		14		
4	8	4		
5		2		
6 or more	2	1		

\*Source: DHHS (2017)

The recommended daily intake of dairy products, depending on gender and age, is 2.5–4 portions per day (NHMRC, 2013). The proportion of respondents stating they do not eat the recommended daily intake of dairy products was slightly higher than in Crossroads I (see Table 10).

**Table 10: Consumption of Dairy products by respondents, in percent**

Number of serves	Crossroads I 2001-2003	Crossroads II 2016-2018
Less than 1	3	12
1	33	29
2	52	36
3		15
4	10	5
5		2
6 or more	2	1

Respondents were also asked the quantity of sweetened drinks consumed the day before the survey. Two-thirds said they did not drink any sweetened drink and a further 23% indicated drinking 400ml (an average can of soft drink) or less. The remaining 12% said they drank more than 400ml of soft drink. Specifically, proportions of respondents drinking sweetened drinks were reported as:

- 65% did not consume a sweetened drink
- 9% consumed less than 200ml (eg, small juice bottle)
- 14% consumed 201-400ml (eg, can of soft drink)
- 5% consumed 401-600ml
- 3% drank 601-800ml
- 2% drank 801-1,000ml
- 2% drank more than a litre

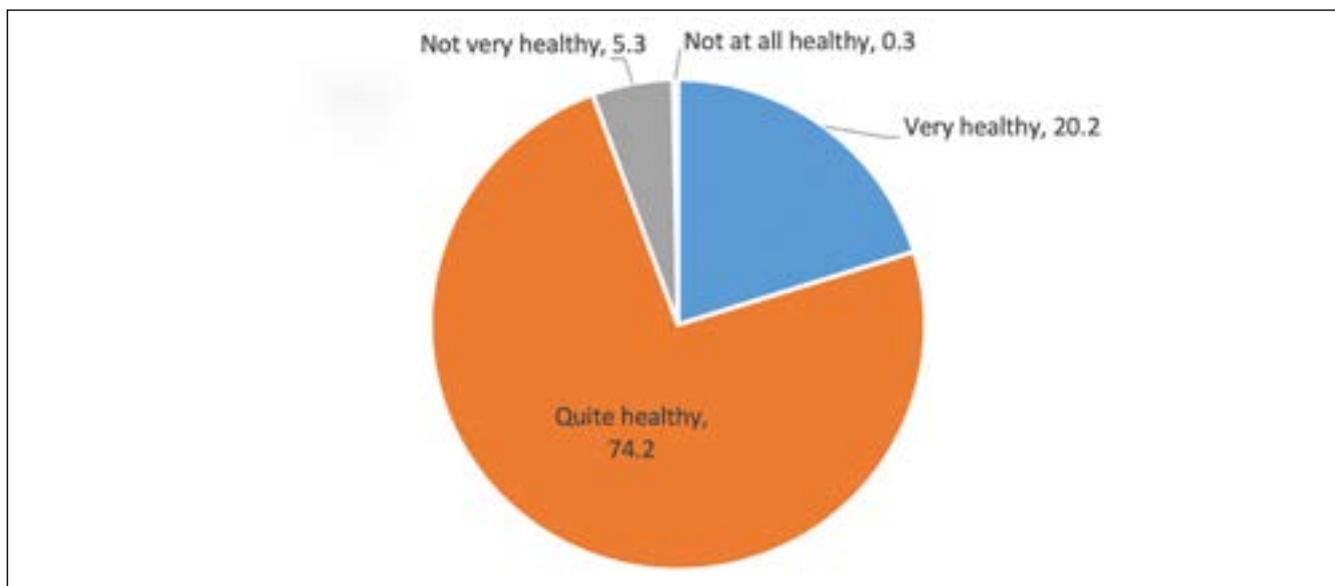
Respondents were asked how often they ate takeaway food as a main meal (see Table 11). 16% said they ate take away food several nights per week and 27% indicated eating take away food weekly. This is an increase in the reported consumption of takeaway food as a meal since the earlier study. Younger people were more likely to indicate eating takeaway meals more often.

**Table 11: Participants reporting eating takeaway food as a main meal, in percent**

How often?	Crossroads I 2001-2003	Crossroads II 2016-2018
Never	8	5
Less than once a month	30	25
2 – 3 days a month	30	27
1 day per week	31	27
2 – 3 days a week		14
4 – 6 days a week	1	2

At the clinic, participants were asked ‘How healthy is the food you eat?’ (see Figure 3). Most rated their diet as ‘quite healthy.’ In another question, most participants (97%) correctly answered that people should eat multiple serves of fruit per day while fewer participants (52%) correctly answered that people should eat multiple serves of vegetables per day.

**Figure 3: Perceptions of one’s diet by clinic participants**



### Alcohol

When participants were asked if they drink alcohol, 37% reported that they did not and 63% indicated that they drank alcohol. This is a slight reduction in self-reported alcohol consumption from the 2001-2003 study where 65% reported drinking alcohol. In the current study, participants born in Australia were more likely to report drinking alcohol.

Of those drinking, a quarter said they drank one drink or less per week, another quarter indicated they drank between two and four drinks per week, another quarter reported drinking 5-9 drinks per week while 25% said they drank 10 or more drinks per week (see Table 12). Women, those who had completed Year 12 and those born in Australia tended to indicate they drank fewer drinks each week.

**Table 12: Percent of participants reporting number of drinks consumed each week among those who consume alcohol**

How often?	Crossroads I 2001-2003	Crossroads II 2016-2018
One or less drinks per week	52	25
2-4 drinks per week		26
5-9 drinks per week	19	24
10-14 drinks per week	16	13
15-21 drinks per week	7	7
22 or more drinks per week	6	5

When asked ‘how many times in the past month you have had five or more drinks within a couple of hours?’, two thirds reported they had not while 14% said on one occasion, 10% said 2-3 times and 10% said four times or more. A total of 14 respondents reported having five or more drinks in a few hours 10 times in the past month, including eight who consumed this amount 20 or more times and 4 reporting consuming this daily.

When asked the type of alcohol, a third said beer (including 7% drinking only light beer), 46% responded wine and 17% indicated spirits. Others said they drank a combination of these drinks, cider or fortified wines. This is an increase in wine consumption from the 2001-2003 study where 39% said they drank beer (14% drinking only light beer), 34% reported wine and 24% said spirits.

A further 343 completed the screening clinic. Almost a quarter (23%) indicated that they had consumed 5 alcoholic drinks or more on a single occasion in the past month.

### Smoking

A total of 14% of the survey participants reported that they smoked. Younger people were slightly more likely to report smoking. Among the clinic participants, 11% indicated they currently smoked. The proportion of smokers in this study is lower than the state average of 19% (DHHS, 2017) and a decline since the 2001-2003 study where 22% indicated they were current smokers.

14% smoke

Of the 182 who smoked, they reported smoking between less than one and 60 cigarettes per day. Ninety-five (52%) reported smoking 10 cigarettes or less daily, 71 identified smoking 11-20 daily, 10 reported smoking 21-30 daily and 6 said they smoked 31-60 each day.

In the current study, 59% of respondents indicated they had never smoked and 27% reported being ex-smokers. In 2001-2003, 63% indicated they had never smoked and 15% were classified themselves as ex-smokers. Among survey participants in the current study, 345 reported that they had quit smoking. Some reported quitting in the past year while others reported quitting up to 70 years ago. Half had quit 20 or more years ago.

### Physical Activity

A total of 71% reported participating in physical activity compared to 61% in the 2001-2003 study. Table 13 presents the frequency of physical activity for those who were physically active. The type and length of exercise varied. Some played golf, some walked, others did yoga or pilates while others played sport, went to the gym, rode bikes, ran or engaged in cardio activities. One third reported normally exercising for 30 minutes or less (18% for less than 30 minutes and 14% for 30 minutes). Half said they normally exercised between 30 and 60 minutes (20% for 31-59 minutes and 29% for 60 minutes) and 19% reported normally exercising for more than one hour each session.

Of the 343 adults completing the screening clinic, over half (59%) were not achieving the recommended 150 minutes per week of exercise. This is similar to the percentage reported by the Australian health survey 2011-2012 (56%) (ABS, 2013a).

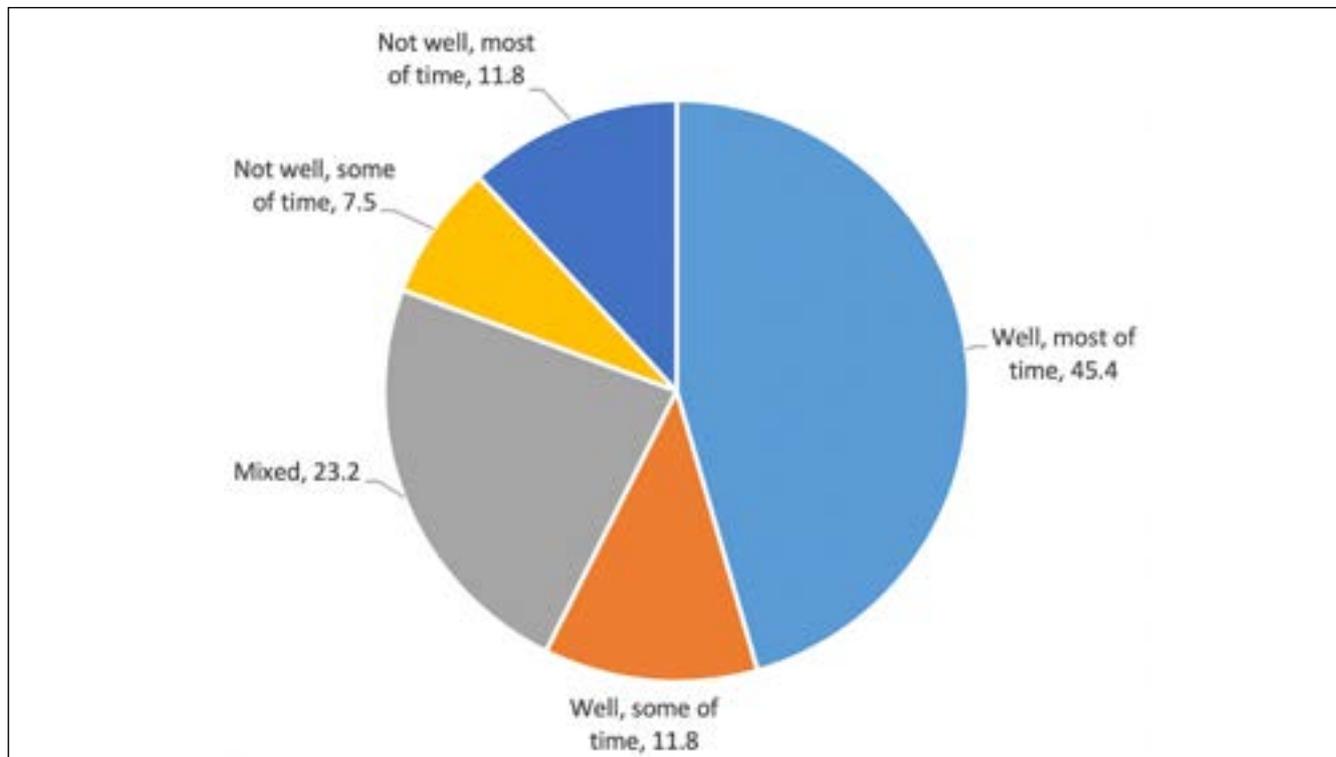
**Table 13: Frequency of physical activity per week among respondents who engaged in physical activity, in percent**

How often do you participate in physical activity?	Crossroads I 2001-2003	Crossroads II 2016-2018
Daily	23	25
5-6 days per week	4	22
3-4 days per week	48	33
1-2 days per week	25	20

## Sleep Quality

Participants at the clinic were also asked 'How would you rate your usual sleep?' Figure 4 suggests that most clinic participants (57%) described sleeping well most or some of the time while 19% reported not sleeping well at least some of the time.

**Figure 4: Ratings of sleep quality by clinic participants**



## Other behaviours

**Sun protection:** When asked about sun protection, 34% reported that they always use sun protection, 25% said they usually use sun protection, 20% said sometimes, 7% responded seldom and 10% reported never. Another 4% said they did not go out in the sun. Respondents used a range of sun protection measures, most commonly hat, sunglasses and sunscreen. This is similar to the previous study where 32% reported always using sun protection, 32% said they usually use sun protection, 21% responded sometimes, 7% said seldom and 6% reported never.

**Television Watching:** Clinic participants watched an average of 12.9 hours of television per week (range of 0 to 74 hours per week). This is similar to the average hours of television watching in 2001-2003 of 13.1 hours per week.

**Immunisations:** 94% of respondents indicated they had been immunised for childhood diseases. This is an increase from 86% in the earlier study.

**Tetanus booster:** 64% indicated they had had a tetanus booster in the past 10 years. This is the same proportion as in the previous study.

**Pneumonia vaccine:** 23% reported they had had a pneumonia vaccine in the past 5 years. This is an increase from 2001-2003 where 12% reported having had the pneumonia vaccine in the past 5 years.

**Flu vaccine:** 56% indicated they had had a flu vaccine in the past year. This is higher than in the earlier study where 32% indicated they had had a flu vaccine in the past 12 months.

## Use of Services

### GP Services

Of those surveyed, 1,249 or 93% of respondents said they had visited a GP in the past 12 months, similar to findings in the 2001-2003 study. Those under 30 years of age and women were more likely to have not seen a GP in the past year. Most or 78% of respondents said they saw a GP within three days of making an appointment; 39% indicated they saw the GP on the same day, 18% the next day, 14% on the second day and 7% on the third day after making the appointment. These findings suggest that slightly more patients see a GP within three days than in the earlier study (2001-2003).

Respondents also indicated that they see up to 10 different GPs, with half (50%) reporting that they see 1 GP, a third (32%) see 2 GPs, 13% see 3 GPs and 5% state they see 4 or more GPs. Most visited a GP in Shepparton or Mooroopna while 45 respondents (3% of all participants) indicated they had not used a GP in Shepparton/Mooroopna in the past year; these respondents had used a GP in a small town locally, a regional centre (Albury or Bendigo) or Melbourne in the past year. In all, 68% said they were bulk-billed by their GP. Respondents varied in the number of times they had visited their GP in the past year (see Table 14). Many said they went once or twice, some reported attending monthly or more and a few reported weekly or more visits. This is a general increase in reported GP utilisation since 2001-2003.

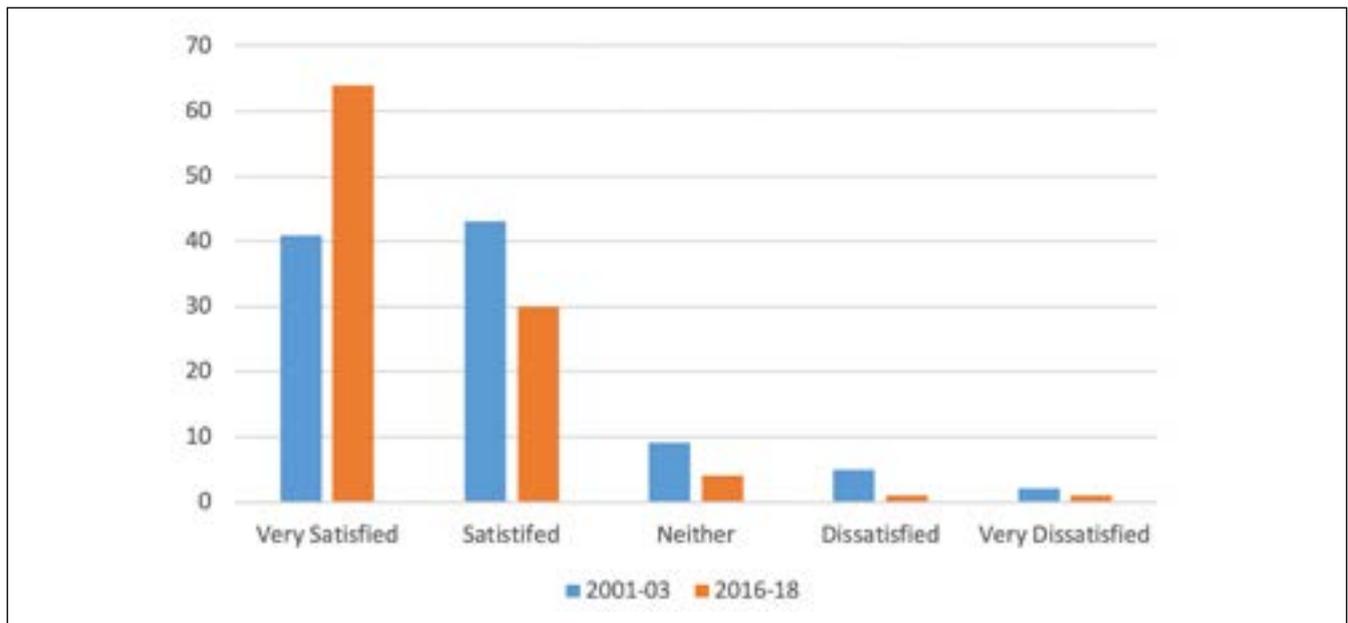
In addition, most were satisfied with their GP. The survey identified that 64% reported they were 'very satisfied', 30% were 'satisfied' and only 2% were 'dissatisfied' or 'very dissatisfied' with their GP. These levels of satisfaction are higher than in the earlier Crossroads study where 41% indicated they were 'very satisfied,' 43% were 'satisfied' and 7% were 'dissatisfied' or 'very dissatisfied' (see Figure 5).

**Table 14: Number of time participants visited a GP in the past year, in percent**

Visits to GP in past 12 months...	Crossroads I 2001-2003	Crossroads II 2016-2018
Once	20	11
Twice	21	19
3 times	14	15
4 times	14	14
5 times	5	8
6 times	8	9
7-10 times	6	8
11-12 times	7	9
13 or more times	5	7



**Figure 5: Satisfaction with GP in percent, 2001-3 and 2016-8**



When participants were asked about confidence in their GP’s ability:

- 49% responded ‘excellent’
- 35% said ‘very good’
- 12% reported ‘good’
- 3% indicated ‘fair’
- 1% responded ‘poor’

**96% rated confidence in their GP as good or better**

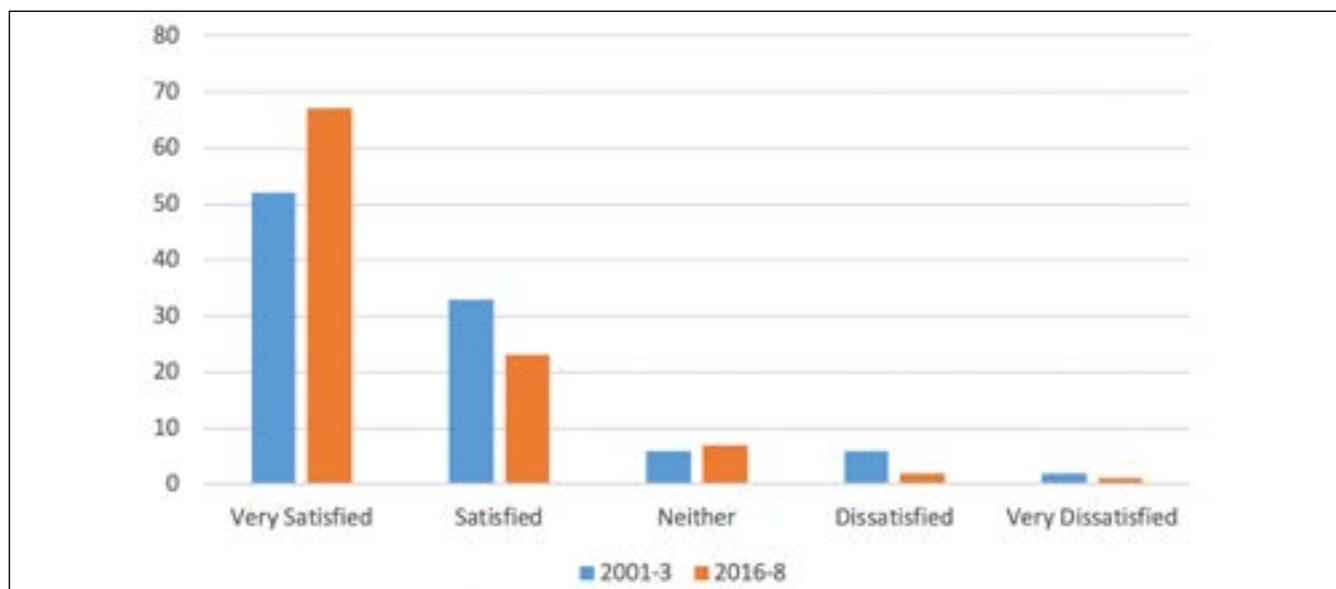
**Medical Specialists**

Of those surveyed, 587 or 44% responded they had visited a Medical Specialist in the past year and 188 respondents had seen more than one Medical Specialist. They were more likely older participants. This is an increase from Crossroads I where 28% had visited a medical specialist in the past year. In the current study, the type of medical specialists varied and respondents indicated they were seen locally as well as in Melbourne, Albury, Bendigo, Benalla, Echuca, Wangaratta and other centres. In the previous study, most consulted specialists in Shepparton or in Melbourne.

In the current study, most participants (63%) said they had seen a medical specialist once or twice in the past year with an additional 15% indicating they see a specialist 3 times and another 10% stating they see a specialist 4 times a year. The remaining 12% said they had seen a medical specialist between five and 60 times in the past year. This is similar to the study 15 years earlier where 67% of responded seeing a medical specialist 1-2 times in the past year, 12% seeing a specialist 3 times, 10 seeing a specialist four times and 11% seeing a specialist 5-49 times in the past 12 months.

Respondents indicated that waiting times to see the medical specialist ranged from seeing them the same day to waiting a year or more. Half said they saw the medical specialist within 20 days of making an appointment and 88% indicated they saw the specialist within three months. 90% were 'very satisfied' (67%) or 'satisfied' (23%) with the medical specialist while 3% were 'dissatisfied' or 'very dissatisfied'. This is higher than the earlier study where 52% were 'very satisfied', 33% were satisfied and 10% were 'dissatisfied' or 'very dissatisfied' (see Figure 6).

**Figure 6: Satisfaction with medical specialists, in percent (2001-3 and 2016-8)**



## Hospital

Respondents indicated that 202, or 16%, had been hospitalised in the past 12 months, most only once. Three quarters said they stayed six nights or less. Most, 73%, were reported being hospitalised in Shepparton and a further 19% said they were hospitalised in Melbourne. Respondents who were hospitalised were asked if they were satisfied with the medical care, nursing care and their overall satisfaction; most were 'satisfied' or 'very satisfied' (see Table 15). Satisfaction with nursing care and overall satisfaction have increased since Crossroads I.

**Table 15: Satisfaction with hospital care by those hospitalised in past year, in percent**

Type of care	Very dissatisfied or dissatisfied		Neither dissatisfied or satisfied		Very satisfied or satisfied	
	2001-3	2016-8	2001-3	2016-8	2001-3	2016-8
Medical Care	8	7	4	5	88	88
Nursing Care	7	3	4	2	89	95
Overall Satisfaction	6	4	7	4	87	92

When asked in an open-ended question about concerns with in-patient care, half had no concerns, 10% said they 'didn't know' or had not used the hospital and a further 7% made positive comments. Issues were raised about quality of care (54 respondents), a lack of empathy (28 respondents), inexperienced health professionals (24 respondents) and lack of staff (24 respondents).

**Emergency Department:** Overall, 220 participants or 17% reported using an Emergency Department (ED) in the past 12 months. All but 10 said they had used the ED at Goulburn Valley Health in Shepparton. Most responded using the ED once. Half said they were provided with follow-up information at the end of their visit to ED. When asked how long they spent in ED (see Table 16), most said they spent 3 or more hours and half indicated they waited less than an hour to see a doctor. Waiting times to see a doctor increased slightly since the previous study in 2001-2003.

**Table 16: Reported hours waited in the Emergency Department, in percent**

Time	Total time in ED		Waited in ED to see Doctor	
	2001-2003	2016-2018	2001-2003	2016-2018
less than one hour	12	5	56	49
1-3 hours	31	19	29	22
3-6 hours	35	30	13	16
6 or more hours	22	46	2	13

When asked in an open ended question to identify concerns about participants' experience with ED, 19% had no concerns, another 7% cited positive comments about the local ED, and 7% said they did not know or had not used ED. Concerns mentioned most frequently included:

- waiting to get seen (451 respondents)
- poor patient care (111 respondents)
- negative stories heard from others, eg. 'heard you shouldn't go there' (78 respondents)
- lack of staff (57 respondents)
- too many using ED as a GP clinic (31 respondents)
- discharge concerns, including discharging too early (24 respondents)

**Outpatient Clinics:** A total of 223 or 17% reported using outpatient clinics in the past 12 months. This is higher than 11% found in the 2001-2003 study. In the current study, 133 respondents said they had used the outpatient clinics more than once in the past year, including 41 respondents who reported using it twice, 21 using it three times, 24 using it four times, 18 using it five or six times and 29 respondents who said they used outpatient clinics seven or more times. When asked about satisfaction with their visit/s, of those who had used outpatients, 51% were 'very satisfied' and 32% were 'satisfied' while 8% were 'dissatisfied' or 'very dissatisfied'. In the earlier study, of those using the outpatient clinic, 31% were 'very satisfied' and 37% were 'satisfied' while 20% were 'dissatisfied' or 'very dissatisfied'. Therefore, satisfaction with outpatient clinics has increased in the past 15 years.

**Day Surgery:** Of the Shepparton and Mooropna respondents, 233 (17%) reported experiencing a day surgical procedure in the past year. These respondents were more likely to be older, born in Australia and to not have completed Year 12. The proportion using day surgery is higher than 9% identified in the 2001-2003 study. Like the earlier study, the majority of these day surgeries were undertaken in Shepparton, with 52 individuals reporting going to Melbourne, Numurkah, Kyabram, Benalla, Wangaratta, Albury, Bendigo or elsewhere for their day procedure. In the previous study, most had day surgery in Shepparton or otherwise Melbourne and a few in Kyabram.

Of those using day surgery, 73% of participants in the current study indicated having one surgery. A further 17% said they had two day surgical procedures, 6% said they had three procedures and another 4% participants reported having more than three day surgical procedures. This is higher than the earlier study where, of those having a day surgical procedure, 83% indicated one in the past year, 10% responded two, 3% said 3 and 2% identified more than three procedures. In terms of waiting times, in the current study nearly all of the 233 indicated they had waited two months or less. Furthermore, 91% reported they were 'very satisfied' (67%) or 'satisfied' (24%) while 5% were 'dissatisfied' or 'very dissatisfied' with their day procedure/s. These findings suggest satisfaction with day surgery has improved from 2001-2003 where 80% reported being satisfied and 12% indicated they were dissatisfied.

## Ambulance

90 respondents (7% of all survey participants) indicated they had used an ambulance in the previous 12 months, more often older participants. 81 of these 90 respondents said they had used an ambulance in Shepparton or Mooroopna. 60 responded using an ambulance once while 10 indicated using an ambulance twice, 10 three times and 8 respondents said they had used an ambulance four times or more. Reported waiting times ranged from a few minutes to four hours with 76 respondents indicating the ambulance arrived within one hour and seven others were unsure how long the ambulance took to arrive. Of those using an ambulance, 91% were 'very satisfied' (69%) or 'satisfied' (22%) while 1% were 'dissatisfied' and 6% were 'very dissatisfied'. In the earlier study, 5% of respondents indicated using an ambulance in the past year of which 90% were satisfied and 4% were dissatisfied.

## Pharmacist for Advice

In all, 389 respondents (29%) said they had sought out a pharmacist for advice in the past year. Two thirds of the 389 indicated using a Pharmacist for advice once or twice while others sought advice monthly and for a few fortnightly or weekly. In the 2001-2003 study, 16% reported seeking advice from a pharmacist in the past year. Among these, 31% had sought advice once, 25% twice, 17% 3-4 times and 22% more than four times.

## Dentist

Half of respondents indicated they had been to the dentist in the past year and 69% within the past two years. Table 17 presents more detail about the length of time since the most recent use of dental services. Compared to the earlier study, more respondents indicated they had consulted a dentist in the past two years.

**Table 17: Frequency of how long since last dentist visit, in percent**

How long since dental visit...	Crossroads I 2001-2003	Crossroads II 2016-20018
within 3 months	17	19
4-6 months	14	13
7-12 months	15	18
1-2 years	18	19
more than 2 years ago	35	28
Never	1	3

In 2016-2018, many indicated that they visit or consult a dentist when needed, however reasons given for not visiting a dentist included, in order of most common reasons: no need, cost, have dentures, fear, apathy and time. Travel, availability, quality of the dentist and choice were not identified by many respondents as reasons not to visit the dentist.

## Registered Nurse

168 respondents (13%) reported seeing a registered nurse in the past year. Compared to the earlier study, this is higher than the 3% reporting seeing an RN in the past year in 2001-2003.

## Optometrist

632 respondents or 47% reported visiting an optometrist in the year prior to the survey. Of these, 80% said they had visited the optometrist once in the past year and another 14% had visited the optometrist twice. They were more likely to be older and female participants. The 2001-2003 study found that 22% had visited an optometrist in the past year.

## Movement/muscle therapies

**Physiotherapist:** Of those surveyed, 17% reported using a physiotherapist in the past year. This is higher than in 2001-2003 where 9% indicated they used a physiotherapist in the previous 12 months. While 229 respondents reported visiting a physiotherapist in the current study, the number of times varied (see Table 18). They were more likely to have higher BMIs.

**Table 18: Among physiotherapy users, number of visits in the past year, in percent**

Of those using a Physiotherapist, number of visits in past 12 months...	Crossroads I 2001-2003	Crossroads II 2016-20018
Once	22	17
Twice	16	21
3 times	15	13
4 times	10	11
5 times	6	11
6 times	6	9
7-11 times	9	8
12 or more times	16	10

**Exercise Physiologist:** Of the survey respondents, 28 (2%) reported consulting an exercise physiologist in the past 12 months. Of the 28 respondents who had used an exercise physiologist, the number of times varied from once to weekly (52 times) with three-quarters visiting the exercise physiologist up to seven times.

**Osteopath:** A total of 101 (8%) said they had visited an osteopath in the past year. Of the 101 using an Osteopath, 19 said they had used the service once, 24 said they had used it twice, 23 had used it three or four times and 35 reported using the service between five and 26 times in the past year. They were more likely to be women, born in Australia and have completed Year 12.

### Speech Therapist

Eight respondents (0.6%) said they had visited the speech therapist in the year prior to the survey. Of these nine, five responded they had visited the speech therapist once and the other four said they used the service 2 or 3 times. In the 2001-2003 study, 0.2% indicated they had visited a speech therapist in the previous year.

### Audiologist

A total of 206 respondents (15%) said they had visited an audiologist in the prior year, more often older participants. Most, 162 of these respondents, indicated using the audiologist once and another 30 said they had visited the audiologist two or three times in the past year. In the 2001-2003 study, 3% reported visiting an audiologist in the previous year, usually one time.

### Podiatrist

127 participants (9%) reported that they visited the podiatrist in the previous year. They were more likely to be older participants.

### Aboriginal Health Services

13 respondents or 1% responded that they had used Aboriginal Health Services in the previous 12 months. In the previous study, 0.6% were found to have used an Aboriginal Health Service in the last year.

### Mental Health and Wellbeing Services

Mental health services were reported to be used by 161 respondents. 89 or 7% of all respondents said they had seen a psychologist and 38 or 3% reported seeing a psychiatrist. Furthermore, 48 or 4% reported seeing a social worker and

22 or 2% said they had seen a welfare officer in the past year, which could be for mental health, wellbeing or welfare issues. In addition, 37 or 3% reported they had seen *another mental health professional*, mostly a counsellor at one of the local agencies (including headspace, The Bridge, Family Care, CASA, GV Area Mental Health, Primary Care Connect or while in hospital). These participants were more likely women, younger and had completed year 12. Satisfaction with these *other mental health services* was lower than for psychologists and psychiatrists, with 73% 'very satisfied' (62%) or 'satisfied' (11%) while 14% were 'dissatisfied' or 'very dissatisfied'.

In the 2001-2003 study, 3% were found to have seen a psychologist or psychiatrist (10% in the current study). In the earlier study, most (79%) had used these services in Shepparton and some (17%) had travelled to Melbourne. Half had used these services four or more times in the past year.

**Psychologist:** 89 (7%) respondents indicated they had used a psychologist between one and 52 times (weekly) in the past year. Half of these respondents said they had seen a psychologist three or fewer times while 14 reported seeing a psychologist 12 or more times (at least monthly). 78 suggested they waited a month or less for their first appointment while 11 indicated waiting between 42 and 120 days for their first appointment. All but 14 said they saw a psychologist in Shepparton or Mooroopna with seven seeing a psychologist in Melbourne. Most (90%) were either 'very satisfied' (55%) or 'satisfied' (35%) with the psychologist while 8% were 'neither satisfied or dissatisfied' and 2% were 'dissatisfied'. Those seeing a psychologist were more likely to be women and younger people.

**Psychiatrist:** A total of 38 (3%) respondents said they had visited a psychiatrist in the past year, of which 28 reported seeing a psychiatrist in Shepparton and nine indicating using a psychiatrist in Melbourne. 32 of the 38 said they obtained an appointment within a month. 26 respondents were 'very satisfied' (16 respondents) or 'satisfied' (10 respondents) while 3 were 'dissatisfied' and 4 were 'very dissatisfied'.

**Social Worker:** Of the 48 (4%) respondents who said they had seen a social worker, 17 responded seeing the social worker once, 15 seeing them 2-4 times, 8 seeing them 5-11 times and 8 saying they had seen the social worker 12 or more times (at least monthly). While 4% indicated they had seen a social worker in the 2016-2018 study, 2% identified seeing a social worker in the 2001-2003 study, usually once or twice.

## Alternative Health

**Acupuncture:** Of all respondents, 61 or 5% said they had used an acupuncturist in the previous year. 22 respondents reported using an acupuncturist once or twice, 15 reported using the service between three and five times, 17 reported using an acupuncturist six to 10 times, and seven reported using it 12 or more times (monthly). In the 2001-2003 study, the same proportion, 5%, indicated they had seen an acupuncturist in the past year.

**Chiropractor:** Of those surveyed, 199 respondents (15%) said they had visited a chiropractor in the past 12 months. Those using a chiropractor were more likely to have been born in Australia.

The number of visits ranged from once to 26 times (fortnightly), with respondents reporting the following use of a Chiropractor:

- 56 respondents using a Chiropractor once
- 38 using a Chiropractor twice
- 21 using a Chiropractor three times
- 17 using a Chiropractor four times
- 29 using a Chiropractor five or six times
- 21 using a Chiropractor seven to 11 times
- 17 using a Chiropractor 12 or more times

**Naturopath:** A total of 61 or 5% of respondents stated they had visited a naturopath in the previous year. Two thirds indicated that they used the naturopath once or twice.

**Massage Therapy:** 60 (5%) participants reported having a health-related massage or using massage therapy in the past 12 months.

**Myotherapy:** 49 respondents indicated they had used myotherapy in the past year.

## Access to Services

Most respondents (93%) reported having access to a car daily while 7% indicated they do not have access to a car for their use. These proportions were the same as the 2001-2003 study. Most respondents, 92%, also indicated that they would have someone to take care of them at home now and then if needed while 8% indicated they did not. Again, proportions were similar in the earlier study, 91% and 9% respectively. Finally, 85% reported in the current study that they would have someone to take care of them for a short period if they were sick or disabled for a few weeks or months, while 15% indicated they did not have this support. In the 2001-2003 study, 88% reported they would have someone to take care of them while 12% indicated they did not.

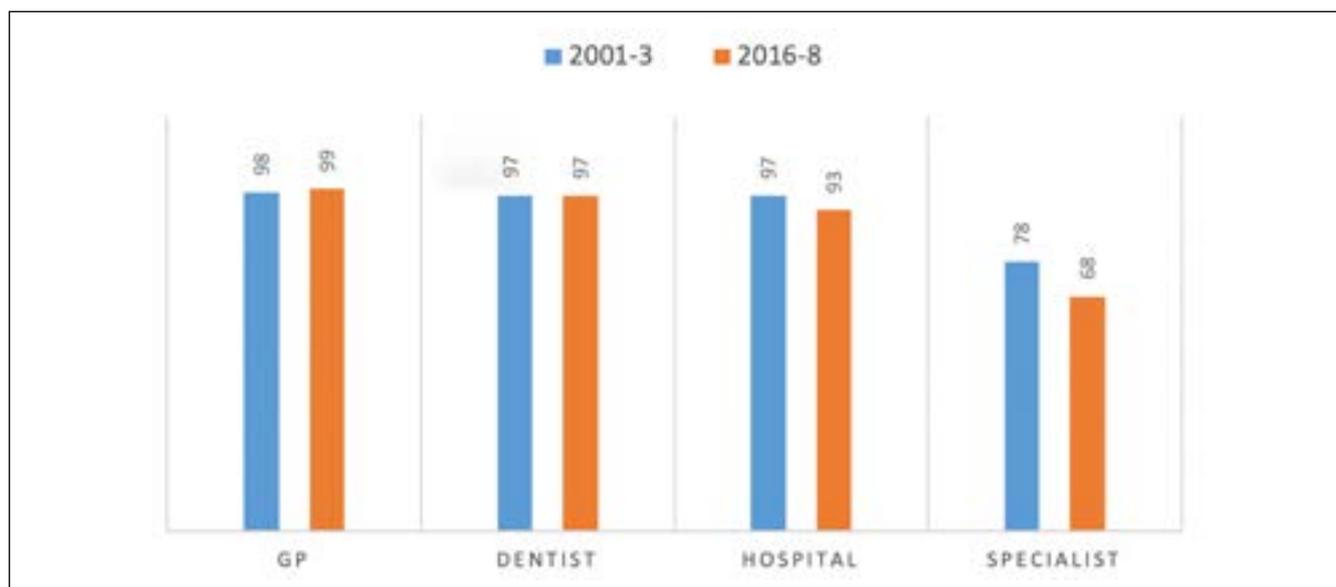
Respondents were asked how far they travelled to the GP, Dentist, hospital and medical specialist (see Table 19). Most reported using these services locally while almost a quarter travelled over 100km for a medical specialist. Respondents reported travelling this distance because the specialist was not available locally or it was their preferred provider. Within Shepparton and Mooroopna, respondents said they travelled to different areas of these towns to see their preferred GP rather than using the closest GP practice.

**Table 19: Distance respondents report travelling to health services, in percent**

Health Service	Distance to health service				
	<5km	5-10km	11-50km	50-100km	>100km
GP	76	20	3	0.5	0.5
Dentist	74	20	3	1	2
Hospital	66	26	1	1	6
Specialist	51	16	1	8	24

Compared to the earlier study, similar proportions are seeking GP and dentist services locally while a higher proportion are travelling further than 50km to access medical specialists (see Figure 7). This is related to the increased use of medical specialists reported earlier.

**Figure 7: Percent of respondents travelling less than 50km to key services in 2001-03 and 2016-18**



Respondents were also asked in an open ended question to identify concerns about access to health services in the local region. Two-thirds (66%) articulated that they had no concerns which is more than 49% indicating they had no concerns in 2001-2003. The major concerns were:

- cost (81 respondents)
- waiting times (44 respondents)
- travel (21 respondents)
- lack of specialists (20 respondents)
- access to services generally (20 respondents)
- wait for referral; too long between diagnosis and appointment with specialist (16 respondents)
- prefer non-local care (14 respondents)

Currently, cost was the most frequently mentioned issue. One respondent indicated: *“Sometimes the cost [for] certain health services. An MRI for example. Unless I get a referral from my specialist for the MRI cost will be out of my pocket.”* When asked to identify concerns about health services in general, access issues were raised again.

In the 2001-2003 study, the key access issues were found to relate to lack of staff, waiting times, quality of care and access to after-hours care. This suggests that concerns about access to health care among Shepparton and Mooroopna residents have changed.

## Children

Adults in the household were asked about their children aged under 16 years of age. 1,133 children were reported on in 2001-2003 and 385 were answered for in 2016-2018 (see Table 20). Parents and guardians reported a higher prevalence of skin conditions, asthma and disability in 2016-2018 than in the earlier study. The proportion of children with asthma, allergies and diabetes were above Victorian rates.

**Table 20: Children’s health conditions reported**

	<b>Crossroads-I 2001-2003</b>	<b>Crossroads-II 2016-2018</b>	<b>Victorian comparison (%)</b>
<b>Number of children</b>	1133	385	
<b>Males</b>	50%	55%	
<b>Average Age (years)</b>	7.9 (range 0-17)	7.4 (range 0-16)	
<b>Asthma</b>	22%	37%*	21% (ACAM 2009)
<b>Skin conditions</b>	11%	32%	NA
<b>Allergies</b>	11%	27%*	Food allergies 11% (ABS, 2013b)
<b>ADHD</b>	13%	6%*	5% (RCH 2018)
<b>Disability</b>	3%	11%*	7% (ABS, 2016)

\* refers to % of families rather than % of children

When asked about service use, most children, 91%, were reported to have seen a GP in the past year. Further, a higher proportion of children were found to have seen a specialist in the past year than in the earlier study (see Table 21). A higher proportion of children were reported to have seen a psychologist and speech therapist in the past year than in the 2001-2003 study.

**Table 21: Reported use of services for children’s health care, in percent**

Use of services for children’s health	Crossroads I 2001-2003	Crossroads II 2016-2018
GP (seen in past 12 months)	67	91*
Specialist (seen in past 12 months)	3	40*
Location of Specialist		
Shepparton	50	60
Northern-Epping	47	0
Melbourne (other)		33
Psychologist (seen in past 12 months)	2	13*
Speech therapist (seen in past 12 months)	3	16*

*\* refers to % of families with children rather than % of children*

Parents were also asked about their children’s health behaviours (Table 22). While rates of immunisation were reported to be similar in Crossroads I and II, eating takeaway food and eating less than the recommended vegetable intake were reported to increase over the 15 years.

**Table 22: Children’s health behaviours as reported by parent/guardian**

	Crossroads-I 2001-2003	Crossroads-II 2016-2018	Victorian comparison
Immunisation	97%	98%*	95% of 5 years old (Australian Government Department of Health, 2019)
Soft drink/sugar sweetened beverage consumption yesterday	NA	42%*	47% (ABS 2015)
Insufficient vegetable serves per day	81% (less than 4 serves)	92% less than 5 serves, 88% less than 4 serves*	95% (ABS 2015)
Insufficient fruit serves per day (less than 2 serves)	29%	25%*	32% (ABS 2015)
Takeaway food as a main meal (at least one meal per week)	36%	55%*	69% at least once per week (Timperio et al, 2009)

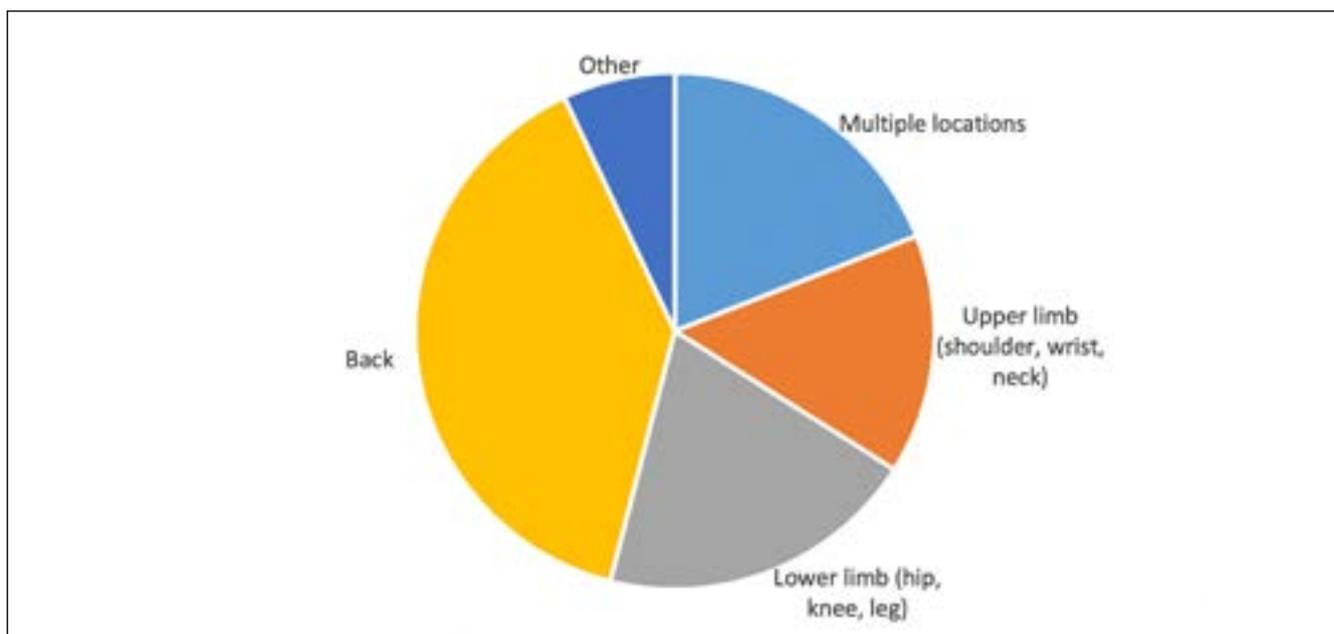
*\*of families with children rather than percent of children*

## Chronic Pain

A total of 295 respondents, or 22%, reported experiencing chronic pain. Back pain was the most common site of the pain (see Figure 8). The cause of the chronic pain was most commonly arthritis (for 30%) as well as musculoskeletal (16%), injury (13%), inflammatory (8%), nerve (7%), undiagnosed (4%) and other causes, including cancer, abdominal and surgical (22%). Of those living with chronic pain, 80% reported another health condition and almost one-quarter identified depression. In addition, three-quarters were overweight or obese. The average length of the chronic pain was identified as seven years although one-fifth said they had experienced chronic pain for more than 10 years. Of the 295, two-thirds were women and one-third indicated having private health insurance. Women and those not completing Year 12 were statistically more likely to experience chronic pain. Chronic pain was not asked about in the earlier study.

22% reported chronic pain

Figure 8: Locations of chronic pain



Just over half of the participants reporting chronic pain, 55%, indicated they use prescription medication and many said they were using more than four prescription medications daily. It was also found that 56% of those experiencing chronic pain identified using 'over the counter' medications, including panadol-osteo, paracetamol, codeine and NSAIDs.

Only 5% of those with chronic pain indicated they had used a pain clinic or specialist to assist in managing their pain. Others identified a range of techniques, including physiotherapy (31%), massage (20%), exercise such as hydrotherapy, yoga or tai chi (40%), dietary or herbal remedies (39%), acupuncture or chiropractor (23%) and smaller numbers used aromatherapy, hypnotherapy, osteopathy, relaxation and procedural interventions.

When respondents suffering chronic pain were asked how their condition could be improved, four key issues were identified:

- Pain clinic and/or pain specialists
- Clearer and better diagnosis
- Reduced waiting times to GPs, specialists, allied health and complementary medicine
- Education for GPs about chronic pain

## Disability

A total of 243 respondents, 18% of all surveyed, indicated that they have a disability that restricts daily activities (see Table 23). Most reported a physical disability of some kind and 202 of the 243 indicated that they are 'restricted in everyday activities' because of their disability. Specifically, 44% of the 202 reported always being restricted, 24% said they were often restricted and 19% indicated they were sometimes restricted in their daily activities. Less, 13%, reported that they were rarely or never restricted in their daily activities by their disability condition.

18% have a disability

**Table 23: Type of Disability reported by respondents**

Types of Disability	Number of participants	% of those with disability	% of all participants
<b>Self-reporting disability</b>	<b>243</b>	<b>100</b>	<b>18.0</b>
Physical disability affecting feet and legs	130	54	9.7
Chronic or recurrent pain or discomfort	116	48	8.6
Physical disability affecting other part of body	92	38	6.9
Physical disability affecting arms and fingers	65	27	4.8
Nervous or emotional condition	37	15	2.8
Shortness of breath or difficulty breathing	35	14	2.6
Mental health condition	27	11	2.0
Total or partial loss of hearing	22	9	1.6
Total or partial loss of sight	16	7	1.2
Stroke	16	7	1.2
Blackouts, fits or loss of consciousness	13	5	1.0
Difficulty with or total loss of speech	8	3	0.6
Learning difficulties	6	3	0.4
Acquired brain injury	3	1	0.2
Intellectual disability	3	1	0.2
Brain damage	2	1	0.1
Multiple Sclerosis	2	1	0.1
Autism	2	1	0.1

When participants were asked about specific devices used to assist with their condition, the following respondents identified using these aids.

- 56 used a walking stick
- 52 wore glasses
- 39 had shower rails
- 37 used outdoor rails
- 36 used a shower chair or stool
- 33 used indoor handrails
- 29 used a wheelie walker
- 21 used hearing aids
- 17 had a toilet seat raiser
- 9 used a wheelchair, of which 4 used a manual wheelchair
- 8 had kitchen/dining aids
- 6 used a lift chair
- 4 used a commode

Fewer reported using crutches, heat packs, bed rail, toilet rail, a brace, a scooter, ramps, an assistance dog and special beds, shoes, pillows and other household items.

Just over two-thirds (68%) of the 243 people with disability reported utilising a service for their disability. These services ranged from specific disability services (used by 25 participants) to aged care, allied health services, mental health services, Aboriginal health services, carers, home help, assistance showering or dressing, meals-on-wheels, case managers, district nursing, hospital care and GPs. Most of these respondents, 74%, were satisfied with the service used for their disability while 8% were dissatisfied. Suggested improvements by these respondents included the following and some acknowledge their partners and family for providing the support that they need:

- Increased access to services, particularly medical specialists, and reduced travel to access specialist services
- Financial support
- Improved access to shops and public buildings
- Appropriate transport
- More choice of services
- Weight loss
- Less stress
- Less stigma and judgement

The demographic profile of these 243 respondents with disability was similar to the broader sample of respondents: 62% were female, ages ranged from 19 to 96 with a median of 66 years, and 40% held a health care card. Respondents with disability were less likely to have completed Year 12. Further, two-thirds (67%) were somewhat happy or happier and their rating of their own health was similar to the broader sample. Disability was not asked about in the earlier study so cannot be compared.

## Heart Disease and Stroke

A total of 206 or 15% of Shepparton and Mooroopna respondents indicated they had a heart condition or had previously had a stroke. This is higher than the proportion in 2001-2003 where 7% reported experiencing a heart condition or stroke. In this study, a heart condition or stroke included the following types of conditions:

- 104 indicated they had an irregular heart beat (atrial fibrillation)
- 72 had experienced angina (chest pain)
- 38 reported heart valve disease
- 31 had myocardial infarction
- 29 had experienced a transient ischaemic attack (TIA)
- 23 had had a stroke
- 16 reported heart failure at some time
- 9 identified having an aortic aneurysm
- 8 reported inflammatory heart disease, including endocarditis, myocarditis and pericarditis
- 7 reported cerebral bleeds
- 4 had had rheumatic fever
- 34 reported another heart condition or stroke of some kind, including previous surgery, stents, heart murmurs, fluid on the lungs and undiagnosed conditions/incidents

Of these 206 respondents, 9 reported that their heart had stopped and they required resuscitation (CPR). Further, 15 reported that they currently have a pacemaker and one indicated that they have an implantable defibrillator. These 206 respondents were also asked about tests they had received in relation to their heart condition or stroke:

- 150 reported they had had an echocardiogram
- 144 said they had undergone an exercise tolerance (stress) test
- 139 recalled having their lipids/blood fats measured
- 127 had undergone testing with a 24hr heart monitor
- 100 reported a cardiac angiogram
- 46 indicated they had had a neck artery doppler
- 26 remembered a carotid angiogram
- 24 reported an aorta/lower limb angiography
- 16 indicated they had not had any of these tests

The 206 respondents who had experienced any form of heart disease or stroke were also asked about recommended lifestyle changes following their diagnosis. Of these:

- 55 said they were given advice about their diet
- 66 were recommended exercise
- 33 were advised to quit smoking
- 42 were advised to lose weight
- 25 indicated they were not advised of any of the above lifestyle changes
- 25 were given medication only

A few talked about being referred to a specialist, being monitored and other medical interventions after their diagnosis of their heart condition or stroke.

In the past 12 months, 141 or 68% said they had been to see a health professional about their heart or stroke, mostly a cardiologist or physician. In addition, 26 reported going to outpatients. While 9 respondents indicated that they had experienced a stroke or MI in the past year, 41, or 20% of those with heart disease or stroke, reported a related hospitalisation in the past 12 months.

Overall, 91% of those with heart disease or stroke were ‘very satisfied’ (59%) or ‘satisfied’ (32%) with their care while 3% were dissatisfied. The 206 respondents were also asked if they were concerned about their heart disease or stroke and a quarter (55 respondents) indicated that they were. Some suggested that better diagnosis, referrals, local angiograms and catheter laboratories, better specialists, more specialists, more education, better follow up and more prevention would improve care while many commented that their experience “*had been positive*” and local professionals “*do a wonderful job.*”

When asked if their heart disease or stroke limits particular activities, physical activities and overall quality of life were reported to impact their life more frequently (see Table 24).

**Table 24: Activities impacted by heart disease or stroke, in percent (n=206)**

	Not at all	Limited a little	Limited a lot
Physical activities	63	23	14
Overall quality of life	76	14	10
Social activities	81	11	8
Personal care	90	8	2
Sexual activities	91	4	5

### Myocardial Infarction (MI)

Of the 31 respondents indicating they had experienced a Myocardial Infarction (MI), most (24) responded that they had experienced one while 5 respondents said they experienced two, one described experiencing 3 and one respondent indicated they had had six MIs. Half of these MIs were reported to have occurred within the previous nine years while half the MIs were reported to occur at least 10 years ago. Half were treated locally for their MI while 10 were treated in Melbourne and others in other regions of Victoria, states or countries. Of the 31 experiencing an MI, 5 said they received thrombolytic therapy and 15 participated in formal rehabilitation afterwards. Further, 20 indicated they had a full recovery and eight indicated mild impairment.

### Stroke

Of the 23 who reported experiencing a stroke, 19 identified having one stroke. Half reported experiencing the stroke within the past 7 ½ years while half reported their stroke was over 7½ years ago. Thirteen said they were treated locally while five talked about being treated in Melbourne and others said they lived elsewhere at the time of the stroke. Of the 23, three said they received thrombolytic therapy and 11 participated in formal rehabilitation after their stroke. When asked to rate their recovery, 10 reported a full recovery, five reported mild impairment, six reported moderate impairment and the remaining indicated severe impairment.

At the screening clinic of 343 randomly selected adults from Shepparton and Mooroopna, 33% of participants had cholesterol levels over the recommended 3.9–5.5mmol/L (Victor Chang Cardiac Research Unit, 2019). This is the same proportion as national findings by the Australian health survey 2011-2012 (33%) (ABS, 2013b) and a smaller proportion than in the 2001-2003 where 40% were found to have high cholesterol.

The percentage of males with systolic blood pressure 140mm/Hg+ or diastolic 90mm/Hg+ (36%) was similar to the percentage reported by the Australian Institute of Health and Welfare (2017b) of 35%. The percentage of females in this study with high blood pressure (25%) was lower than reported nationally (32%; see AIHW, 2017b). Five participants (1.5%) had previously undetected atrial fibrillation, one of the key risk factors for stroke.

## Diabetes

Of the 1,344 participants, 114 or 8.5% reported they had been diagnosed with Diabetes. This is higher than the state average of 6% (DHHS, 2017) and an increase since 2001-2003 where 5% identified as having diabetes. Of these 114 individuals, eight identified as having Type 1 diabetes, 86 identified as having Type 2 diabetes, 14 reported they had Gestational diabetes, four were unsure which type of diabetes they had and others identified being borderline. Since the 2001-2003 study, there is a greater proportion identifying as having Type 2 (56% in 2001-3 and 75% in 2016-8) than other types of diabetes.

8.5% reported diabetes

Among those indicating they have diabetes in the current study, treatments varied with 21 (18%) saying they treated with insulin, 78 (68%) with tablets, 92 (81%) by diet, 74 (65%) with exercise and 53 (46%) by weight loss. In 2001-2003, 22% said they were treated with insulin, 35% with tablets, 77% by diet, 55% with exercise and 34% by weight loss.

Respondents with diabetes ranged in age of when they were diagnosed from 3 to 77 years old. While 10% responded that they were diagnosed before turning 21 years of age, half said they were diagnosed under 50 and half when aged 50 years or older. In 2001-2003, 14% reported being diagnosed under 21, 53% under 50 years of age and 47% were diagnosed at age 50 or over.

In terms of testing blood sugar levels, 87 respondents said they monitor their blood sugar at home, 13 monitor indicated this was undertaken at a health clinic and 2 said they have a sensor while others said they do not monitor their blood sugar levels at all. When asked how many times per month their blood sugar levels are tested, responses ranged from 0 (23% of those with Diabetes), to weekly or less (25%), less than daily (17%) and at least once per day (35%). While this study identified that 48% of those with diabetes checked their blood sugar levels weekly or less, in 2001-2003, 26% checked their blood sugar levels weekly or less (16% did not check their blood sugar levels and 10% checked it weekly or less).

Most, 72% of those with diabetes, reported blood sugar levels between 4 and 10mmol/L most of the time. This is an increase from 60% in 2001-2003. 20 respondents indicated these tests were not done and four could not remember the results which is similar to the earlier study.

Respondents with diabetes also had other checks. Almost two-thirds reported having their feet checked in the past year which is higher than 41% as found in 2001-2003. Further, over a third (36%) were found not to have their feet checked in this study compared to 59% 15 years earlier. 79% reported having their eyes checked at least annually while 19% reported not having their eyes checked, and this is similar to findings 15 years earlier (78% and 22% respectively).

Of the 114 respondents with diabetes, 12 indicated that they had suffered hypoglycaemia, six of these in the past 12 months. A further three said they had experienced some blindness.

Respondents with diabetes talked about experiencing other conditions stemming from their diabetes, including:

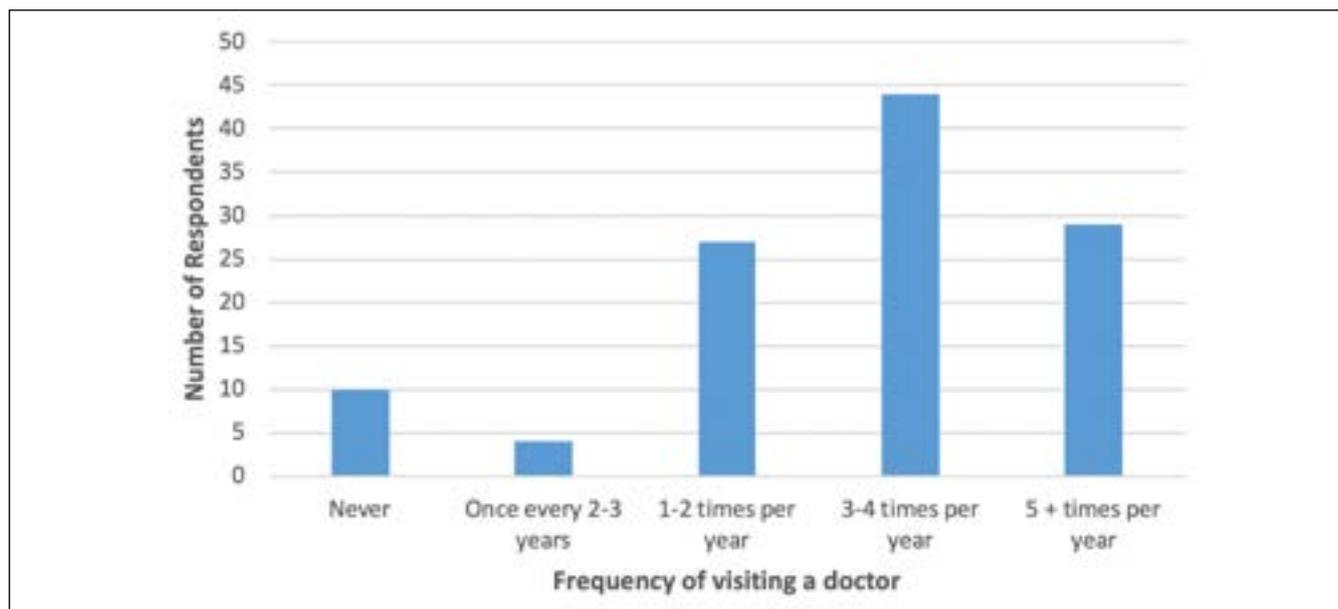
- 34 had been treated for cataracts (22 had had cataract surgery)
- 21 had had a doctor confirm poor circulation to the feet
- 19 had heart disease (11 had had heart surgery)
- 15 had nerve damage
- 9 said they had laser therapy to their eyes
- 6 had suffered kidney disease related to their diabetes
- 5 reported being treated for retinopathy
- 5 had experienced heart failure
- 5 had had a stroke
- 1 had had a foot ulcer

Of the 114 individuals with diabetes, 13 said they had been to a hospital outpatient clinics and two had been a hospital inpatient in the past year. This equates to 11% using hospital outpatient clinics and 2% had been inpatients which is lower than in 2001-2003 when 18% were found to attend hospital outpatients and 4% had been inpatients. Of those with diabetes, the following number of participants reported using these health professionals for their diabetes:

- 92 consulted a GP
- 33 used a diabetes educator
- 33 saw a podiatrist
- 18 saw a nurse
- 17 consulted an endocrinologist
- 14 saw a dietician
- 10 reported using both a GP and endocrinologist
- 4 said they did not use any health professional
- 1 used an exercise physiologist

In the 2001-2003, 57% reported consulting a GP (81% in 2016-2018), 10% seeing a dietician (12% in 2016-2018), 3% using an Endocrinologist (15% in 2016-2018) and 3% consulting an exercise physiologist (1% in 2016-2018). Respondents varied in how often they saw a doctor for their diabetes (see Figure 9), most stating they see a doctor 3-4 times each year.

**Figure 9: How many times respondents with diabetes consulted a doctor**



Of those with diabetes, 31% were concerned about their diabetes, which is less than in 2001-2003 when 47% reported being concerned. Currently, the concerns related most commonly to the condition being life threatening, impacting on key organs, long-term impacts and the challenge of managing diabetes daily. When asked if satisfied with their diabetes care, 89% were 'very satisfied' (56%) or 'satisfied' (33%). 3% of respondents with diabetes were 'dissatisfied' or 'very dissatisfied' with their care. Satisfaction rates are higher than in 2001-2003 when 85% reported being satisfied and 6% reported being dissatisfied. In the current study, improvements to care were identified in relation to better education, improved medical care and more services/support/education for children and young people.

In addition, 343 randomly selected adults attended a screening clinic where they were tested for diabetes. Oral glucose tolerance tests (OGTT) were undertaken by 308 participants. Among the participants with no known diabetes, 4 OGTT results (1%) indicated a new diagnosis of diabetes and 28 OGTT results indicated impaired glucose tolerance (9%). The rates of undiagnosed diabetes in 2001-2003 were 2% and a further 8% were found to have impaired glucose tolerance

without previous diagnosis. Among the participants with no known diabetes in the current study, there were 7 (2%) glycated haemoglobin (HbA1c, a surrogate measure of blood glucose levels over previous months) results indicative of Diabetes.

Further, participants with known diabetes (37) typically did not take the OGTT (11 participants with diabetes took the OGTT and 26 did not take the OGTT). Of the participants with known diabetes, 27% had HbA1c levels over 48mmol/L indicating sub-optimal glucose control and 73% had levels below 48mmol/L indicative of good glucose control.

## Respiratory Conditions

Respiratory issues were common among respondents (see Table 25), most frequently asthma, hay fever and bronchitis. A total of 262 or 20% of respondents indicated that they had been diagnosed with asthma or Chronic Obstructive Pulmonary Disease (COPD) by a doctor and 210 reported that they still had the condition. In 2001-2003, 5% indicated they had a respiratory condition. Most clinic participants (341 of the 343 clinic attendees) undertook a spirometry test to assess obstructive lung function at our screening clinic. Overall, 24% of participants showed some degree of lung dysfunction (FEV1/FVC <70%).

**Table 25: Number participants reporting a respiratory condition, in percent**

Condition reported	Number of Participants	Percent of respondents
Asthma	252	19
Hay fever	175	13
Bronchitis	115	9
Chronic Obstructive Pulmonary Disease	26	2
Emphysema	22	2

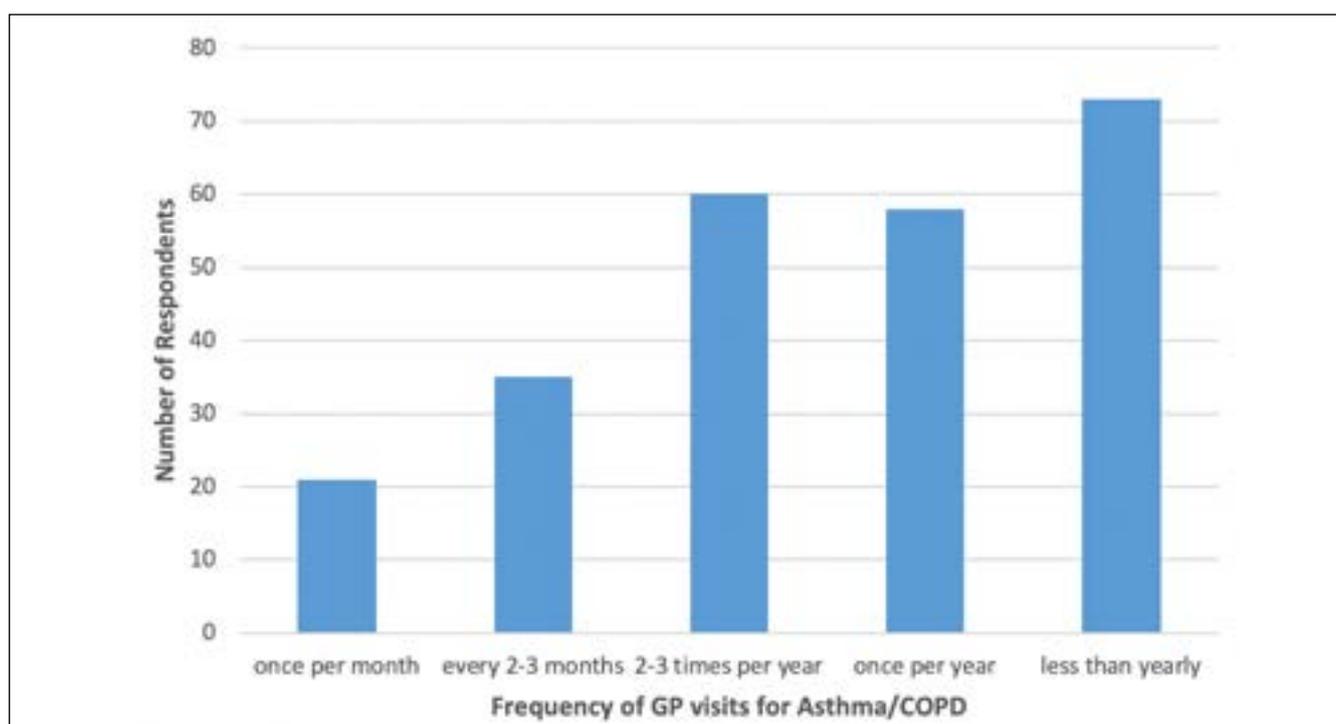
Of the survey respondents with asthma, 33 said they had had an asthma “attack” in the past three months due to exercise. Further, 135 identified that they wheeze during exercise and 129 reported that they wheeze at night. When asked if their asthma limited physical activities, half of the respondents indicated that it did not. One third said it limited them a little and 10% said it limited them a lot. One quarter indicated that their overall quality of life was limited by their asthma while fewer were limited in their social activities (12%) or personal care (8%).

Of those identifying that they had asthma/COPD, 82% reported that they did not have any sick days off work or school because of their asthma/COPD. Similarly, most of these respondents said they had not used the Emergency Department (ED) (92%) or been hospitalised (96%) in the past year because of their asthma/ COPD. Of those indicating they had used the ED, 13 had used it once, six had used it twice and three had used it three or more times. A total of 21 respondents reported that they had been admitted to intensive care at least once in their lifetime because of their asthma/COPD but for most respondents this was many years earlier.

A total of 68 respondents or 25% of those with asthma indicated that they had an action plan or written plan from a medical professional on how to manage their condition. Respondents varied in how often they saw their GP for their asthma or COPD (see Figure 10).

Most were not concerned about their asthma but 15% were concerned about their condition. These concerns mostly stemmed from asthma attacks being life threatening. When asked if they were satisfied with their care for their asthma/ COPD, 59% were ‘very satisfied’, 30% were ‘satisfied’ and 2% were ‘dissatisfied’ or ‘very dissatisfied’.

**Figure 10: How often respondents with Asthma/COPD consulted their GP**



When asked how care for asthma/COPD could be improved, responses related to:

- Environmental issues, such as pollens, trees and spraying
- Doctors providing more management plans
- More education about asthma
- Fewer smokers and less impact of second hand smoke
- Having more specialists or access to specialists locally

## Hearing

Most clinic participants (342) undertook a hearing test. Some degree of hearing impairment was detected in 43% of participants. Among participants aged 51-60 years, 34% showed some degree of hearing impairment, higher than reported in an earlier national study (29%; see Access Economics (2006)). Among participants aged 61-70 years, 41% showed hearing impairment compared with 58% nationally (Access Economics, 2006). Participants aged 71 years or older commonly showed hearing impairment (87%).

## Cognitive Impairment

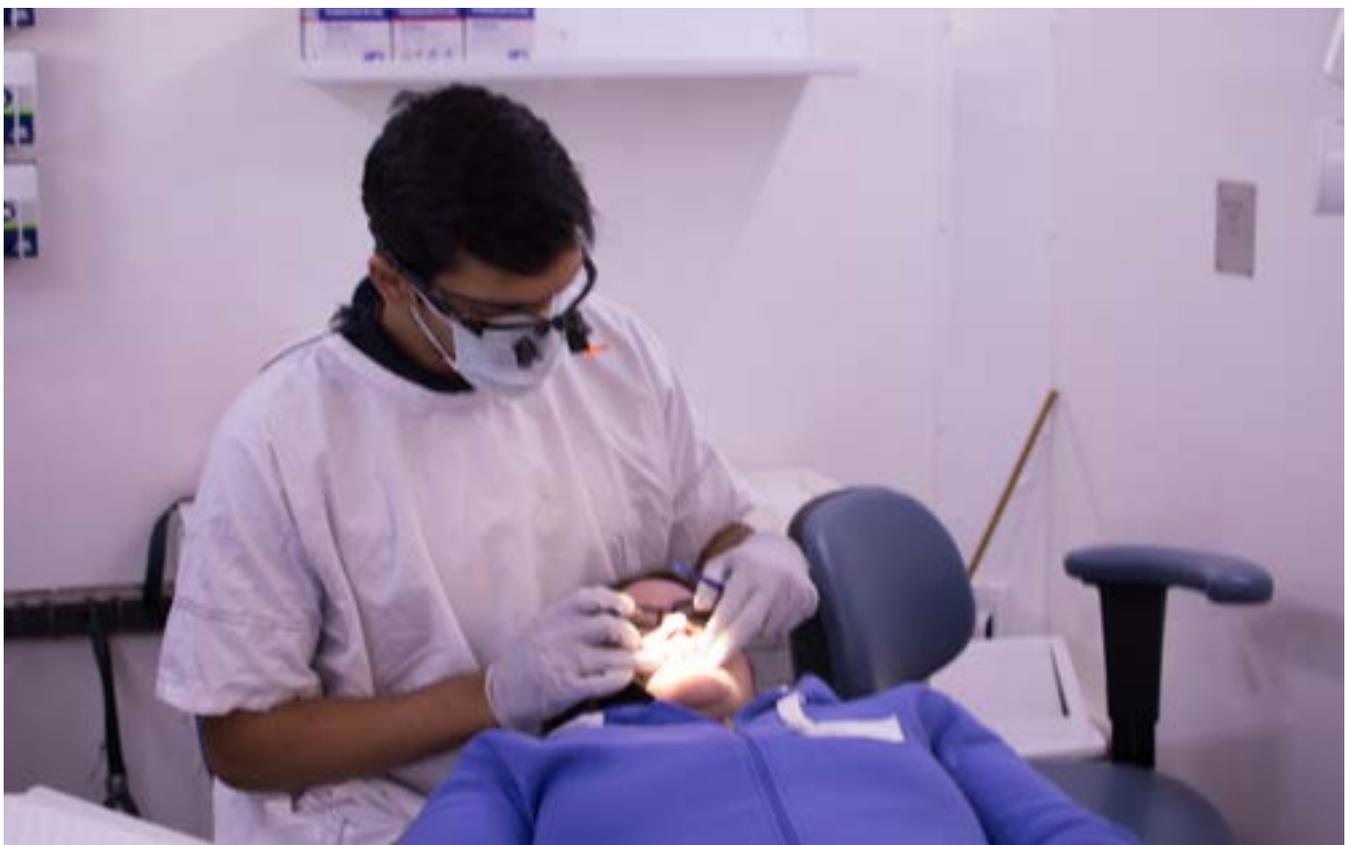
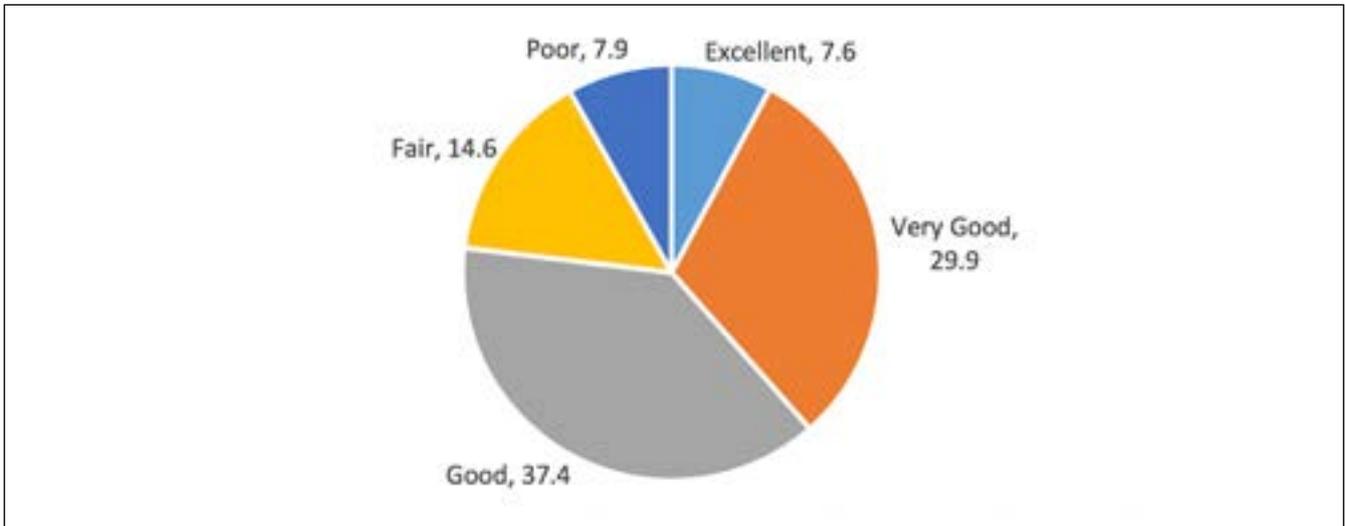
At the screening clinic, the Montreal Cognitive Assessment screening test was used to assess for mild cognitive impairment (see Zeltzer and Marvin, 2011). This test was undertaken by 340 participants (all ages). The average score was 26.7 (out of a possible 30), similar to a study of adults aged 55-90 years (average score of 26 (see Goldstein et al., 2018)). Among participants of all ages, 29% of scores were below 26, indicating some degree of cognitive impairment. Among people aged 65 and over, 46% of scores were below 26, higher than a similar study from Sweden (37% (see Borland et al., 2017)).

## Dental Health

In the household survey, 71% of adults reported having their own teeth while 11% did not and 17% had some of their teeth. In 2001-2003, 67% reported having their own teeth, 16% did not have their own teeth and 17% had some of their own teeth. As indicated earlier, half had been to the dentist in the past year and 69% had visited the dentist in the past two years (see Table 17). Among those who did not visit a dentist, barriers to using a dentist were cited as: cost, dentures, fear, apathy and time.

At the clinic, participants were asked to rate the health of their teeth and gums. Most rated their teeth and gums as good or very good (see Figure 11).

**Figure 11: Teeth and gum health reported by clinic participants**



# DISCUSSION

## WHAT DO THESE FINDINGS MEAN OVERALL?

While an older sample and more female, this study has gathered detailed information about the health of residents of Shepparton and Mooroopna. In this large, randomly selected study sample, self-rated measures of health and happiness were high. Respondents were happy with their GPs and generally happy with most service providers but wanted more medical specialists locally and were concerned about the increasing costs of health care. Rates of smoking were lower than in Victoria generally (DHHS, 2017).

Key health issues identified in the study were high rates of chronic pain and disability, particularly physical disability, among local residents. There are local services in Shepparton to support chronic pain (at Primary Care Connect) and disability management (Shepparton Access, Connect GV and others). Given these high rates, it is important that community environments and infrastructure in Shepparton and Mooroopna enable people with restricted mobility to move around to ensure their social and economic participation as well as their own wellbeing.

Other key health conditions were obesity, heart disease and high blood pressure. Findings also suggest that respondents could improve their vegetable intake, activity levels and consume fewer takeaway meals to improve health outcomes. Access issues were also identified, primarily associated with cost, waiting times and quality of care.

The results of Crossroads II highlight what local services know are the key conditions and key issues in using health services. The results provide evidence of the observations of local health services and arm local services and consumers with information to address key issues. The key findings include:

- Residents of Shepparton and Mooroopna rate their own health higher than the state average and this was found in Crossroads I in 2001-2003.
- Study participants were happier than 15 years earlier.
- Levels of community participation were reported to be similar or slightly lower than 15 years earlier.
- Self-reported rates of smoking have declined and were below the state average; this suggests efforts to promote quit smoking in the region have been successful.
- Healthy eating could be improved. Like the consumption of alcohol, self-reported eating and drinking behaviours remained similar to 15 years earlier. Further, reported physical activity had increased and rates of obesity had also increased. There are significant efforts in Shepparton by Goulburn Valley Primary Care Partnerships, Primary Care Connect, Goulburn Valley Health and Greater Shepparton City Council to encourage healthy weights and improve eating patterns and physical activity among local residents, particularly children.
- The self-reported rates of chronic and long-term conditions were higher in this study than the previous study, including the proportion of respondents with eye problems, high blood pressure, arthritis, allergies, high blood fats, depression, hearing loss, skin conditions, digestive problems, respiratory problems, heart problems, cancer, thyroid trouble, osteoporosis, diabetes and circulatory problems. Multiple services, including Goulburn Valley Health, Primary Care Connect, Goulburn Valley Primary Care Partnerships and Greater Shepparton City Council, are working to promote healthy lifestyles and prevent chronic disease.
- Self-reported rates of depression had increased and levels of psychological distress were slightly higher than the state average. While use of mental health services has increased, these results suggests there is unmet demand for services. There are efforts by Goulburn Valley Health and other services to improve access to and the quality of mental health services.
- Service providers are aware of the high prevalence of chronic pain and Primary Care Connect and GVH have clinics and projects to assist in better pain management.
- There is a significant proportion of residents reporting a disability; Shepparton Access and other services are aware of the extent of disability and provide services appropriately.

- 93% of respondents said they had visited a GP in the past 12 months and more respondents said they were able to see a GP within three days than in the Crossroads I study 15 years earlier.
- Use of medical specialists was reported to have increased over the past 15 years; Goulburn Valley Health has increased access to a range of medical specialists and this study suggests these services are used and appreciated.
- Satisfaction with GPs and medical specialists increased from the previous study.
- There is a significant proportion of residents reporting a disability; Shepparton Access and other services are aware of the extent of disability and provide services appropriately. Community infrastructure and planning for people with physical disabilities will be important in the future to ensure they have access to services and can actively participate in community life.
- The self-reported rates of chronic and long-term conditions were higher in this study than the previous study, including the proportion of respondents with eye problems, high blood pressure, arthritis, allergies, high blood fats, depression, hearing loss, skin conditions, digestive problems, respiratory problems, heart problems, cancer, thyroid trouble, osteoporosis, diabetes and circulatory problems. Multiple services, including Goulburn Valley Health, Primary Care Connect, Goulburn Valley Primary Care Partnerships and Greater Shepparton City Council, are working to promote healthy lifestyles and prevent chronic disease.



This study has some limitations in that key groups of residents in Shepparton and Mooroopna are under-represented, including Aboriginal and Torres Strait Islander people, those not speaking English and younger people. Researchers worked hard to re-visit households and seek translation but sometimes language was a barrier. This report provides the overall frequencies and percentages and further analysis will be undertaken over time on specific health conditions, behaviours and issues.

A final note is made about loneliness, as identified during data collection. There is a large proportion of residents in Shepparton and Mooroopna living alone with few social contacts. Some are fearful to go out, some struggle with physical mobility and others lack information, access, inclusion, motivation and enthusiasm to venture far from their homes. Rather, they spend a lot of time alone and were keen to chat with researchers about their health, their families and their lives. While this was not investigated in this study, attempts to engage those who do not go out and engage with others frequently by addressing their fear, mobility, access and interests would seem to be a worthwhile community initiative.

Overall, this study suggests that health care, health prevention activities and healthy lifestyles could be improved. However, many rate themselves as healthy and happy and responded positively about local health

services. Further, a range of local services are working on improving the health of the community, with a new Chronic Pain Clinic, healthy lifestyles programs in many health services and public health plans and programs working across the sector to prevent obesity, social isolation and chronic disease. Declines in rates of smoking suggest advances are being made.

## Recommendations

Given the findings, this study proposes three recommendations:

- 1. Local services are needed and should be continued.** Local services are well used and needed by the community. The decrease in undiagnosed disease in the past 15 years suggests these services are screening and diagnosing key health conditions. The number and type of health services available in Shepparton and Mooroopna has increased; further new services in areas of need have been developed, including pain services, cancer services and other medical specialists. Support, funding and continuation of these services are important to local residents.
- 2. Promote healthy living.** The increase in chronic and long-term conditions that prevent quality of life and healthy ageing call for a whole-of-community approach to promoting healthy lifestyles (see Allender et al., 2015). Promotion of physical activity, healthy diets and moderation of alcohol consumption are key to our community's health and wellbeing, both now and in the future. Expanding and integrating current strategies as well as engaging all sectors of the community in healthy living would provide a holistic approach.
- 3. Address factors limiting local residents' ability to manage their health well.** Known as *the social determinants of health* (WHO, 2019), addressing key issues in people's lives enables healthier living and improved access to health care for those who need it. This includes income, employment, education, housing, transport, social connection and social inclusion. Addressing these issues for residents with disability, chronic pain, mental ill-health and/or who are socially isolated as well as for residents who are marginalised due to low income, low English proficiency and other cultural barriers is important for overall health, wellbeing and inclusion. Like the previous recommendation, a whole-of-community approach is required that will (i) integrate current initiatives, (ii) develop improved environments for access, inclusion and participation, (iii) challenge exclusionary behaviours and language, and (iv) engage new sectors of the community so that Shepparton and Mooroopna can improve the quality of life and conditions of daily living for all local residents.



For more information about the Crossroads study please see: <http://go.unimelb.edu.au/eo6r>

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For more information about the Crossroads II study, please see  
<https://medicine.unimelb.edu.au/school-structure/rural-health>

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