

# Physical activity: An underrated intervention for people in later life

Dr Helen Frost, Research Fellow, ACRC.



## ACRC briefing paper 5

### What is the problem?

Physical inactivity is the fourth leading cause of death, with a similar risk to health as smoking and obesity<sup>1</sup>. The World Health Organisation (WHO) Global Action Plan<sup>3</sup> and Scottish National Policy for Active Living<sup>5</sup> were launched in 2018 with the aim to support people to be *'more active, more often'*. However, progress to increase physical activity levels, particularly for older people, has been slow<sup>6</sup>.

### What is physical activity, exercise, and sedentary behaviour?

The term "physical activity" is often confused with "exercise" and the terms are used interchangeably. The WHO defines physical activity *'as any bodily movement produced by skeletal muscles that requires energy expenditure.'* It is inclusive of both normal everyday activities such as walking, housework and gardening. Exercise is a subcategory of physical activity that is *'planned, structured, repetitive, and purposefully focused on improvement or maintenance of physical fitness'*<sup>3</sup>. Over the last decade, sedentary behaviour, *'time spent sitting or in a reclining posture without spending energy'*, has emerged as an additional risk factor for older people<sup>7</sup>. The distinction between physical activity, exercise and sedentary behaviour is important as they are linked independently with frailty<sup>7</sup>.

The main problem, particularly for people over 65, is that levels of inactivity remain high in the UK and many older people are sedentary for more than 8.5 hours a day<sup>8</sup>. In Scotland, national survey data for 2018 suggests that whilst 67% of those aged 45-54 met the recommended physical activity guidelines (see Figure 1) this drops dramatically to 31% among those aged 75 and over. Furthermore, older people living in the most deprived areas are at most risk of inactivity<sup>9</sup>. Although difficult to measure and compare accurately, standardised physical activity surveillance is similar across the globe and current trends suggest that the global 2025 target to increase physical activity levels by 10% will not be achieved<sup>10</sup>. The pandemic has exacerbated this problem and regardless of whether older people contracted COVID-19, the strict isolation measures have contributed to the increased risk of frailty in older people, even for those who were physically active before the pandemic. This has resulted in an increased need to provide interventions at scale to support older people to become more active<sup>11</sup>.

### What do we know about it?

The World Health Organisation recognises physical inactivity as a significant risk to healthy ageing, across high, middle and low income countries (See Box 1)<sup>3</sup>. In older adults, physical activity reduces risk of cardiovascular disease, osteoporosis, some cancers, falls and cognitive decline<sup>1</sup>. Similarly, high levels of sedentary behaviour are linked with all-cause mortality, cardiovascular, cancer and incidence of type-2 diabetes, frailty, and social isolation in older people<sup>7,12</sup>. We know that physical activity improves general health and quality of life, preserves independence and is safe, even in frail and very old people living in the community and those in hospital<sup>13</sup>. We also know that exercise in the form of resistance training plus nutritional supplements can increase muscle mass, and multimodal exercise can improve balance, reduce falls<sup>14</sup>, including reducing the risk of falls in older people with dementia<sup>15</sup>, and improve general physical performance for frail older people<sup>16</sup>.

#### Box one

#### Key facts about physical activity (PA) for older people

- Physical activity (PA) has significant health benefits for hearts, bodies, and minds.
- PA contributes to preventing and managing non communicable diseases such as cardiovascular diseases, some cancers and Type 2 diabetes.
- Physical activity reduces symptoms of depression and anxiety.
- Physical activity enhances thinking, learning, and judgment skills
- Physical activity improves overall well-being.
- Globally, 1 in 4 adults do not meet the global recommended levels of physical activity.
- Up to 5 million deaths a year could be averted if the global population was more active.

*Adapted from WHO 2018<sup>4</sup>.*

### How much physical activity do older people need?

UK guidelines recommend that older people should participate in at least 150 minutes of moderate physical activity per week or 75 minute of more intense physical activity, to include aerobic, strengthening and balance exercises (See Figure 1)<sup>2</sup>. This level of activity may seem impossible to achieve for many, particularly for frail older people with multimorbidity, those in pain or for people who have never engaged in physical activity across their life course. However, for some older people, benefits can be gained with lower levels of activity and recent guidelines are less focused on exercise training and more on active living<sup>17</sup> and movement<sup>11</sup>.

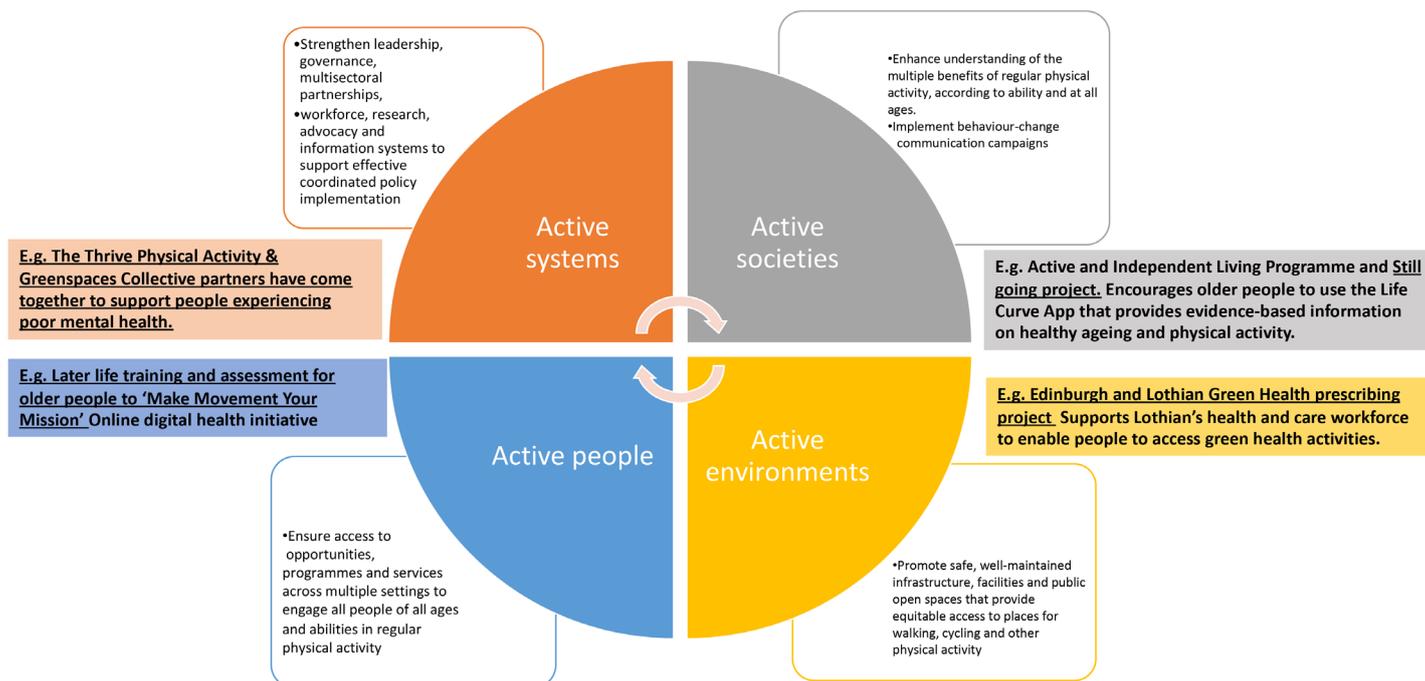
### What helps?

There is overwhelming evidence for the health benefits of a physically active lifestyle and exercise<sup>1,6,10,13,15,16,18,19</sup>. Unlike many pharmacological interventions, physical activity can be beneficial for several physiological systems simultaneously, such as metabolic (Type 2 diabetes) heart disease and musculoskeletal conditions without causing harm or other contraindication<sup>13</sup>. In addition, benefits to mental health, such as depression and anxiety can be alleviated by physical activity. Even light physical activity can reduce depression and the mental health impact associated with isolation in older people<sup>18</sup>. Consequently, physical activity has potential to impact on health across the life course. However, we know that simply advising people to be active isn't helpful and counselling people in primary care to promote physical activity has a limited effect<sup>20</sup>. Most research focuses on individual level behaviour change interventions<sup>6</sup>, yet behaviour change is complex and a more united effort across policy, academia, communities and health and social care is recommended<sup>3</sup>. The WHO Global Activity Plan on Physical Activity recommends a 'whole system' approach that takes into account society, systems of governance, equitable access to opportunities and services (See Figure 2)<sup>3</sup>.

Figure 1: Physical activity guidelines for older adults<sup>2</sup>.



Figure 2: Recommendations for increasing physical activity for older people. (Adapted from WHO Global Activity Plan on Physical Activity (2018))



## What will the ACRC do about it?

There is no ‘one size fits all’ solution that will solve the challenging problem of physical inactivity in older people. There are several gaps in research knowledge including:

- How to standardise physical activity measurement including use of technological devices<sup>6,21</sup>
- How to motivate older people to engage in physical activity<sup>22</sup>
- How to inform interventions<sup>23</sup>
- How to implement and ‘scale up’ evidence-based, successful interventions<sup>22,23</sup>
- How to reduce sedentary behaviour<sup>8</sup>
- How to increase inclusiveness and equity particularly in low-income and middle-income countries<sup>6</sup>

We are currently scoping policy and diverse innovations across south-east Scotland and north-east England to inform the next stage of our work for the development of ‘new models of care’. There are novel examples of physical activity innovations across Scotland and the rest of the UK, some have taken advantage of technology to reach older people in response to the detrimental effects of self-isolation during the COVID-19 pandemic<sup>11</sup>.

Any innovation that we consider will follow the ACRC vision to put the person at the heart of everything we do. We will draw on expertise and knowledge across our diverse workstreams including new technologies, insights from data, and our work to understand the ageing process, including our Patient Public Involvement and Engagement (PPIE) groups. Physical activity innovations will be considered alongside a wide range of other innovations from the community to end of life care. Physical activity has the advantage of being modifiable at each transitional point for many older people and it could serve a primary role in disease prevention and treatment<sup>13</sup>. Ultimately, for any innovation that we develop as part of the ‘new models of care’ workstream we will need to understand what works for whom in different contexts and consider wider issues such as policy, health inequalities, the environment, different cultures and sustainability along with the potential for evaluation at scale.

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