COVID-19 in Western Australia

Bulletin 6: Follow-up on the impact on lifestyle and mental health

Contents

Introduction

COVID-19 resulted in a period of unprecedented changes to the daily lives of Western Australians.

The Epidemiology Branch of the Department of Health has produced a series of bulletins investigating the impact of COVID-19 on various aspects of the lives of Western Australians. These bulletins investigated changes in lifestyle, metal health, other communicable diseases and care seeking behaviour during the March-April-May 2020 period (referred to as the COVID-19 period), which was the first and most prolonged period of COVID-19 restrictions in the State to date. The previous series of bulletins can be found here:

https://ww2.health.wa.gov.au/Reports-and-publications/COVID19-in-WA-bulletins
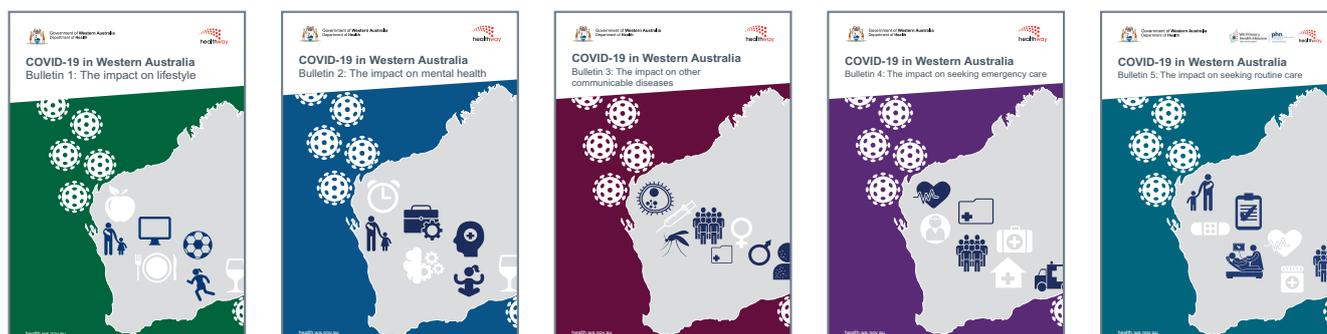
While WA was able to successfully control community spread and ease restrictions from late May, and previous bulletins showed only minor impacts on lifestyle and mental health during this time, it was unclear whether any impacts might persist or worsen in subsequent months. This bulletin is a follow-up to some of the data presented in the series and investigates aspects of lifestyle and mental health in the six months from June to November 2020, the period in which most restrictions had been eased. The aim is to investigate whether there have been any worsening aspects of health and wellbeing as a result of the COVID-19 control measures, and to identify any new issues that may have arisen as a result of the ongoing global situation.

Identifying new or worsening effects on health and wellbeing is vital to understanding and informing forward planning on possible demand for health and community services, especially if control measures need to be reintroduced.

COVID-19 control measures

For WA, the major impacts of the COVID-19 control measures, so far, have been felt during March, April and May 2020. For a timeline of COVID-19 interventions and case counts for WA, please see Bulletin 1.

Measures implemented in response to the COVID-19 emergency included stay-at-home orders, physical distancing recommendations, the closure of recreation facilities and non-essential businesses, limits on dispensing and sales of prescription and over-the-counter medicines, and purchase limits on staple food items and takeaway alcohol.

Methods

To better understand the impact of COVID-19 control measures on the WA population, the WA Department of Health used data collected from a population-level survey.

The WA Health and Wellbeing Surveillance System (HWSS) is a continuous data collection initiated in 2002 to monitor the health status of the population of WA. A sample of about 550 Western Australians is randomly selected each month for a computer-assisted telephone interview, with an average participation rate of about 90 per cent. The sample is weighted to reflect the Western Australian adult population. A major strength of the HWSS is that the random sample approach ensures good representation of the entire Western Australian population, compared with surveys that do not sample randomly and rely on alternative methods to attract participants.

The HWSS continued to collect information on its standard range of topics including lifestyle risk factors, chronic health conditions and mental health across the entirety of 2020, including during the period of the COVID-19 control measures in WA. This information could be compared over time to provide information on changes in population-level indicators of health and wellbeing.

In addition to the standard information collected by the HWSS, a series of COVID-19 specific questions were developed asking about aspects, such as health, wellbeing, lifestyle, income and employment, that had changed as a result of COVID-19. These COVID-19 questions were added to HWSS on 1 May 2020. These questions continued to be asked for the remainder of 2020 and have been used to monitor the direct impact on the COVID-19 pandemic on health and wellbeing.

For more details on the HWSS, including the questionnaire used, see: https://ww2.health.wa.gov.au/Reports-and-publications/Population-surveys.

Analysis and interpretation

For the standard HWSS lifestyle questions, this bulletin compares responses from March- April-May 2020 ('COVID-19 period') to two follow-up periods, June-July-August 2020 ('1st follow-up period') and September-October-November 2020 ('2nd follow-up period'), as well as a long-term average of responses over (all months of) the previous five years (2015-2019). The long-term average serves as a baseline with which to compare results and can provide an indication of the impact of COVID-19 restrictions on the health and wellbeing of the WA population.

	COVID-19 period	1st follow-up period	2nd follow-up period	Long-term Average
Time-period	March-April-May 2020	June-July-August 2020	September-October-November 2020	Average of 2015-2019 (all months)
Number of respondents for standard HWSS questions	1,803 adults	2,070 adults	1,530 Adults	30,883 adults
Number of respondents for COVID-19 specific questions	(May Only) 635 adults	2,070 adults	1,530 Adults	N/A

Results are based on responses from 1,803 adults within the State for the COVID-19 period, 2,070 adults for the 1st follow-up period, 1,530 adults for the 2nd follow-up period and 30,883 adults for the long-term average period. The COVID-19 specific questions are available only from May 2020 for 635 adults compared to the 1st and 2nd follow-up periods as described above. Results are for adults from 16 years unless otherwise specified.

When reviewing the results from the HWSS it is important to note that the system is designed to monitor population trends over the full year, so while estimates for shorter time periods are possible, the comparisons are only indicative of possible relationships and trends. Results from surveys are estimates of 'true' population values and will always contain some error because they are based on samples – not the entire population. For example, a survey involving a sample of 1,000 tobacco-smoking adults may generate slightly different statistical results than if every possible tobacco-smoking adult was surveyed. The level of error around an estimate can be guided by the relative standard error (RSE). The RSE is a measure of whether the survey estimate is likely to be different from the actual population result.

Estimates with RSEs less than 25% are considered an accurate reflection of the population, and reliable for most purposes. Estimates with RSEs between 25% and 50% are less accurate, meaning there is a higher chance that the survey estimate is different from the actual population result; these are indicated with an asterisk (*) throughout the bulletin and should be interpreted with caution. Estimates with RSEs greater than 50% are not very accurate and there is a high chance that the survey estimate is different from the actual population results; these are indicated with a hash (#) throughout the bulletin and are included for context only.

Confidence Intervals (CIs) were calculated for all estimates and were used to determine significant differences between comparison groups but are only presented for the long-term average (for the standard HWSS indicators); or the two follow-up periods (for the COVID-19 specific questions).

Results

General Health

Self-ratings of health are used internationally, with poor health ratings associated with lower physical functioning and increased mortality, compared with ratings of excellent or very good health (1, 2). Self-reported health status did not differ significantly during the COVID-19 period compared with either of the follow-up periods or the baseline period.

Table 1: General health

Key indicator	COVID-19 period	1st follow-up period	2nd follow-up period	Long-term Average % (95% CIs)
Self-reported health				
Excellent/Very Good	58%	58%	59%	57% (56%-58%)
Good	31%	28%	29%	30% (29%-32%)
Fair/Poor	11%	14%	12%	12% (12%-13%)

Healthy eating and diet

Diet is important for health, including maintaining a healthy body weight, and can influence the risk of various chronic diseases, such as obesity, type 2 diabetes, stroke, coronary heart disease and some cancers (3).

Key indicators of healthy eating collected in the HWSS include: the number of serves of vegetables usually eaten each day; the number of serves of fruit usually eaten each day; and the frequency of consuming fast food meals (for example burgers, pizza, chicken or chips).

There were no significant differences in any of the healthy eating indicators during the COVID-19 period compared with either of the two follow-up periods or the long-term average.

Table 2: Indicators of healthy eating

Key Indicator	COVID-19 Period	1st follow-up period	2nd follow-up period	Long-term Average N or % (95% CIs)
Daily Vegetable Serves	2.7 serves	2.5 serves	2.5 serves	2.7 serves (2.6-2.7)
Daily Fruit Serves	2.0 serves	1.4 serves	1.4 serves	1.6 serves (1.6-1.6)
Proportion eating takeaway foods once a week or more	32%	34%	40%	33% (32%-35%)

Changes in healthy eating habits in response to COVID-19

When asked in May specifically about any changes in their eating habits in response to the COVID-19 emergency, almost one third of people reported eating more than usual. Respondents did not appear to significantly alter their eating habits in the subsequent follow-up periods.

Subsequent follow-up periods showed positive minor shifts in eating habits with a slight decrease in the proportion of people eating more than usual in response to the COVID-19 emergency.

Table 3: Changes in eating habits in response to COVID-19

Key indicator	May only	1st follow-up period	2nd follow-up period
Eating			
Less than usual	4%* (1%-8%)	4%* (1%-6%)	3%* (0.5%-6%)
Same as usual	66% (53%-79%)	74% (68%-80%)	76% (70%-82%)
More than usual	30%* (16%-43%)	22% (17%-28%)	21% (16%-27%)
Cooking at home			
Less than usual	1%* (0.1%-3%)	1%* (0.1%-2%)	2%# (0%-5%)
Same as usual	71% (59%-83%)	66% (60%-72%)	65% (58%-72%)
More than usual	28%* (15%-40%)	33% (27%-39%)	33% (26%-40%)
Ordering takeaway or food deliveries			
Less than usual	29%* (14%-45%)	22% (14%-29%)	19% (13%-25%)
Same as usual	54% (39%-70%)	60% (52%-68%)	65% (56%-73%)
More than usual	16%* (4%-29%)	18% (12%-24%)	16% (9%-24%)

Respondents were also asked specifically about actions they had taken, or events they had experienced, as a result of the COVID-19 emergency, that may have impacted on their ability to access healthy foods. The proportion of people reporting that they avoided the shops because of COVID-19 was highest in May but this declined significantly over the subsequent follow-up periods. The proportion of people reporting that they were unable to buy essential supplies (for example groceries, special dietary products or hygiene products) was similar between the COVID-19 period and the 1st follow-up period but showed a slight decline in the 2nd follow-up period.

Table 4: Other impacts on health eating in response to COVID-19

Key indicator	May only	1st follow-up period	2nd follow-up period
Avoided going to the shops^	32% (22%-43%)	15% (10%-19%)	6% (3%-8%)
Unable to buy essential supplies	25% (13%-37%)	26% (20%-31%)	19% (13%-24%)

^Statistically significantly decrease across all time periods.

Physical Activity

Regular physical activity is an important part of a healthy lifestyle including reducing the risk of developing a range of chronic diseases, as well as reducing symptoms of depression and assisting with maintaining a healthy body weight (4).

Key indicators of community levels of participation in physical activity collected in the HWSS include: whether respondents completed at least 150 minutes of moderate physical activity in the last week achieving the recommendation of the Australian Physical Activity and Sedentary Behaviour Guidelines (5); average number of minutes spent in physical activity per week and; self-rated physical activity levels. There were no significant differences in any of the indicators of physical activity during the COVID-19 period compared with either of the two follow-up periods or the long-term average.

Table 5: Indicators of physical activity

Key Indicator	COVID-19 Period	1st follow-up period	2nd follow-up period	Long-term Average (95% CIs)
Proportion of adults[a] completing recommended levels of physical activity	58%	57%	62%	61% (60%-63%)
Average minutes of physical activity per week[b]	322 minutes	319 minutes	331 minutes	342 minutes (333-352)
Self-rated physical activity levels				
Active/Very Active	44%	47%	43%	50% (49%-51%)
Inactive	16%	22%	20%	15% (15%-16%)

(a) Includes adults aged 18 years and over.
(b) Refers to the mean time spent in moderate physical activity per week, where vigorous activity has been doubled.

Changes in physical activity habits in response to the COVID-19 emergency

When asked in May specifically about any changes in physical activity levels in response to the COVID-19 emergency, almost one third of people were doing less physical activity, while about half were able to maintain their usual activity levels despite restrictions. Subsequent follow-up periods showed no change in activity levels despite restrictions being eased and sport and recreation facilites being re-opened.

Table 6: Changes in physical activity in response to COVID-19

Key indicator	May only	1st follow-up period	2nd follow-up period
Physical Activity			
Less than usual	30% (19%-42%)	32% (26%-38%)	24% (18%-29%)
Same as usual	51% (39%-62%)	50% (44%-56%)	60% (53%-67%)
More than usual	19%* (7%-30%)	18% (13%-24%)	16% (10%-22%)

Sedentary Behaviour

Sedentary time can be accumulated during work (e.g. seated computer work, driving a car), and leisure-time activities (e.g. watching television, other electronic media). Increasing levels of sedentary behaviours are associated with overweight and obesity (6).

Key indicators of sedentary behaviours in the HWSS include: the average number of hours per week spent watching TV or DVDS, using a computer, smartphone, or tablet device for the internet or to play games for leisure; and the proportion of people aged 16 years and over who usually sit, stand, walk or do heavy labour for most of their (working) day.

People aged 65+ years spent significantly longer using screens for leisure during the COVID-19 period compared to the long-term average. However, there were no other significant differences in the indicators of sedentary behaviour during the COVID-19 period compared with either of the two follow-up periods or the long-term average.

**Table 7: Indicators of sedentary behaviour**

Key Indicator	COVID-19 Period	1st follow-up period	2nd follow-up period	Long-term Average (95% CIs)
Mean hours per week of leisure time TV, computer, tablet use	**19 hours**	**20 hours**	**19 hours**	**17 hours (17-18)**
Males	18 hours	21 hours	19 hours	18 hours (17-18)
Females	19 hours	18 hours	19 hours	17 hours (17-17)
16-64 years	18 hours	19 hours	18 hours	16 hours (16-17)
65+ years	24 hours^	23 hours	22 hours	22 hours (21-22)

^Result is statistically significantly different from the long-term average.

The proportion of people reporting that they spent most of their working day sitting was highest during the COVID-19 period, but this declined over the two follow-up periods, although it remained slightly above the long-term average. Similarly, the proportion who spent most of their working day walking was lowest during the COVID-19 period, but this increased over the two follow-up periods, almost returning to baseline levels.

Compared to the long-term average, slightly more people spent most of their day sitting, and slightly fewer spent most of their day walking, during the COVID-19 period. Overall there was an increase in the proportion of people who spent most of their day sitting and a decrease in the proportion standing and walking.

Figure 1: How respondents spent most of their day

Period	Sitting	Standing	Walking	Heavy Labour
COVID period 2020	52.0	18.4	18.8	10.8
1st follow-up period	50.5	18.2	18.8	12.5
2nd follow-up period	48.5	17.4	24.5	9.6
2015-2019	44.3	19.1	26.3	10.3
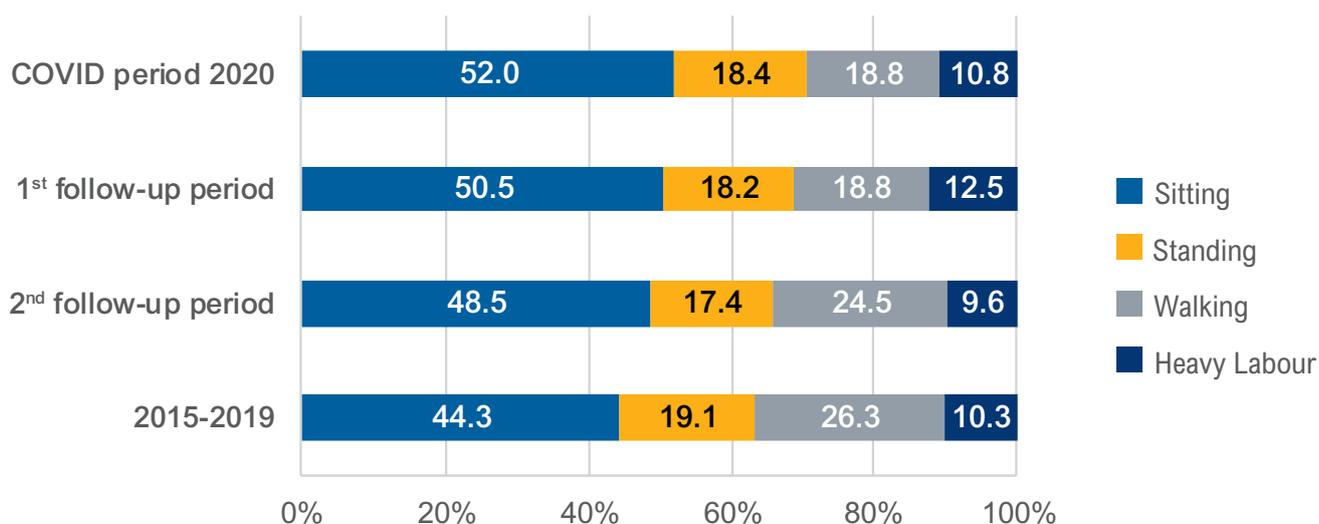
Alcohol

Excessive alcohol consumption increases the risk of some health conditions including high blood pressure, heart disease and some cancers. It also increases the risk of violence and anti-social behaviour, accidents and mental illness (7).

Key indicators of alcohol consumption collected in the HWSS include: the proportion of adults aged 16 years and over drinking alcohol at levels likely to cause short-term harm or long-term harm, based on the 2009 guidelines from the National Health and Medical Research Council (NHMRC) (8). The risk of short-term harm or injury increases when consuming more than four standard drinks on a single occasion, while the risk of long-term harm increases when consuming more than two standard drinks per day.

There were no significant differences in either of the indicators of alcohol consumption, including by age and sex, during the COVID-19 period compared with either of the two follow-up periods or the long-term average.

Table 8: Indicators of alcohol consumption

Key Indicator	COVID-19 Period	1st follow-up period	2nd follow-up period	Long-term Average % (95% CIs)
Proportion at risk of short-term alcohol harm	**8%**	**10%**	**12%**	**10% (9%-11%)**
Males	14%*	14%	18%	16% (14%-17%)
Females	2%*	7%*	7%*	4% (4%-5%)
Proportion at risk of long-term alcohol harm	**26%**	**28%**	**26%**	**26% (25%-28%)**
Males	38%	36%	31%	37% (35%-39%)
Females	14%	20%	21%	16% (15%-17%)

Changes in alcohol habits in response to the COVID-19 emergency

When asked specifically about any changes in alcohol purchasing and consumption in response to the COVID-19 emergency, more than 70 per cent of people reported their purchasing and consumption patterns remained the same as usual during May, and this was maintained across the subsequent follow-up periods. However, of concern, about one in six people reported drinking more than usual, and one in seven reported purchasing more than usual during May, and this increase was maintained across the subsequent follow-up periods.

Table 9: Changes in alcohol purchasing and consumption in response to COVID-19

Key indicator	May only	1st follow-up period	2nd follow-up period
Alcohol Consumption			
Less than usual	8%* (3%-13%)	15% (8%-21%)	12%* (6%-18%)
Same as usual	76% (64%-88%)	71% (64%-79%)	72% (64%-80%)
More than usual	16%* (5%-27%)	14% (9%-19%)	16% (9%-23%)
Alcohol Purchased			
Less than usual	9%* (3%-15%)	15% (9%-22%)	12% (6%-18%)
Same as usual	77% (65%-89%)	73% (65%-80%)	72% (64%-80%)
More than usual	14%* (3%-25%)	12% (7%-17%)	15% (9%-22%)

Mental Health

Mental health refers to the capacity to interact with people and the environment, and the ability to negotiate the social interactions and challenges of life without experiencing undue emotional or behavioural incapacity (9). Mental health problems encompass a wide range of conditions that vary in severity and duration (10).

Key indicators of population level mental health from the HWSS include: the proportion of people experiencing high or very high levels of psychological distress as measured by the Kessler Psychological Distress Scale (K10); the proportion of people often or always feeling a lack of control over life in general, over personal life, and over health; and diagnosis of a mental health condition, or use of a mental health service, in the past 12 months.

Psychological Distress

The Kessler Psychological Distress Scale (K10) is a standardised instrument consisting of 10 questions that measure psychological distress by asking about levels of anxiety and depressive symptoms experienced in the past four weeks. Each item on the K10 scale is scored from one 'none of the time' to five 'all of the time'. Scores of the 10 items are then summed, resulting in a range of possible scores from 10 to 50. These scores are categorised into low, moderate, high and very high levels of psychological distress (11, 12). Low psychological distress is regarded as not requiring any intervention, while moderate and high levels require self-help and very high levels require professional help (12).

There were no significant differences in psychological distress, including by age and sex, during the COVID-19 period compared with either of the two follow-up periods or the long-term average. There appears to be a small increase in psychological distress in females in the second follow-up period, however this finding is not statistically significant.

Table 10: Psychological distress

Key indicator	COVID-19 Period	1st follow-up period	2nd follow-up period	Long-term Average (95% CIs)
Prevalence of high or very high psychological distress	**10%**	**8%**	**11%**	**9% (8%-10%)**
Males	10%*	6%*	7%*	8% (7%-9%)
Females	10%*	11%	15%*	10% (9%-11%)
16-64 years	11%	9%	13%	10% (9%-11%)
65+ years	3%	4%	4%	4% (4%-4%)

Feelings of a lack of control

Feelings of control relate to an individual's belief as to whether outcomes are determined by external events outside their control or by their own actions (13). Feelings of a lack of control have been found to have an adverse effect on health and to increase the risk of mortality (14). Higher self-control is also related to better self-reported general health, higher emotional wellbeing, higher fruit and vegetable intake, lower consumption of alcohol and cigarettes, as well as a lower BMI (15).

The proportion of the population reporting that in the past four weeks they often or always felt a lack of control over their lives, over their personal lives and/or over their health, appeared slightly elevated during the COVID-19 period compared to the long-term average. However, levels during the 1st and 2nd follow-up period are similar to the long-term average and there were almost no statistically significant differences. The one exception is an apparent statistically significant decrease in the proportion of women feeling a lack of control over their personal life in the 2nd follow-up period compared with the long-term average however, this result is based on a small number of respondents and could possibly be due to chance or random variation over time.

Table 11: Feelings of a lack of control

Key indicator	COVID-19 Period	1st follow-up period	2nd follow-up period	Long-term Average (95% CIs)
Often or always feeling a lack of control over life in general	**7%***	**4%***	**4%***	**5% (4%-6%)**
Males	9%*	4%*	2%*	4% (3%-5%)
Females	5%*	4%*	5%*	6% (5%-7%)
16-64 years	8%*	4%*	4%*	6% (5%-6%)
65+ years	3%	3%	2%*	2% (2%-3%)
Often or always feeling a lack of control over personal life	**6%***	**3%**	**2%**	**4% (3%-4%)**
Males	7%*	2%*	3%*	4% (3%-4%)
Females	5%*	3%*	1%*^	4% (3%-5%)
16-64 years	7%*	3%*	2%*	4% (4%-5%)
65+ years	2%*	1%	2%*	2% (2%-2%)
Often or always feeling a lack of control over health	**7%**	**6%**	**6%**	**6% (5%-6%)**
Males	7%*	4%*	5%*	5% (4%-6%)
Females	6%*	8%*	7%*	6% (6%-7%)
16-64 years	7%*	6%*	6%*	6% (5%-7%)
65+ years	4%	3%	6%	5% (4%-5%)

^Result is statistically significantly different from the long-term average.

Current mental health conditions and service use

The proportion of the population reporting a current mental health condition (diagnosed by a doctor in the past 12 months), or who had used a mental health service (for example a psychiatrist, psychologist or counsellor) in the past 12 months (recent use) appeared slightly elevated during the COVID-19 period compared to the long-term average. However, levels during the 2nd follow-up period are similar to the long-term average and there were no statistically significant differences. A previously reported statistically significant increase in the proportion of men reporting a current mental health condition in Bulletin 1 was not maintained when comparing the COVID-19 period to the long-term average.

Table 12: Indicators of current mental health status

Key indicator	COVID-19 Period	1st follow-up period	2nd follow-up period	Long-term Average (95% CIs)
Current mental health condition	**21%**	**19%**	**17%**	**15% (15%-16%)**
Male	23%	18%	12%[*]	11% (10%-13%)
Female	19%	21%	22%	19% (18%-21%)
16-64 years	24%	22%	19%	17% (16%-18%)
65+ years	7%	8%	8%	10% (9%-10%)
Recent mental health service use	**15%**	**14%**	**13%**	**9% (8%-10%)**
Male	16%[*]	11%[*]	8%[*]	7% (6%-9%)
Female	14%	16%	18%[*]	11% (10%-12%)
16-64 years	17%	16%	15%	11% (10%-12%)
65+ years	3%	3%	3%	3% (2%-3%)

Changes in other aspects of mental health in response to the COVID-19 emergency

Respondents were asked specifically about how they or their family had been impacted by the COVID-19 emergency. The proportions of people reporting impacts on employment, income, feelings of isolation and worry about the outbreak appeared highest in May and declined over the subsequent follow-up periods.

Table 13: Changes in other aspects of mental health in response to COVID-19

Key indicator	May only	1st follow-up period	2nd follow-up period
Worked from home	24%* (11%-36%)	17% (12%-23%)	7%* (3%-11%)
Unable to work in existing employment	22%* (11%-34%)	16% (12%-20%)	15% (10%-20%)
Experienced a loss of income	35% (22%-47%)	26% (21%-32%)	21% (16%-26%)
Felt isolated from family and friends	44% (32%-57%)	38% (32%-44%)	26%^ (21%-31%)
Were very or fairly worried about the outbreak	44% (32%-56%)	37% (31%-43%)	33% (27%-40%)

^Statistically significantly decrease in 2nd follow up period.

Conclusions

While the COVID-19 pandemic continues to have unprecedented impacts globally, WA has so far avoided large outbreaks or community-based transmission. As a result, WA has also escaped long periods of strict control measures designed to limit the spread of the disease, and our lifestyle has been able to continue, for the most part, largely unimpeded. This may explain why population-level changes in lifestyle and mental health during the six months from March to November in 2020 were relatively minor.

This is not to say that individuals did not experience significant impacts or distress, but as a community, there is no indication from these results that we have experienced significant changes in health and wellbeing that would alter demand for health and community services in the immediate future. However, there are some results that should be of concern to public health decision-makers in the longer term.

It is concerning that up to four months after the majority of the restrictions were eased, almost one in six Western Australians continue to report drinking more alcohol, and one in five continue to report eating more, as a result of COVID-19. These changes are on top of a background where about one in eight women and one in three men already drink at levels likely to cause long term harm; and where more than two-thirds of adults are considered to be above a healthy body weight (16). Additional health promotion efforts to reduced alcohol consumption and excess body weight may be warranted.

As we await the completion of the COVID-19 vaccination program and the final easing of national and international border controls, the HWSS will continue to survey the WA community and remain alert to any changes in health and wellbeing that would be of interest or concern to public health decision makers.

Acknowledgements

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