



A National Post-Pandemic Resilience Programme:

Supporting older adults to recover from the pandemic

A follow-up report to *A National COVID-19 Resilience Programme*

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This report is a follow up to our October 2020 report *A National COVID-19 Resilience Programme*. We would like to thank our October 2020 Expert Group and all those who contributed to that project.



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Foreword

The COVID-19 pandemic has taken a huge toll on lives and livelihoods in the UK and across the world. In addition to the direct consequences through lives lost and debilitating effects of Long COVID, the pandemic and lockdowns will have long-term effects on an array of public health issues. While the Omicron variant may yet require additional restrictions to be reintroduced, it is more important than ever that we plan for a post-pandemic world and its consequences on physical activity.

We are concerned about the impact of the pandemic on physical activity levels among older people, particularly given people with lower levels of habitual physical activity were more severely affected by the disease. Regular physical activity is also vital to maintaining health and resilience. In October 2020 we commissioned the polling company YouGov to survey older adults on how the pandemic and lockdown was affecting them. As the UK emerges from the COVID-19 pandemic, we have asked YouGov to again survey older people to give us an indication of what the long-term impact may be.

It is clear from our new survey that the pandemic has had a detrimental impact on physical activity levels: despite restrictions now being lifted, over a quarter of over-50s told us they are less physically active than pre-pandemic. Given the role of physical activity in maintaining health, this is a cause for real concern and it is likely that general health will have diminished as a direct consequence.

It follows a pattern of recent research. For example, Age UK's report from May 2021 that found that 1 in 4 older people's ability to do everyday activities has worsened during the pandemic.¹

Reductions in physical activity among all age groups will result in negative health implications, but this is particularly concerning for older and frail adults who are already at increased risk from low physical activity levels. Following the lifting of most restrictions in the UK, it is clear to us that we will have an impending physical resilience crisis affecting many older adults, driven by a reduction in physical activity. The top two reasons cited in our most recent data for a reduction in activity are a lack of motivation and that people are out of the habit of exercising or undertaking activities in person. We therefore need a big, bold programme to motivate and encourage older adults to get moving. This is also important as cases of 'Long COVID', where physical activity levels and resilience will be low, continue to grow.

1. www.ageuk.org.uk/latest-press/articles/2021/new-analysis-finds-the-pandemic-has-significantly-increased-older-peoples-need-for-social-care/

Our October 2020 report proposed a National COVID-19 Resilience Programme to keep older people active and healthy during winter and future lockdowns. In this updated report we propose re-focusing our proposed national programme on addressing the long-term post-pandemic challenges. Through a combination of organised local groups supported by online and televised support, our National Post-Pandemic Resilience Programme would focus specifically on addressing the challenges presented by behaviour changes over the last eighteen months.

We are indebted to the Steering Group we worked with for our report last October, on whom this follow-up report is based.

We hope that this report is a useful contribution to ensuring public health programmes are evidence led and successful.

Professor Paul Greenhaff

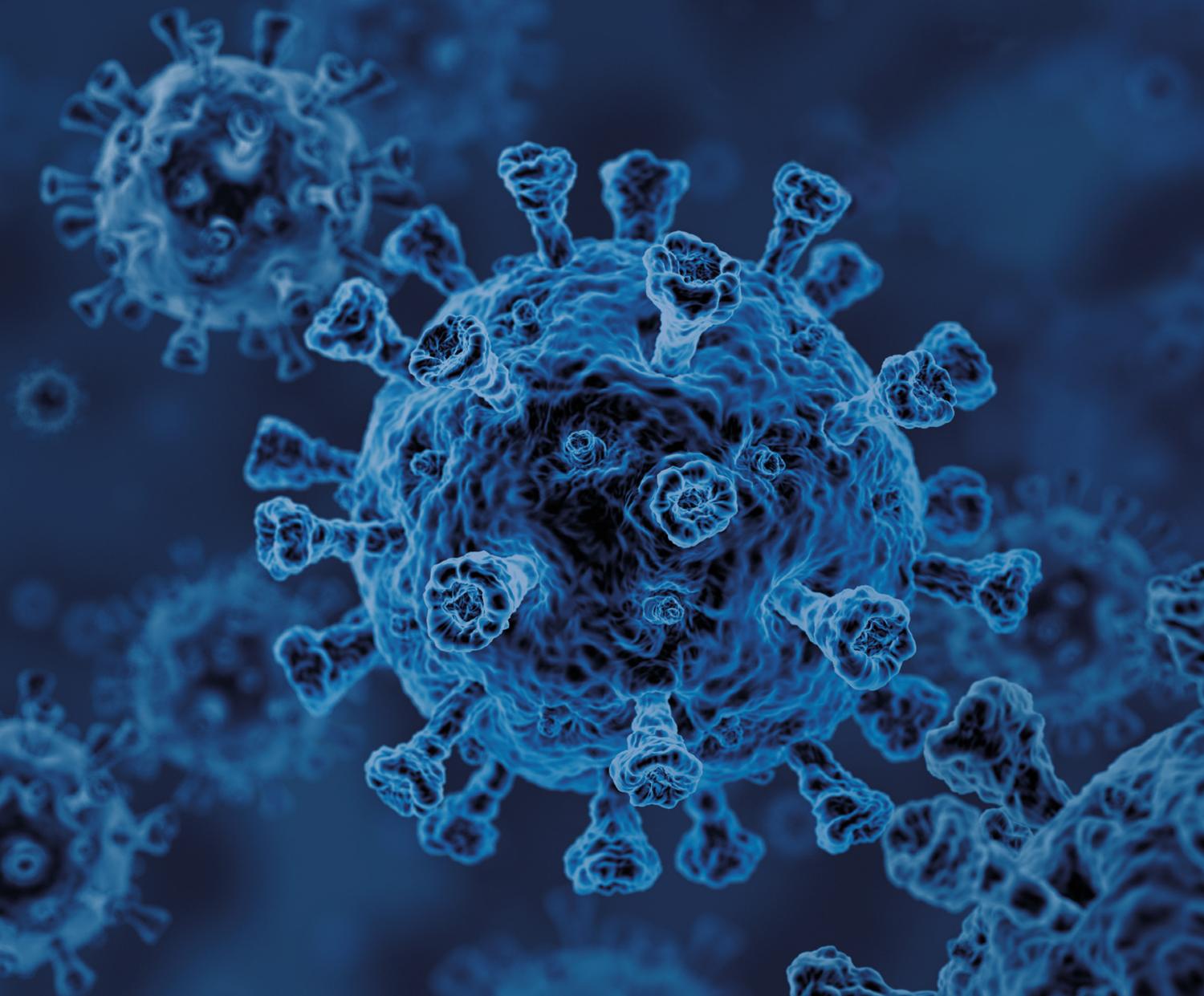
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Understanding the post-pandemic challenge

As of December 2021, over 10.5 million people in the UK have tested positive for COVID-19 and there have been over 170,000 deaths with COVID-19 on the death certificate.

In addition to the tragedy caused directly by the disease, the pandemic and associated lockdowns have had a significant impact on many other areas of public health.





1.1 Importance of physical activity to maintaining health

Physical activity is important to maintain a healthy weight and body composition, as well as reducing the risk of a range of non-communicable chronic diseases such as coronary heart disease, stroke and type 2 diabetes.

The World Health Organization defines physical activity as “any bodily movement produced by skeletal muscles that requires energy expenditure – including activities undertaken while working, playing, carrying out household chores, travelling, and engaging in recreational pursuits.”

The term “physical activity” should not be confused with “exercise”, which is a subcategory of physical activity that is planned, structured, repetitive and aims to improve or maintain one or more components of physical fitness.²

A decline in muscle mass affects strength, mobility and balance. Reduced physical activity or sedentary

behaviour is defined as taking fewer than 5,000 steps a day.³ Very low step counts (1,413 per day) can rapidly (within weeks) limit muscle growth, promote muscle loss and impair whole-body glucose disposal (insulin resistance).⁴ More rapid and greater deficits are evident when any person becomes completely immobile, with 3 days of immobilisation in healthy adult subjects sufficient to significantly decrease muscle mass, tone and force and with whole-body and limb glucose uptake rates falling significantly within 7 days or less of immobility.^{5,6,7}

Older people are at greater risk from serious illness or death from COVID-19, as well as the impact from a reduction in physical activity. For older people, a reduction in physical activity is likely to lead to accelerated frailty development with dramatic functional consequences, perhaps tilting the balance between just being able to do something, such as rising from a chair, and not. This has significant consequences for independent living and healthcare provision.

1.2 Changes in physical activity levels

With the majority of COVID-19 restrictions now eased across the UK, The Physiological Society and Centre for Ageing Better have revisited the key analysis from our October 2020 report *A National COVID-19 Resilience Programme: Improving the health and wellbeing of older people during the pandemic*.



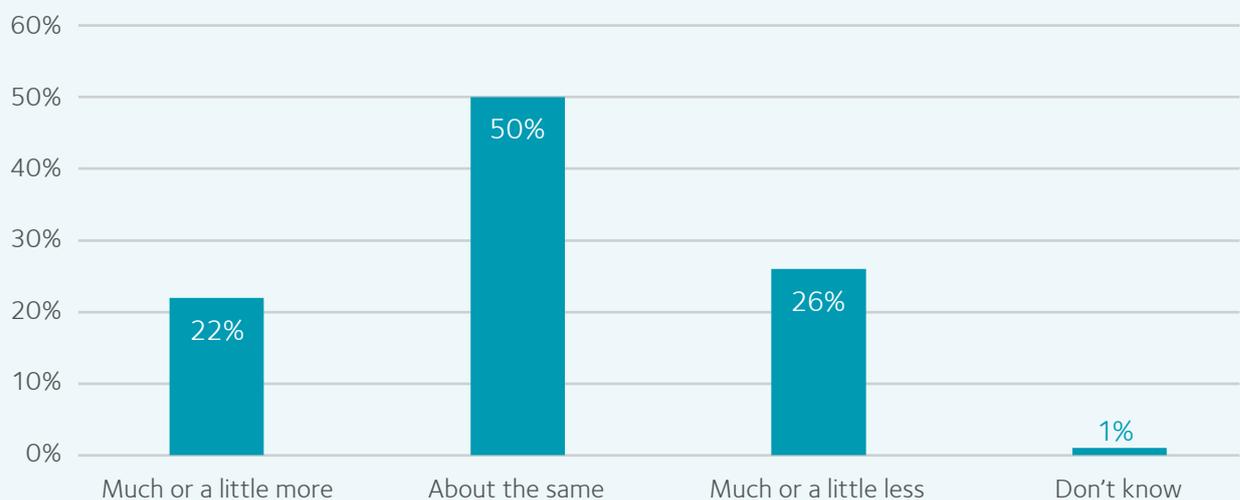
For this new analysis, we commissioned polling company YouGov to survey people aged over-50 in Great Britain to explore how the pandemic and lockdowns had affected their health. Our survey shows that the pandemic and associated lockdowns have had continued and significant impact on physical activity levels in people over 50 years of age many months after the first case of COVID-19 in the UK.

YouGov polled 2,014 people aged over-50 and applied weightings to the results in order to make the findings representative of the British population over-50. The survey took place in August 2021 and respondents were asked to consider how much physical activity they had done in the last four weeks compared with before the first lockdown, i.e. prior to 23 March 2020. They were asked to consider any form of physical activity, such as walking to the shops, housework and gardening as well as overt exercise.

While we need to be aware of the limitations of estimating physical activity from individual recall, the results indicate cause for concern. 26% of all respondents (over-50s) told us they are doing less exercise than before the pandemic.

The age group that reported the most significant apparent reduction in physical activity were those aged over 75, with 34% citing a reduction compared with 18% of 60-64 year olds. Of course, comparing reported reductions in physical activity levels across age groups does not reflect absolute amounts or

Change in physical activity levels since before the COVID-19 pandemic (all over-50s)



■ Change in physical activity levels since before the COVID-19 pandemic

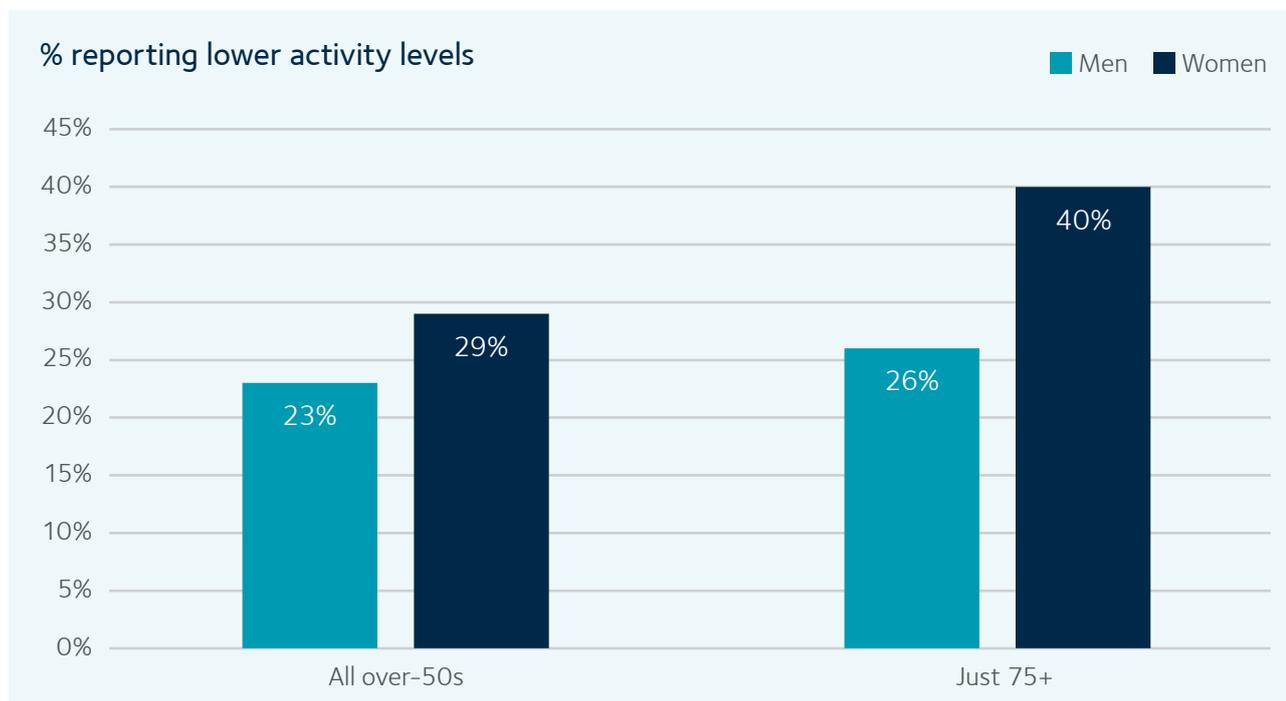
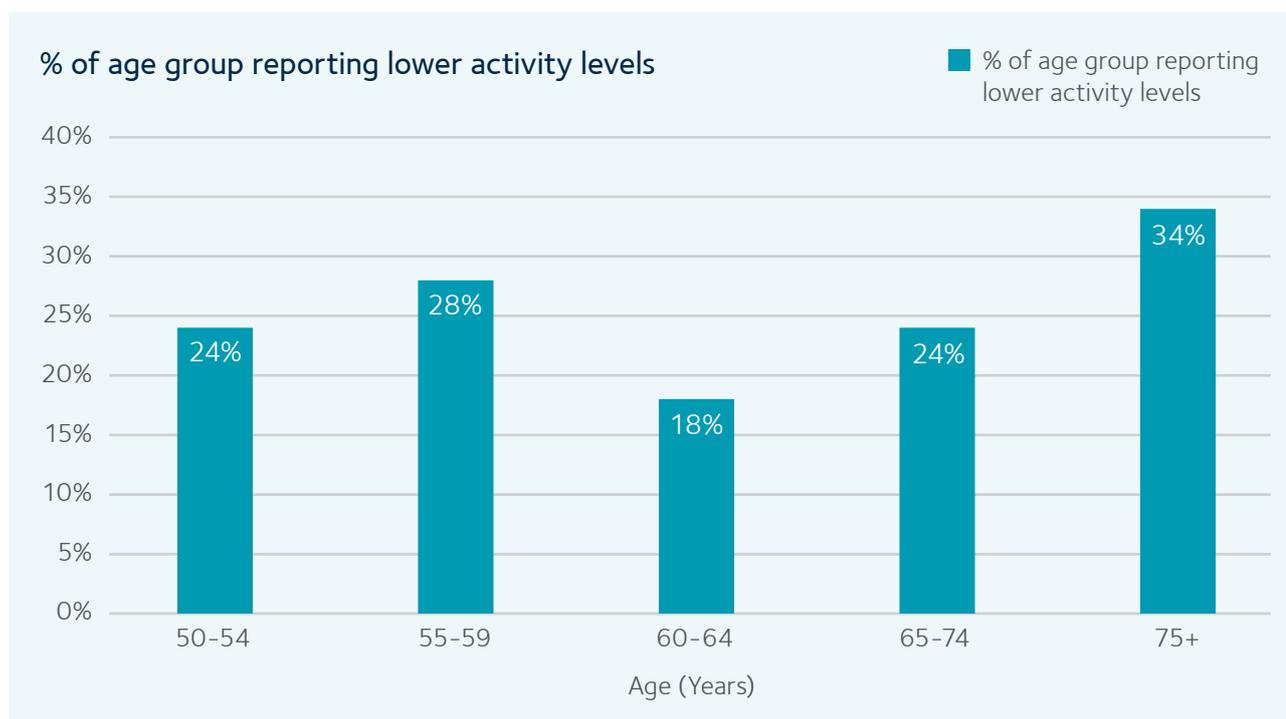
Percentages may not total 100 due to rounding

the initial levels of activity performed. The greater the initial amount of exercise, the likely greater the magnitude of impact of decline in physical activity on physiological function. An older or frail person will already be at a lower starting point of physiological resilience such that even a small fall in physiological function due to increased inactivity could push them beyond the limit of adequate health such that activities of daily living become difficult.

It is interesting to note that 60-64 year olds reported a smaller reduction in physical activity

levels than people in their 50s. This suggests that a resilience programme needs to also target people in their 50s to prevent future frailty.

From the results of our survey, it appears that women's physical activity levels have been more greatly impacted over the last eighteen months than men's, with 29% of all women over-50 doing less exercise compared with 23% of men. When looking at just those over 75 years old the gap becomes even more pronounced, with 40% of women doing less, compared with 26% of men.



1.3 Reasons for reduction in physical activity levels

We asked those who reported a reduction in physical activity levels compared with before the pandemic to identify reasons for this.

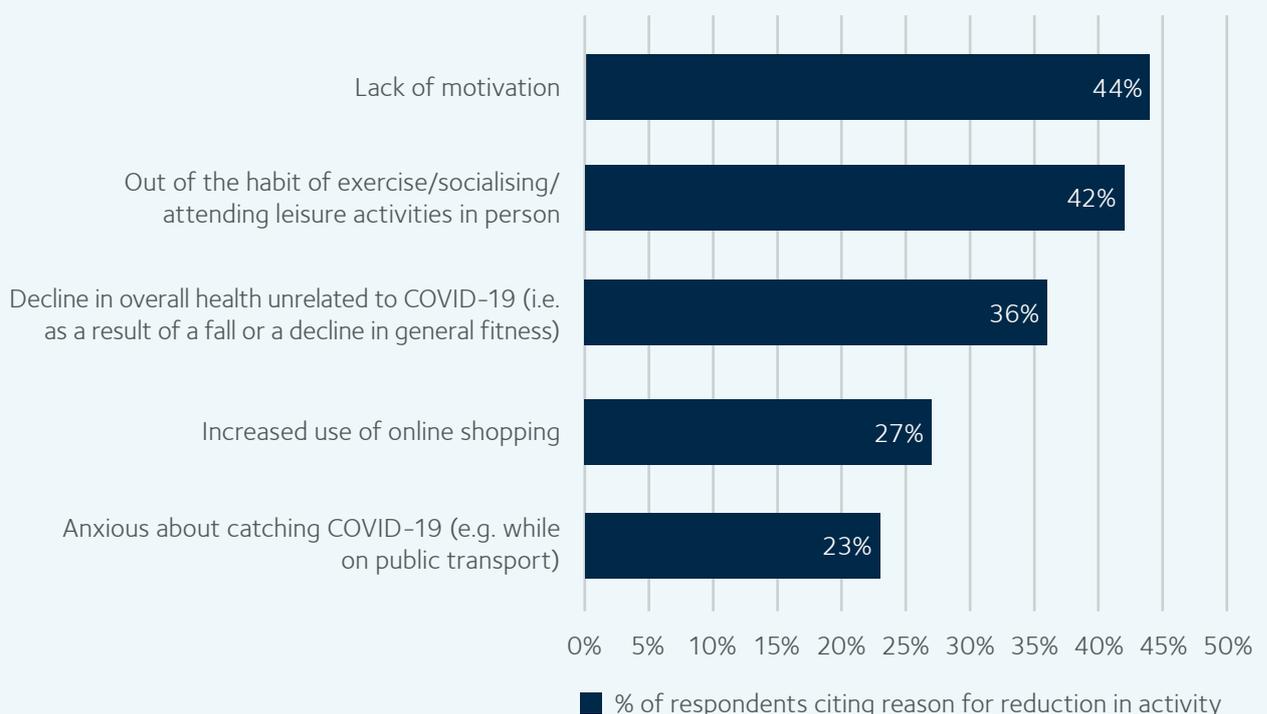
The top reasons given by over-50s for doing less physical activity are lack of motivation (44%), that they are out of the habit of being physically active or socialising in person (42%), a decline in overall fitness (36%) and increased use of online shopping (27%). Interestingly, anxiety about catching COVID-19 is only fifth in priority (23%).

This suggests that strategies for reversing this trend and encouraging greater physical activity should focus on providing greater motivation and supporting behaviour change.

Women are more likely than men to cite each of these reasons for a reduction in activity, with the exception of being out of the habit of exercise or socialising in person. The biggest gap between women and men is for a “lack of motivation”, with 8% more women than men reporting this as a reason for being less physically active.

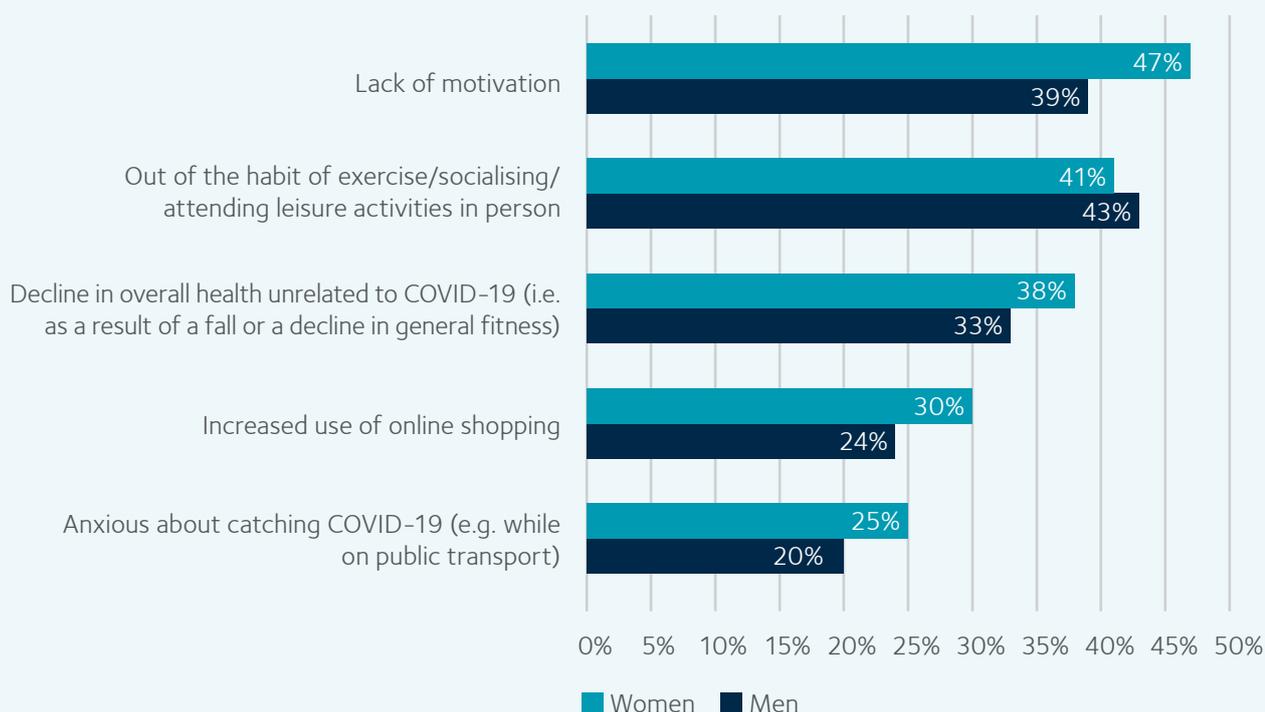


% of respondents cited reason for reduction in activity (Over-50s)





% of respondents cited reason for reduction in activity (Over-50s) by gender



It is also notable that over a third of over-50s who said their activity levels had reduced since before the pandemic said their overall health and fitness had declined. The proportion of people citing a decline in health as a reason for reduced physical activity since the pandemic varies with age, with it rising to become the top reason given by those over 75 years old. It may be that the decline in overall health in this age group during the pandemic has tipped these people into frailty.

It is interesting to note that a greater proportion of 50-54-year-olds cited this reason than 55-59 or 60-64-year-olds. Alongside the fact that 50-54-year-olds reported a larger reduction in

physical activity levels during the pandemic than 60-64 year olds, this highlights the importance of reversing this decline in health of people in their 50s.

Our survey also asked whether respondents were doing a range of activities more or less than before the pandemic. Indicative of society's greater reliance on virtual activities and how much online habits have driven behaviour change during the pandemic, the top response was that people were carrying out more online activities at their computers (40%). On the flip side, the activity most people told us they were now doing less of than pre-pandemic was shopping in person (47%).

% of respondents citing a decline in health as a reason for reduction in physical activity (Over-50s)



1.4 Actions to increase physical activity levels

Our final survey question focused on a range of proposals to help people increase their physical activity levels after the COVID-19 pandemic. Of the options presented, the most popular across our entire survey of over-50s – selected by 20% of respondents – was local physical activity groups with other residents of a similar age. There is a significant gender split, with 26% of women citing this option compared with 15% of men.

Given that our survey suggests that women are more likely than men to cite a lack of motivation as a reason for reduced physical activity, local

activity groups should form a key part of the public health response.

When considering the appropriate public health response, it is insightful to consider how this could be tailored to meet the needs of people of different ages.

The most popular proposal to increase activity levels for those aged 50-54 (21%) is the provision of activity monitors, while it drops significantly in popularity for those aged 75 and over (15%). On the other hand, the most popular action for those aged 75 and over (22%) is the provision of exercise programmes tailored to their age delivered by a healthcare professional, dropping to 17% for those aged 50-54.

Answers to: You previously mentioned that you have been less active in the last 4 weeks compared to before the first COVID-19 lockdown...Which, if any, of the following were reasons for this? (Please select all that apply) NB: "None of these" and "Don't know" responses removed	Age (Years)					
	All 50+	50-54	55-59	60-64	65-74	75+
Exercise programmes specifically designed for people my age, available online (e.g. via YouTube or other websites)	12%	13%	13%	14%	11%	13%
Exercise programmes specifically designed for people my age, on main TV channels	11%	11%	9%	12%	11%	14%
Exercise programmes specifically designed for people my age, on main radio stations	3%	4%	3%	4%	3%	4%
Exercise programmes specifically designed for people my age, provided by a healthcare professional (e.g. GP or pharmacist)	19%	17%	17%	19%	21%	22%
Activity monitor to help me measure my activity over time	17%	21%	19%	17%	14%	15%
Local physical activity group with other residents of a similar age to me	20%	17%	18%	22%	24%	19%

These changes perhaps reflect the fact that most people in their 50s in our survey are working and so have to fit physical activity around these other commitments. Those over 75 years old may feel most comfortable receiving guidance from a healthcare professional.

These responses suggests that a "one-size-fits-all" public health response will not be effective. Different age groups of adults over-50 face very different challenges depending on their circumstances. Therefore, a national programme should be flexible enough to incorporate a range of responses, emphasising the different opportunities depending on age and gender.

- World Health Organization, 2018. Physical Activity. Available at: www.who.int/news-room/fact-sheets/detail/physical-activity
- Tudor-Locke, C., Craig, C. L., Thyfault, J. P. & Spence, J. C., 2013. A step-defined sedentary lifestyle index: <5000 steps/day. *Applied Physiology, Nutrition and Metabolism*.
- Breen, L. et al., 2013. Two Weeks of Reduced Activity Decreases Leg Lean Mass and Induces "Anabolic Resistance" of Myofibrillar Protein Synthesis in Healthy Elderly. *Journal of Clinical Endocrinology and Metabolism*, June, 98(6), pp. 2604-12.
- Demangel, R. et al., 2017. Early structural and functional signature of 3-day human skeletal muscle disuse using the dry immersion model. *Journal of Physiology*, 595(13), p. 4301-4315.
- Mikines, K., Richter, E., Dela, F. & Galbo, H., 1991. Seven days of bed rest decrease insulin action on glucose uptake in leg and whole body. *Journal of Applied Physiology*, March, 70(3), pp. 1245-1254
- Burns A.M et al. Immobilisation induces sizeable and sustained reductions in forearm glucose uptake in just 24 hours but does not change lipid uptake in healthy men. *Journal of Physiology*. 2021

CHAPTER 2

Designing effective public health interventions

Increasing physical resilience - the ability to resist or recover from functional decline - among older people must be a central component of the post-pandemic public health response.



We must support people of all ages, and especially those in older demographics, to be aware of the risks associated with a sedentary lifestyle. Building physical resilience cannot be left to the individual alone. Public health agencies must do more to ensure older people have access to scientifically rigorous advice on health and wellbeing as it relates to physical activity and nutrition. There is a close link between physical and mental health and there have been many studies highlighting the decline in older adults' mental health during the course of the pandemic.⁸ Exercise improves mental health by reducing anxiety, depression, and negative mood and by improving self-esteem and cognitive function.⁹

When designing the public health response to increase physical resilience, authorities should be mindful of the primary drivers we found for the reduction in physical activity since before the pandemic:

- lack of motivation
- that they are out of the habit of exercising
- a decline in overall fitness

Our survey highlights that the public health response should encompass a broad array of different hybrid (in-person and online) support options, tailored to individual circumstances, such as age and need. We found that the most popular action to support increased physical activity changes with age, and in general women were more likely to cite local activity groups as their most favoured survey answer.

The public health response should include building on existing local community groups, such as those available through Age UK, to provide local physical activity and exercise support groups. For those who require more support, healthcare professional led programmes will provide the reassurance required to increase activity levels.

A specific focus of the public health response must be on those in their 50s who have seen significant lifestyle changes as a result of the pandemic, such as increased working from home and therefore lower physical activity levels. They should be offered fitness trackers, to empower them to take control of their own health, as well as partnering with employers to promote workplace health.



Age (Years)	Most popular action to increase physical activity (NB: "none of these" responses excluded)
50-54	Activity monitor to help me measure my activity over time (21%)
55-59	Activity monitor to help me measure my activity over time (19%)
60-64	Local physical activity group with other residents of a similar age to me (22%)
65-74+	Local physical activity group with other residents of a similar age to me (24%)
75+	Exercise programmes specifically designed for people my age, provided by a healthcare professional (e.g. GP or pharmacist) (22%)

Around 1 in 10 people aged over-50 also said they would benefit from exercise programmes specifically designed for their age online (12%) and on TV (11%) and therefore a programme of in-person activity should be supported by remote physical activity guidance. This is particularly important for older people finding it difficult to be motivated or who are concerned about visiting busier places following the pandemic.

There are also existing schemes that can be delivered in care home settings, such as an initiative where care home residents cycle on exercise bikes to access footage of places from their childhoods on a screen, see additional reference below. Home-based exercise programmes are likely to be particularly beneficial during the winter months when older people's ability to exercise will be affected by the shorter days.

These different interventions should be easy to access, with a common entry point that acts as an initial 'one-stop-shop'. As a lack of motivation has been cited as a key factor in reasons for the reduction in physical activity, older people should not have to navigate complex systems and organisations. The support they need should be provided in the format they require, in a manner that fits in with other health and life commitments.

We therefore support the principles behind the development of integrated care systems (ICSs) to deliver joined-up support, including physical activity, for growing numbers of older people and

people living with long-term conditions. Bringing the NHS together with local government, as well as voluntary, community and social enterprise organisations, is essential to providing a joined-up system of support for older people as they recover from the pandemic. We therefore look forward to legislation being brought forward in 2022, supported by the NHS, to continue this shift to greater integrative care.

Finally, we don't yet fully understand how physical inactivity impacts on physiological function at a multi-organ level and the time-course of physiological adaptations. This is key to developing effective resilience programmes and therefore must be an urgent area of continued scientific research. The UK must maximise its strengths in research, technology, innovation and data analysis to improve the state of the nation's health. Funding organisations should give greater priority to these areas of funding in order to build the evidence base for optimal interventions.

8. <https://academic.oup.com/qjmed/advance-article/doi/10.1093/qjmed/hcab015/6104561>

9. Sharma A, Madaan V, Petty FD. Exercise for mental health. *Prim Care Companion J Clin Psychiatry*. 2006;8(2):106. doi:10.4088/pcc.v08n0208a



CHAPTER 3

A National Post-Pandemic Resilience Programme

We are calling for public health agencies across the UK to launch a National Post-Pandemic Resilience Programme. This will be a joined-up system of support to provide older people with tailored advice and guidance on how to improve health post pandemic. The aim should be to not only return older people to their pre-pandemic physical activity levels, but encourage greater long-term levels of activity.



A National Post-Pandemic Resilience Programme:

1. A programme of physical activity to increase physical resilience, focusing on older people with high-risk factors such as obesity, type 2 diabetes, cardiovascular disease and sarcopenia. There should be a joined-up system of support with interventions tailored to different frailty levels and age demographics. This comprehensive programme should span multiple traditional and digital channels and delivery mechanisms. It should support increased activity levels with clear guidelines detailed enough to cover “when”, “how” and “how frequently” to exercise.

Building on the development of integrated care systems to deliver joined-up support, it should embrace a hybrid delivery model, tailored to provide older people access to the information, opportunities and support they need at a time and place that works for them. This should offer indoor and outdoor physical activity options designed for people with different levels of fitness.

A network of local groups should be encouraged to form to provide guidance and support. The programme will need to be designed in conjunction with exercise scientists and older people themselves. Such a programme will improve both physical and mental health.

2. A specific focus on increasing physical activity of people in their 50s to prevent future frailty. This group should be provided with activity trackers and online information to give them the ability to take control of their own health, as well as partnering with employers to promote workplace health.

3. Incorporate “at home” physical activity options so that older people who are not yet ready to go back to busier places can stay active. Online communities could draw on the “Make Movement Your Mission” model¹⁰ or similar schemes, with public health authorities across the UK rolling out a programme like this nationally.

As well as a digital platform, the national broadcasters should promote the benefits of physical activity by running regular televised and radio activity classes. These should be developed



in conjunction with exercise scientists in order to ensure that the approach is suitable for older people with different underlying levels of fitness and frailty.

4. Support optimised nutrition with clear guidance about the importance of a healthy balanced diet containing sufficient levels of protein, with an appropriate energy content. This advice should be linked explicitly to maintaining health and the body’s resilience in later life, so that older people understand the direct link between lifestyle choices and health and resilience.

5. Embed behaviour change to address lack of motivation and build new habits. This programme will not work unless we can successfully re-build older adults’ confidence and support them to stay active and keep well. Therefore, we will need to be able to enlist the help of relatives, care workers and other professionals to reinforce messages around resilience in their day-to-day interactions with older people in their families or for whom they care.

10. www.facebook.com/groups/MakeMovementYourMission

The Physiological Society

As the largest network of physiologists in Europe, with academic journals of global reach, The Physiological Society continues a 145 year tradition of being at the forefront of the life sciences. We support the advancement of physiology by promoting collaboration between physiologists around the world, organising world-class conferences and publishing the latest developments in our scientific journals. Research in physiology helps us to understand how the body works in health, what goes wrong in disease, and how the body responds to the challenges of everyday life.

Centre for Ageing Better

The UK's population is undergoing a massive age shift. In less than 20 years, one in four people will be over 65. The fact that many of us are living longer is a great achievement. But unless radical action is taken by government, business and others in society, millions of us risk missing out on enjoying those extra years. At the Centre for Ageing Better we want everyone to enjoy later life. We create change in policy and practice informed by evidence and work with partners across England to improve employment, housing, health and communities. We are a charitable foundation, funded by The National Lottery Community Fund, and part of the Government's What Works Network.



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