

Promoting physical activity for **older people**

A toolkit for action



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Active

Promoting physical activity for older people: a toolkit for action

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Glossary

Age-friendly environment

An environment (such as the home or community) that fosters healthy, active ageing by building and maintaining intrinsic capacity throughout the life-course and enabling optimal functional ability in someone whatever their capacity.

Environment

External factors that shape the context of an individual's life, including the home, community and broader society; the built environment itself (including buildings, facilities, roads etc); other people and their relationships, attitudes and values; and health and social policies, systems, laws and services.

Exercise

A subcategory of physical activity that is planned, structured, repetitive, and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective. "Exercise" and "exercise training" frequently are used interchangeably and generally refer to physical activity performed during leisure time with the primary purpose of improving or maintaining physical fitness, physical performance, or health.

Functional ability

Functional ability results from the interaction between a person's intrinsic capacity and their environment. It can broadly be defined as a person's ability to meet their basic needs; to learn, grow and make decisions; to be mobile; to build and maintain relationships; and to contribute to society.

Healthy ageing

The process of developing and maintaining the functional ability that enables well-being in older age.

Insufficient physical activity (sometimes referred to as "inactivity")

Adults aged 18 years or older doing less than the WHO recommendations of 150 minutes of moderate-intensity activity per week (see <https://apps.who.int/iris/handle/10665/336656>).

Intrinsic capacity

All the physical and mental capacities that a person can draw on, which are: locomotor (musculoskeletal), cognitive, sensory, psychological, and vitality.

Modified sport

A sport where the rules have been adapted to accommodate the skills and abilities of the players who want to participate, such as older or less-mobile players.

Older adults or older people

The Decade of Healthy Ageing defines this group as people aged 60 years or older. The WHO guidelines on physical activity and sedentary behaviour propose recommendations for those aged over 65 years.

Physical activity

Any bodily movement produced by skeletal muscles that requires energy expenditure. Examples of common types of activity are walking, cycling, dancing, sport, swimming, yoga, household chores and gardening.

Sedentary or sedentary behaviour

Any waking behaviour characterized by a low energy expenditure (1.5 metabolic equivalents (METS) or lower) while sitting, reclining, or lying. Most desk-based office work, driving a car, and watching television are examples of sedentary behaviours; sedentary behaviour can also apply to those unable to stand, such as wheelchair users.

Introduction

Regular physical activity can help older people maintain and improve their mental health and cognitive ability, delay the onset of dementia, and reduce symptoms of depression and anxiety (7-3). It can also improve other functional abilities, including physical function and balance, thereby preventing falls and fall-related injuries (7, 4). Being physically active also helps to prevent heart disease and cancer, and to prevent and manage chronic conditions such as type-2 diabetes and hypertension. Recent estimates show that being physically active could prevent 500 million new cases of noncommunicable diseases (NCDs) and mental health conditions, including depression and dementia (5). Just as importantly, physical activity brings social benefits, as being active offers the chance to build relationships and strengthen networks around an older person, enabling their continued contribution to society.

However, around a quarter of all adults – and over 40% of people aged over 70 years (38% of men and 48% of women) – do not do enough physical activity to maintain and improve their physical and mental health (6). There are many

factors that influence participation in physical activity, including knowledge, motivation, and social and cultural values, as well as health conditions. Environmental and economic conditions, alongside social support, determine how accessible, affordable, acceptable and safe it is for individuals to be physically active. Older people, women, those of low socioeconomic status, people living with disability and chronic diseases, and marginalized populations often face greater barriers to being physically active, contributing to existing health inequities.

This toolkit is one of a series to help countries develop and implement policy actions to effectively increase the proportion of people participating in physical activity. It is underpinned by the Global Action Plan on Physical Activity (GAPPA) 2018–2030 (summarized in Box 1) and the ACTIVE technical package (7, 8), and focuses on interventions that can be delivered through primary health and community care services. It is also designed to support activities under the UN Decade of Healthy Ageing (2021–2030) (7, 9).

Box 1.**The Global Action Plan on Physical Activity 2018–2030**

The Global Action Plan on Physical Activity 2018–2030 (7) sets a global vision of **more active people for a healthier world**. It calls for all countries to implement a whole-of-system approach to achieve a 15% relative reduction in the global prevalence of physical inactivity in adults and adolescents by 2030, and so improve health and well-being. The action plan outlines 20 actions across four objectives to increase levels of physical activity:

- Active societies – change social norms and attitudes
- Active environments – better places and spaces for all people to be active
- Active people – more programmes and services for people of all ages and abilities
- Active systems – strong systems to implement effective and coordinated actions

Effective implementation of policy recommendations requires engagement across multiple systems, including health, sport, education, transport, urban design, civil society, academia and the private sector. Implementation of the plan is supported by WHO's *ACTIVE: a technical package for increasing physical activity* (8) – a series of “how to” toolkits (of which this toolkit is one) addressing in more detail the specific tasks and processes necessary to implement the policy recommendations across different settings and the life-course.

What this toolkit provides

This toolkit draws on the best available evidence and practice to demonstrate the importance of ensuring that environments and settings support older people to be active, and that they provide physical activity services and programmes tailored to the needs, preferences and goals of all older people.

It provides guidance on the key approaches to promote and enable older people to be physically active,

regardless of who they are, where they live, or their intrinsic capacities (for example their visual or cognitive abilities), or whether they live with chronic conditions (for example, diabetes, hypertension, and arthritis). This toolkit is designed to support all countries at national and subnational levels (particularly low- and middle-income countries with limited resources), and includes country case studies and practical tools from around the world.

The toolkit at the start of the sentence has three key sections:

- **Section 1** discusses why physical activity should be promoted in older adult populations.
- **Section 2** details the interventions needed to support and promote physical activity among older people through three key activities:
 - educating and encouraging – communicating why physical activity is important;
 - engaging and supporting – ensuring physical activity programmes and services meet the needs of older people;
 - enabling every day – ensuring that environments where older people live, work and socialize support physical activity.
- **Section 3** describes five enabling factors that underpin an effective and sustainable approach to providing physical activity opportunities for older people. These include:
 - governance, leadership and finance;
 - advocacy;
 - partnerships and community links;
 - training;
 - monitoring and evaluation.

What this toolkit does not include

This toolkit does not address the rehabilitation needs of older people following a serious injury, hospitalization or with an unstable medical condition. It does not provide guidance on developing and delivering exercise rehabilitation programmes that are usually undertaken under health worker supervision. Clinical rehabilitation

guidance should be sought for this type of activity (10, 11). See the web pages offering further guidance on WHO’s package of interventions for rehabilitation services (<https://www.who.int/activities/integrating-rehabilitation-into-health-systems/service-delivery/package-of-interventions-for-rehabilitation>, accessed 11 May 2023).

Who this toolkit is for

This toolkit is for policy-makers and decision-makers at different levels of government and across different

departments, including health, social, welfare and community services, as well as other relevant sectors such

as transport and urban planning. Collectively these sectors can ensure the provision of services, programmes and supportive environments that enable older people to be more physically active. This toolkit and recommended interventions can be used to develop new (or update existing) policies and action plans that support healthy ageing and provide a guide to specific evidence-based interventions and the design of environments to enable more older people to be more active in community and social-care settings.

All recommended actions will require adaptation according to the community and context, and the involvement of all relevant stakeholders at national, subnational, city and community levels. Together these stakeholders can help integrate physical activity into programmes and care pathways in primary, secondary and community health and social care services. Several approaches outlined are specifically directed at those working with and within primary health care, such as doctors, nurses, physiotherapists, and other allied health care workers, as well as physical activity, exercise and sport providers, coaches and volunteers.

This toolkit specifically aims to support the following:

- Policy-makers, directors and managers responsible for developing, implementing, and evaluating strategies, policies and plans related to health and social care services, particularly those related to healthy ageing, physical activity and older people; setting national targets; monitoring progress and reporting.
- Policy-makers and decision-makers in sectors outside of – but relevant to – the health sector, who can help create supportive environments that enable healthy lifestyles. These include those who can influence the design and provision of public infrastructure, including transport, housing, outdoor spaces, and urban and peri-urban planning.
- Heads of medical organizations, other medicine and health specialty societies and colleges, medical and sporting education and academic institutions responsible for setting standards and for training the vast array of professionals who will deliver the interventions; directors and managers of residential and long-term care facilities, services and programmes in the community.
- Health and care workers at primary health care level, given the relevance of this setting for achieving universal health coverage potential to promote and support the delivery of physical activity interventions.
- Public and private providers of sports, exercise and recreation facilities and programmes such as gyms, dance and exercise classes, community-based fitness and walking programmes.
- Volunteer and civil society organizations who work in community settings with older people and may already provide or be interested in providing more support to older people to be more active.

Section one

Why promote physical activity among older people?

Everyone can benefit from being physically active and reducing sedentary behaviour. It is never too late to start being active, and regular physical activity is beneficial for physical and mental health (see Box 2 for the health benefits of physical activity). Every move counts, and even if not meeting the

WHO guidelines (7), doing some physical activity – whether walking, household chores, gardening or modified sport and exercise – can benefit health and support healthy ageing through preventing losses in both intrinsic capacity and functional ability (12) and enhancing social interactions (13).

Box 2.

Benefits of physical activity among older people

Physical activity can:

- help manage conditions such as hypertension and type 2 diabetes;
- reduce symptoms of depression and anxiety, and enhance cognitive function;
- delay the onset of dementia;
- help maintain independent mobility and living by improving physical function and preventing falls;
- improve bone health and thus prevent osteoporosis (1, 2, 14-16).

In 2021, around 1 billion people were aged 60 years or over and comprised around 14% of the global population. This is estimated to increase to 2.1 billion by 2050 and will accelerate in coming decades, particularly in low- and middle-income countries (17). The growing proportion of older people means more people are affected by age-related NCDs and Alzheimer's disease, and are vulnerable to falls and frailty. However, many people face barriers to, or may be concerned about, becoming more active – particularly if they have a chronic condition. Supporting older people to be active throughout their lives is a key strategy to foster healthy and active ageing and prevent or delay the onset of many major causes of ill health, loss of intrinsic capacity, and functional decline in older people.

As life expectancy around the world increases, the importance of healthy ageing and preventing avoidable falls and injuries becomes an increasingly important economic issue. It is estimated that 4–5 million deaths (18, 19) and US\$ 27 billion in direct public health care costs per year (5) could be averted if the global population were more active. This combination of an ageing population, growing prevalence of diseases among older people and a decline in physical activity with age

highlights the need for investment in physical activity programmes and services for older people.

Evidence demonstrates that well-planned physical activity programmes and services for older people can improve well-being, quality of life, intrinsic capacity and functional ability (20). In general, physical activity can also help to prevent and manage a range of NCDs such as type-2 diabetes and cardiovascular disease (7). More specifically, physical activity and structured exercise may also reduce the rate of falls by as much as 23% in older people, which can significantly reduce the risk of injury, including those that may result in hospitalization (7).

Older people make important contributions to society as family members, care givers, role models, volunteers, and as active participants in the workforce. If countries invest in physical activity programmes and interventions for older people, societies will reap the benefits as these individuals will be able to live longer and healthier lives. The importance of exercise, physical activity and healthy ageing policy action is recognized in several high-level WHO policy recommendations, summarized in Table 1.

Table 1. WHO policy recommendations supporting promotion of physical activity among older people

<p>Global action plan on physical activity 2018–2030 (GAPPA)</p> <p>https://apps.who.int/iris/bitstream/handle/10665/272722/9789241514187-eng.pdf, accessed 11 May 2023</p>	Objectives 1, 2, 3 and 4
<p>Guidelines on physical activity and sedentary behaviour</p> <p>https://www.who.int/publications/i/item/9789240015128, accessed 11 May 2023</p>	Older Adults Physical Activity Recommendations (page 43)
<p>Global strategy and action plan on ageing and health</p> <p>https://apps.who.int/iris/handle/10665/329960, accessed 11 May 2023</p>	
<p>Global action plan on the public health response to dementia 2017–2025</p> <p>https://apps.who.int/iris/handle/10665/259615, accessed 11 May 2023</p>	Action area 3: Dementia risk reduction
<p>WHO's work on the UN Decade of Healthy Ageing</p> <p>https://www.who.int/initiatives/decade-of-healthy-ageing, accessed 11 May 2023</p> <p>Decade of healthy ageing: plan of action</p> <p>https://www.who.int/publications/m/item/decade-of-healthy-ageing-plan-of-action, accessed 11 May 2023</p> <p>Decade of healthy ageing: baseline report</p> <p>https://apps.who.int/iris/handle/10665/338677, accessed 11 May 2023</p>	
<p>World report on ageing and health</p> <p>http://apps.who.int/iris/handle/10665/186463, accessed 11 May 2023</p>	Chapters 3, 6 and 7
<p>WHO global disability action plan 2014–2021. Better health for all people with disability</p> <p>https://apps.who.int/iris/handle/10665/199544, accessed 11 May 2023</p>	Objectives 1, 2 and 3
<p>Integrated care for older people (ICOPE): guidance for person-centred assessment and pathways in primary care</p> <p>https://www.who.int/publications-detail-redirect/WHO-FWC-ALC-19.1, accessed 11 May 2023</p> <p>Integrated care for older people: guidelines on community-level interventions to manage declines in intrinsic capacity</p> <p>http://www.ncbi.nlm.nih.gov/books/NBK488250/, accessed 11 May 2023</p>	
<p>Risk reduction of cognitive decline and dementia: WHO guidelines</p> <p>https://www.who.int/publications/i/item/9789241550543, accessed 11 May 2023</p>	
<p>Universal health coverage compendium. Programmes related to older adults (healthy ageing and ICOPE)</p> <p>https://www.who.int/universal-health-coverage/compendium/interventions-by-programme-area, accessed 11 May 2023</p>	

However, currently, a quarter of all adults do not meet the recommended levels of physical activity (21) and this rises to nearly half of all women (48%) and over a third of men (38%) aged 70 years and older, in all regions of the world (Fig. 1) (6).

The WHO *Guidelines on physical activity and sedentary behaviour* (1) include guidance on addressing sedentary behaviour among older people through physical activity (see Box 3 for a summary), while Figure 2 provides an evidence-based consensus on the type and amount of physical activity that benefits health of older adults.

Box 3.

How much physical activity is needed for health?

Everyone can benefit from increasing physical activity and reducing sedentary behaviour, including older adults living with chronic conditions or disability. These recommendations are relevant to all, regardless of gender, race, ethnicity, income level, or functional ability.

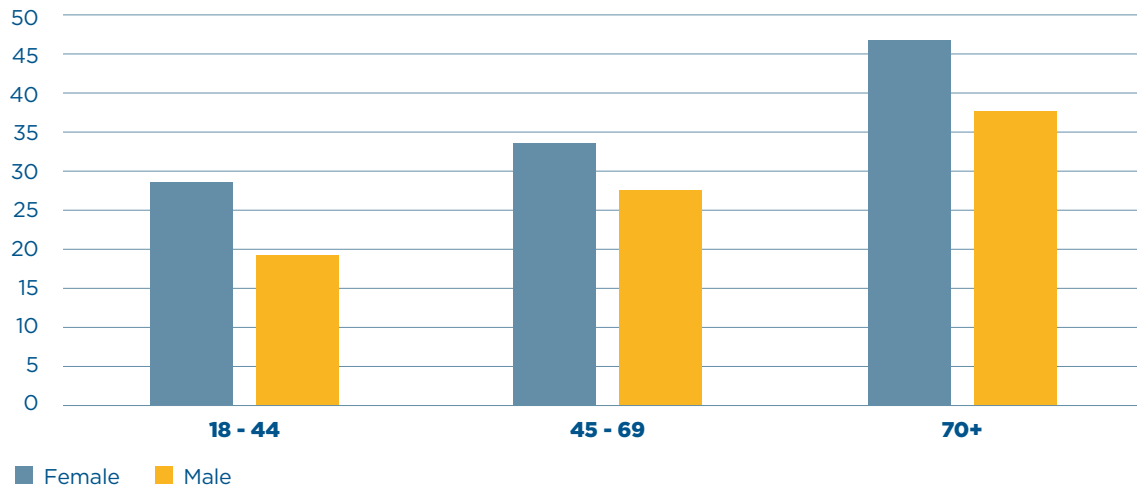
Every move counts, as any amount of physical activity is better than none, and more is generally better. Benefits can be gained from even low levels of activity and everyone should be encouraged to start slowly and increase their regular physical activity.

All physical activity counts and can be undertaken in many different ways that contribute to the health benefits and across multiple settings. For example, walking and cycling, every-day household tasks, gardening, dancing, exercise, and sport all count as physical activity.

It's never too late to start being active, and certain activities, such as multicomponent exercises done as part of weekly physical activity can help prevent falls among older adults.

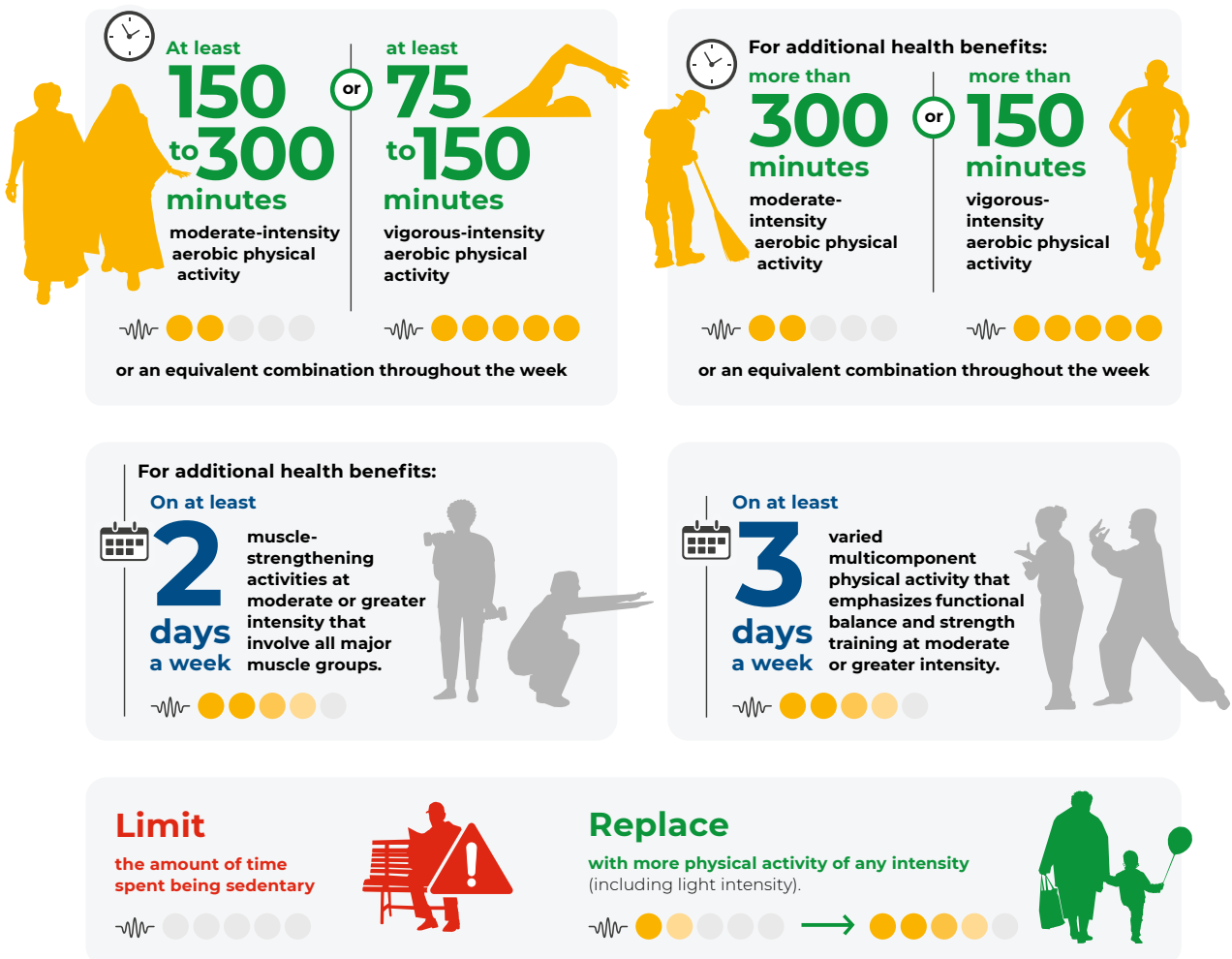
Too much sedentary behaviour can be unhealthy and can increase the risk of obesity, poorer fitness and cardiometabolic health and behaviour, and affect sleep duration. Limiting and replacing sedentary time with physical activity of any intensity provides health benefits.

Figure 1. Prevalence of adults aged 18+ years not meeting WHO physical activity guidelines 2016



Source: Global Health Observatory (<https://platform.who.int/data/maternal-newborn-child-adolescent-ageing/indicator-explorer-new/mca/prevalence-of-insufficient-physical-activity-in-older-people-aged-70-or-over>).

Figure 2. Summary of the WHO guidelines on physical activity and sedentary behaviour



Section two

Evidence-based interventions to increase physical activity among older people

Many factors influence people's levels of physical activity, including individual factors (such as knowledge, motivation, and confidence); family and social factors (such as peer support); and environmental and economic factors (such as whether there are appropriate and affordable facilities nearby). Older people may face additional barriers to being active, including a lack of understanding of how physical activity will benefit their health and well-being; concerns about possible health conditions and fear of falling; lack of appropriate programmes and services; and environmental barriers to walking and independent mobility, including when using assistive technology and mobility aids.

Encouraging older people to be active therefore requires clear, tailored health communication messages to help address these challenges. These should be combined with provision of accessible and appropriate opportunities and programmes, as well as age-friendly environments in which to be physically active. Effective action to enable and increase physical activity among

older people requires a coordinated, strategic, and comprehensive – “whole-of-system” – approach, as outlined in GAPP (7). By working in partnership within and outside the health sector and across key settings, the overall goal of attracting, increasing and maintaining the number of older people engaging in physical activity can be achieved.

This toolkit recommends interventions across three key action areas:

1. educating and encouraging;
2. engaging and supporting;
3. enabling every day.

The interventions recommended in this toolkit are based on a review of the evidence (20) and align with recommendations from other toolkits in the WHO ACTIVE series (22), as well as those outlined in *Integrated care for older people: guidelines on community-level interventions to manage declines in intrinsic capacity* (23); WHO's *Step safely: strategies for preventing and managing falls across the life-course* (24); and the *Decade of healthy ageing plan of action* (9).

2.1 Educate and encourage

In many settings there is a lack of understanding of what “physical activity” is, and too often there is a misconception that only “sport” and vigorous-intensity exercise count. This can deter many older people from being more active. However, based on extensive research, the *WHO Guidelines on physical activity and sedentary behaviour* show that there are many different ways that people can be active and at different levels of intensity, including activities that can be incorporated into daily routines. Evidence also shows that it is never too late to start and most importantly, there is strong evidence that there are health benefits from even low levels of physical activity. Therefore doing some physical activity is better than none for all older people.

Education and awareness campaigns can promote the protective benefits of physical activity for mental and physical health and well-being and help shift perceptions about the importance of physical activity for healthy ageing. Public education campaigns can also address the perceived risks as well as safety considerations for physical activity among older people. Campaigns can successfully change knowledge and attitudes of older people and those around them on the importance of being physically active, and ways to achieve it.

To address the individual concerns or barriers, health care workers can provide interactive and tailored counselling, either in-person or remotely (online or by phone), that encourages, supports and links older people to appropriate community opportunities to be active.

Action 1.

Provide public communication campaigns promoting physical activity targeting older people, their families and carers

Public education and awareness campaigns (hereafter referred to as communications campaigns) can influence and shift social norms associated with being physically active and can increase awareness of the multiple benefits of physical activity (e.g. for social, mental and physical health). Wider benefits of being active, such as the economic and environmental impacts for individuals and communities, can also be highlighted. Well-designed

communication campaigns are a cost-effective way of increasing physical activity (25, 26).

Campaigns focussed on older people can be delivered through traditional TV, radio and print media; social media channels; or at a smaller, local scale, such as through leaflets and brochures delivered to settings visited by older people (e.g. transport hubs, health care settings, residential care settings,

community programmes or day centres). Behaviour change will be more successful if communication campaigns are linked to local and relevant community opportunities to be active (e.g. walking groups, exercise programmes or adapted sport providers), such as those provided by age-friendly cities and communities (see Box 4).¹

Behaviour change can also be supported or “nudged” by

supportive environmental changes, such as new signage indicating walking distances, benches and public toilets; provision of improved walking networks; and improvements to local public open spaces. Further information on how to plan and implement successful communications campaigns can be found in the forthcoming *ACTIVE Toolkit on promoting physical activity through public communication campaigns*.

Box 4.

Public communication campaigns to raise awareness of physical activity

This Girl Can - Victoria, a public communications campaign in Victoria, Australia

A campaign in Victoria, Australia called This Girl Can – Victoria was designed to celebrate and support women of all ages and abilities taking part in physical activity in a way that suits them. The campaign empowered women to focus on finding activities that feel good, and not worrying about what other people think. This aspect is important for older people who may have health conditions that affect their ability to engage in certain types of exercise.

It included ‘This Girl Can Week’, with a range of free ‘come-and-try’ physical activity sessions, including fitness classes, yoga, Tai chi and Bollywood dancing promoted all over social media channels and traditional print media, as well as a television commercial. The campaign is VicHealth’s localised version of Sport England’s successful This Girl Can campaign.

This Girl Can: Victoria: thisgirlcan.com.au

¹ Examples can be found in the WHO Global Database for Age-friendly Practices (<https://extranet.who.int/agefriendlyworld/age-friendly-practices/>, accessed 16 May 2023).

Action 2.

Provide physical activity advice and counselling services to all older people

Tailored advice and counselling on physical activity for older people can be effective when given by a trusted health or allied care provider (such as a doctor, nurse, community health care worker, or allied health worker such as a physiotherapist or occupational therapist). Integration of advice on starting or maintaining regular physical activity is relevant to the care pathway for many routine health issues, such as fall prevention, maintenance of independent mobility, treatment and prevention of chronic conditions, promotion of social contact to mitigate loneliness, and maintenance of cognitive health and well-being.

Advice on physical activity can be cost effectively delivered by brief interventions in routine primary health care consultations and as part of health promotion services (25).

This provides an opportunity to tailor and adapt the advice given to the older person, for example emphasising the benefits of being active to maintain and improve their functional ability. Health care providers counselling on physical activity should pay attention to any pre-existing conditions the older patient may have, and any concerns they may have in relation to the risk or fear of falling or injury. If necessary, refer the older person for more specific support and advice. Such counselling should be integrated and coordinated across other care providers, so that they can also support the older person in increasing their physical activity levels.

The use of several prescription medications that can cause dizziness or drowsiness, as well as uncorrected visual impairment, can increase the risk of falls and other conditions (such as loss of mobility, malnutrition, hearing loss, cognitive impairment, mood swings), and should be discussed with the older person on an individual basis by health and social care workers. For more strategies on preventing and managing falls see *Step safely: strategies for preventing and managing falls across the life-course (24)*. Combining advice and monitoring using digital health and wearable devices that help patients and the health provider to monitor physical activity levels can further support and reassure older people in being more active, where appropriate.

Guidance in WHO's *Promoting physical activity through primary health care: a toolkit (22)* supports the implementation of brief counselling interventions based on the "5As" model for supporting behaviour change. The "5As" can help health care workers discuss physical activity with older people in primary and secondary health care settings, but can also act as a guide for a more in-depth discussion in any setting.

Physical activity promotion through individual or group education sessions

For many older people, especially those who are very inactive, providing opportunities to have peer support can be very useful. This can help overcome psychological barriers, lack of motivation, fear or embarrassment, or other concerns that make some older people feel like physical activity is “not for them”. Group physical activity, adapted to ability, can build confidence, enjoyment, and reduce the fear of injury that may be associated with physical activity in later years. They can also be used as part of chronic disease treatment pathways for conditions such as diabetes, hypertension, obesity, cancer, falls prevention and mobility workshops, or other programmes or services for older people, including the Integrated Care for Older People programme (27).

Physical activity promotion using digital technology

Programmes can be delivered using combinations of face-to-face sessions with individuals or groups of older people, and supported by telephone follow-up (28), or via digital and mobile health programmes focussed on physical activity (see Box 5 for examples). WHO has developed guidance on a simple mobile phone-based intervention as part of the “Be Healthy Be Mobile” initiative (<https://www.who.int/activities/Addressing-mobile-health>, accessed 11 May 2023). The WHO mActive programmes provide guidance on developing an SMS-based walking programme which aims to help adults increase their physical activity through walking (29). mAgeing provides health information, advice, and reminders delivered through mobile phones to encourage healthy behaviours and help older people to improve and maintain their physical and mental capacities (30).

Box 5.**Physical activity advice and counselling for older people – by phone, and digitally****My Desmond – a digital mobile app and e-learning platform, United Kingdom**

The My Desmond app is a user-friendly and easy-to-navigate digital self-management education programme provided by the National Health Service in the United Kingdom. It is targeted at individuals (including older people) at risk of developing type 2 diabetes.

The app offers evidence-based advice on physical activity, through personalized physical activity recommendations, based on the user's preferences and health needs. Educational physical activity materials are available through the app and include video tutorials that can be done at home or in a gym setting. Exercises are tailored to the needs of people who have diabetes and include strength training and flexibility. Physical activity tracking of steps and minutes is offered, which can link to wearable devices to help monitor progress. Motivational messages and reminders are sent on a regular basis and users have a multi-disciplinary team to help with their questions. An innovative function is Buddies, whereby users can invite up to five family members and friends to join their journey. As a team, they can compete against each other in weekly/daily activity challenges.

My Desmond: <https://www.mydesmond.com/home/>

Box 5 continued**Choose to Move, British Columbia, Canada**

The Active Aging Society in British Columbia, Canada provides a science-based free and flexible physical activity support programme to help older people integrate physical activity into their daily routine through goal-setting, self-monitoring, behavioural strategies, social support and safe exercise practices. The programme is available online or by phone everywhere in British Columbia and there are options to join face-to-face sessions in the community. One-to-one support is provided by a trained activity coach who tailors a physical activity plan to suit a person's health and fitness goals (activities are based on user preference and ability).

Choose to Move: <https://www.choosetomove.ca/>

2.2 Engage and support

Supporting older people to engage in physical activity is best done by providing appropriate and enjoyable opportunities, programmes and services that are accessible, acceptable and affordable.

Evidence suggests that effective physical activity programmes for older people can be offered in a variety of formats, delivered in different settings, and help increase physical activity (20). To increase effectiveness, the goals, needs, and

interests of older people should inform the adaptation of the design and delivery of the programme or service to suit local contexts and outcomes (e.g. to improve balance, prevent falls). By placing older people at the centre of the decision-making process, age-friendly cities and communities can ensure that older people's voices are heard and that they are meaningfully engaged in the delivery of such programmes or services.²

Action 3.

Provide inclusive physical activity programmes adapted to the needs and interests of older people

Older people are not an homogenous group and the physical abilities and capacities of older people are only loosely correlated with chronological age (12). This means that physical activity programmes for older people should be designed for older people's health needs, intrinsic capacity and functional ability, not chronological age. They should be delivered in a range of

settings where older people live, work and socialise, such as their own homes, community facilities (e.g. at workplaces, outdoor spaces, a local gym or recreation hall), health facilities (as an outpatient) or long-term or residential care facilities. These programmes include physical activities that build muscle strength and balance and coordination (see Box 6 for examples).

² The WHO Global Network for Age-friendly Cities and Communities was established in 2010 to connect cities, communities and organizations worldwide with the common vision of making their community a great place in which to grow older (see <https://extranet.who.int/agefriendlyworld/who-network/>).

Box 6.**Inclusive physical activity programmes adapted for older people****Table tennis programme for older people, Costa Rica**

The Costa Rican Table Tennis Federation has established a table tennis programme offering opportunities to older people, regardless of their skill level or experience. Sessions and competitions are held at local clubs within the community throughout Costa Rica.

The programme aims to promote recreation, health and wellness, and social connections and promotes the benefits of physical activity to older people to reduce the risk of falls and improve balance, hand-eye coordination and cognitive function.

Aeteme Esparza: <https://www.facebook.com/aeteme.esparza.9/>

Examples of the range of activities that may particularly appeal to older people and their potential benefits are described in Box 7. Certain types of physical activities (multi-component exercise) that are

specifically designed to help prevent falls are particularly important. Programmes should be adapted to ensure inclusivity, especially for older people with sensory loss, reduced mobility or cognitive decline.

Box 7.**Types of physical activity for older people****Multi-component exercise**

Multi-component exercise is specifically designed to develop balance, aerobic capacity, strength, and coordination with the aim of:

- reducing the risk of falls and preventing fall-related injuries;
- maintaining and promoting locomotor capacity;
- maintaining and strengthening cognitive capacity, bone mineral density, body composition, cardiometabolic indicators, muscular strength, cardiovascular fitness;

- maintaining independent mobility.

Box 7 continued

Like all regular physical activity, programmes providing multi-component exercises will also help:

- increase physical activity levels;
- improve mood;
- improve quality of life.

Sport programmes

Sport is defined as any form of physical activity or game, often competitive and organized, that aims to use, maintain, or improve physical ability and skills. It has many forms, such as cycling, Tai chi, swimming, hiking, dancing, football, and yoga.

Participation can be within competitive or non-competitive programmes adapted to meet the needs, preferences and intrinsic capacity of older people, including (for example) master sports for older age groups.

Participation in competitive sport can have positive impacts on physical independence and mobility and be useful for people who have physical or mild cognitive impairments or low mood (31).

Adapted sports meet the needs of people with differing abilities, such as walking football.

Active recreation and exercise classes

Active recreation comprises activities engaged in for the purpose of relaxation, health and well-being or enjoyment, with the primary activity requiring physical activity, and can include walking, cycling, Tai chi, hiking, social dancing, swimming and water-based exercise.

- Popular forms of active recreation, such as Tai chi, yoga, Pilates and dance, are effective forms of physical activity for older people, and:
 - require minimal or no equipment;
 - reduce the risk of falls;
 - improve balance, mobility and independence; and
 - can be useful for people who have physical or mild cognitive impairments or low mood.

Physical activity programmes can be delivered in a variety of settings, to individuals or groups, face-to-face, or online. In general, providing programmes face-to-face results in better engagement, retention and better health impact. The more physical activity (e.g. frequency, duration and/or volume) is achieved, the greater the health benefits (7) and providing programmes and services that offer engagement at greater intensities will result in better health outcomes (for example, programmes and services that offer sport or exercise) (20).

Programme promotion is important, and can use traditional promotion channels such as local newsletters and leisure service brochures, or email lists and community forums. Other social media and digital platforms can also be useful for reaching the targeted community as well as promotion by health and care workers, word of mouth and peer introduction. All promotion

should be accessible and use non-ageist and non-stigmatizing language, as well as positive images and culturally appropriate wording. Engagement can be increased by employing a friendship or “buddy” system, where participants are encouraged to invite and introduce a friend or partner to a programme (32, 33), and by hosting informal social events as part of a programme (e.g. by providing space for refreshments such as free tea or coffee). Adherence to new physical activity programmes and habits can be increased by encouraging people to partner with a friend or family member and to set their own personal goals. Other incentives that can encourage participants to join and can contribute to ongoing motivation include free information booklets, free trials or free pedometers. Group physical activity facilitates relationships and develops special networks, providing important social benefits to tackle isolation and loneliness.

2.3 Enable every day

The design of the local environment can be a significant barrier to anyone, but especially for older people who wish to become, or remain, physically active. Providing supportive environments can encourage and “nudge” all people to be more active (7). Age-friendly environments, including public open spaces such as footpaths, road crossings, and streets and buildings can enable older people to maintain their day-to-day independence and continue to be physically active (24).

Communities should provide physical spaces and places where people of all abilities can be safely active, whether through walking, cycling or by taking part in sport and active recreation outdoors or indoors. How accessible and affordable these spaces and places are can either make it easy to be physically active, or create barriers to it.

Physical barriers to being more active may also be present in the home and in residential settings. Such barriers include insufficient handrails, uneven floor coverings, uneven steps or stairs, obstacles or inappropriate furniture (for example seats with no armrest or poor support) (24).

Creating and maintaining age-friendly environments that support older people being more active where they live, work and socialize, will not only meet their aspirations and needs but also help to ensure the needs of other groups in society are also met, including children and those living with disability. Age-friendly environments can ultimately enable older people to age safely in a place that is right for them, continue to develop personally, be included, and to contribute to their communities while maintaining their independence and health (34).

Action 4.

Provide environments that encourage and support safe physical activity where older people live, work and socialize

There is a growing consensus on the need to plan and redesign neighbourhoods and cities with a focus on supporting more walking, cycling and community use of public open spaces. This concept has become known as “walkability” or “liveability” and will not only help older people be more active (35), but people of all ages and abilities too.

Ensuring people have the diversity of facilities and services needed for everyday life within easy walking or cycling distance of home or work

(including local shopping, health services, and recreation, education and entertainment opportunities) encourages more physical activity. This urban and land-use planning agenda has become known by the popular name of the “15 minute city” (see <https://www.15minutecity.com/>, accessed 16 May 2023) or the “20 minute neighbourhood” (<https://www.sustrans.org.uk/our-blog/get-active/2020/in-your-community/what-is-a-20-minute-neighbourhood>, accessed 16 May 2023). It is particularly relevant as

short distances and easy access will help older people stay more active and independent, particularly if other modes of transport are no longer possible, available or affordable.

Similarly, provision of accessible and safe public open spaces, such as parks, and combining these with free use of recreational facilities or equipment, can increase the opportunities for physical activity among older people. Public open spaces and parks provide destinations to walk to, as well as places in which to work and socialize. Amenities in parks and open spaces should consider older people's comfort, accessibility and safety requirements, which include adequate lighting, seating and shade. Installing free exercise equipment in public parks has become very popular and provides an accessible way to be active for those who may not enjoy or be able to afford paid exercise facilities (see Box 8).

The WHO Global Network for Age-friendly Cities and Communities³ provides a unique platform to connect

cities and communities worldwide to facilitate the exchange of information, knowledge and experience around physical activity for older people. It currently has more than 1450 members in 51 countries and acts as a source of inspiration and support for the identification of innovative and evidence-based solutions. WHO has produced a guide with suggestions on ways to create communities that are more age-friendly (36), as well as a guide to developing and sustaining national programmes for age-friendly cities and communities (34).

WHO's *Step safely: strategies for preventing and managing falls across the life-course resource* (24) also describes measures that can be taken to improve the built environment and the home to support and promote physical activity and prevent falls among older people. Many of the proposed policy recommendations are also covered in greater detail in the forthcoming *Achieving more walking and cycling – a toolkit of policy recommendations and actions*.

Box 8.

Design to encourage physical activity for all

The following features of urban design and community infrastructure can encourage and support physical activity for people of all ages.

Residential and public buildings that are accessible and designed with the needs of older people in mind, including:

- visible markings and adequate lighting for those who have sight limitations;
- non-slip flooring on one level wherever possible, avoiding use of rugs and other trip hazards;
- handrails and stair rails.

³ See <https://extranet.who.int/agefriendlyworld/who-network/>.

Streets that are safe, accessible and well maintained to encourage walking and cycling, including:

- infrastructure accessible to wheelchair users/other types of assistive technology for mobility;
- pavements with continuity, clear of obstacles such as bikes, scooters, parked cars;
- visible markings on the road for those who have sight limitations;
- kerb extensions to reduce crossing distances and refuge islands for every two to three traffic lanes;
- adequate timing of traffic signals to allow older people to cross;
- if possible, providing separate paths for pedestrians, cyclists and motorized transport;
- adequate lighting and other features to reduce the risk of street crime and make older people feel safer;
- provision of benches, shade, and public toilets;
- cycling infrastructure and networks that connect where people live (including older people) to the amenities and services they want to access.

Public open spaces (and streets) that are safe, well maintained, including:

- well-connected walking paths;
- adequate places to rest (e.g. benches or rest stops) that are accessible and at the appropriate (height, armrests etc);
- amenities such as public toilets;
- features that provide shade (particularly in hot climates).

Compact urban design to ensure amenities and services are within a 15–20 minute walk or cycle for all residents (24, 37).

Box 9.**Enabling physical activity for older people where they live, work, and socialize****The Age-friendly Programme, Mexico**

This city-wide initiative aimed to improve the quality of life for older people living in the city of Guadalajara by addressing several elements that directly influenced physical activity levels. This included installing infrastructure such as walking paths, bike lanes and exercise equipment in public spaces, accessible/user friendly public transport, and discounts of fares and health and physical activity promotion through the “Take control of your health” programme. Key enabling factors to deliver this programme included partnering with older people during programme development and delivery, establishing relationships and partnerships and ensuring responsible use of resources.

Age Friendly World: <https://extranet.who.int/agefriendlyworld/resources/age-friendly-case-studies/guadalajara/>

Kanagawa Bicycle Utilization Promotion Plan and Cycling Map, Japan

This regional initiative had the goal of ensuring that everyone in Kanagawa Prefecture, Japan, enjoys a long and healthy life by using bicycles. The plan promoted cycling as an enjoyable, healthy and sustainable mode of transport for all residents, through initiatives to specifically promote physical activity among older people. This included developing or improving cycling infrastructure, ensuring older people have access to safe cycle paths that match their ability, and accessible bike stations/places to safely store bikes. Providing bike education events and areas to rest and eat along key cycle paths further supported the engagement of older residents.

Age Friendly World: <https://extranet.who.int/agefriendlyworld/afp/kanagawa-prefectures-efforts-to-promote-bicycle-use/>

Section three

Enabling factors for effective implementation

Five key enabling factors are essential for a sustainable approach to implementing and delivering coordinated policies that integrate and support physical activity programmes and services for older people. They are:

- governance, leadership and finance;
- advocacy;
- partnerships and community links;
- training; and
- monitoring and evaluation.

3.1 Governance, leadership and resources

Leadership at the highest level is essential to set the policy agenda, provide political visibility and mobilize partners and stakeholders, both public and private, to ensure coordinated action. Governance structures need to include and build partnerships within and beyond the health sector, including with the sport and recreation sector, urban planning and transport sectors, social and leisure services, and with civil society and the voluntary sector. As many of the recommended interventions and

approaches for promoting physical activity in older people require funding and/or implementation by local government, this stakeholder should be fully engaged in the co-creation of action plans.

Similarly, older people and residents should be included in the planning and design of a comprehensive approach, and research and other tertiary education institutions can be invaluable sources of support and expertise. Implementing

the “whole of system” approach requires engaging all stakeholders to avoid duplication, and to maximize reach and impact. Setting clear policy direction and agreeing specific actions with time-bound targets are hallmarks of effective governance and will help drive action across sectors and establish community links and partnerships. A well-proven example and mechanism to ensure that older people’s voice is heard (and that they are meaningfully engaged in the planning, implementation and evaluation of physical activity-related activities) is through developing age-friendly cities and communities as well as their national (and, in some cases, subnational) programmes (34, 36).

How can governance, leadership and resource provision be strengthened?

- Local leadership should be supported by national leadership.
- Partnerships should be formed between professional and regulatory bodies and

government to prioritize and integrate physical activity services and programmes as part of national and subnational practice.

- Financing for older people’s programmes and services should be ongoing and adequate. This should include funding for the ongoing in-service training of staff who will be working with older adults.
- In certain situations, funding may be available or required from outside the health sector, so strong collaboration and partnership across sectors should be established and demonstrated to strengthen funding submissions and business cases.
- Monitoring progress and evaluating impact are essential for good governance and should always be considered during planning and implementation and in programme budgets (see more detail in section on monitoring and evaluation).

3.2 Advocacy

By shaping the social and political climate, advocacy can help to garner support for the implementation of policies and programmes that ensure older people have access to appropriate opportunities to be active. Nongovernmental organizations, public health associations, private sector and consumer/patient organizations have a central role in leading the advocacy agenda, both in raising awareness of the

importance of physical activity for older people, and advocating for a systems approach to ensure their needs are met.

How can promotion and advocacy be strengthened?

- Identify appropriate “ambassadors” who can provide representation and support, and champion a vision and advocacy efforts.

- Form good relationships with key leaders and advocates from across government sectors (e.g. in transport, health, infrastructure and planning, and social services) who are willing to advocate for and promote physical activity programmes and services for older people as a health priority within their sector.
- Invest in and develop local leaders and champions, including among older people, who are willing to share their lived experiences.
- Engage the wider community in understanding that, for example, urban improvements to support older people are good for the whole community.
- Engage professional and regulatory medical and sport bodies, as well as patient advocacy groups, in developing and supporting position statements that call for physical activity programmes and services to be prioritized and invested in as part of routine patient care for older people.
- Promote the benefits of physical activity programmes and services through position statements and opinion pieces, particularly those aimed at decision-makers.
- Promote the evidence-based benefits of physical activity for older people to the wider community using social media, events and other communications, using inclusive and non-ageist language and imagery.
- Implement advocacy efforts through local sport clubs, community leaders and heads of medical bodies, so that appropriate physical activity programmes and services are provided for older people.

3.3 Partnerships and community links

Partnerships and community links can strengthen, sustain and support physical activity programmes and services for older people. By working in partnership with key stakeholders, a diverse array of skills and experience can be drawn upon, resulting in a coordinated and joined-up approach. Partnerships can also make the best use of different, but complimentary, resources. For instance, there are eight domains of action for creating age-friendly cities and communities, ranging from outdoor spaces to transport,

and from social inclusion to civic participation (36), all relevant to sustaining and supporting physical activity programmes and services for older people.

How can partnerships and community links be strengthened?

- Strengthen existing partnerships and develop new ones – including by working, in some cases, with commercial partners (for example technology experts) that can help deliver a

programme and take the burden away from government. Ensure the process and partners are reputable, quality-assured and free from potential conflicts of interest.

- Support the development of effective and consistent messages across all partners – for example, by linking campaigns and activities.
- Strengthen exercise-referral schemes through primary health services and/or social care to connect older people with local community-based physical activity opportunities. This can provide individuals with ongoing support outside the health care settings and enable them to connect with other community members for ongoing physical activity motivation.
- Explore potential opportunities to link sport clubs, recreation services and community exercise programmes to health care centres and providers to increase awareness and the availability of physical activity opportunities for older people. Informing health care providers about physical activity opportunities in the local community is critical to increasing referral.
- Review and monitor the progress of partnerships to ensure it is effective, avoids conflict of interest and is mutually beneficial.

3.4 Training

The interventions and programmes proposed in this toolkit can be delivered by health workers, allied health professionals, community and social care workers, health psychologists, nurses, sports coaches, physical activity leaders, and volunteers. Training (both pre-service and in-service) will help to increase the knowledge and skills of the individuals delivering the interventions and will provide them with the confidence and skills to do their job well (24).

How can training be strengthened?

- Identify and secure sustained funding for in-service training for health staff, community health workers, and social care workers on how to integrate advice and support on physical activity into their work with patients.
- Identify opportunities and partners to develop and implement in-service and pre-service training on the benefits of physical activity for older adults with physical activity, fitness and exercise professionals; this includes those working in private and public sector recreation, gyms and exercise facilities.
- Work with academic and training institutes to develop and ensure that the importance of physical activity for older people is included in formal curricula for doctors, allied health staff, nurses and other health professionals.
- Include the considerations for older people in, for example, curricula or ongoing training of urban planners, street designers and architects.

3.5 Monitoring and evaluation

Monitoring policy and programme implementation and impact is vital to demonstrate effectiveness and securing support and funding. Age-disaggregated data, collected from monitoring and evaluation, can guide future intervention activities and allow programme staff to gather information about what can be improved, what worked well, and the cost-effectiveness of the intervention.

The Global status report on physical activity (40) provided the first stocktake of progress on implementing the recommended policy actions outlined in the Global Action Plan On Physical Activity 2018–2030 (7). The report identified that overall progress is slow and uneven between regions and countries and recommended that data systems and monitoring be improved to drive the policy cycle. To ensure equity and that the needs of older people are included, such data needs to be disaggregated.

At the global level, investing in robust monitoring of policy implementation and associated programs and services will support countries to report on multiple global commitments, including progress in healthy ageing as part of the Decade of Healthy Ageing (National Progress Indicator 6)⁴ and the age-friendliness of cities (41) as well as global commitments to urban health, road safety, healthy cities, and physical activity. In addition, several key metrics are monitored as part of the 2030 agenda and SDG targets, such as

provision of public open space and access to public transport. Alignment of city and national data systems and reporting with regional and global agenda's and indicators will ensure coherence and maximize the utility of data collection.

How can monitoring and evaluation be strengthened?

- Work in partnership with academics and researchers to develop and implement evaluation frameworks for all physical activity programmes and initiatives for older people.
- Ensure that national surveillance systems consider older people and do not exclude them from sampling for national, subnational or city surveys of physical activity, and ensure reporting of disaggregated data.
- Align monitoring and evaluation indicators with global reporting requirements and opportunities, such as for the Decade of Healthy Ageing, Age-friendly cities, and global surveys that inform the Global status report on physical activity, to track policy progress.
- Ensure data is regularly disseminated to key users to guide future intervention activities and allow programme staff to gather information about what can be improved, what worked well and the cost-effectiveness of the intervention.

⁴ National Progress Indicator 6 describes how environments that are age-friendly help to foster healthy ageing by maximizing intrinsic capacity across the life-course and by enabling greater functional ability, so that people with varying levels of capacity can be and do the things they value.

References

1. Guidelines on physical activity and sedentary behaviour. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/336656>, accessed 8 May 2023).
2. Risk reduction of cognitive decline and dementia: WHO guidelines. Geneva: World Health Organization; 2019 (<https://apps.who.int/iris/handle/10665/312180>, accessed 12 May 2023).
3. Livingston G, Sommerlad A, Orgeta V, Costafreda SG, Huntley J, Ames D et al. Dementia prevention, intervention, and care. *Lancet*. 2017;390(10113):2673-734 (<https://www.ncbi.nlm.nih.gov/pubmed/28735855>, accessed 12 May 2023).
4. Integrated care for older people (ICOPE): guidance for person-centred assessment and pathways in primary care. Geneva: World Health Organization; 2019 (<https://apps.who.int/iris/handle/10665/326843>, accessed 12 May 2023).
5. Santos AC, Willumsen J, Meheus F, Ilbawi A, Bull FC. The cost of inaction on physical inactivity to public health-care systems: a population-attributable fraction analysis. *Lancet Glob Health*. 2023;11(1):e32-e9 (<https://www.ncbi.nlm.nih.gov/pubmed/36480931>, accessed 12 May 2023).
6. Bauman A, Merom D, Bull FC, Buchner DM, Fiatarone Singh MA. Updating the evidence for physical activity: Summative reviews of the epidemiological evidence, prevalence, and interventions to promote "active ageing". *Gerontologist*. 2016;56 Suppl 2:S268-80 (<https://www.ncbi.nlm.nih.gov/pubmed/26994266>, accessed 12 May 2023).
7. Global action plan on physical activity 2018-2030: more active people for a healthier world. Geneva: World Health Organization; 2018 (<https://apps.who.int/iris/handle/10665/272722>, accessed 12 May 2023).
8. ACTIVE: A technical package for increasing physical activity. Geneva: World Health Organization; 2018 (<https://apps.who.int/iris/handle/10665/275415>, accessed 12 May 2023).
9. Decade of healthy ageing: plan of action. Geneva: World Health Organization; 2020 (<https://www.who.int/publications/m/item/decade-of-healthy-ageing-plan-of-action>, accessed 12 May 2023).
10. Handoll HH, Cameron ID, Mak JC, Panagoda CE, Finnegan TP. Multidisciplinary rehabilitation for older people with hip fractures. *The Cochrane Database of Systematic Reviews*. 2021;11(11):Cd007125.
11. Schoberer D, Breimaier HE, Zuschnegg J, Findling T, Schaffer S, Archan T. Fall prevention in hospitals and nursing homes: clinical practice guideline. *Worldviews Evid Based Nurs*. 2022;19(2):86-93 (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9310602/>, accessed 12 May 2023).
12. World report on ageing and health. Geneva: World Health Organization; 2015 (<https://apps.who.int/iris/handle/10665/186463>, accessed 12 May 2023).
13. European Observatory on Health Systems Policies. Preventing social isolation and loneliness among older people. *Eurohealth*. 2019;25(4):3-5 (<https://apps.who.int/iris/handle/10665/332493>, accessed 12 May 2023).
14. Bueno de Souza RO, Marcon LF, Arruda ASF, Pontes Junior FL, Melo RC. Effects of mat pilates on physical functional performance of older adults: a meta-analysis of randomized controlled trials. *Am J Phys Med Rehabil*. 2018;97(6):414-25.
15. Pinheiro MB, Oliveira J, Bauman A, Fairhall N, Kwok W, Sherrington C. Evidence on physical activity and osteoporosis prevention for people aged 65+ years: a systematic review to inform the who guidelines on physical activity and sedentary behaviour. *Int J Behav Nutr Phys Act*. 2020;17(1):150 (<https://www.ncbi.nlm.nih.gov/pubmed/33239014>, accessed 12 May 2023).
16. Sherrington C, Fairhall NJ, Wallbank GK, Tiedemann A, Michaleff ZA, Howard K et al. Exercise for preventing falls in older people living in the community. *The Cochrane Database of Systematic Reviews*. 2019;1:CD012424 (<https://www.ncbi.nlm.nih.gov/pubmed/30703272>, accessed 12 May 2023).
17. Decade of healthy ageing: baseline report. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/338677>, accessed 12 May 2023).
18. Lee IM, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT et al. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet*. 2012;380(9838):219-29 (<http://www.ncbi.nlm.nih.gov/pubmed/22818936>, accessed 12 May 2023).
19. Strain T, Brage S, Sharp SJ, Richards J, Tainio M, Ding D et al. Use of the prevented fraction for the population to determine deaths averted by existing prevalence of physical activity: a descriptive study. *Lancet Glob Health*. 2020;8(7):e920-e30 (<https://www.ncbi.nlm.nih.gov/pubmed/32562648>, accessed 12 May 2023).
20. Pinheiro MB, Oliveira JS, Baldwin JN, Hassett L, Costa N, Gilchrist H et al. Impact of physical activity programs and services for older adults: a rapid review. *Int J Behav Nutr Phys Act*. 2022;19(1):87 (<https://www.ncbi.nlm.nih.gov/pubmed/35836187>, accessed 12 May 2023).
21. Guthold R, Stevens GA, Riley LM, Bull FC. Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants. *Lancet Glob Health*. 2018;6(10):e1077-e86 (<https://www.ncbi.nlm.nih.gov/pubmed/30193830>, accessed 12 May 2023).
22. Promoting physical activity through primary health care: a toolkit. Geneva: World Health Organization; 2021 (<https://apps.who.int/iris/handle/10665/350835>, accessed 12 May 2023).
23. Integrated care for older people: guidelines on community-level interventions to manage declines in intrinsic capacity. Geneva: World Health Organization; 2017 (<https://apps.who.int/iris/handle/10665/341989>, accessed 12 May 2023).
24. Step safely: strategies for preventing and managing falls across the life-course. Geneva: World Health Organization; 2021 (<https://apps.who.int/iris/handle/10665/340962>, accessed 12 May 2023).
25. Tackling NCDs: "best buys" and other recommended interventions for prevention and control of noncommunicable diseases. Geneva: World Health Organization; 2017 (<https://apps.who.int/iris/handle/10665/259232>, accessed 12 May 2023).
26. Pinheiro MB, Howard K, Sherrington C, Bauman A, Costa N, Smith BJ et al. Economic evaluation of physical activity mass media campaigns across the globe: a systematic review. *Int J Behav Nutr Phys Act*. 2022;19(1):107 (<https://www.ncbi.nlm.nih.gov/pubmed/36028860>, accessed 12 May 2023).

27. Integrated care for older people (ICOPE) implementation framework: guidance for systems and services. Geneva: World Health Organization; 2019 (<https://apps.who.int/iris/handle/10665/325669>, accessed 12 May 2023).
28. Pinto BM, Goldstein MG, Ashba J, Sciamanna CN, Jette A. Randomized controlled trial of physical activity counseling for older primary care patients. *Am J Prev Med.* 2005;29(4):247-55 (<https://www.ncbi.nlm.nih.gov/pubmed/16242586>, accessed 12 May 2023).
29. Be he@lthy, be mobile: a handbook on how to implement mActive. Geneva: World Health Organization and International Telecommunication Union; 2021 (<https://apps.who.int/iris/handle/10665/348214>, accessed 12 May 2023).
30. Be he@lthy, be mobile: A handbook on how to implement mAgeing. Geneva: World Health Organization; 2018 (<https://apps.who.int/iris/handle/10665/274576>, accessed 12 May 2023).
31. Oliveira JS, Gilbert S, Pinheiro MB, Tiedemann A, Macedo LB, Maia L et al. Effect of sport on health in people aged 60 years and older: a systematic review with meta-analysis. *Br J Sports Med.* 2023;57(4):230-6 (<https://www.ncbi.nlm.nih.gov/pubmed/36450439>, accessed 12 May 2023).
32. Lindsay Smith G, Banting L, Eime R, O'Sullivan G, van Uffelen JGZ. The association between social support and physical activity in older adults: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity.* 2017;14(1):56 (<https://doi.org/10.1186/s12966-017-0509-8>, accessed 12 May 2023).
33. Lachman ME, Lipsitz L, Lubben J, Castaneda-Sceppa C, Jette AM. When adults don't exercise: behavioral strategies to increase physical activity in sedentary middle-aged and older adults. *Innovation in Ageing.* 2018;2(1) (<https://doi.org/10.1093/geroni/igy007>, accessed 12 May 2023).
34. National programmes for age-friendly cities and communities: a guide. Geneva: World Health Organization; 2023 (<https://apps.who.int/iris/handle/10665/366634>, accessed 12 May 2023).
35. Age-friendly environments in Europe: a handbook of domains for policy action. Copenhagen: World Health Organization Regional Office for Europe; 2017 (<https://apps.who.int/iris/handle/10665/334251>, accessed 12 May 2023).
36. Global age-friendly cities: a guide. Geneva: World Health Organization; 2007 (<https://apps.who.int/iris/handle/10665/43755>, accessed 12 May 2023).
37. Global street design guide. New York: Global Designing Cities Initiative; 2016 (<https://globaldesigningcities.org/publication/global-street-design-guide/>, accessed 12 May 2023).
38. Global status report on physical activity. Geneva: World Health Organization; 2022 (<https://apps.who.int/iris/handle/10665/363607>, accessed 14 June 2023).
39. Measuring the age-friendliness of cities: a guide to using core indicators. Geneva: World Health Organization; 2015 (<https://apps.who.int/iris/handle/10665/203830>, accessed 14 June 2023).

Annex:

Further resources

Further resources providing information and examples of how to support physical activity opportunities for older people include the following:

- **Decade of healthy ageing: the platform**
This platform is an inclusive, collaborative space where all knowledge relevant to the Decade of Healthy Ageing can be accessed, shared, and interacted with in one place: <https://www.decadeofhealthyageing.org/>
- **Global database of age-friendly practices:** <https://extranet.who.int/agefriendlyworld/afp/>
- **Heart Foundation's Healthy Active by Design:** This website provides up-to-date evidence, practical advice, checklists and case studies to help with the development of healthy neighbourhoods and communities that promote walking, cycling and an active public life: <https://www.healthyactivebydesign.com.au/design-features/public-open-spaces>

For further information, contact:

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