



Government of **Western Australia**
Department of **Health**



COVID-19 in Western Australia

Bulletin 1: The impact on lifestyle



Introduction

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

Much attention and action was initially focused on responding to the direct threat of COVID-19. As the urgency of the initial containment response lessened, questions began to emerge about the broader, indirect consequences of the measures introduced to control the disease.

COVID-19 control measures in Western Australia (WA) included stay-at-home orders, physical distancing recommendations and alcohol restrictions, amongst others, which were most intense during the March-April-May 2020 period. From late May, these control measures began to be relaxed, based on health advice for WA, including the small number of active cases and no evidence of community transmission.

Despite this current success in controlling COVID-19 in WA, concerns remained about what impact the control measures may have had on lifestyle behaviours during this time. This bulletin reports on data from the Health and Wellbeing Surveillance System to describe changes in lifestyle behaviours that occurred during the period of COVID-19 restrictions in WA. The identification of any impacts on lifestyle and behaviour is vital to understanding, and responding promptly, to issues that could arise if restrictions are required to be reintroduced in the future.

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. Figure 1 shows a timeline of COVID-19 interventions and case counts for WA. On 15 March 2020 the State Hazard Plan Human Biosecurity was escalated to a Level 3 Incident and a State of Emergency was declared. March saw the greatest number of new cases in WA, peaking with 35 confirmed cases on 24 March, and the introduction of Stage 1, 2 and 3 restrictions within days of each other. The peak of active cases occurred five days later on 29 March, with 403 active cases recorded.

COVID-19 control measures during this time 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.

By 6 June 2020, with few active cases and no evidence of community transmission, most restrictions had eased. As of 1 October 2020, Phase 5 easing of restrictions, which would involve the re-opening of WA borders with other states, has not yet occurred.

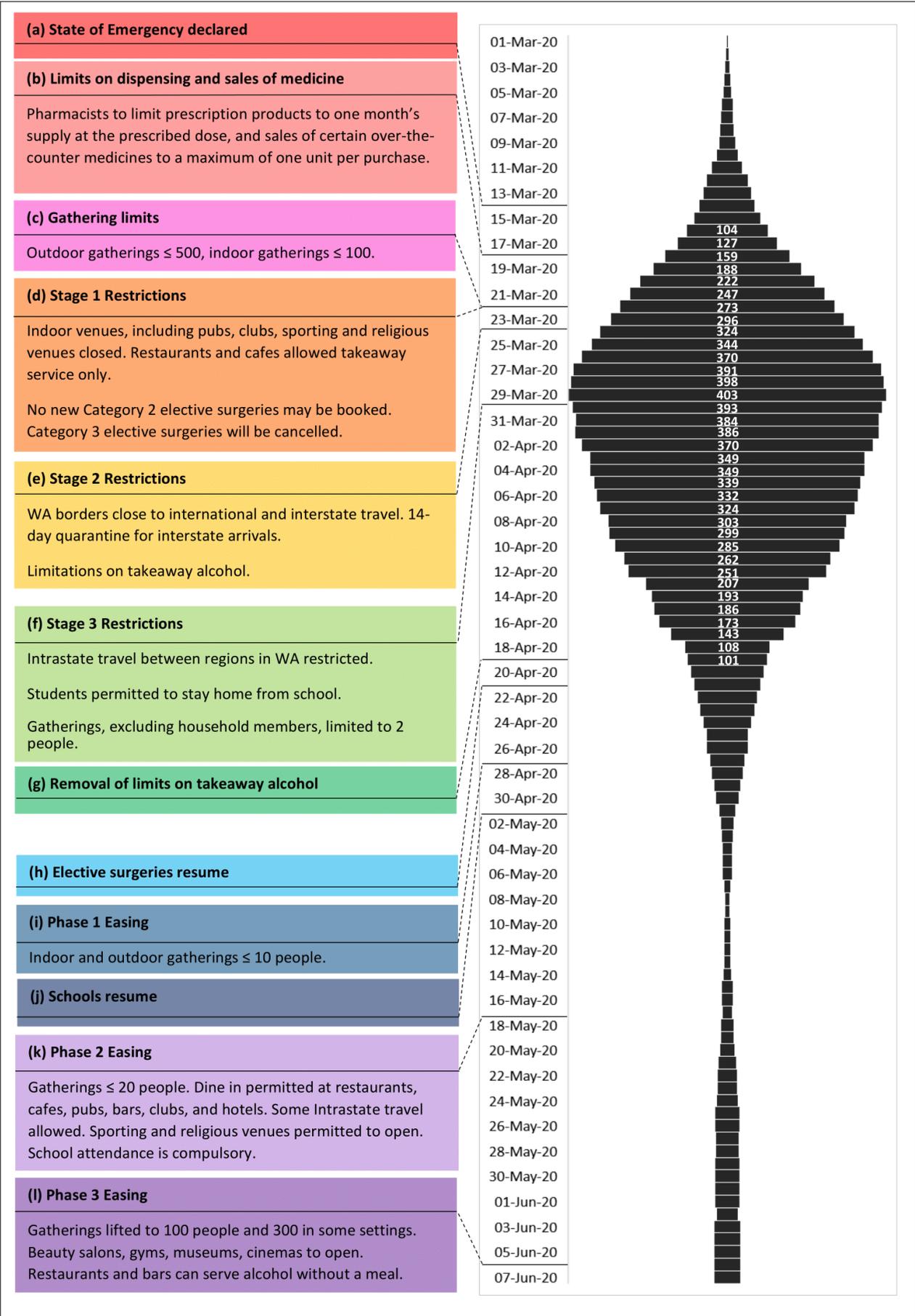


Figure 1: Interventions and active COVID-19 cases (by the optimal date of onset) in Western Australia, 2020.

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.

A series of COVID-specific questions was 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 an existing survey conducted by the Department of Health, the WA Health and Wellbeing Surveillance System (HWSS). The HWSS is a continuous data collection initiated in 2002 to monitor the health status of the population of WA. A random sample of approximately 550 Western Australians is interviewed each month via computer-assisted telephone interviews, with an average participation rate of approximately 90 per cent. The sample is weighted to reflect the Western Australian adult population.

The COVID-19 specific questions were added to the HWSS on 1 May 2020.

A major advantage of utilising 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 other methods to attract participants.

In addition, the HWSS continued to collect information on its standard range of topics including chronic health conditions and lifestyle risk factors during the period of the COVID-19 control measures in WA, which could be compared with information collected in previous years, to provide additional information on population-level indicators of 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 an average of responses for the same three-month period over the previous five years (2015-2019). These long-term averages serve as a 'baseline period' so comparisons can provide an indication of the impact of COVID-19 restrictions on the health and wellbeing of the WA population.

COVID-19 period	Baseline period
March-April-May 2020	Average of March-April-May 2015-2019

Analysis and interpretation cont.

Results are based on responses from 1,803 adults within the State for the COVID-19 period, and 8,946 adults for the baseline period. Results are for adults from 16 years unless otherwise specified.

The COVID-19 specific questions are available only from May 2020 for 635 adults.

Results presented by health status and age are included because these factors reflect more vulnerable groups.

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.

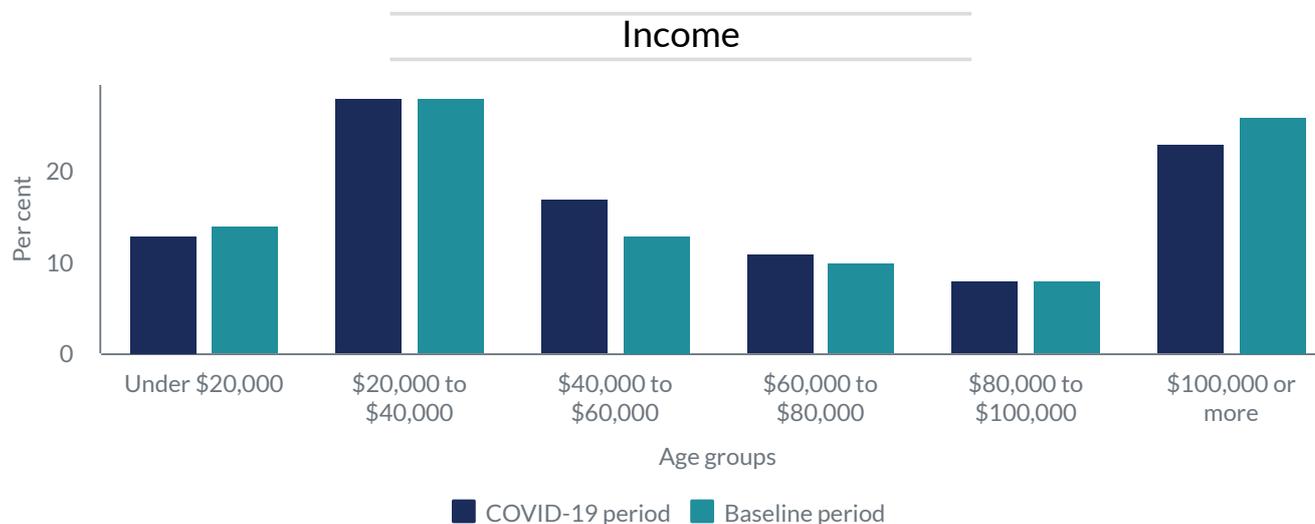
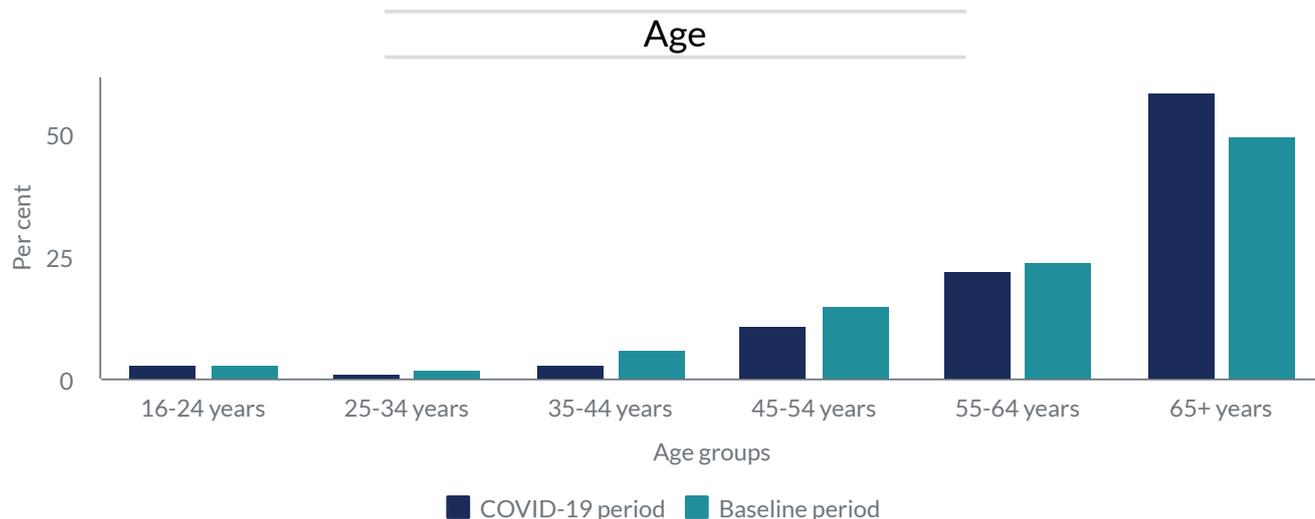
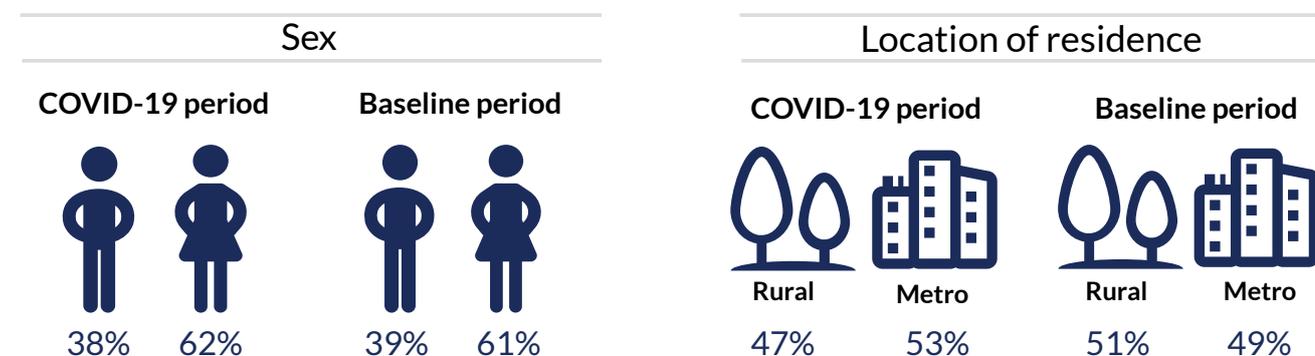
Results from surveys are estimates of 'true' population values and will always contain some error because they are based on samples - not the entire population. For example, a survey involving a sample of 1,000 tobacco-smoking adults may generate slightly different statistical results than if every possible 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. The smaller the RSE, the more likely it is that the estimate is an accurate reflection of the population. Estimates with RSEs less than 25% are considered accurate, 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. Estimates with RSEs between 25% and 50% 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. Estimates with RSEs greater than 50% are indicated with a hash (#) throughout the bulletin and are included for context only.

Although not reported, confidence intervals were used to determine significant differences between comparison groups.

Demographics

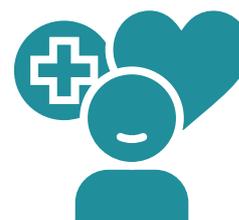
HWSS respondents in the 2020 COVID-19 period were similar to participants from the 2015 to 2019 baseline period in terms of sex, age, location of residence and income[^].



[^] Unweighted data was used for the demographic comparisons

General health

Self-ratings of health are used internationally, with poor health ratings associated with lower physical functioning and increased mortality, compared with excellent or very good ratings (1,2).



Self-reported health status did not differ significantly during the COVID-19 period compared with the baseline period

Key indicator	COVID-19 period	Baseline period
Self-rated health status		
Excellent or Very Good	58%	57%
Good	31%	31%
Fair or Poor	11%	12%

For additional analysis self-rated health status was combined into two groups: 'people in better health' reflects self-rated health status of excellent, very good or good. 'People in poorer health' reflects self-rated health status of fair or poor.

Healthy eating

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



Measures put in place to prevent community spread of COVID-19 included the closure of cafes, restaurants and bars. In addition, one of the early and significant effects of COVID-19 in Australia was panic buying of food which resulted in shortages of many items. In response, major retail supermarket chains imposed purchase limits on many staple food items from early March. Furthermore, the stay-at home messaging may have increased the likelihood that people, particularly more vulnerable members of the community were unwilling or unable to shop in person. Online grocery delivery services were quickly overwhelmed and unable to meet demand. Food supply and access issues continued for many weeks before stabilising, and as of 1 October 2020 purchase limits on many essential items remained. In addition, work shutdowns and job losses may have impacted the ability of some members of the community to purchase sufficient food. Emergency food relief agencies reported increased demand during the COVID-19 period.

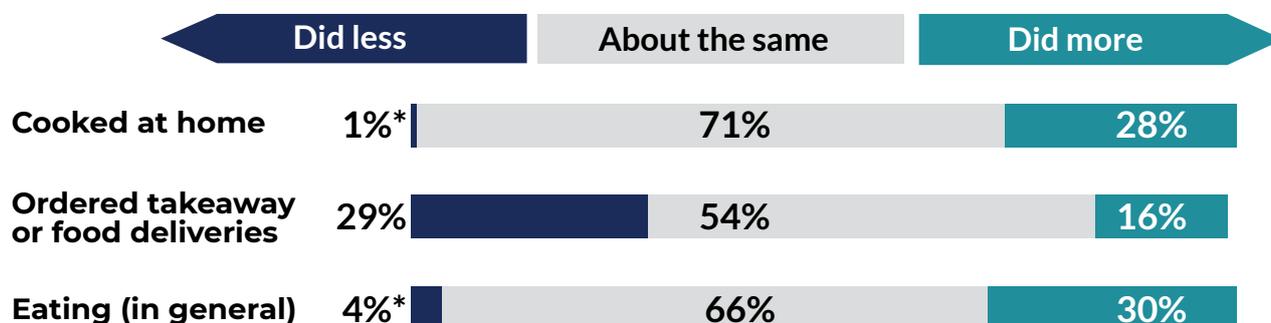
Key indicators of healthy eating and food insecurity collected in the HWSS include: the number of serves of vegetables usually eaten each day; the number of serves of fruit usually eaten each day; the frequency of consuming fast food meals (for example burgers, pizza, chicken or chips) and whether people reported running out of food and being unable to afford to buy more in the past 12 months (food insecurity).

There were no significant differences in any of the healthy eating indicators during the COVID-19 period compared with the baseline period. Food insecurity did show an increase during the COVID-19 period, however this finding is based on a small number of respondents and, as a result, may be less reliable.

Key indicator	COVID-19 period	Baseline period
Average daily serves of vegetables	2.7 serves	2.7 serves
Average daily serves of fruit	2.0 serves	1.6 serves
Proportion eating takeaway foods once a week or more	32%	34%
Proportion ran out of food and could not afford more	6%*	4%

*Survey estimate has an RSE between 25%-50% and should be used with caution

Respondents in May were asked specifically whether they had cooked at home, ordered takeaway or food deliveries, or eaten food more, less or the same as usual in response to the COVID-19 emergency. Of those whose behaviours changed in response to COVID-19, relatively more people reported cooking at home more, eating more, and ordering takeaway/food deliveries less, although 16 per cent of people reported that they ordered takeaway/food deliveries more.



*Survey estimate has an RSE between 25%-50% and should be used with caution



32%

reported avoiding going to shops and supermarkets



25%

reported being unable to buy essential supplies

Who was impacted?



People in better health:

35%
avoided the shops

23%*
unable to buy supplies



People in poorer health:

19%*
avoided the shops

36%*
unable to buy supplies



People aged 16-64 years:

30%
avoided the shops

27%*
unable to buy supplies



People aged 65+ years:

40%
avoided the shops

16%
unable to buy supplies

*Survey estimate has an RSE between 25%-50% and should be used with caution

Summary

In general, Western Australians were eating more and cooking at home more. Despite this, there were no substantive increases in fruit or vegetable consumption. The Australian Dietary Guidelines recommend a minimum of 2 serves of fruit and 5-6 serves of vegetables per day (depending on age and sex) (3).

More than two-thirds (71%) of Western Australian adults are considered overweight or obese (4). Changes in diet, such as eating more, that lead to energy consumption in excess of body requirements can lead to increasing levels of overweight and obesity in the community.

People with poorer health had more trouble buying essential supplies than people with better health.

Physical activity

Regular physical activity is an important part of a healthy lifestyle including assisting with maintaining a healthy body weight and reducing symptoms of depression, as well as reducing the risk of developing a range of chronic diseases (5).



Measures put in place to prevent community spread of COVID-19 included the closure of many sport and recreation facilities (including gyms, pools, sporting clubs and public outdoor equipment) and restrictions on groups meeting for outdoor training.

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 (6); average number of minutes spent in physical activity per week and; self-rated physical activity levels.

There were no significant changes in any of the physical activity indicators during the COVID-19 period compared with the baseline period.

Key indicator	COVID-19 period	Baseline period
Proportion of adults [^] completing recommended levels of physical activity	58%	62%
Average minutes of physical activity per week [^]	322 minutes	354 minutes
Self-rated physical activity levels		
Very Active / Active	44%	49%
Inactive	16%	16%

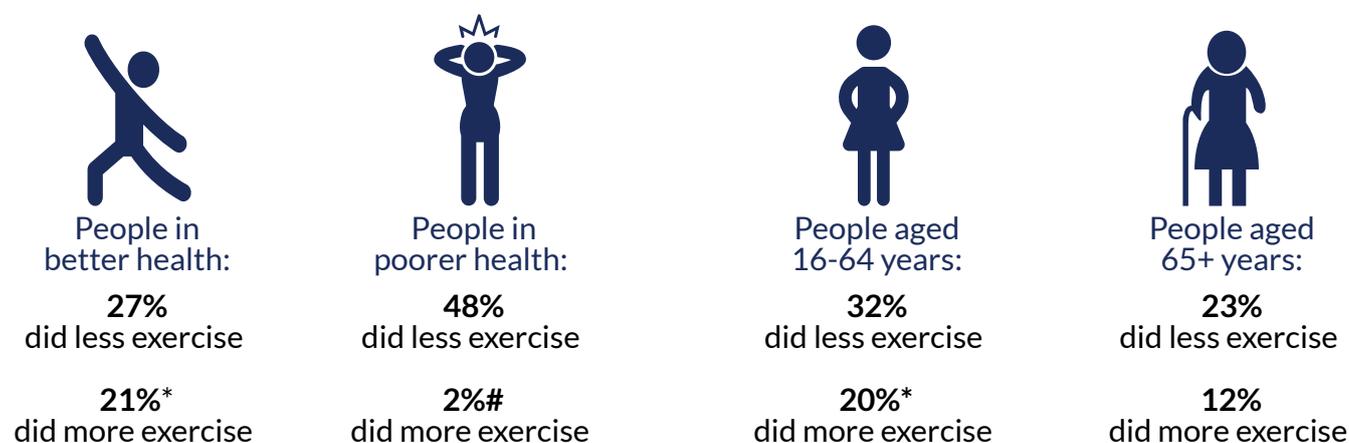
[^] These results are for adults aged 18 years and over.

Respondents in May were asked specifically whether they had done more, less or the same amount of physical activity in response to the COVID-19 emergency. At a population level, changes in physical activity levels were mixed, with some people doing more and some people doing less.



*Survey estimate has an RSE between 25%-50% and should be used with caution

Who did less? Who did more?



* Survey estimate has an RSE between 25%-50% and should be used with caution

Survey estimate has an RSE greater than 50% and is provided for context only

Summary

There were no statistically significant differences in key indicators of physical activity participation during the COVID-19 period compared with the baseline period. The baseline period shows only about two thirds of people achieve the recommended levels of physical activity.

However, about half the population stated that they changed their physical activity habits in May as a result of COVID-19, and it seems that people who were in poorer health were more likely to report detrimental impacts on their levels of physical activity as a result of the COVID-19 interventions.

Sedentary behaviours



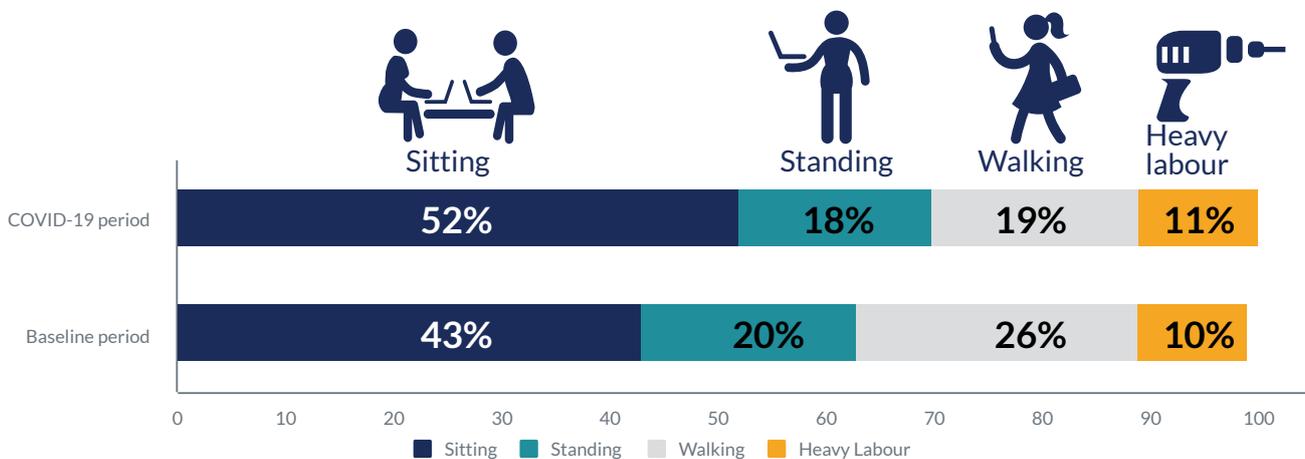
Sedentary time can be accumulated during work, (e.g. seated computer work, driving a car), and leisure-time activities (e.g. watching television, other electronic media).

Increasing levels of sedentary behaviours are associated with overweight and obesity (7).

Measures put in place to prevent community spread of COVID-19 impacted on both work and leisure-time sedentary behaviours. These measures included stay-at-home orders, encouraging both workers and students to work/study remotely from home, and the closure of non-essential businesses.

Key indicators of workplace sedentary behaviours in the HWSS include: the proportion of people aged 16 years and over who usually sit, stand, walk or do heavy labour for most of their day. 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.

How did you spend most of your day?



Respondents in May were asked specifically about changes to their work and study habits as a result of the COVID-19 emergency.

Of Western Australians:



24%* worked at home

23%* studied at home

22%* were unable to work in their existing employment

*Survey estimate has an RSE between 25%-50% and should be used with caution

Key indicators of leisure-time 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, excluding work time. Overall there was an increase in the average number of screen-time hours during the COVID-19 period compared with the baseline period, particularly for women and older adults.

Key indicator	COVID-19 period	Baseline period
Mean hours per week of leisure time TV, computer, tablet use	19 hours	17 hours
Males	18 hours	17 hours
Females	19 hours	17 hours
16-64 years	18 hours	16 hours
65+ years	24 hours	21 hours

Respondents in May were asked specifically about changes to their use of electronic devices as a result of the COVID-19 emergency. Forty per cent reported increased screen-time (watching TV or DVDs, using a computer, smartphone or tablet device for the internet or to play games).



*Survey estimate has an RSE between 25%-50% and should be used with caution

Summary

Changes were apparent in how people were spending their day, including an increase in the proportion mostly sitting and a reduction in the proportion mostly standing and walking during the period of the COVID-19 restrictions. This might be related to occupations that would normally involve high levels of standing or walking, such as teachers and hospitality staff, being directed to either a more sedentary approach (working remotely using a computer) or not able to work at all. In addition, women and older people seemed to have increased the number of hours per week engaged in leisure-time sedentary (screen-based) activities during the period of the COVID-19 restrictions compared with the baseline period. This is consistent with the reported changes in behaviour in response to the COVID-19 emergency in which 40 per cent of people reported engaging in more leisure-time sedentary (screen-based) activities.

Alcohol consumption

Excessive alcohol consumption increases the risk of some health conditions, including heart disease, high blood pressure and some cancers. It also increases the risk of violence and anti-social behaviour, accidents and mental illness (8).



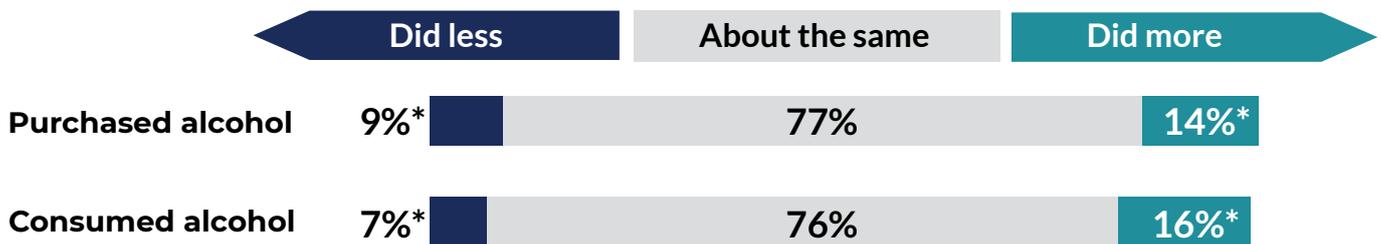
Measures put in place to prevent community spread of COVID-19 included purchase limits on takeaway alcohol, and the closure of pubs and clubs. The purchase limits for takeaway alcohol were generous and also one of the first restrictions to be lifted, being in place for only four weeks.

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 current National Health and Medical Research Council (NHMRC) guidelines (9). 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. Overall there was a slight reduction in the proportion of people drinking at levels likely to cause short-term harm during the COVID-19 period compared with the baseline period, but no changes in the proportion drinking at risk of long-term harm.

Key indicator	COVID-19 period	Baseline period
Proportion at high risk of short-term alcohol harm	8%	10%
Males	14%*	16%
Females	2%*	5%
Proportion at high risk of long-term alcohol harm	26%	26%
Males	38%	35%
Females	14%	17%

*Survey estimate has an RSE between 25%-50% and should be used with caution

Respondents in May were asked specifically whether they had purchased or consumed more, less or the same amount of alcohol in response to the COVID-19 emergency. Most people had no change in the amount of alcohol purchased (77%) or consumed (76%). Of those whose behaviours changed in response to COVID-19, results were mixed with some people purchasing/consuming more and others purchasing/consuming less.



Who drank more?



*Survey estimate has an RSE between 25%-50% and should be used with caution
Survey estimate has an RSE greater than 50% and is provided for context only

Summary

There were no significant changes in risky drinking (as defined by the NHMRC guidelines) as a result of the COVID-19 Restrictions (9). However, 19 per cent of people aged 16-64 reported drinking more than usual. This increase occurred in an environment where approximately one in three men and one in eight women already drink at levels likely to cause long-term harm (4).

Acknowledgements

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