

## ANALYSIS

## Focus on physical activity can help avoid unnecessary social care

A concerted effort to provide support and opportunities for physical activity can help older adults maintain independence and lessen the costly burden of social care, argue **Scarlett McNally and colleagues**

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Social care has received substantial media coverage in recent months. There is now acknowledgment of the direct link between the parlous state of the NHS and the social care crisis.<sup>1</sup> Most social and political commentators focus on cuts in public funding of social care, shortages of staff, the increasingly fragile financial state of care home providers, and knock-on consequences for the NHS. The blame is usually placed on the rising numbers of older people, as if the requirement for social care was an unavoidable consequence of ageing. Thankfully, the need for social care is not inevitable. The UK National Institute for Health and Care Excellence made it clear in 2015 that “disability, dementia and frailty can be prevented or delayed.”<sup>2</sup> This remarkable statement received little publicity at the time.

A person’s need for care and support, whether provided by unpaid family carers or professional carers paid for personally or by the local authority, arises when someone is no longer able to manage vital activities of daily living such as washing, dressing, and feeding themselves. For illustration, for some people, the ability to get to the toilet in time is a threshold marking the difference between having carers visit twice a day and requiring live-in or residential care. The cost of care increases fivefold as this threshold is crossed.<sup>3</sup> A residential care placement costs an average of £32 600 a year<sup>3</sup> and may be required for months, years, or decades.

Ensuring that as many people as possible maintain the ability to manage vital activities of daily living requires a cultural change so that it becomes normal to expect people of all ages to be active. Concerted action by national and local organisations is also required to provide infrastructure and options, especially for those with fewest opportunities, who need most help.

### Distinction between ageing and physical decline

The sometimes drastic loss of ability that many older people experience is not an inevitable part of ageing. Ageing is a normal biological process that leads to a decline in vision, hearing, skin elasticity, immune function, and resilience—the ability to bounce back.<sup>4</sup> The common decline in fitness that occurs with age is different, starting around 30 years of age and accelerating more rapidly after age 45.<sup>5</sup> This decline in fitness is made worse if a person moves into a “dangerous” occupation—that is, one that involves sitting. The car, the desk job, and the internet have transformed work. A sedentary lifestyle is one of the top four causes of ill health in the UK, contributing to type 2 diabetes, dementia, heart disease, and recurrence of some cancers.<sup>6-8</sup>

Many high profile examples exist of healthy older people, but we usually assume that this is down to luck. There are massive social inequalities in length of healthy life,<sup>9</sup> with better nutrition and more exercise being two important causes.<sup>6</sup> A healthy old age is more likely to result from experiencing lower risks of preventable disease or frailty than from luck.

### Effect of disease

The older the age group studied, the more disease is found, but this is not a consequence of ageing in itself—many diseases are caused by environment and lifestyle. Forty per cent of people aged 40 have a long term condition, and the prevalence goes up 10% each decade, with an increasing proportion of people having multiple diseases<sup>10 11</sup> as the effects of environmental and behavioural risk factors accumulate. Small changes in

habits—for example, cycling to work, can reduce the effect of sedentary behaviour.<sup>12</sup>

Fitness often worsens with the onset of disease because of an indirect social impact. For example, caring relatives and professionals, who are often risk averse, may do things for the person rather than encouraging them to do things for themselves. Genetics are relatively unimportant in determining modern diseases; less than 20% of the risk is genetic, on average across a range of diseases.<sup>13</sup> The need for social care is determined more by an insidious loss of fitness than directly by disease and multiple morbidity.

## Keeping fit

The effects of ageing and of loss of fitness are commonly confused. The loss of ability that results from inactivity may lead to a person requiring social care.

People with long term conditions and those who experience pain often mistakenly believe that exercise will make things worse, rather than understanding that the more conditions you have the more you need to improve the four aspects of fitness: strength, stamina, suppleness, and skill. Strength and balance training reduce the risk of falls.<sup>14</sup> Furthermore, evidence is growing that recovery of these four attributes of fitness improves cognitive ability and reduces the risk of dementia, not only in midlife but also in the 70s and 80s.<sup>15 16</sup> The physical, mental, and social benefits of exercise can help enable people to live more independently and more autonomously.<sup>4</sup>

The good news is that at any age and with any combination of health problems, exercise provides, in the words of an important report from the Academy of Medical Royal Colleges, “the miracle cure.”<sup>16</sup> Exercise may reverse the decline and keep a person above the threshold for needing increased care.

People in their 70s with below average ability (measured as “chair rise” time) who improve this by 25%, to the average speed of those in their 60s, experience a reversal of a decade of decline (fig 1).<sup>18</sup> A recent meta-analysis showed significant improvements in older people’s “up and go” times when exercise ranging from low to moderate aerobic (walking) to high intensity progressive resistance training was started as an intervention; there was a clear dose effect, and those who were the most frail benefited the most.<sup>19</sup>

The prevailing attitude that exercise is for young people while older people should be encouraged to relax needs to be challenged. Physical activity is defined as any bodily movement produced by skeletal muscles that results in energy expenditure, including gardening and walking.<sup>20</sup> Exercise is a subset of physical activity that is planned, structured, and repetitive.<sup>20</sup>

A person’s physical fitness can be measured and includes attributes that are health related (eg, cardiac endurance) or skill related (eg, strength).<sup>20</sup> The UK chief medical officer’s guidelines recommend 150 minutes a week of moderate physical activity plus twice weekly strength and balance training for adults of all ages.<sup>7</sup> Any physical activity for at least 10 minutes that gets someone slightly out of breath contributes to the 150 minute weekly minimum target and there is a dose-response effect.<sup>5-8</sup> The Japanese Orthopaedic Association recommends regular 10 minute bursts of brisk walking and sets of squats to prevent “the locomotor syndrome” in older people caused by inactivity and contributing to a “heightened risk of care dependency.”<sup>21</sup> The World Health Organization’s analysis of interventions that work for older adults include “physical activity interventions in a group setting using an existing social structure or meeting place.”<sup>22</sup>

## Supporting a positive approach to growing older

One major change needed is to challenge and reset the beliefs about what happens to us as we grow older, to know that it is possible to combat some effects not by a drug or potion or elixir of life but by increasing activity—physical, mental, and social.<sup>4 16</sup>

Encouraging recent research suggests that the key to reducing the incidence of dementia is unlikely to be any new drug but through encouraging activities that are important in keeping healthy and feeling well in the short term—namely, increasing activity, stopping smoking, good nutrition, and using alcohol sparingly.<sup>15</sup>

Gyms, walking groups, gardening, cooking clubs, and volunteering have all been shown to work in improving the health and wellbeing of people at all ages with long term conditions.<sup>18</sup> Models of social prescribing, taking into account physical and mental health as well as social and economic issues, can be successful.<sup>23</sup>

## Role of healthcare in supporting activity

Health services can aggravate the problem and increase the need for social care. People admitted to hospital often experience a rapid decline in function. Patients are often encouraged to stay in bed or in the chair next to the bed and not to go to the toilet without assistance because of a fear of falls, which are reported as adverse incidents for the hospital. Arora describes this speedy loss of ability during acute illness and hospital admission as the “deconditioning syndrome”<sup>24</sup>; inpatients spend over 80% of their time in a bed and more than 60% reduce their mobility.<sup>25</sup> This can be combated by multidisciplinary focus on rehabilitation and maintaining activity.<sup>24</sup>

Care should not be passive. Health professionals may have misconceptions about how to reverse declines in ability and fitness<sup>6 19</sup> and not realise the scale of improvement possible.<sup>6-27</sup> They should advise all patients, including those with long term conditions, to start an activity and build up frequency, intensity, or time<sup>6</sup>; practical details can help maintain exercise—for example, exercise prescriptions, follow-up, knowledge of local opportunities, and advising people to share their goals and activity sessions with family and friends.<sup>6-27</sup>

## Local environment and policy to encourage activity

Structural changes are necessary in the built environment to encourage people, especially older adults, to become and remain active. Environments that are “walkable” and places that promote active travel have been shown to increase rates of physical activity. Practicalities include even pavements, open spaces, tables and seating in public places, safe cycle lanes, and restrictions on car use. Several frameworks exist to support this in the UK, including Design<sup>28</sup> and Transport for London’s Healthy Streets approach.<sup>29</sup>

## Reducing people’s risk of needing social care

People need social care when they are unable to perform some activities of daily living in their environment. The WHO report on ageing differentiates two useful concepts: “intrinsic capacity” as the composite of all the physical and mental capacities of an individual and “functional ability,” which includes intrinsic capacity but additionally how the individual interacts with their

environment.<sup>4</sup> Action is needed on both fronts—for example, adaptations to environments as well as strength and balance training to increase muscle strength and “get up and go” times. Need is a function of service organisation as well as ability; if too much is invested in polypharmacy and passive care systems, activity and rehabilitation services may be overlooked.

For people who fear reduced independence, the solution is not to hope for a quick exit from this world but to do enough activity every day and with every diagnosis. The attitudes of health and care professionals need to change too. Functional decline and the need for social care are not inevitable consequences of ageing. 25% of women and 20% of men in the UK report doing no activity at all in a week, let alone the recommended minimum 150 minutes to maintain health.<sup>8</sup>

## Reducing the costs of social care

Local authorities spend £8.8bn a year on care for the over 65s in England,<sup>30,31</sup> and a further £10bn is spent on formal care services by self funding individuals.<sup>31</sup> Furthermore, there are five million informal carers in the UK.<sup>6,31</sup> If local authority, self funding, and informal care is included, the total cost of social care is over £100bn, which is similar to the annual amount the UK spends on the NHS.<sup>30,32</sup> The lifetime costs of care differ massively between individuals. Being fitter not only benefits the individual it reduces society’s need for social care. The value to society of even modest improvements in fitness could be several billion pounds a year, since the mean care needs of a person almost double between age 65 and 75, and triple between age 65 and 85.<sup>11-32</sup>

We need individuals to understand their role in reducing demand for social care by being active. National and local organisations must act to encourage opportunities for people to be active, building this into our new and built environments, transport, and schedules. The gap between the best possible level of ability and actual ability can be reduced at any age,<sup>26</sup> no matter how many long term conditions the person may have.<sup>19</sup> The increase in the level of ability may not only restore the person to the ability they enjoyed 10 years earlier, it may make the crucial difference between living well at home or being dependent on social care or residential care.

**Contributors and sources:** All authors have been working in different roles within health or social care for many years. MG and SM had the idea for the article. All others edited, advised, and made suggestions. DN identified research. SM wrote the final version and is the guarantor.

**Competing interests:** We have read and understood BMJ policy on declaration of interests and declare that SM is an elected council member of the Royal College of Surgeons of England. MM is president of Cera, a social care provider. MG writes books promoting physical activity among older people.

**Provenance and peer review:** Not commissioned; externally peer reviewed.

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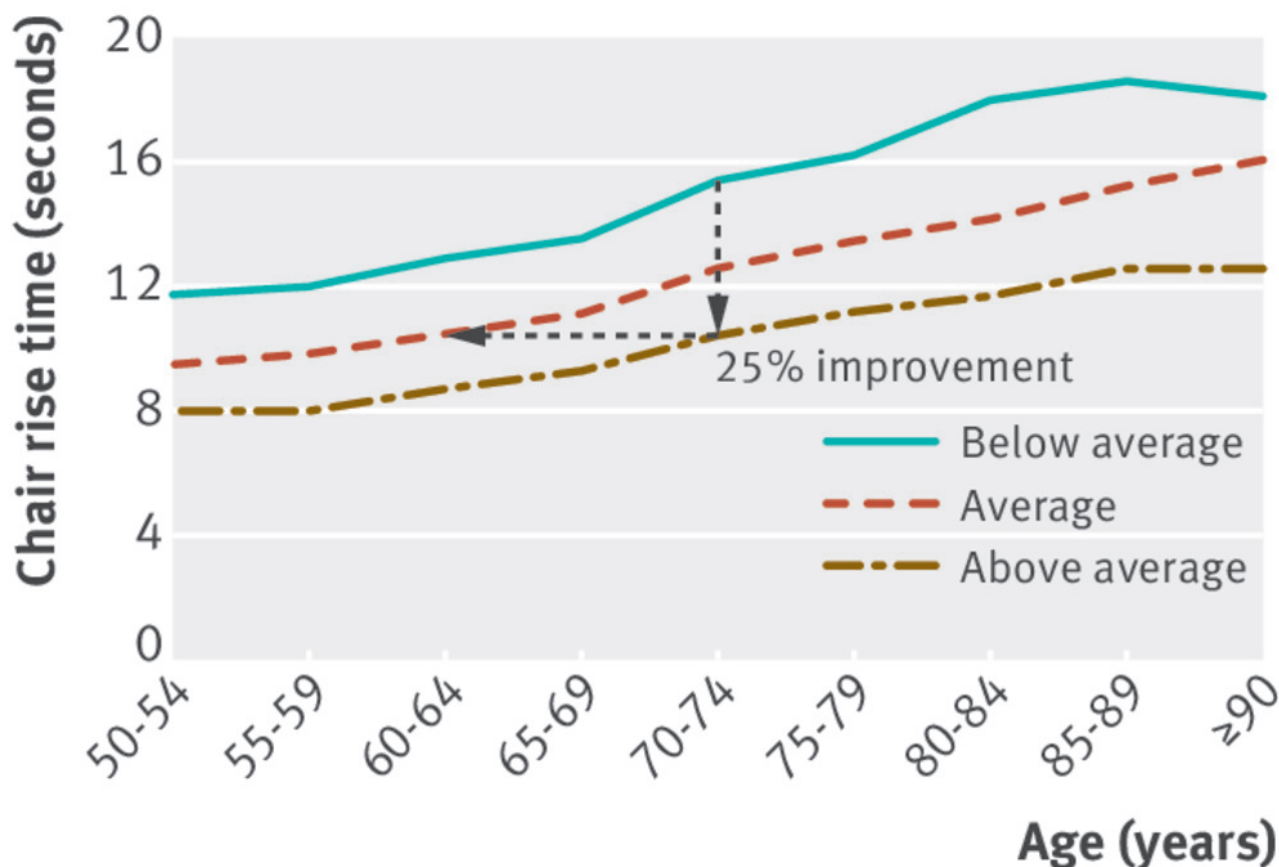
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**Key messages**

- The effects of ageing and the effects of loss of fitness are often confused
- Older people can increase their fitness level to that of an average person a decade younger by regular exercise
- Loss of fitness increases the risk of needing social care
- People should try to stay fit enough to be able to get to the toilet in time. Crossing this threshold increases social care costs fivefold
- Environments and expectations need to change to make exercise possible for middle aged and older people, including open spaces and facilities for active travel

**Figure**



**Fig 1** How improving functional ability can allow people to “drop a decade” (based on data from Cooper et al)<sup>18</sup>