

AUSactive

A more active Australia for a healthier nation

Research and economic modelling
into physical inactivity and COVID-19:
a tale of three pandemics



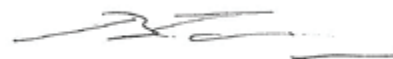
RESEARCH
&
INSIGHT



A note from AUSactive's CEO

Physical activity refers to all movement, and can be done at any level of skill, alone or with others, and for enjoyment by everybody.

- ▶ This research shows that 51% of Australians prefer to exercise in facilities or studios and/or outdoors with personal trainers. Much more than sport which is only 29% and 20% choosing other types of physical activity like walking or swimming.
- ▶ Physical inactivity is the second most important risk factor that contributes to the burden of disease in Australia, and COVID-19 has increased the nation's already costly sedentary behaviour to even higher levels.
- ▶ The consumer research and economic modelling in this report quantifies the damage that has already been done to the economy and population health due to the impacts of COVID-19, and the substantial risk if action is not taken to encourage Australians to get physically active. COVID-19 has compounded an already significant economic burden due to physical inactivity and requires an urgent response to help cushion future impacts.
- ▶ Critically, the economic modelling underpins our recommendation for a variety of evidence-based initiatives to help get Australia active again. Using Deakin University's *Assessing Cost Effectiveness* approach (which has been used to undertake the largest review of health prevention and obesity initiatives in the country), these initiatives demonstrate a positive ROI in terms of economic and health benefits. In addition, they provide a significant opportunity to engage the community with a positive and highly relevant campaign that demonstrates investment in economic recovery whilst simultaneously emphasising the nation's health and being in-tune with the current concerns of Australians.
- ▶ This research echoes both global and national trends that reveal a stronger emphasis on physical and mental wellbeing among communities, that investing in the nation's health presents an enormous opportunity to demonstrate being in-tune with community mindsets whilst simultaneously demonstrating investment in economic recovery.
- ▶ AUSactive strongly endorses the position of the World Health Organisation Global Action Plan on Physical Activity 2018-2030, and promotes the idea of a more active Australia for a healthier nation that Australia committed to in 2018.



Barrie Elvish

Chief Executive Officer — AUSactive





Headline Findings

A tale of three pandemics

Physical inactivity pandemic



Second largest risk factor to the burden of disease in Australia

 **\$15.6b**

Costing up to 15.6 billion per annum due to healthcare costs and lost productivity



12%

Just 12% of the nation is aware of the recommended physical activity levels.



10-15%

In recognition of the strong link between physical activity and major noncommunicable diseases, the Australian Government in 2018 committed to World Health Organisation targets of 10% increase in Australians physical activity levels by 2025 and a in adults and in adolescents by 2030.

Mental health pandemic



\$500m

Growing mental health pandemic costing Australia \$500 million a day according to Productivity Commission

COVID-19 pandemic



25%

25% reduction in national physical activity levels



35%

35% increase in physical inactivity / sedentary behaviour



41%

41% of Australians have less money to spend on exercise



1 in 3

Looming mental health crisis with one in three Australians' mental health negatively impacted

An unsustainable burden

Economic burden



\$1.5b

Additional \$1.5 billion burden on healthcare system due to increased chronic disease caused by physical inactivity during COVID-19, even if activity levels return to normal by April 2022



\$27.7b

\$27.7 billion lost through fewer healthy and productive Australians due to chronic disease caused by physical inactivity during the COVID-19 period

Future trends



44%

'Great resignation' and 'great migration' driving reductions in active commuting – 44% of Australians say exercise more important due to less commuting

Regional Australia snapshot



Almost three-quarters (72%) of those in outer regional / remote areas have low levels of physical activity compared to two-thirds (64%) in metro areas, placing them at greater risk of poorer physical and mental health

Fitness centres and personal trainers – lifeblood of national exercise



Fitness centres and personal trainers deliver 51% of Australians prefer to exercise in facilities or studios and/or outdoors with personal trainers. Much more than sport which is only 29% and 20% choosing other types of self directed physical activity.



Almost two-thirds of nation's decline in exercise-based physical activity during COVID-19 attributable to closure of fitness centres & personal training

A road to recovery

Return on investment



AUSactive recommended initiatives would deliver \$2.9 billion health and economic benefits, with an ROI of \$3.11 for every \$1 spent, due to improvement in five major chronic diseases alone.



Nearly two-thirds of Australian's would utilise fitness voucher (akin to NSW Dine & Discover) to help them get physically active through fitness centres and personal trainers.



The NSW Government's 2018 Active Kids voucher initiative significantly increased physical activity levels, and the increases continued over time, demonstrating the power of such a voucher to instigate lasting behaviour change.

Multiple opportunities for multiple benefits



Research around the world demonstrates that more physically active nations are more prosperous.



There is a strong need for a national physical activity campaign to improve awareness of the risks of physical inactivity and the benefits of getting active.



There are also financial barriers due to COVID-19 and reducing the cost-barrier would provide more universal access to exercise.



With COVID-19 making physical and mental wellbeing top of mind for Australians, AUSactive's proposed initiatives present a significant opportunity to demonstrate being in-tune with community mindsets around health and wellbeing whilst simultaneously demonstrating investment in economic recovery and population health.

An onslaught of pandemics

Prior to COVID-19, physical inactivity was designated a pandemic and urgent public health priority, due to being the **4th leading risk factor for death worldwide**¹ and contributing to 10% of deaths from noncommunicable diseases (and up to 30% for some conditions²).



Physical inactivity is the second largest risk factor that contributes to the burden of disease in Australia.



36%

36% of the burden of disease can be improved through increases to modifiable risk factors such as physical inactivity.

Research by AUSactive shows that national physical activity levels fell by 25% as a result of COVID-19, with one in seven Australian adults becoming sedentary (compared to one in nine prior to COVID-19).

That's an additional quarter of a million Australian adults being sedentary each week compared to pre COVID-19 levels.

1 in 7



Australian adults becoming sedentary

25% ▲

cases of depression and anxiety globally

The COVID-19 pandemic has also increased the prevalence of mental health issues substantially, with cases of depression and anxiety up 25% globally, and the research finding one in three Australians' mental health to have been negatively impacted by lockdowns.

The growing economic and health burden

\$1.5b 

Previous estimates have indicated that physically inactive Australian adults were costing the healthcare system an avoidable \$1.5 billion per annum in 2007¹ (\$2 billion today).

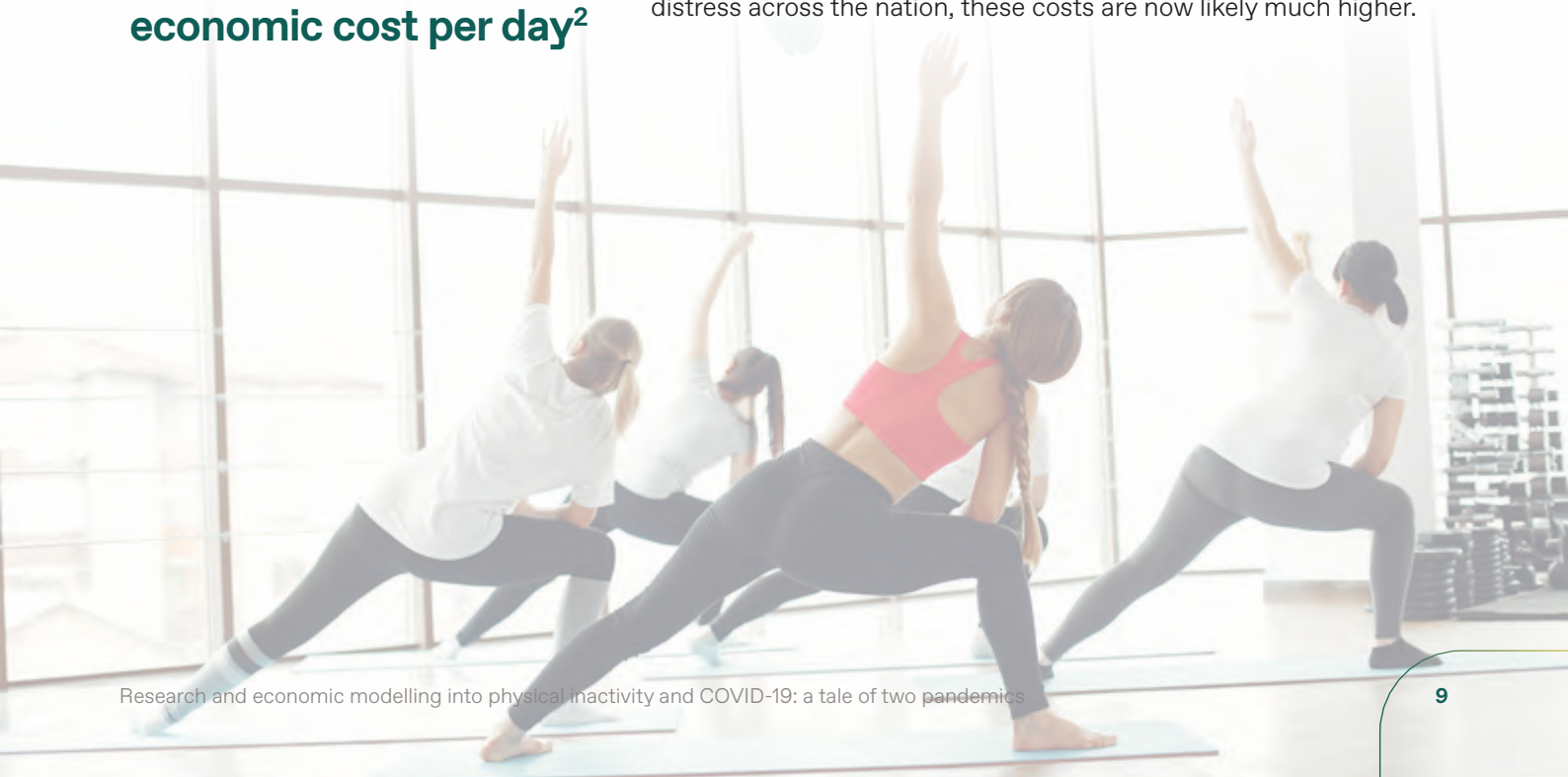
25% 

Modelling by Deakin University Health Economics found that the 25% drop in physical activity levels due to COVID-19 will add a \$1.5 billion burden to the healthcare system, even if levels return to normal by April 2022.

The associated **economic burden of \$27.7 billion** will continue to grow through a loss of healthy and productive Australian lives if action is not taken to cushion the ongoing fallout from COVID-19.

\$500m
economic cost per day²

The Productivity Commission has estimated that mental ill health costs the Australian economy over \$500 million per day². These are pre-COVID estimates, and given the sharp increase in psychological distress across the nation, these costs are now likely much higher.



Return on investment: tackling three pandemics with one stone

Economic modelling by Deakin University for AUSactive has identified that health and economic benefits valued at **A\$2.9 billion**, with an **ROI of \$3.11** for every \$1 spent, can be achieved through a combination of initiatives to encourage Australians to get physically active again:



A national \$100 'fitness voucher' incentive (akin to NSW's Dine and Discover or Victoria's Regional Travel vouchers) to encourage physical activity through fitness centres and via personal trainers¹

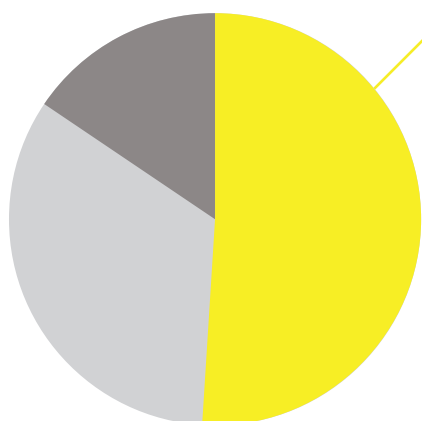
The idea has widespread appeal among the community with almost two-thirds of Australian's keen to utilise the scheme to help get themselves physically active²



A national physical activity advertising campaign to promote awareness and education around the benefits of physical activity

The research found a concerningly low level of physical education knowledge across the nation, with 27% of Australians indicating that they don't know what the government recommended levels of physical activity are for their age group, and a further 30% not entirely sure. Just 12% of the nation were confident that they knew how much physical activity they should be getting each week

Fitness centres and personal trainers – the backbone of Australia’s exercise-based physical activity



Prior to COVID-19 lockdowns, **51% of exercise-based energy expenditure** in Australia came from physical activity in fitness centres and via personal trainers.

29% came via participation in sporting activities, and 20% via other types of exercise such as self-directed and home-based exercise.

60% ▼

60% of the decline in national exercise levels due to COVID-19 lockdowns is attributable to lack of access to fitness centres and boutique studios.

These findings show that Australia’s fitness & leisure centres and personal trainers are integral to the national exercise-based physical activity, making far more of a contribution to the nation’s health and wellbeing than many of us realise.



A call for action

Despite being the second leading risk factor for chronic disease and mortality in the country, **there is no clear national physical activity strategy** nor campaign that is relevant to Australians of all walks of life.

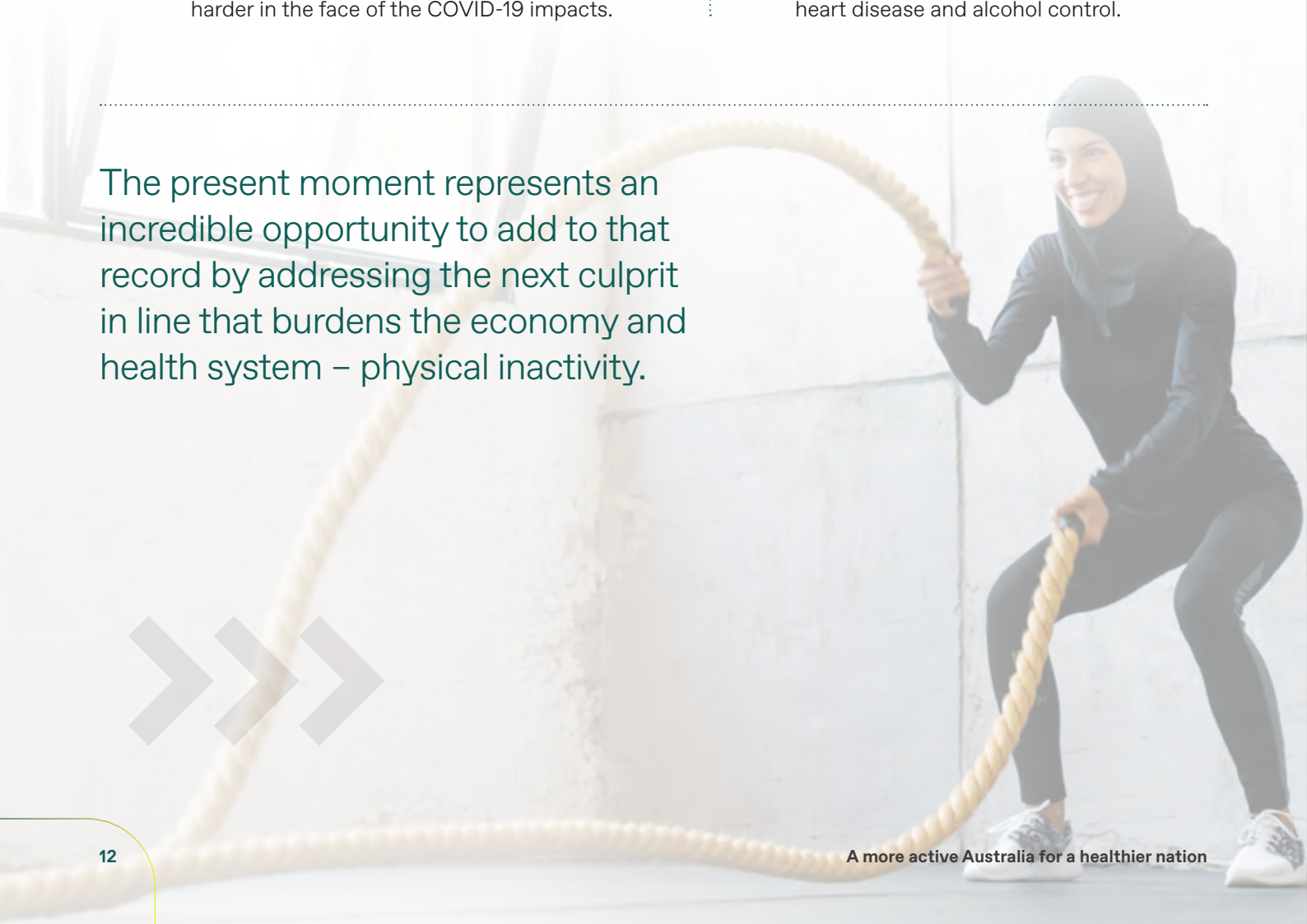


This evidence-policy gap jars with the fact that Australia has committed to the WHO's targets of 10% more Australians being physically active by 2025 and 15% by 2030 – targets made substantially harder in the face of the COVID-19 impacts.



Australia has demonstrated outstanding progress and success stories when it comes to population health, including in relation to smoking, heart disease and alcohol control.

The present moment represents an incredible opportunity to add to that record by addressing the next culprit in line that burdens the economy and health system – physical inactivity.



AUSactive's vision for the future...

There is strong evidence that comprehensive, multi-component strategies are required to increase physical activity and prevent non-communicable disease.

In line with the World Health Organisation's 'whole-of-systems' approach, AUSactive have designed a plan to get Australian's physically active again:

1

AUSactive has already engaged stakeholders across the country who will match a fitness voucher incentive offered by government to their members and prospective members.

2

AUSactive proposes that governments support the fitness centre and PT industry by incentivising Australian's to participate in exercise through a voucher scheme.

3

Undertake a national public awareness and public education campaign.

4

Alongside the proposed initiatives, AUSactive requests government funding in order to undertake a regional community roadshow.



A photograph of a gym interior. In the background, several barbells are mounted on a rack against a concrete wall. In the foreground, there are stacks of black weight plates on the floor. A person's red and black sneaker is visible in the bottom left corner. A yellow curved line graphic is on the left side, and a horizontal yellow line is behind the title text.

Main Findings

The global physical inactivity pandemic



The global physical inactivity pandemic

Characterised as a global pandemic in 2012¹, physical inactivity has been identified as the **4th leading risk factor for mortality worldwide**².



20-30%

People who are insufficiently active have a 20-30% increased risk of death compared to people who are sufficiently active² (defined as exercising at least 30 minutes a day on five days of the week)³.

5 million

An estimated 5 million deaths a year could be averted if the global population was more active².

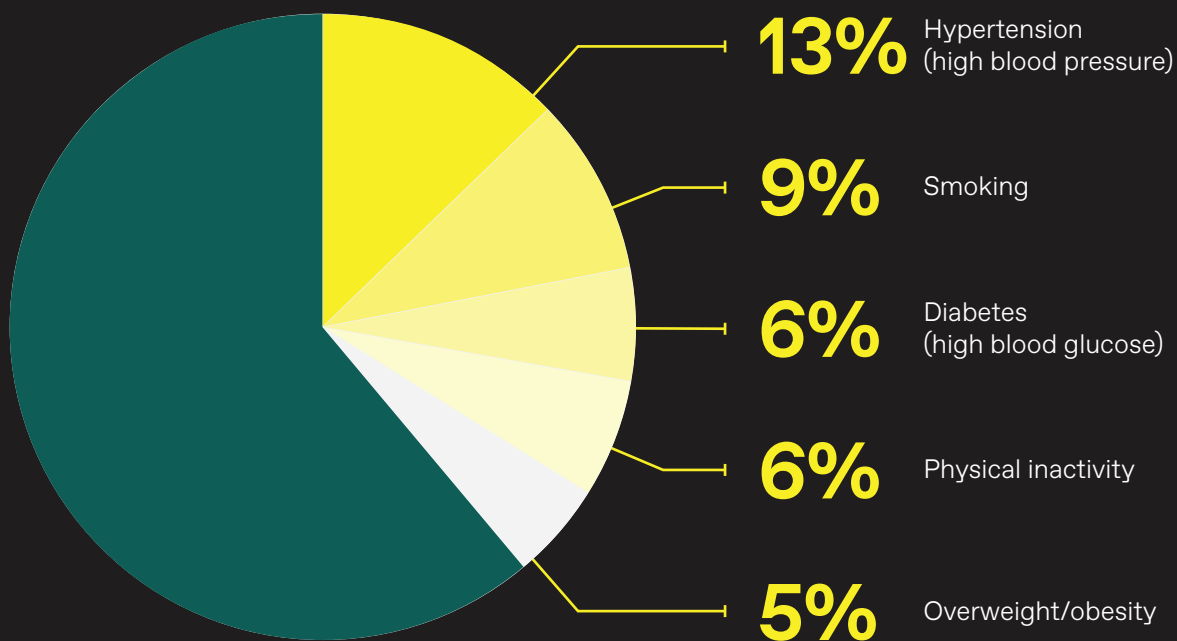
The incredibly high levels of physical inactivity and their significant impacts on health systems and economies prompted the World Health Organisation (WHO) to designate physical inactivity as **an urgent public health priority** and designed the Global Action Plan on Physical Activity 2018-2030 (GAPPA)⁴ Which the Australian Government committed to in November 2018.



As a member state of the WHO, Australia is committed to the plan and has established the goal of reducing physical inactivity by 10% by 2025 and by 15% by 2030.

The global impact of physical inactivity according to the World Health Organisation

Top five impacts on the global health burden¹:



Physical inactivity is also estimated to cause¹:



30%

30% of ischaemic heart disease (e.g. coronary heart disease) burden.



27%

27% of diabetes burden.

21-25%

21-25% of the burden associated with breast and colon cancer.



The cost of a physically inactive Australia

The Australian Institute of Health and Welfare notes that **physical inactivity is ranked second only to tobacco smoking** in terms of the effect it has on disease and poor health. When combined with being overweight/obese, **it represents 9% of the disease burden in the Australian population** (equal to smoking)¹.



Further, physical inactivity contributes 10-20% of the individual disease burden from diabetes, bowel cancer, uterine cancer, dementia, breast cancer, coronary heart disease and stroke².

Prior to COVID-19, physical inactivity among Australians was estimated to¹:



Cost the economy up to \$15.6 billion via direct healthcare costs and indirect productivity losses (such as absenteeism and presenteeism).



16,178

Result in 16,178 premature deaths per annum.



Result in lost productivity of 1.8 working days per worker per annum.



Contribute to annual healthcare costs from \$681.1 million to \$850 million.

The Australian health system: bearing an unsustainable burden

While life expectancy for most Australians continues to increase due to increased medical knowledge and technology, the proportion of our lives spent in full health has remained the same from 2003 to 2018¹

- ▶ Our increasingly ‘westernised’ lifestyle is being accompanied by a rise in chronic disease, such that we are living more years in illness
- ▶ In fact, chronic conditions are Australia’s leading cause of ill health, and in 2015, for the first time, the country suffered more burden from citizens living with illness than burden from premature death²
- ▶ Half of all Australians have at least one of eight common chronic conditions (cancer, cardiovascular disease, mental health, arthritis, back pain, lung disease, asthma, diabetes)³
- ▶ Almost one-quarter (23%) have at least 2 or more
- ▶ The Australian health system spends an estimated \$27 billion per annum treating chronic diseases – 36% of all spending⁴



COVID-19



COVID-19 lockdowns have massively amplified the health risks and economic costs of physical inactivity

Research by AUSactive reveals that Australians' average time spent being physically active has **fallen by 25%** since the onset of COVID-19.

- ▶ Just before COVID-19 struck, one in nine Australians had done no physical activity in a given previous week. That figure is currently one in seven.
- ▶ The proportion of Australians' not meeting the World Health Organisation (WHO) recommended physical activity guidelines has increased by 35%.
- ▶ Economic modelling by Deakin University forecasts that the decline in physical activity levels over the COVID-19 period has \$1.5 billion impact on the Australian healthcare system, even if the nation returns to pre-Covid levels of physical activity within 6 months from now.
- ▶ A total of 124,706 health-adjusted life years (HALYs*) are estimated to have been lost over the lifetime of the population due to declines in physical activity during the COVID-19 period.
- ▶ The Australian Department of Prime Minister and Cabinet recommends that the value of a statistical life year is \$222,000 (in 2021 Australian dollars).
- ▶ Therefore, the impact on the nation's health due to the declines in physical activity over the COVID-19 lockdown period is estimated to cost the economy and health system A\$27.7 billion, over the lifetime of the population.

Australia's dampened physical activity levels



Time spent undertaking vigorous exercise or leisure activities has fallen by 45% across the nation since the onset of COVID-19.



While 3 in 4 adults stayed active during 2020, average time spent walking has fallen by 12%.

1 in 7

Just before COVID-19 struck, approximately one in nine Australians had done no physical activity in a given previous week; that figure has increased to one in seven.

	Pre Covid-19		Sept/Oct 2021		Change		
	% population	Avg mins per week	% population	Avg mins per week	% population	Avg mins per week	Avg mins per week % change
Walking briskly or cycling <small>(for recreation or exercise, or to get from place to place / commute), for at least 10 minutes continuously</small>	57.5%	149.4	56.3%	133.7	▼ 1.2%	▼ 15.7	▼ 12%
Moderate exercise or leisure activity <small>(like social tennis, moderate exercise classes like yoga, recreational swimming, dancing)</small>	37.6%	74.5	29.4%	53.6	▼ 8.2%	▼ 20.9	▼ 39%
Moderate household, garden or work activities <small>(that cause small increases in breathing or heart rate, such as carrying light loads), for at least 10 minutes continuously</small>	56.8%	130.8	48.4%	115.9	▼ 8.4%	▼ 14.9	▼ 13%
Vigorous exercise or leisure activity <small>(that makes you breathe harder or puff and pant) like High Intensity Interval Training (HIIT) classes, weightlifting, competitive sport, vigorous cycling, running, swimming)</small>	24.1%	49.9	17.3%	34.4	▼ 6.8%	▼ 15.5	▼ 45%
Vigorous household, garden or work activities <small>(that make you breathe harder or puff and pant, such as carrying or lifting heavy loads, digging or construction work), for at least 10 minutes continuously</small>	16.7%	33.8	11.8%	23.2	▼ 4.9%	▼ 10.6	▼ 46%
None of the above	11.7%	-	14.8%	-	▼ 3.1%	-	-
Total <small>(vigorous exercise *2)</small>		522.4		418.3		▼ 104.1	▼ 25%

The proportion of Australian's classified as sedentary based on MET minutes (<600/week) has increased by 8.3% points since COVID-19 lockdowns.

The proportion getting a 'moderate' or 'high' amount of METs has fallen from 17.4% to 12.5%:

Physical activity level	Pre COVID-19	Sept/Oct 2021	Change
Sedentary (total weekly MET Mins 1–599)	23.5%	31.8%	▲ 8.3%
Low (total weekly MET Mins 600–3,999)	59.1%	55.7%	▼ 3.4%
Moderate /high (total weekly MET Mins 4,000+)	17.4%	12.5%	▼ 4.9%

Prior to COVID-19 lockdowns, 51% of exercise-based energy expenditure in Australia came from physical activity in fitness centres (35%) and via personal trainers (16%). 29% came via sporting activities, and 20% via other types of exercise.

In broad terms, over half of the benefits that Australia accrues from exercise-based physical activity come from fitness centres and personal trainers.

Testimony to how integral fitness centres and personal trainers are, 60% of the COVID-induced loss of exercise across the country has been from lack of access to fitness centres and boutique studios.

Exercise-based physical activity	Before COVID-19		Past month		Change		
	METs	Proportion of METs across population	METs	Proportion of METs across population	METs	% change	% of COVID-19 impact on METs
Fitness and leisure centres and boutique studios total	701.1	35%	391.7	27%	▼ 309.3	▼ 44%	▲ 60%
Gym workout or class (e.g. weightlifting, treadmill, HIIT)	443.9	22%	245.7	17%	▼ 198.2	▼ 45%	▲ 38%
Studio / boutique fitness centre workout or class (e.g. spin, yoga, pilates)	164.5	8%	93.3	6%	▼ 71.1	▼ 43%	▲ 14%
Visit a leisure centre (e.g. sports hall, local pool, spa/sauna)	92.7	5%	52.7	4%	▼ 40.0	▼ 43%	▲ 8%
Personal trainers total	310.8	16%	330.8	23%	▲ 20.0	▲ 6%	▼ 4%
In-person exercise class or 1-on-1 sessions with a personal trainer	193.7	10%	235.6	16%	▲ 41.9	▲ 22%	▼ 8%
Digitally streamed exercise class with a personal trainer	117.1	6%	95.2	7%	▼ 21.9	▼ 19%	▲ 4%
Sports total	582.6	29%	373.2	25%	▼ 209.5	▼ 36%	▲ 40%
Indoor or outdoor sport (e.g. running, swimming, cycling)	425.1	21%	270.4	18%	▼ 154.7	▼ 36%	▲ 30%
Team-based sport (e.g. soccer, football, tennis, netball)	157.6	8%	102.7	7%	▼ 54.8	▼ 35%	▲ 11%
Other total	387.8	20%	368.5	25%	▼ 19.3	▼ 5%	▲ 4%
Self-directed exercise at home (e.g. exercise bike, own weights)	280.0	14%	240.5	16%	▼ 39.5	▼ 14%	▲ 8%
Home exercise via live online class or App	107.8	5%	128.0	9%	▲ 20.2	▲ 19%	▼ 4%

Australians' self-assessed health status has fallen significantly since COVID-19.

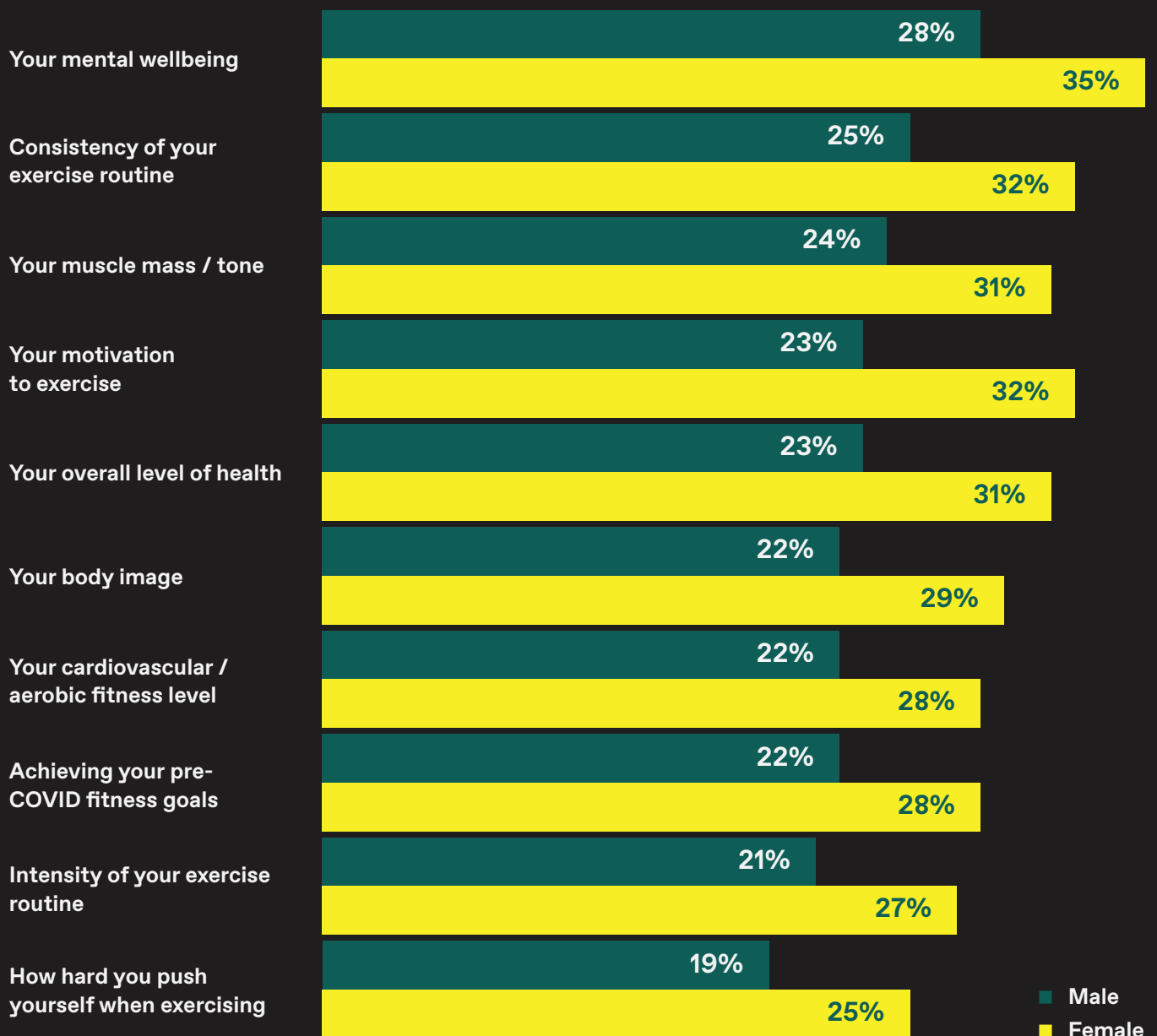
Self-assessed health status:

ABS National Health Survey: First Results, 2017-18 — Australia							AUSactive Survey
	2001	2004-05	2007-08	2011-12	2014-15	2017-18	Sept/Oct 2021
Excellent	18.8	21.0	20.5	19.4	20.1	21.3	12.0
Very good	32.7	35.4	35.6	36.0	36.9	35.8	28.0
Total Excellent / Very good	51.5	56.4	56.1	55.4	56.9	57.2	40.0
Good	30.2	27.8	29.0	30.2	28.8	28.7	36.0
Fair	13.4	11.3	10.9	10.5	10.1	10.7	18.0
Poor	4.8	4.4	4.0	3.9	4.2	3.5	6.0
Total Fair / Poor	18.2	15.8	14.9	14.4	14.3	14.2	24.0

Negative impact of COVID-19 lockdowns

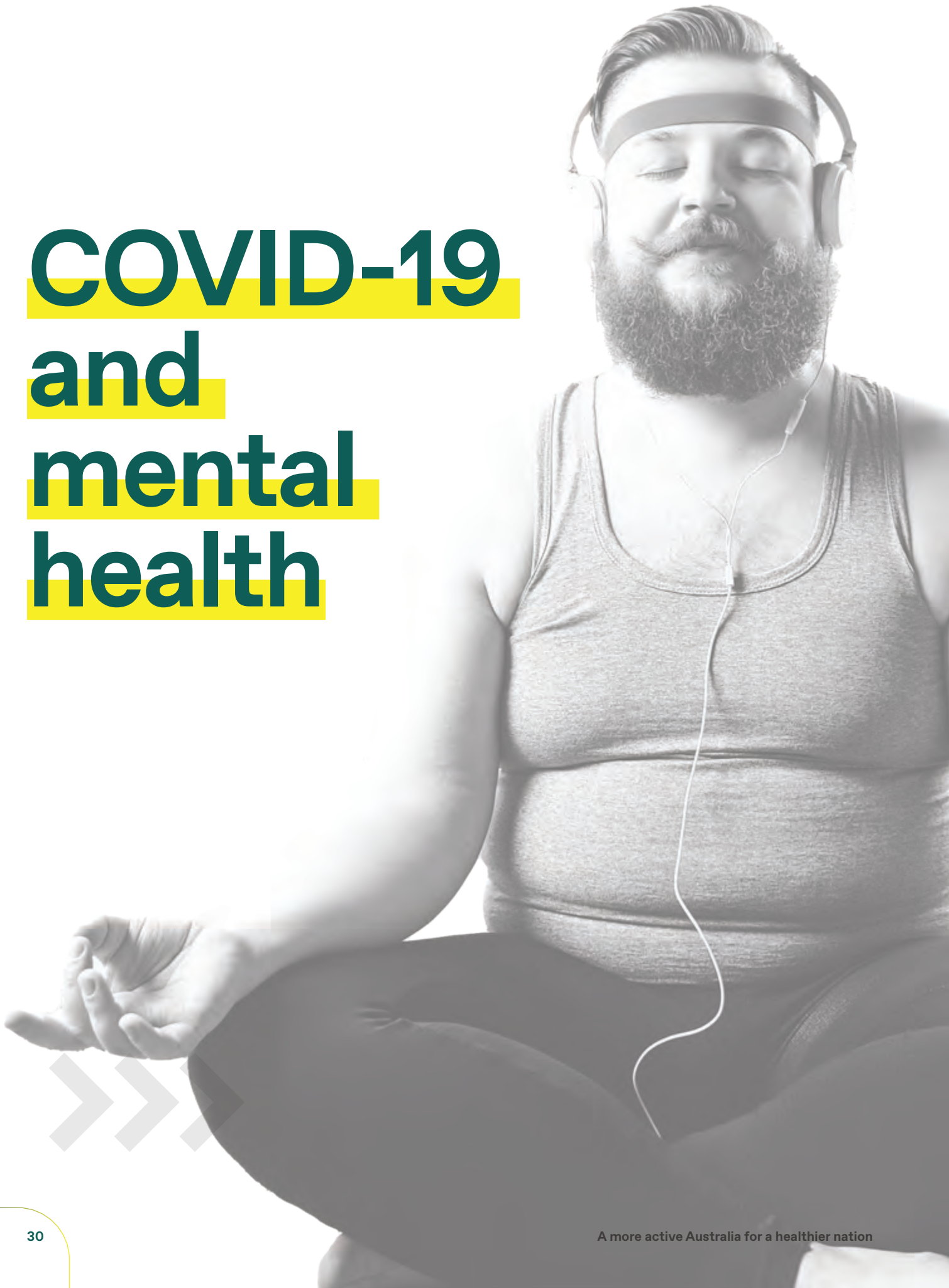
The negative impacts of COVID-19 lockdowns have been more widespread among females across all dimensions.

Proportion of Australian population reporting a negative impact due to COVID-19 lockdowns:





COVID-19 and mental health





13%

Mental ill health accounts for 13% of total global disease burden¹.

Some predict that it will be the leading cause of disease burden globally by 2030.

Depression is the leading cause of disability worldwide².

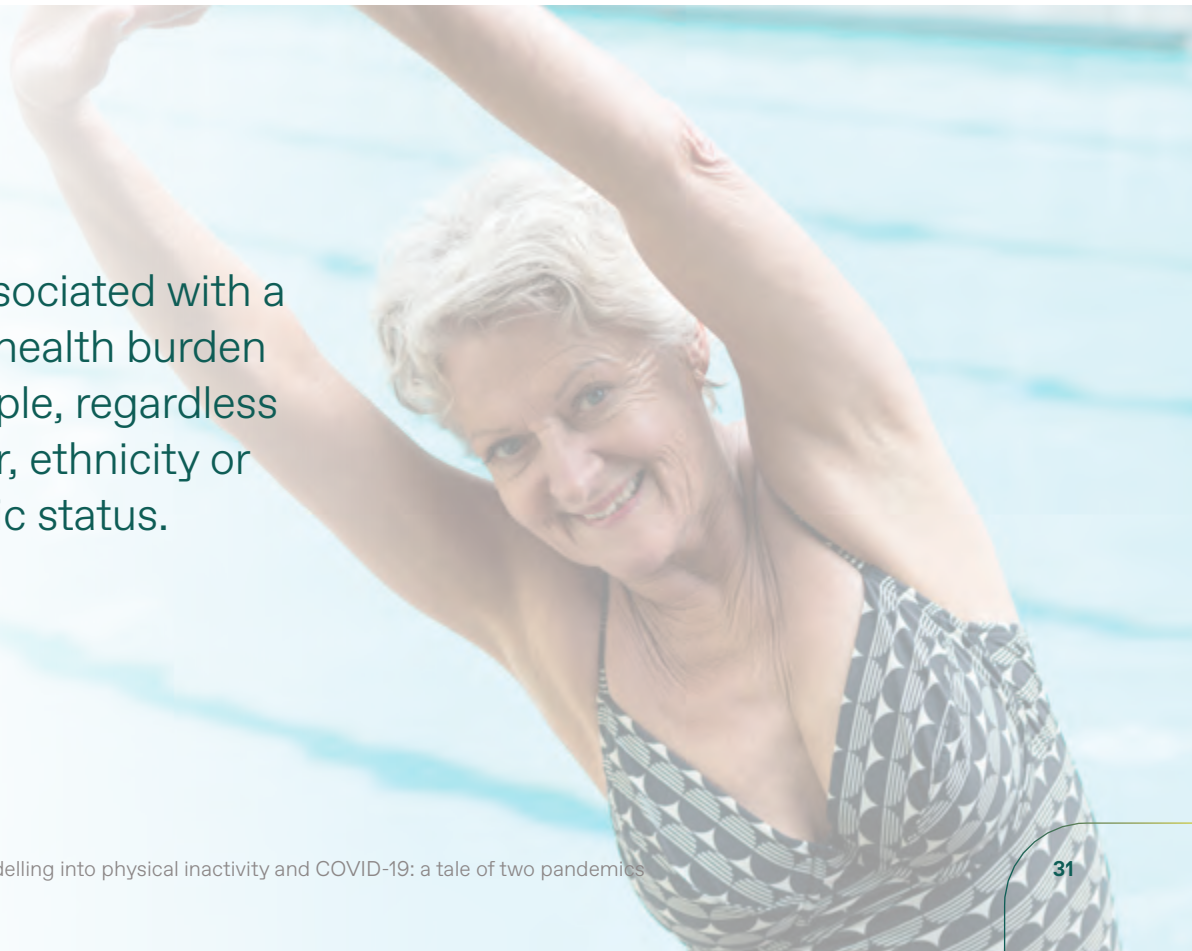


13%

Around 13% of global Alzheimer's disease cases are attributable to physical inactivity³.

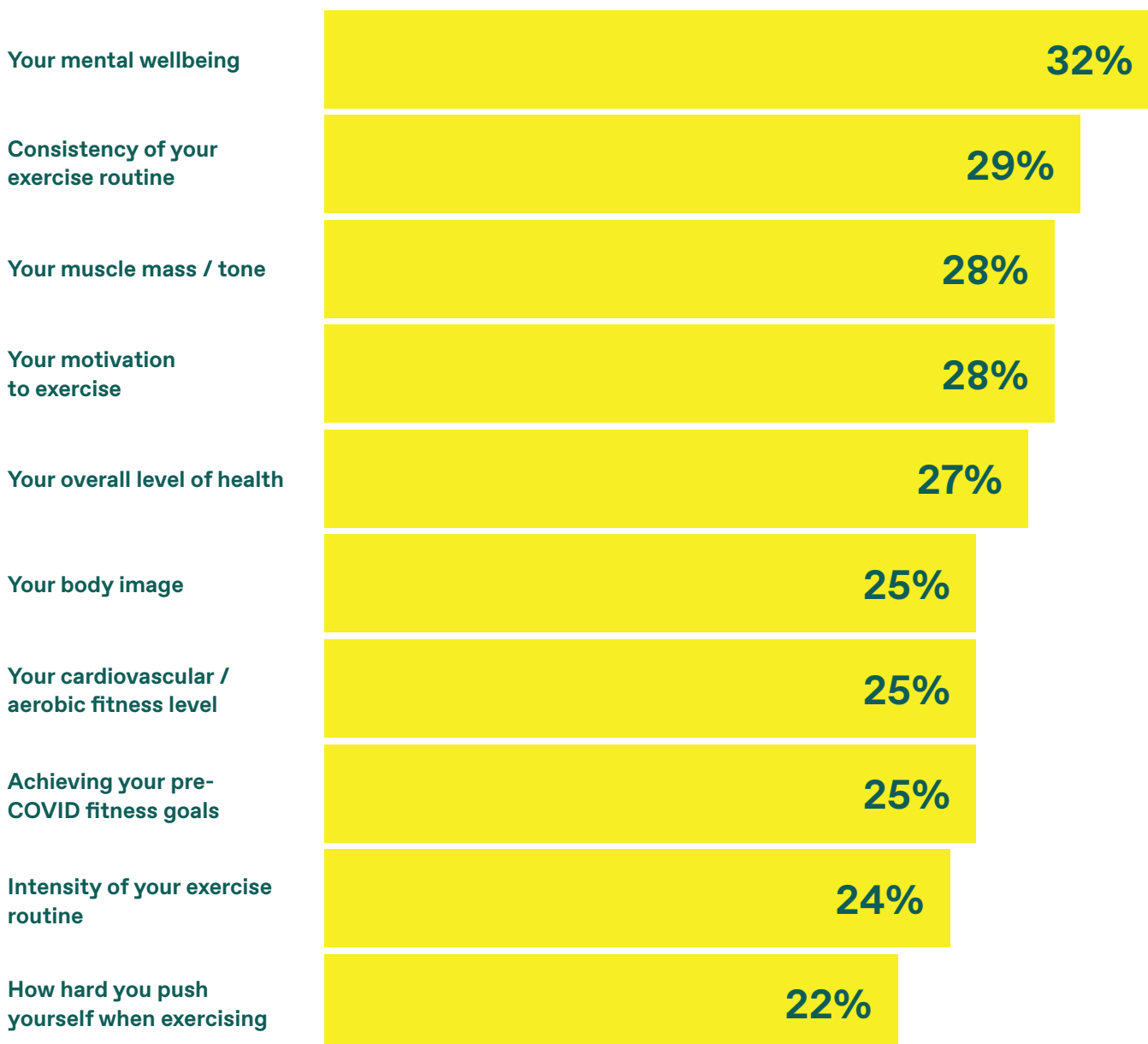
Physical inactivity is a risk factor for a variety of mental illnesses including depression, anxiety, and age-related cognitive decline such as cognitive aging, mild cognitive impairment and Alzheimer's dementia³.

Exercise is associated with a lower mental health burden across all people, regardless of age, gender, ethnicity or socioeconomic status.



Of the wide range of negative effects on Australians' attitudes, self-perceptions and intentions when it comes to health and exercise, the largest negative impact has been on mental health.

% of Australians reporting a negative impact due to covid-19:



The cost of mental ill-health



Prior to COVID-19, the Productivity Commission estimated that mental health conditions cost the economy \$500 million every day, amounting to approximately \$180 billion per annum¹.

The OECD reports that the COVID-19 crisis has led to significant and unprecedented worsening of population mental health², with research indicating that major depressive disorder and anxiety disorders have **increased by more than 25% worldwide**³.



Since the onset of COVID-19, between March 2020 and June 2021, \$1.9 billion in benefits were paid to mental health-related services across Australia⁴.



Prior to COVID-19, 20% of Australians experienced a mental illness in any given year⁵.



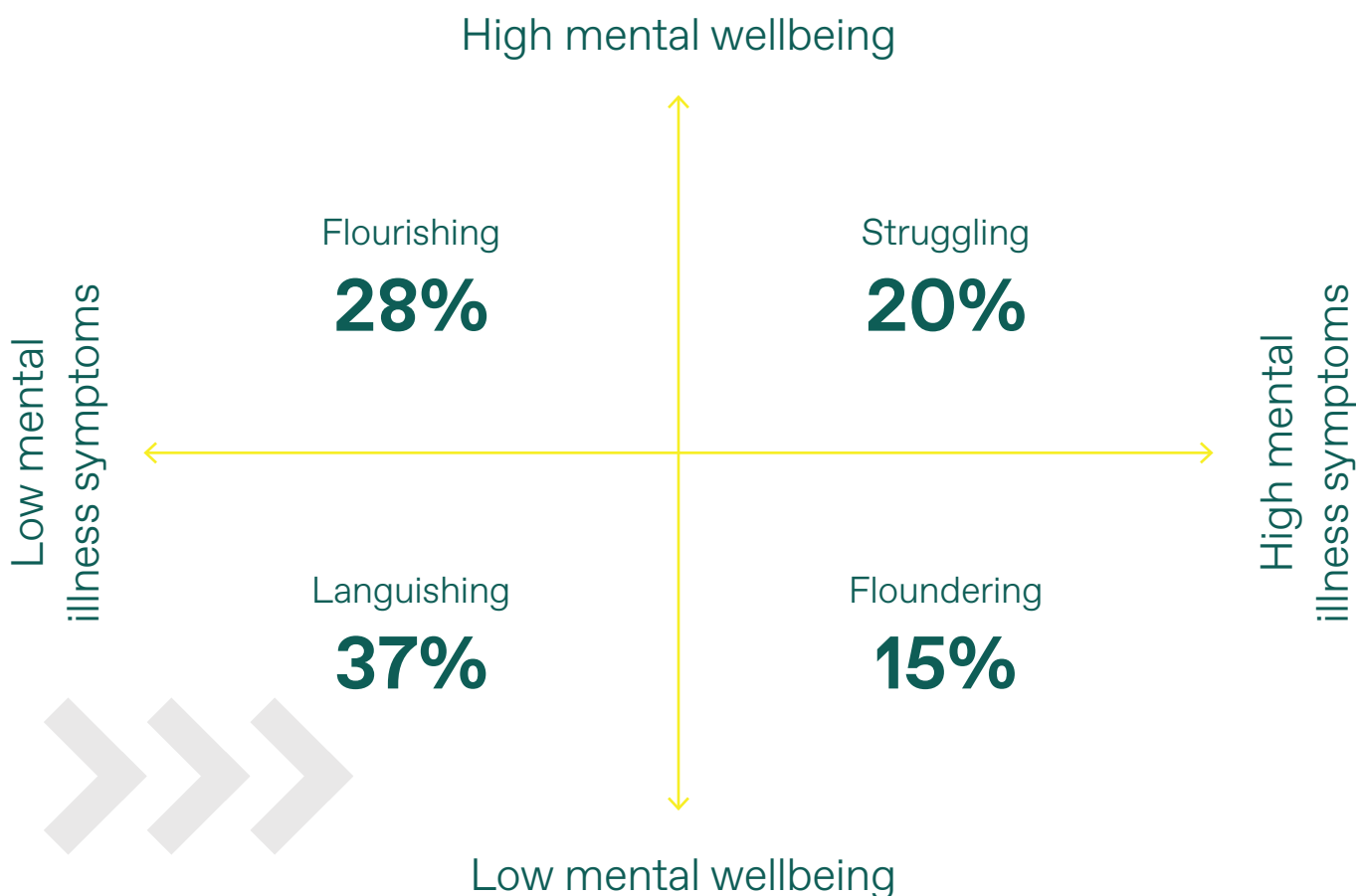
1 in 3

This research found that one in three Australians' mental health has been negatively impacted by COVID-19 lockdowns, and that 30% of Australians reported experiencing high psychological distress in the past month (alarming, 45% among those aged 17-24).

On the brink of depression: a hidden pandemic

Of significant concern is that the Australian Productivity Commission has noted that while 3.9 million Australian's have a mental illness, **only 2.9 million access mental health services**¹.

- ▶ Compounding this 'silent epidemic', AUSactive's research shows that 37% of Australians are currently 'languishing' -not in a mentally unwell state now, but in a position considered a precursor to mental illness in some cases.
- ▶ This 'neglected middle-child of mental health' as it's been called³, highlights the importance of thinking about mental health on a spectrum (whilst also demonstrating the importance and opportunity for preventative approaches to mental health).
- ▶ Among the recommendations of the Productivity Commission's mental health report was a focus on prevention.
- ▶ Physical activity is one of the best things people can do to maintain mental wellbeing as well as to help with psychological distress or symptoms of mental illness.



The role of physical activity in mental health

Major systematic reviews conclude that physical activity underpins better mental health and wellbeing¹. Growing evidence demonstrates that regular physical activity is associated with lower likelihood of developing depression or anxiety.

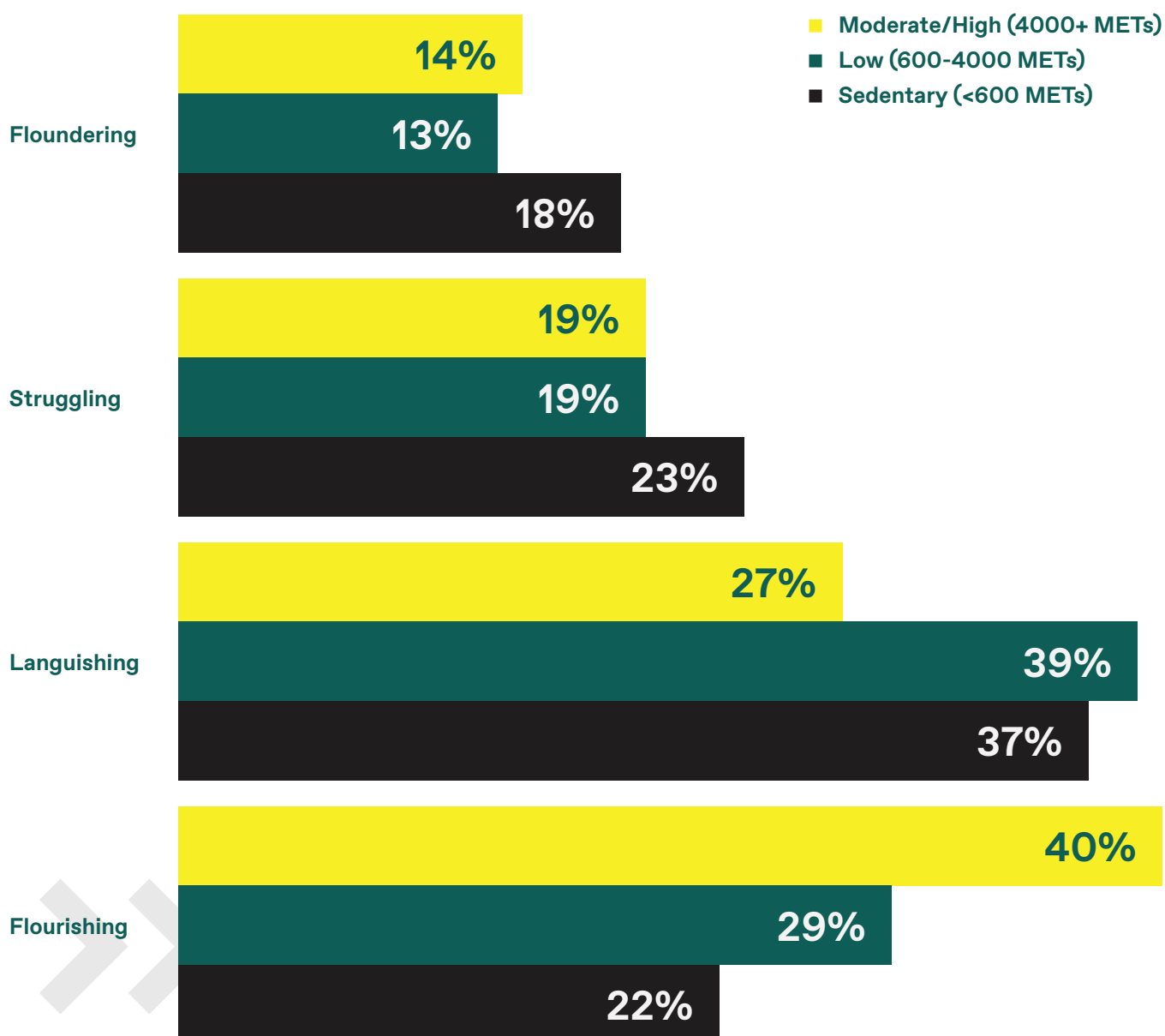
- ▶ Physical activity is strongly associated with positive mental health and a sense of purpose in life, as well as better sleep outcomes and work performance².
- ▶ Growing research is demonstrating strength training's role in reducing cardiovascular disease and preventing age-related cognitive decline³:
 - For example, lifting weights for less than an hour per week reduces heart attack and stroke risk by up to 70%.
 - Approximately 30 minutes of physical activity could reduced the likelihood of experiencing depression by more than 40%.
- ▶ It has also been documented that physical activity is associated with better mental health during the pandemic⁵.
- ▶ Recent research shows that 8.1% of global dementia cases are attributable to physical inactivity, with 7.2% of depression directly linked to physical inactivity⁶.
- ▶ This research found that almost half (45%) of those who don't meet strength training guidelines are languishing, compared to just over a quarter (27%) among those who do.
- ▶ Relatedly, almost three-quarters (74%) of Australian fitness centre members report that regular exercise helps give them the energy they need to be supportive to their loved ones and family, compared to 40% among those without membership.



Physical activity is associated with better mental health and wellbeing

AUSactive's research has found that moderate to high levels of physical activity are associated with an almost doubled likelihood of 'flourishing' in life, compared to sedentary behaviour.

Obtaining a moderate to high level of physical activity is associated with a significant drop in the likelihood of 'languishing'.





COVID-19 and Productivity



The productivity impacts of preventable health risk factors

A physically active population supports the supply of effective labour through¹:



Reduced mortality risk.



Reduced sickness absence.
(absenteeism)



Reduced presenteeism.
(sub-optimal performance at work)



Physical activity is associated with better mood, work attitude, work performance, and better resilience to stress and focus and concentrate².

Research shows that physical activity is associated with higher levels of workplace productivity, with individuals doing 600–750 MET-minutes of physical activity per week reporting, on average, a 0.8–1.5 percentage point (pp) lower work impairment due to absence and presenteeism than inactive individuals (those performing less than the recommended 600 MET-minutes per week)³.

COVID-19 and productivity



8%

AUSactive's research found that 8% of Australians reported needing time off work due to mental or physical health problems over the past month.



10.2

The average amount of time off work over the past month was 10.2 days across the 8% who required time off work.

Or 0.6 days per person, per month, across the total adult population.



30%

30% of employed Australians reported having their job performance suffer due to poor physical or mental health over the past month.



30%

Work hours lost to reduced capacity among this 30% of the population amounted to 9.2 hours per month on average.

Or 2.7 hours per person, per month, across the total adult population.



The cost of physical inactivity

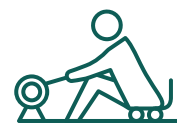
Previous estimates indicated that the value of lost production due to premature mortality due to physical inactivity was **\$4.54 billion for one year in 2008¹**.

The additional impact of presenteeism and absenteeism on Gross Domestic Product was estimated at **\$11.08 billion for one year.**



Impact of COVID-19 on the fitness sector





The fitness industry primarily consists of health clubs, fitness and leisure centres fitness franchises, indoor and outdoor personal training, smaller fitness studios including yoga and Pilates.



These businesses provide a range of services including personal training, group exercise classes, casual gym entry or membership and merchandise.



A gym can mean a large multi-service gym, a boutique studio, yoga and Pilates studios, a personal training studio or a 24-hour fitness facility.



The fitness sector provides a significant contribution to the Australian economy and workforce

\$3b 

Australia's fitness centres contribute a total of \$3 billion to Australia's economy.

 **4.9%**

Personal trainers also form an integral part of the industry, with the sector experiencing annual growth of 4.9 per cent over the past five years.

 **3.7m**

With a collective membership of up to 3.7 million people, the demand for fitness services has never been greater.



A large proportion of employment in the fitness sector is on a part-time or casual basis.



Australian Bureau of Statistics National Health Survey (2017-18) reported that two-thirds (67.0%) of Australian adults are overweight or obese (12.5 million people).

\$8.5b 

Australians spend an estimated \$8.5 billion on fitness each year.

 **35,000**
employees

 **6,426**
businesses

The fitness industry's total employment contribution is 35,000 persons and the number of businesses totals 6,426.

The impact of the fitness industry extends beyond its contribution to the economy.

The sector plays a central role in improving the physical and mental health of Australians. As a result, the fitness industry delivers a range of long term social and economic benefits to Australians.

\$13.8b ↓

It has been estimated that the cost of physical inactivity to the Australian economy is estimated to be \$13.8 billion.



It is estimated that 16,178 Australians die prematurely each year due to physical inactivity.



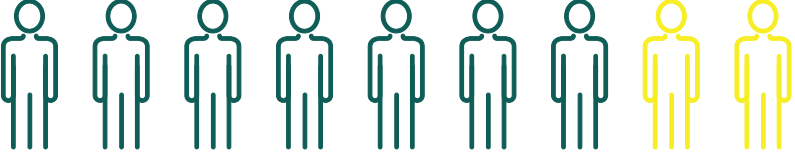
Productivity loss due to physical inactivity equates to 1.8 working days per worker per year.

COVID-19 lockdowns hit the fitness industry devastatingly hard

AUSactive's (formerly Fitness Australia) COVID-19 Fitness Industry Impacts Report released last year, found:



1,169
respondents



81% of exercise professionals and sole traders lost their job or main source of income due to gym closures and social distancing restrictions.

71%

of respondents have not had a single client since gyms closed on 23 March 2020.



A significant majority of respondents said revenue was down between 75 and 100 per cent since social distancing measures were put in place.

60%



Most respondents said that clients had cancelled memberships with 47 per cent stating they had lost more than 60 per cent of their total client base.

44% of respondents  **61%** loss of income

The majority of respondents reported significant disruptions to cash flow with 44 per cent of respondents losing 61 per cent or more of income.



90% paying ongoing costs

All businesses are continuing to pay business operating expenses, with around 90 per cent of sole traders paying ongoing insurance costs.

 **\$5,000** per month

Most sole traders paying up to \$5,000 per month for business expenses despite drop in clientele.



An overwhelming majority of sole traders have lost a large proportion of their clientele compared to pre-COVID-19.



Personal Trainers are an ingenious bunch. Just under half of respondents have been able to generate new sources of ongoing income by moving online or adopting one on one outdoor PT sessions.

 **10%** of usual income  **10%** less than of clients using online training

Nevertheless, most sole traders have only been able to generate less than 10 per cent of their usual income and less than 10 per cent of clients have been converted to online platforms or one on one training.

Fitness Voucher



The case for a fitness voucher

Fitness Centres are excitedly re-opening across the nation and PA levels are expected to return to some level of 'normality'. However, globally there have been signs of diminished returns to fitness centres and AUSactive wanted to explore the potential contribution that initiatives to encourage physical activity among the population could have.

- ▶ Specifically, to support the fitness sector, a voucher system incentive whereby people in the community can redeem vouchers for exercise related activities is presented alongside the benefits of a national ad campaign.
- ▶ Prior to Covid, people who used fitness centres and personal trainers had 14% more METs per week on average.
- ▶ Our research indicates that almost 37% of the Australian population would 'definitely' take advantage of such a voucher, with a further 23% 'probably' utilising it. Applying a 90:40 rule, whereby we take 90% of those who say they definitely will and 40% of those who say they probably will as a realistic guide to uptake in the context of uncontrollable external factors and to reduce potential over-claim, and also excluding members of the population who are already certain to be returning to fitness centres and personal trainers, we obtain a total of approximately 21% of the population estimated to use such a voucher.
- ▶ Using known fitness centre retention membership figures, we estimate an increase in METs across the population, based on 12 months of fitness centre and personal trainer usage in the target audience (adopters of the voucher).



The economics of a fitness voucher

A 'fitness voucher' incentive that encourages Australians to get physically active via fitness centres and personal trainers will provide **health and economic benefits to the value of A\$2.5B.**

The ROI to the health system from a fitness voucher is **\$3.11 per person for each \$1 spent**, should eligible Australians aged 20-79 be offered a \$100 voucher.



There is a strong positive response among the community to the idea of a fitness voucher, with multiple potential uses to encourage physical activity.



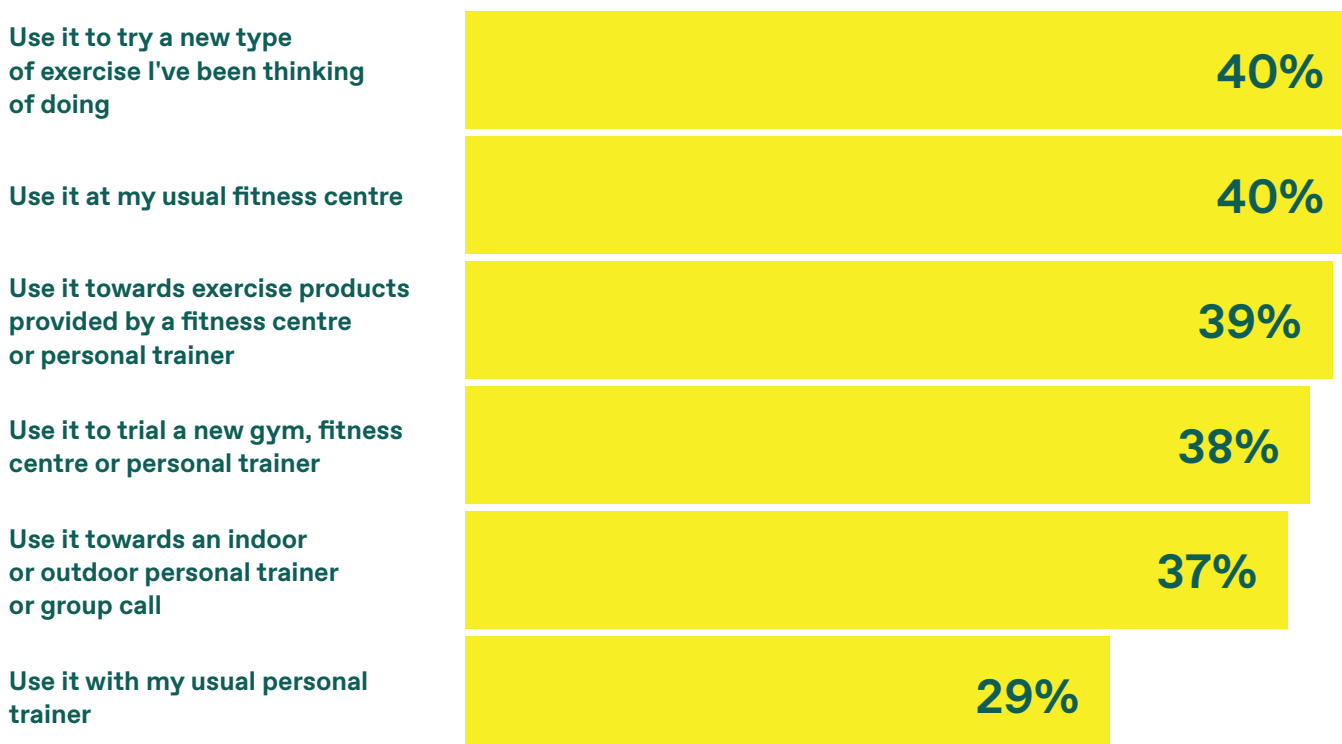
A total of 60% of Australians find the idea of such an offer appealing and would take advantage of it.



This comprises 37% who would definitely take advantage of the offer and an additional 23% probably likely to do so¹.

¹This is based on using the voucher for one of any of the reasons, excluding for use towards exercise products, to ensure a focus on uses that directly relate to engaging in physical activity.

% of Australian adults who would take advantage of a fitness voucher offer:



The case for a fitness voucher



44% of Australians indicate that financial incentives will help get them back into exercise sooner, with 41% indicating that they don't currently have as much money to spend on exercise as they did prior to COVID-19.



44% of Australians say that exercising is more important to them now that they are not actively commuting to work as much as they did before COVID-19.





National advertising campaign



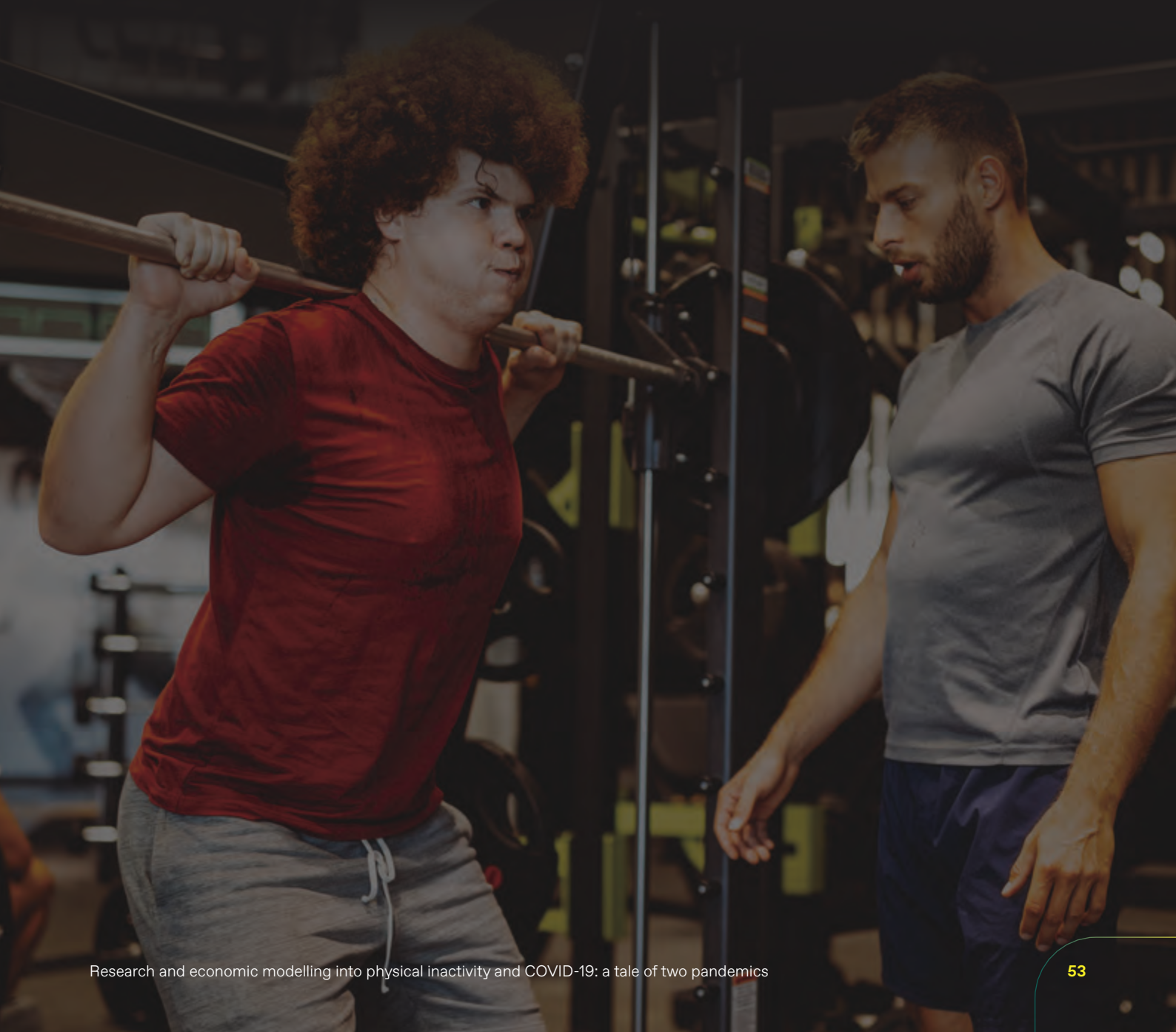
The economics of a national advertising campaign

 **\$2.9b**

Economic modelling by Deakin University for AUSactive has identified that health and economic benefits valued at A\$2.9 billion could be obtained through the combination of a fitness voucher with a national advertising campaign.

\$3.11 for each \$1

The ROI to the health system from a fitness voucher combined with a national advertising campaign is \$3.11 for each \$1 spent, should eligible Australians aged 20-79 be offered a \$100 voucher.



The case for a national physical activity campaign

There is a strong need to promote awareness of the benefits of physical activity among the community:

12%



Just 12% of the population are confident that they know what the government recommended levels of physical activity for their age group are.

1 in 5

Over one in five (22%) Australians do not feel that they can easily break old habits and adopt new, healthy ones.

22%



Over one in five (22%) Australians do not feel that they have the motivation and self-discipline to follow through on their health and exercise goals by themselves.

18%

18% of Australians are not currently optimistic about their future health.

19%

19% of Australians do not expect the best in uncertain times.

47%

47% of Australians view their overall wellbeing more holistically than focusing on individual elements alone since COVID-19.







A snapshot of regional Australia



Regional Australia is at greater risk of physical inactivity

Almost three-quarters (72%) of those in outer regional / remote areas have low levels of physical activity compared to two-thirds (64%) in metro areas, placing them at greater risk of poorer physical and mental health.

Of concern is that, while the prevalence of mental illness is relatively similar across Australia, those in capital cities are nearly twice as likely to access mental health services compared to those in remote areas.

Some concerning findings among regional Australians:

43% 

43% are not as physically fit as they would like to be.

26% 

26% don't have the motivation to follow through on their own health and exercise goals.

 **24%**

24% don't consider exercise and staying healthy as a core part of their identity.

There is strong appeal for a fitness voucher incentive in regional Australia, indicating its value to helping improve physical inactivity levels in this higher risk area.

% who would 'definitely' take up fitness voucher	Metro	Regional
Use it at my usual fitness centre	23.3%	22.8%
Use it with my usual personal trainer	14.6%	17.1%
Use it to try a new type of exercise I've been thinking of doing	20.7%	18.6%
Use it towards exercise products provided by a fitness centre or personal trainer	20.7%	19.6%
Use it towards an indoor or outdoor personal trainer or group class	17.9%	16.2%
Use it to trial a new gym, fitness centre or personal trainer	16.8%	19.6%



Prevention



An ounce of prevention is worth a pound of cure. – Benjamin Franklin

- ▶ There is global consensus that efforts to address physical inactivity require a comprehensive societal response.
- ▶ There is a strong imperative to do this as soon as possible given the significant economic and health impacts already endured as a result of COVID-19 lockdowns.
- ▶ Despite the growing burden of preventable diseases, the health budget for prevention efforts has been in decline since 2001, and is considerably less than comparable countries like Canada, the UK and New Zealand¹.
- ▶ Mounting global evidence demonstrates that a more physically active population yields positive economic, health and societal returns.
- ▶ AUSactive's research reveals one dollar spent on a preventative health initiative in the form of a fitness voucher has over three times the return on the public purse in terms of reduced health costs, through reduced expenditure on treatment for five major causes of morbidity and mortality.
- ▶ Efforts to increase levels of physical activity can be seen as lifesaving medical interventions, as well as investments in human health and potential. Physical activity delivers longer, happier and more productive lives, contributing positively to economic and social outcomes in numerous ways.



An ounce of prevention is worth a pound of cure

- ▶ According to the Global Burden of Disease study, over a third (38%) of Australia's disease burden could be avoided or reduced if we took action on a range of modifiable risk factors by adopting healthy lifestyle changes¹.
- ▶ The Australian Institute of Health and Welfare reports that 14% of Australia's disease burden could be cut if each Aussie briskly walked an extra 15 minutes a day, 5 days a week¹. The burden could be cut but over one-quarter (26%) if the time spent walking increased to the WHO recommended amount of 30 minutes, 5 days a week.
- ▶ Importantly, these findings show that even those moving from 'none' to 'some level' of activity see significant health benefits.
- ▶ As the research by AUSactive shows, supporting Australians² who are inactive towards some level of physical activity unlocks a disproportionately large share of potential health and economic improvements, compared to treating the consequences of inaction.

A ‘whole-of-systems’, more inclusive approach

Australia has not acted as positively to redress this trend towards greater inactivity as some other nations.

Some commentators argue that sports funding continues to focus on achieving sporting greatness for an elite few at the expense of community-based initiatives that could improve health outcomes for all Australians, regardless of their ability or background.

People undertake physical activity in different ways, and while recent campaigns (e.g. Move it AUS) are a positive sign that there is an awareness of the importance of physical activity, only one-quarter of Australians engage in organised sport.



Now is an ideal time to launch a national, inclusive advertising campaign to get Australians active

- ▶ The research shows that physical activity has declined in multiple domains, across commuting, household and gardening activities, as well as exercise and leisure activities.
- ▶ That people undertake physical activity in so many different ways necessitates an approach which incorporates all domains of physical activity (not just sports, for example) for maximum effectiveness from a preventative health perspective, which will in turn improve health outcomes for all Australians, regardless of their ability or background.
- ▶ It is a precipitous moment in the future of Australian health. COVID-19 has encouraged many Australians to reflect on what matters to them the most, and their physical and mental health is top of mind. However, findings indicate that some negative impacts of COVID-19 are becoming entrenched, and that the cumulative impacts of COVID-19 lockdowns on physical and mental health have created a concerning set of conditions for an ongoing epidemic of staggering economic and population health costs.
- ▶ Ad campaigns demonstrate short-term effectiveness in changing physical activity. A quick-to-market and effective short-term boost in awareness and confidence is what is needed to kick-start Australians back into physical activity and lead the economic and health recovery in a proactive rather than reactive way.





Appendices



Survey design

The methodological framework and survey questions on physical activity were designed to align with existing approaches, in particular:



The Australian Burden of Disease (BoD) Study¹.



National Health Survey (NHS)² / Australian Health Survey (AHS).

(of which the National Nutrition and Physical Activity Survey (NNPAS) is a part, and which was preceded by the National Health Survey)

In these studies, physical activity information is collected on exercise (for leisure or walking for transport) and other physical activity in order to assess whether people met the 2014 Physical Activity guidelines as defined by **Australia's Physical Activity & Sedentary Behaviour Guidelines**⁴.

Deakin Health Economics

ACE Methodology

- ▶ The economic modelling presented in this report uses Deakin Health Economics' Assessing Cost-Effectiveness (ACE) methodology, which was developed as a priority-setting tool to facilitate evidence-based decision-making.
- ▶ The Deakin Health Economics Assessing Cost-Effectiveness (ACE) model uses mathematical relationships between the characteristics of the population, risk factors, and diseases to predict the longer-term outcomes of policy initiatives. The model simulates the effects of intervention-related changes to the distribution of one or more risk factors (e.g. physical inactivity) in the population of interest on the incidence of diseases related to that risk factor. Reduced incidence of diseases results in reductions in prevalence and disease related mortality and morbidity. This, in turn, results in improved long-term health outcomes and healthcare cost-savings.
- ▶ The model has been used across a wide variety of policy setting contexts requiring technical rigour in cost-effectiveness analyses of health-related policy interventions. For example, the 2010 Assessing Cost-Effectiveness (ACE) Prevention study¹ evaluated more than 120 health prevention interventions and their effectiveness in the Australian context – the most comprehensive evaluation of health prevention measures ever conducted world-wide at the time. More recently, it has been used to undertake the most comprehensive analysis of Australia's policy approaches in the context of the national obesity strategy² (see <http://www.aceobesitypolicy.com.au/>).
- ▶ The primary long term health outcome in the ACE model is the incremental Health Adjusted Life Years (HALYs) saved as a result of a given policy initiative. HALYs are calculated by aggregating the population level changes to overall mortality and morbidity for each disease (using Global Burden of Disease data).
- ▶ Total healthcare cost-savings (the treatment costs that are averted due to reductions in disease prevalence as a result of a policy, also referred to as cost-offsets) are used to calculate the net costs of a policy. Data on healthcare costs in the model are taken from the Australian Institute of Health and Welfare (AIHW).
- ▶ The ACE model has been adapted to physical activity under COVID-19, and potential policy intervention mechanisms that demonstrate the cost of the interventions are offset by savings resulting from a reduced need to treat disease.
- ▶ In this research, the model simulates the 2019 Australian population (aged 20–79 years) and estimates the effect of intervention-related changes in one or more risk factors on the incidence of diseases related to the relevant risk factors over the lifetime of the population.
- ▶ Over time, reduced incidence of disease results in reductions in prevalence and mortality compared to no intervention, thereby producing long-term health benefits and healthcare cost-savings. Potential impact fractions (PIFs) were calculated using relative risks (RR) from the Global Burden of Disease study and were used to calculate the change in disease incidence resulting from the intervention. PIFs were calculated using the relative risk shift method for physical activity.
- ▶ The model includes five diseases causally related to physical activity (colorectal cancer, breast cancer, type 2 diabetes, ischaemic heart disease, and stroke). Disease-specific lifetables were modelled for each disease to capture the morbidity and mortality impacts. Disability weights from the Global Burden of Disease study, which provides a common source and consistent methods for the valuation of health states, were used to calculate the morbidity impacts.



Physical activity definition and measures

- ▶ Physical activity is any bodily movement produced by skeletal muscles that expends energy (World Health Organization 2017). During people's daily activities, this exercise may occur in a number of domains, such as during leisure time or for transport.
- ▶ In this study, physical activity in the population encompasses the following domains: leisure (moderate or vigorous activity and walking briskly for exercise), transport-related, occupational, and activity due to household chores. This is consistent with the most recent editions of the Global Burden of Disease study definitions, which also included physical activity from occupational exposure and household chores.
- ▶ Not all historical studies include physical activity during work and household chores. For example, the ABDS 2011 study excluded physical activity during work and from household chores.
- ▶ There are various implications for including or excluding physical activity in these domains. For example, excluding them may over-represent sedentary and low levels of activity, particularly for people with physically demanding occupations. Other studies, however, have shown that physical activity in these domains can be over-reported.
- ▶ In this research, participants were asked about their levels of physical activity in a typical week prior to when COVID-19 lockdowns started to begin in Australia. They were then asked about their levels of physical activity in a typical week over the past month.
- ▶ The findings presented in this report identify the changes in physical activity observed across the two periods.



Calculating physical activity levels - METs

- ▶ Physical activity levels were calculated using the same approach as in the Australian Burden of Disease Study¹.
- ▶ Physical activity measures are based on the frequency and intensity of activity. In this study, physical activity is measured using the metabolic equivalent of task (MET), which quantifies the rate of energy expenditure. One (1) MET is equivalent to the rate of energy expended 'at rest' in 1 minute, whereas 5 METs indicates that the energy expended is 5 times that at rest. The greater the MET, the more the energy that is exerted. This MET intensity score is multiplied by the minutes spent at each activity intensity to give the total MET score for that activity (Jette M, Sidney K & Blümchen G 1990).
- ▶ Moderate exercise, such as brisk walking, recreational swimming, dancing or social tennis, have a MET intensity between 3.5 and 5. Vigorous activity requires more effort and includes running, fast cycling and many organised sports. These activities have a MET intensity of around 7 and above.
- ▶ The MET scores in each activity domain were mostly calculated by the duration of exercise per week in minutes, and the activity intensity from the National Nutrition and Physical Activity Survey as part of the Australian Health Survey (AHS) 2011–12. The MET scores from all activities undertaken are summed and then used to group people into physical activity categories.



Calculating physical activity levels

- ▶ The Australian Burden of Disease study (ABDS)¹ draws on the National Nutrition and Physical Activity Survey (as part of the AHS 2011–12) to obtain the inputs required to calculate METs for leisure, occupational and transport activity.
- ▶ The intensity factors for each physical activity domain in this study were chosen to align with the METs in the ABDS study.

Type of physical activity	ABDS source	Intensity factor (MET)
Walking briskly or cycling (for recreation or exercise, or to get from place to place / commute), for at least 10 minutes continuously	Walking for fitness or transport average	3.5
Moderate leisure activity (like social tennis, moderate exercise classes like yoga, recreational swimming, dancing)	Moderate physical activity(a)	5
Moderate household, garden or work activities (that cause small increases in breathing or heart rate, such as carrying light loads), for at least 10 minutes continuously	Moderate physical activity(a)	5
Vigorous exercise or leisure activity (that makes you breathe harder or puff and pant) like High Intensity Interval Training (HIIT) classes, weightlifting, competitive sport, vigorous cycling, running, swimming)	Vigorous physical activity(b)	7.5
Vigorous household, garden or work activities (that make you breathe harder or puff and pant, such as carrying or lifting heavy loads, digging or construction work), for at least 10 minutes continuously	Vigorous physical activity(b)	7.5

MET Categories

Prevalence of total physical activity was estimated in four categories. The categories used in this report are based on those from the GBD 2015. The categories are:

Sedentary	Total MET score between 1–599
Low	Total MET score between 600–3,999
Moderate	Total MET score between 4,000–7,999
High	Total MET score of 8,000 and above.

Currently, the World Health Organisation recommends at least 600 MET minutes of physical activity each week. That is equivalent to 150 minutes of brisk walking or 75 minutes of running.

Economic modelling methodology: cost of COVID-19



100%

Target audience:

100% of Australian population aged 20-79 years.

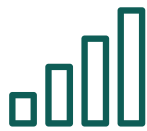


Outcome time period:

population lifetime (100 years).



Discount rate: 3%.



Model inputs:

Change in METs pre COVID-19 to the past month (surveyed in Sept/Oct, 2021).



Intervention time period:

24 months (the 18 months since the first lockdowns, and the next 6 months).

Outcome: The healthcare costs estimated from the decline in physical activity levels across the nation during the Covid-lockdown period is \$1.5b over the lifetime of the 2019 population. This is assuming that physical activity levels return to pre-Covid lockdown levels within the next 6 months.

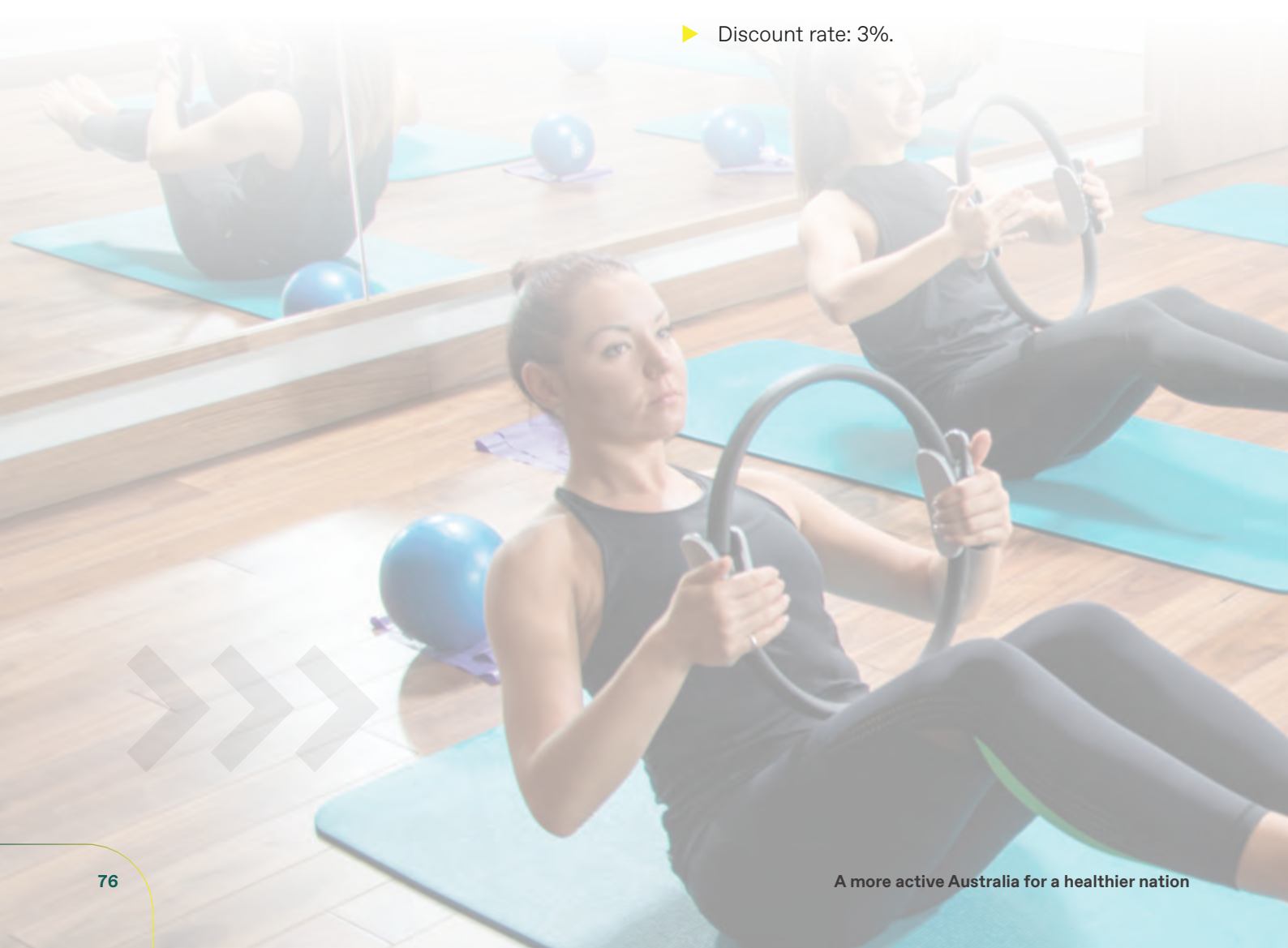


Economic modelling methodology: fitness voucher

- ▶ Target audience: 100% of Australian population aged 20-79 years.
- ▶ Model inputs: Change in METs from pre COVID-19 levels to uptake estimated as follows:
 - Participants who indicated that they were already likely to return to fitness centres or personal trainer based exercise post-lockdown were excluded from analysis of the potential benefits due to a fitness voucher, as they were considered to be already likely to obtain health benefits via physical activity.
 - Among those not already likely to return to fitness centres, estimated fitness voucher take-up was calculated based on the research findings which asked participants how likely they would be to use a fitness voucher if offered. A total take up metric was calculated for each four year age bracket among males and females aged between 20-79 (e.g. males aged 20-24, 25-29, 30-34, etc.) by taking 90% of those who said they 'definitely would' and 40% of those who said they 'probably would'.
 - The modelling uses an intervention approach where the benefits of the intervention, in this case a fitness voucher assumed to encourage Australians to increase their physical activity levels by starting or being encouraged to get back into fitness centres and personal training, and maintaining that changed behaviour for a period of time. There is a natural drop-out of people who commence new activities such as joining a gym, and it is also reasonable to expect that many who take advantage of a fitness voucher would do so only while it contributed to their financial benefit, and drop it thereafter. Based on this, an attrition factor was applied to the voucher take-up estimate, to provide a more realistic measure of the health benefits accrued over the period of the intervention. It is documented that up to 50% of new gym memberships in Australia are not renewed after 12 months. Therefore, an attrition factor of 25% was applied at the two-month mark, with 5% attrition rate applied every two months thereafter for the first 12 months (reaching 50% at the 12-month mark).
- The research identified that, prior to COVID-19, members of fitness centres and with personal trainers exhibited 14% more physical activity (measured in METs) than the general population. This factor was used to calculate a realistic increase in physical activity among the population who take advantage of a fitness voucher and don't lapse membership (as per the factors above) during the course of the intervention period. The differences in physical activity (measured in METs) between the pre COVID-19 population and the increase estimated due to the adoption of a fitness voucher (the 'intervention') were used as the inputs to the Deakin ACE model to assess the health benefits and ROI.
- ▶ Intervention time period: 24 months (the 18 months since the first lockdowns, and the next 6 months).
- ▶ Outcome time period: population lifetime (100 years).
- ▶ Discount rate: 3%.
- ▶ Intervention cost: A\$894,250,872.76. Estimated fitness voucher take-up was calculated based on the research findings which asked participants how likely they would be to use a fitness voucher if offered. A total take up metric was calculated for each four year age bracket among males and females aged between 20-79 (e.g. males aged 20-24, 25-29, 30-34, etc.) by taking 90% of those who said they 'definitely would' and 40% of those who said they 'probably would'. This proportion was then extrapolated to ABS population estimates to provide a total estimated take-up figure for the population aged 20-79: 8,942,509. This figure was then multiplied by the proposed fitness voucher amount (of \$100), to give the total intervention cost of A\$894,250,872.76.

Economic modelling methodology: ad campaign

- ▶ Target audience: 100% of Australian population aged 20-79 years.
- ▶ Model inputs: Change in METs from pre COVID-19 levels to uptake based on a combination of \$100 incentive and a national advertising campaign. The same assumptions for the fitness voucher were used, with the exception of the attrition rate. Attrition rates were estimated to be 5% points better (e.g. an attrition rate of 20%, rather than 25%, at the two month mark, declining 5% each month thereafter), due to the advertising campaign effect.
- ▶ As with the fitness voucher, the proportion of the population already likely to return to fitness centres was excluded from the benefits of the modelling. The advertising campaign was estimated to have an 80% awareness level, and 20% behaviour change intention among those who are aware of it. Among this remaining proportion, an estimated 7% increase in METs was applied. This is based on measured increases in METs from a mass media campaign¹.
- ▶ Intervention cost: \$24 million. This is based on similar report costs for recent advertising campaigns.
- ▶ Intervention time period: 12 months.
- ▶ Outcome time period: population lifetime (100 years).
- ▶ Discount rate: 3%.



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