Physical Activity Guidelines Midcourse Report: Implementation Strategies for Older Adults

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1 Executive Summary

- 2 The benefits of regular physical activity occur throughout life and are essential for healthy aging. Despite
- 3 this, most older adults (more than 85 percent) are not meeting the recommendations set forth in the
- 4 Physical Activity Guidelines for Americans (Guidelines), 2nd edition, and physical activity levels often
- 5 decrease with age. The Physical Activity Guidelines Midcourse Report: Implementation Strategies for
- 6 Older Adults (Midcourse Report) is an opportunity to reinforce the amounts and types of physical activity
- 7 Americans need as outlined in the *Guidelines* and to highlight what works to increase physical activity.
- 8 Older adults were selected due to low rates of physical activity, the expanding population of older
- 9 adults, and the many benefits, both immediate and over time, of physical activity for older adults.
- 10 Most older adults face multiple barriers to physical activity. These barriers often relate to older adults'
- capabilities, opportunities, or motivation.
- Capability-related barriers include individual attributes such as chronic health conditions,
 physical or cognitive limitations, and pain.
 - Opportunity-related barriers include external factors such as limited access to facilities or equipment, neighborhood characteristics like low-quality sidewalks or poor lighting, and natural limitations like bad weather.
 - Motivation-related barriers include personal attitudes and beliefs, such as fear of falling or injury or lack of enjoyment.
- 19 Understanding the different barriers older adults face is key to delivering effective and equitable
- 20 interventions.

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- 21 The primary audiences for this *Midcourse Report* are policy makers; physical activity, health, or allied
- health professionals; health care providers; gerontologists; and others working with older adults. This
- 23 Midcourse Report summarizes evidence-based settings, strategies, and interventions that these
- 24 audiences can use to increase physical activity among older adults and reinforce the message that
- 25 physical activity can begin or restart at any age.

Key Findings

- 27 The home, community, and health institution are evidence-based settings where there are opportunities
- 28 to increase physical activity among older adults through a variety of strategies and interventions.

20	Additionally, the evidence beard strategies and interpretations listed below one be insulanced in		
29	Additionally, the evidence-based strategies and interventions listed below can be implemented in		
30	settings beyond those identified in this report, including wherever older adults spend their time.		
31	What works to increase physical activity among older adults?		
32	Community Design		
33	o Communities that are designed to make it safe and easy for older adults to walk, bike, o		
34	wheelchair roll for recreation, fitness, or transportation		
35	Cognitive Behavioral Strategies		
36	o Goal setting		
37	o Self-monitoring		
38	o Barrier identification and problem solving		
39	o Increased physical activity knowledge or awareness		
40	o Social support		
41	Physical Activity Counseling		
42	o Tailored physical activity advice and guidance (often using the above cognitive		
43	behavioral strategies)		
44	Exercise Programs		
45	o Group-based exercise classes		
46	o Exercise programs with in-person and at-home components		
47	o Supervised at-home exercise programs		
48	o Tailored exercise prescriptions		
49	o Programs that incorporate multicomponent physical activity, incorporating more than		
50	one activity type (aerobic, muscle-strengthen, balance)		
51	Lifestyle-Based Physical Activity Programs		
52	o Guidance to help older adults self-manage their own physical activity behavior changes		
53	o Support to empower older adults to find opportunities to increase their physical activity		
54	in the way that fits best with their lifestyle		
55	Taking Action: Everyone Has a Role to Play		
56	Everyone has a role to play to help increase physical activity levels among older adults. The key findings		
57	highlighted in this report can be used across sectors and at the national, regional, local, and on		
58	individual levels to help ensure equitable access to physical activity opportunities for all older adults.		

- Professionals working with older adults in one-on-one settings or small group settings (e.g., physical activity, health, or allied health professionals; health care providers; gerontologists) are in a key position to support older adults in increasing activity levels. Professionals should consider individual factors such as their patient's or client's age, gender and health status, self-efficacy, health beliefs about physical activity, perceived barriers to physical activity, skills, social support, and cultural factors to best tailor physical activity recommendations. Professionals working with older adults can:
 - Promote the *Physical Activity Guidelines* for older adults through Move Your Way® resources
 - Provide guidance and recommendations to help older adults get more physical activity
 - Help older adults transition from programs or care within the health care setting to community programs by providing referrals to physical activity and health professionals or programs and resources that fit their needs
 - Support older adults to set physical activity goals, monitor their progress, use problem-solving to overcome barriers to physical activity, and build social support
- **Organizations** (e.g., program administrators and staff affiliated with community, senior, or Tribal centers; health and fitness centers; cardiac rehabilitation facilities; hospital lifestyle and wellness centers; parks and recreation departments) are uniquely positioned to create conditions for older adults to participate in physical activity through programming and interactions at various facilities and locations. Organizations can:
 - Provide physical activity programs that reduce barriers (e.g., cost, transportation) to participation for older adults
 - Regularly assess program reach, and work to increase numbers and reduce attrition
 - Review, plan, and implement programs with an equity lens to ensure programs are inclusive and welcoming to older adults of all backgrounds and abilities
 - Give support and guidance for creating home-based physical activity programs
- **Community Leaders** (e.g., community health workers, civic associations, housing authorities, and those involved in public works, urban planning, and transportation) influence the design and atmosphere of public spaces that can be used for physical activity. This includes the built environment (e.g., places designed or built by people like buildings, community design, transportation infrastructure, parks and trails). Community leaders can:

- Make communities more walkable and wheelchair accessible by supporting policies and engaging in master planning to create or enhance enjoyable activities and friendly routes to everyday destinations
 - Create or enhance public transportation opportunities that are accessible to older adults with mobility limitations
 - Consider both subjective (e.g., perceptions of safety from traffic or crime) and objective (e.g., street intersections per square mile) measures when making improvements to the built environment
 - Collaborate with academic institutions or public health organizations to evaluate community design and land use interventions
 - Encourage community engagement by including input from community members in planning activities. Input can be gathered, for example, by needs assessments that identify safety concerns and other physical activity needs and preferences in communities
 - Utilize resources from Active People, Healthy NationSM to create more active communities
- **Policy Makers and Decision Makers** (e.g., local and state government officials; public facility management, including schools, parks; health system administrators; health insurance companies) are responsible for creating laws, rules, regulations, codes, and funding at various levels of the government; corporate policies; and institutional rules and policies. These can all be used to support and promote more physical activity for older people. Policy makers and decision makers can:
 - Consider physical activity and the specific needs or circumstances of older people when
 designing communities and developing policies, such as zoning and land-use ordinances and
 subdivision guidelines, comprehensive (or master) plans, transportation and transit policies,
 roadway design and *Complete Streets* policies, Safe Routes for All, shared use agreements,
 Vision Zero, and recreation and open space plans and policies
 - Incorporate assessment of physical activity into health care provider visits through electronic health records (i.e., Physical Activity as a Vital Sign)
 - Increase coverage for physical activity counseling at health care provider visits and referrals for community services
 - Use national surveillance data to identify underserved populations and disparities among older adults who may need more support to be physically active and track population-level physical activity data through Healthy People physical activity objectives

119	Introduction
120	Physical activity has many health benefits. It can have immediate benefits, including reduced anxiety,
121	improved sleep, lower blood pressure, and better insulin sensitivity. Regular physical activity can also
122	reduce the risk of all-cause mortality, cardiovascular disease, type 2 diabetes, several types of cancer,
123	dementia, and depression.
124	Through the <i>Physical Activity Guidelines for Americans</i> , its associated Move Your Way® communications
125	campaign, and the Active People, Healthy Nation $^{\text{SM}}$ initiative, the U.S. Department of Health and Human
126	Services (HHS) is working to create a culture of health promotion where all Americans can live active,
127	healthy lives. The <i>Physical Activity Guidelines for Americans</i> (which is referred to throughout this report
128	as the <i>Guidelines</i>) emphasizes why and what dose of physical activity is needed for health benefits and
129	briefly touches on the <i>how</i> or <i>where</i> to perform physical activity. This <i>Midcourse Report</i> is an
130	opportunity to reinforce the amounts and types of physical activity Americans need as outlined in the
131	Guidelines, by highlighting the settings, strategies, and interventions that support increases in physical
132	activity for specific populations. HHS releases a Midcourse Report every 10 years between <i>Guidelines</i>
133	updates. In 2013, HHS highlighted youth in the <i>Physical Activity Guidelines Midcourse Report: Strategies</i>
134	to Increase Physical Activity Among Youth.
135	Older adults were selected for this <i>Midcourse Report</i> due to low rates of physical activity, the expanding
136	population of older adults, and the many benefits of physical activity, both immediate and over time.
137	Promoting physical activity and reducing sedentary behavior for older adults is especially important
138	because this population is the least physically active of any age group, and most older adults spend a
139	significant proportion of their day engaging in sedentary behaviors. By the year 2030, one in every five
140	Americans will be at retirement age, and currently, less than 15 percent of older adults meet the aerobic
141	and muscle-strengthening recommendations of the <i>Guidelines</i> . Older adults are more likely to have
142	chronic diseases and mobility challenges requiring medical care and higher health care costs. Physical
143	activity may allow older adults to live longer independently, be healthier, improve their quality of life,
144	and reduce their need for medical care. It can also help older individuals maintain or improve their
145	health and manage or prevent progression of chronic conditions. As the older adult population is rapidly
146	growing and more people are living longer, physical activity can also be an important contributing factor
147	for improving population health and reducing health care costs.

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The Cost of Inactivity. 149 Older adults have the lowest rates of meeting the Guidelines of any age group and they also have the 150 151 highest health care costs of any age group. 152 Worldwide: The World Health Organization predicts that physical inactivity will be responsible for 153 154 \$27 billion of direct health care costs annually (not factoring in productivity losses) between 2020 and 2030.1 155 156 **United States:** 157 Per person personal health care spending for adults ages 65 and older was \$19,098 in 2014, over five times higher than spending per child (\$3,749) and almost three times the 158 spending per working-age person (\$7,153).² 159 o Four out of five of the costliest chronic conditions among adults ages 50 or older can be 160 prevented or managed with regular physical activity.³ 161 162 Approximately 10% of deaths among adults ages 40-69 and 7.8% of deaths among adults ages 70 and older are attributed to physical inactivity.4 163 164 References 165 1. WHO highlights high cost of physical inactivity in first-ever global report. World Health 166 Organization. https://www.who.int/news/item/19-10-2022-who-highlights-high-cost-of-167 physical-inactivity-in-first-ever-global-report. Published October 19, 2022. Accessed January 24, 168 169 2023. 2. NHE fact sheet. CMS. https://www.cms.gov/research-statistics-data-and-systems/statistics-170 trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet. Published December 14, 2022. 171 Accessed January 24, 2023. 172 3. Adults 50 and older need more physical activity. Centers for Disease Control and Prevention. 173 174 https://www.cdc.gov/physicalactivity/inactivity-among-adults-50plus/index.html. Published 175 March 16, 2022. Accessed January 24, 2023. 4. Carlson SA, Adams EK, Yang Z, Fulton JE. Percentage of Deaths Associated With Inadequate 176 177 Physical Activity in the United States. *Prev Chronic Dis.* 2018;15:170354. DOI: 178 http://dx.doi.org/10.5888/pcd18.170354 ***End Side Bar*** 179 Physical activity can benefit people at any stage of life and its benefits are essential for healthy aging. 180

Physical activity can improve physical function in adults of any age and ability, adults with overweight or

obesity, adults with chronic conditions, and even those who are frail. Older adults gain substantial

health benefits from regular physical activity, and it is never too late to start. Being physically active

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makes it easier to perform activities of daily living, including eating, bathing, toileting, dressing, getting into or out of a bed or chair, and moving around the house or neighborhood. Older adults are at higher risk for falls and injuries following falls. However, physically active older adults are less likely to experience falls than their sedentary counterparts, and if they do fall, they are less likely to be seriously injured. Physical activity can also preserve physical function and mobility, which may help maintain independence and delay the onset of major disability. Additionally, over 85 percent of older adults have one or more chronic conditions, such as type 2 diabetes, cardiovascular disease, osteoarthritis, obesity, or certain types of cancer, and older adults are also at higher risk for dementias including Alzheimer's Disease. Physical activity interventions for older adults have been shown to help to prevent these diseases or their progression. Older adults are a varied group with a wide range of functional capabilities and health conditions. All adults experience a loss of physical function with age, but some more than others. This diversity means that some older adults can run several miles, while others struggle to walk a few blocks or take stairs in their homes. Even small amounts of physical activity can improve physical function and health for people with limited functional capabilities. This report summarizes evidence-based settings, strategies, and interventions that policy makers; physical activity, health, or allied health professionals; health care providers; gerontologists; and others working with older adults can use to support increased physical activity among older adults and reinforce the message that physical activity can begin or restart at any age. ***Start Side Bar*** **Defining Older Adults for This Report** Older adults are those ages 65 and older. This age range is consistent with the definition of older adults in the Physical Activity Guidelines for Americans and used for Healthy People objectives. In the United States, ages 65 and older is used as the threshold for Medicare. ***End Side bar *** **Developing the Midcourse Report** The first step in developing the Midcourse Report was conducting a systematic literature review to identify what works to increase physical activity among older adults. This literature review was conducted by ICF Next under HHS Contract No. 75N91021A00002, Task Order - 75N91021F00001, in

213	collaboration with the 2022 Science Board subcommittee of the President's Council on Sports, Fitness
214	and Nutrition (President's Council). The <i>Physical Activity and Older Adults Systematic Literature Review</i>
215	will be presented for deliberation at a public meeting of the President's Council.
216	HHS based the Midcourse Report primarily on this literature review, though they also considered
217	examples of successful interventions featured in Step It Up! The Surgeon General's Call to Action to
218	Promote Walking and Walkable Communities and the evidence-based interventions in The Guide to
219	Community Preventive Services (referred to in this report as The Community Guide). Like the Guidelines,
220	the Midcourse Report will be widely promoted through various communications strategies online and in
221	print, such as the Move Your Way® campaign materials for professionals and consumers; the Active
222	People, Healthy Nation SM initiative; and partnerships with organizations that promote physical activity.
223	Several limitations of the <i>Physical Activity and Older Adults Systematic Literature Review</i> are worth
224	$noting \ as \ they \ influenced \ the \ effective \ settings, \ strategies, \ and \ interventions \ included \ in \ this \ \textit{Midcourse}$
225	Report. The literature review sought to examine the effectiveness of a variety of locations in which to
226	support increased physical activity among older adults, including communities, assisted living facilities,
227	faith-based settings, health care institutions, and homes/independent living facilities/neighborhoods.
228	Community, home, and health care institutions emerged as key settings.
229	While the literature review looked at original research articles rather than systematic reviews or meta-
230	analyses, most included studies did not measure or analyze findings based on important demographics.
231	Therefore, this Midcourse Report was unable to discuss how personal characteristics (i.e., ability, age,
232	sex, race/ethnicity, socioeconomic status, health characteristics) influence physical activity participation.
233	Because of the importance of mental health and social connection, especially for older adults who may
234	live alone, efforts were made to examine these factors in the context of an intervention. Unfortunately,
235	most published studies of interventions for physical activity in older adults did not include mental
236	health, quality of life, well-being, or resilience as outcomes.
237	Lastly, few studies that examine interventions to increase physical activity among older adults assessed
238	long-term outcomes or how to reduce drop-out rates, so sustained or population-level effects remain
239	uncertain.
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About the Community Preventive Services Task Force

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The Community Preventive Services Task Force (CPSTF) issues evidence-based recommendations and findings for prevention strategies, services, and programs, including many aimed at increasing physical activity. These findings are listed in The Guide to Community Preventive Services (The Community Guide). The Community Guide uses a science-based approach that relies on systematic literature review methodology to determine whether an intervention works to improve health and prevent disease. CPSTF has issued several recommendations for intervention approaches shown to increase physical activity among older adults, and these are included in this report. Learn more: https://www.thecommunityguide.org/pages/about-community-preventive-services-taskforce.html. ***End Side Bar*** The primary audiences for the Midcourse Report are policy makers; physical activity, health, or allied health professionals; health care providers; gerontologists; and others working with older adults. The evidence presented in the Guidelines shows that there are immediate and long-term benefits of physical activity for all Americans, including older adults, and that it's never too late to start being active. The purpose of this *Midcourse Report* is to highlight evidence-based strategies and interventions to support physical activity among older adults in a variety of settings so that they may achieve the benefits of physical activity as outlined in the Guidelines. Everyone has a Role to Play to Support Older Adults to be Physically Active Many people across different sectors have a role to play to support older adults getting more physical activity. The actions and opportunities listed below can be applied across sectors, including those working in health care; government; nonprofit; parks, recreation, and green space; public health; sports and fitness; or transportation. Throughout this report, there are examples that represent different sectors and illustrate how the settings, strategies, and interventions outlined in this report can be utilized to support increased physical activity among older adults. Additional federally supported programs are listed in the Appendix. Professionals working with older adults in one-on-one settings or small group settings (e.g., physical activity, health, or allied health professionals; health care providers; gerontologists) are in a key position to support older adults in increasing their activity. Professionals should consider individual factors such as their patient's or client's age, gender and health status, self-efficacy, health beliefs about physical

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271 activity, perceived barriers to physical activity, skills, social support, and cultural factors to best tailor 272 physical activity recommendations. 273 Professionals working with older adults can: 274 Promote the Physical Activity Guidelines for older adults through Move Your Way® resources 275 Provide guidance and recommendations to help older adults get more physical activity 276 Help older adults transition from programs or care within the health care setting to community 277 programs by providing referrals to physical activity and health professionals or programs and 278 resources that fit their needs 279 Support older adults to set physical activity goals, monitor their progress, use problem-solving to 280 overcome barriers to physical activity, and build social support 281 Organizations (e.g., program administrators and staff affiliated with community, senior, or Tribal centers; health and fitness centers; cardiac rehabilitation facilities; hospital lifestyle and wellness 282 283 centers; parks and recreation departments) are uniquely positioned to create conditions for older adults 284 to participate in physical activity through programming and interactions at various facilities and 285 locations. Organizations can: Provide physical activity programs that reduce barriers (e.g., cost, transportation) to 286 287 participation for older adults Regularly assess program reach, and work to increase numbers and reduce attrition 288 289 Review, plan, and implement programs with an equity lens to ensure programs are inclusive and 290 welcoming to older adults of all backgrounds and abilities 291 Give support and guidance for creating home-based physical activity programs 292 Community Leaders (e.g., community health workers, civic associations, housing authorities, and those 293 involved in public works, urban planning, and transportation) influence the design and atmosphere of 294 public spaces that can be used for physical activity. This includes the built environment (e.g., places 295 designed or built by people like buildings, community design, transportation infrastructure, parks and trails). Community leaders can: 296 297 Make communities more walkable and wheelchair accessible by supporting policies and

engaging in master planning to create or enhance enjoyable activities and friendly routes to

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- Create or enhance public transportation opportunities that are accessible to older adults with mobility limitations
 - Consider both subjective (e.g., perceptions of safety from traffic or crime) and objective (e.g., street intersections per square mile) measures when making improvements to the built environment
 - Collaborate with academic institutions or public health organizations to evaluate community design and land use interventions
 - Encourage community engagement by including input from community members in planning activities. Input can be gathered, for example, by needs assessments that identify safety concerns and other physical activity needs and preferences in communities
 - Utilize resources from Active People, Healthy NationSM to create more active communities
 - Policy Makers and Decision Makers (e.g., local and state government officials; public facility management, including schools, parks, etc.; health system administrators, health insurance companies) are responsible for creating laws, rules, regulations, codes, and funding at various levels of the government; corporate policies; and institutional rules and policies. These can all be used to support and promote more physical activity for older people. Policy makers and decision makers can:
 - Consider physical activity and the specific needs or circumstances of older people when
 designing communities and developing policies, such as zoning and land-use ordinances and
 subdivision guidelines, comprehensive (or master) plans, transportation and transit policies,
 roadway design and *Complete Streets* policies, Safe Routes for All, shared use agreements,
 Vision Zero, and recreation and open space plans and policies
 - Incorporate assessment of physical activity into health care provider visits through electronic health records (i.e., Physical Activity as a Vital Sign)
 - Increase coverage for physical activity counseling at health care provider visits and referrals for community services
 - Use national surveillance data to identify underserved populations and disparities among older adults who may need more support to be physically active and track population-level physical activity data through Healthy People physical activity objectives

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328	Meeting the <i>Physical Activity Guidelines</i>
329	The <i>Physical Activity Guidelines for Americans</i> , 2 nd edition, provides key guidelines for all age groups,
330	including older adults. Older adults should follow the key guidelines for adults, but there are also
331	additional guidelines specific to older adults. Older adults should include a combination of aerobic,
332	muscle-strengthening, and balance activities in their weekly routine (Figure 1).
333	Key Guidelines for Adults
334	Adults should move more and sit less throughout the day. Some physical activity is better than none.
335	Adults who sit less and do any amount of moderate-to-vigorous physical activity gain some health
336	benefits.
337	• For substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) to
338	300 minutes (5 hours) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) to 150
339	minutes (2 hours and 30 minutes) a week of vigorous-intensity aerobic physical activity, or an
340	equivalent combination of moderate- and vigorous-intensity aerobic activity. Preferably, aerobic
341	activity should be spread throughout the week.
342	Additional health benefits are gained by engaging in physical activity beyond the equivalent of 300
343	minutes (5 hours) of moderate-intensity physical activity a week.
344	Adults should also do muscle-strengthening activities of moderate or greater intensity and that
345	involve all major muscle groups on 2 or more days a week, as these activities provide additional
346	health benefits.
347	Key Guidelines Older Adults
348	The key guidelines for adults also apply to older adults. In addition, the following key guidelines are just
349	for older adults:
350	• As part of their weekly physical activity, older adults should do multicomponent physical activity
351	that includes balance training as well as aerobic and muscle-strengthening activities.
352	Older adults should determine their level of effort for physical activity relative to their level of
353	fitness.
354	 Older adults with chronic conditions should understand whether and how their conditions affect
355	their ability to do regular physical activity safely.
356	When older adults cannot do 150 minutes of moderate-intensity aerobic activity a week because of

chronic conditions, they should be as physically active as their abilities and conditions allow.

Figure 1. Older Adult Physical Activity Dosage Recommendations (Figure will be added for final version)

Safely Meeting the Physical Activity Guidelines

Healthy older adults who plan gradual increases in their weekly amounts of physical activity generally do not need to consult a health care provider before becoming physically active. However, health care providers and physical activity professionals can help people attain and maintain regular physical activity by providing advice on appropriate types of activities and ways to progress at a safe and steady pace. Older adults with chronic conditions should talk with their health care provider to determine whether their conditions limit, in any way, their ability to do regular physical activity. Such a conversation can also help people learn about appropriate types and amounts of physical activity. In general, people who engage in physical activity can protect themselves by using appropriate gear and sports equipment, choosing safe environments, following rules and policies, and making sensible choices about when, where, and how to be active. Moreover, to reduce risk of injuries and other adverse events, older adults can choose types of physical activity that are appropriate for their current fitness level and health goals. Starting with lower intensity activities and gradually increasing how often, how intense, and how long activities are done, can reduce the risk of injury. This approach can be summarized by the easy to remember phrase: "start low and go slow."

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Defining Intensity and Using the Talk Test

Intensity refers to how much work is being performed or the magnitude of the effort required to perform an activity or exercise. Intensity can be expressed either in absolute or relative terms.

- Absolute intensity is the amount of energy expended during the activity, without considering a
 person's cardiorespiratory fitness.
- Relative intensity uses a person's level of cardiorespiratory fitness to assess level of effort.

Either absolute or relative intensity can be used to monitor progress in meeting the key guidelines. Because older adults expend more energy than younger adults for the same task, such as walking, and because aerobic capacity declines with age, relative intensity is a better guide for older adults than absolute intensity. Certain activities, such as some types of yoga or tai chi, that are considered light-intensity may be perceived as moderate- or vigorous-intensity for some older adults. Relative intensity can be easily gauged by the talk test.

The Talk Test

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- When using relative intensity, people pay attention to how physical activity affects their heart rate and 390 breathing. As a rule of thumb, a person doing moderate-intensity aerobic activity can talk, but not sing, 391 during the activity. A person doing vigorous-intensity activity cannot say more than a few words without 392 pausing for a breath.
- 393 ***End Side Bar***

394 Trends Over Time and Among Different Age Demographics

Older adults in the United States become less active with age. Currently only 7% of adults ages 80 or older met the Guidelines (both aerobic and muscle-strengthening components), compared to 17% of adults ages 65-69 years (Figure 2).1 The decrease in activity with age is notable because even the oldest adults can benefit from physical activity. Encouragingly, national surveillance suggests that older adults have gotten more active in recent decades: from 1998 to 2018, the prevalence of meeting both the aerobic and muscle-strengthening guidelines increased from 5.5% to 13.9% among adults ages 65 or older.² Although this is good news, the prevalence of older adults meeting the Guidelines is still low and is a public health concern. Despite widespread increases across demographic subgroups, significant disparities remain.^{3,4} For example, females, those with fewer years of education, and those with lower incomes each have lower levels of physical activity compared to their peers (Figure 3).4

Start Footnote Reference List 405

- 1. Centers for Disease Control and Prevention. National Health Interview Survey—1998-2018. https://www.cdc.gov/nchs/nhis/1997-2018.htm. Accessed January 25, 2023.
- 2. Hyde ET, Whitfield GP, Omura JD, Fulton JE, Carlson SA. Trends in Meeting the Physical Activity Guidelines: Muscle-Strengthening Alone and Combined With Aerobic Activity, United States, 1998-2018. J Phys Act Health 2021;18(S1):S37-S44.
- 3. Elgaddal N, Kramarow EA, Reuben C. Physical Activity Among Adults Aged 18 and Over: United States, 2020. NCHS Data Brief 2022(443):1-8.
- 413 4. NHIS - 2020 NHIS. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/nhis/2020nhis.htm. Published 2020. Accessed January 25, 2023. 414
- ***End Footnote Reference List*** 415
- Figure 2. Adults Ages 65 and Older Meeting the Aerobic and Muscle-Strengthening Guidelines, 1998-416
- **2018)** (Figure will be added for final version) 417

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420	Figure 3. Percentage of U.S. Adults Aged 65 Years or Older Who Met the Aerobic Physical Activity and
421	Muscle-Strengthening Guidelines, 2020 (Figure will be added for final version)

Benefits of Physical Activity

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Most people can benefit from being more physically active on a daily basis and meeting the activity levels described in the *Guidelines*, but regular physical activity is particularly beneficial for healthy aging. The combination of aerobic, muscle-strengthening, and multicomponent activities can provide substantial health benefits for older adults, including the ability to perform activities of daily living more easily. The benefits of physical activity for older adults are summarized in Table 1. While many of these benefits are relevant to adults of all ages, fall prevention and reduced risk of injury from falls are specific to older adults. Some benefits of physical activity can be achieved immediately, such as reduced feelings of anxiety, reduced blood pressure, and improvements in sleep. Other benefits, such as increased cardiorespiratory fitness, increased muscular strength, decreases in depressive symptoms, and sustained reductions in blood pressure, require regular physical activity over time.

Table 1: Health Benefits Associated with Physical Activity for Older Adults

- Lower risk of all-cause mortality
- Lower risk of cardiovascular disease mortality
- Lower risk of cardiovascular disease (including heart disease and stroke)
- Lower risk of hypertension
- Lower risk of type 2 diabetes
- · Lower risk of adverse blood lipid profile
- Lower risk of cancers of the bladder, breast, colon, endometrium, esophagus, kidney, lung, and stomach
- Slowed or reduced weight gain
- Weight loss, particularly when combined with reduced calorie intake
- Prevention of weight regain following initial weight loss
- Improved bone health
- Improved physical function
- Lower risk of falls
- Lower risk of fall-related injuries
- Improved mental and cognitive outcomes including:
 - Improved quality of life
 - Reduced risk of dementia (including Alzheimer's disease)
 - o Improved cognition
 - o Reduced risk of depression
 - Reduced long-term feelings and signs of anxiety (trait anxiety) for people with and without anxiety disorders
 - Reduced short-term feelings of anxiety (state anxiety)
 - Improved sleep outcomes (increased sleep efficiency, sleep quality, deep sleep; reduced daytime sleepiness, reduced frequency of use of medication to aid sleep)

- o Improved sleep outcomes that increase with duration of acute episodes
- 434 Source: U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition.
- Washington, DC: U.S. Department of Health and Human Services; 2018.
- 436 Most (approximately 85%) older adults have at least one chronic condition, such as type 2 diabetes,
- 437 cardiovascular disease, osteoarthritis, obesity, or cancer. Physical activity has significant benefits for all
- 438 older adults and plays a role in preventing and managing the progression of chronic disease and related
- 439 symptoms. The health benefits associated with regular physical activity for people with chronic health
- 440 conditions and disabilities are listed in Table 2. The benefits of physical activity largely outweigh the risk
- of injury and heart attacks, two concerns that may prevent people from becoming more physically
- 442 active.

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Table 2. Health Benefits Associated with Regular Physical Activity for People with Chronic Health Conditions and Disabilities

Cancer Survivors

- Improved health-related quality of life
- Improved fitness
- Lower risk of dying from site-specific cancer for breast, colorectal, and prostate cancer survivors
- Lower risk of all-cause mortality for breast and colorectal cancer survivors

People with Osteoarthritis (knee and hip)

- Decreased pain
- Improved physical function
- Improved health-related quality of life

People with Hypertension

- Lower risk of cardiovascular disease mortality
- Reduced cardiovascular disease progression
- Lower risk of increased blood pressure over time

People with Type 2 Diabetes

- Lower risk of cardiovascular disease mortality
- Reduced progression of disease indicators: hemoglobin A1C, blood pressure, body mass index, and lipids

People with Dementia

• Improved cognition

People with Multiple Sclerosis

- Improved physical function, including walking speed and endurance
- Improved cognition

People with Spinal Cord Injury

Improved walking function, muscular strength, and upper extremity function

People with diseases or disorders that impair cognitive function (including attention deficit hyperactivity disorder (ADHD), schizophrenia, Parkinson's disease, and stroke)

Improved cognition

Source: U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition. Washington, DC: U.S. Department of Health and Human Services; 2018.

There are several barriers that can influence an individual's ability to be physically active, and

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Barriers to Being Physically Active

understanding these barriers is key to delivering effective and equitable interventions. Barriers to physical activity differ from individual to individual and are influenced by socioeconomic, cultural, and community factors. For example, some people may not know about or have access to safe places to be physically active, may live in communities that are not conducive to activity, or may have physical or cognitive limitations that create additional barriers. Older adults may have unique concerns related to safety or fear of falling, and many face challenges related to chronic health conditions, mobility, and pain that can impact their perceived or actual ability to engage in physical activity. Neighborhood characteristics like poor-quality sidewalks or insufficient lighting can reduce actual or perceived safety. Additionally, access to specialized facilities or equipment—especially for muscle-strengthening activities—can be costly. Societal expectations about the types of physical activity older adults can participate in may contribute to a lack of social support. In addition to age, other intersecting social identities like ability, race, and gender or sexual identity may influence where older adults feel welcomed or comfortable being physically active. Other common barriers include lack of time, poor weather, and lack of enjoyment. Examples of common barriers to physical activity and potential solutions can be found in Table 3 and are discussed more fully below in the section on cognitive behavioral strategies. Getting and staying active can be especially difficult as people age, and the barriers that older adults face cannot be addressed with just one strategy or within one setting. The settings, strategies, and interventions outlined in this report can be combined and tailored to different community contexts. Through direct engagement with communities that experience inequities and through continued exploration of barriers, professionals working with older adults, organizations, community leaders, and policy makers and decision makers can use the strategies highlighted in the What Works section to help older adults overcome barriers to physical activity and increase physical activity.

Start Call Out Box

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474 Barriers to physical activity differ from individual to individual and are influenced by socioeconomic, 475 cultural, and community factors. 476 ***End Call Out Box*** What Works 477 478 This section discusses evidence-based settings (where older adults are getting active), strategies (tactics 479 used to influence behavioral outcomes), and interventions (how older adults are getting active). 480 Examples are embedded within this section to illustrate how older adults are getting physically active in 481 different settings through programs or changes in community design. These spotlights include 482 representation across different sectors and are meant to highlight how the strategies and interventions 483 described in this report can be applied in different settings. **Settings** 484 485 One way to address the low physical activity levels among older adults is to create opportunities for 486 activity in settings where older adults already spend their time. While physical activity programs and 487 interventions can occur in many locations, such as places of worship or senior housing facilities, the 488 Physical Activity and Older Adults Systematic Literature Review identified the following as effective 489 evidence-based settings: Community 490 491 Health institutions 492 Home 493 494 Community The community setting can be defined as the places and environment where people in a particular 495 496 geographic area live or congregate. This can include locations like schools, faith-based organizations, 497 community centers, gyms, and libraries as well as the surrounding infrastructure, like sidewalks, roads, 498 and public transportation. The community environment, as well as programs within the community, can 499 play a role in increasing physical activity levels among older adults. For example, pedestrian, bicycle, and 500 public transportation systems can help older adults access programs and places that provide

opportunities for physical activity (e.g., parks, programs offered in community or senior centers).

Interventions that are implemented across communities broadly through programs, practices, and

policies can help make physical activity the easy choice and promote thriving, active communities.

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Those who could effect change to support more physical activity among older adults in the community setting include program managers, state/city/county officials, Tribal leaders, transportation professionals, community and urban planners, state and local public health professionals, real estate and zoning professionals, school boards and school staff, neighborhood associations, community center program leads, fitness facility owners and staff (e.g. personal trainers), and physical activity and health professionals. **Health Institutions** Many older adults have regular interactions with health institutions, including primary care and specialty care at clinics, hospitals, or assisted living facilities. In the health institution setting, older adults can receive tailored care and specific guidance on the benefits of physical activity for their individualized situation, including considerations of chronic disease risk factors, symptoms, disease status, mobility, and socioeconomic status. Functional independence, a key indicator of health status, is often addressed in a health care provider's office, offering the opportunity to share specific physical activity recommendations. A benefit of the health institution setting is medical or allied health professional oversight of physical activity programming, which can provide extra assurance to individuals getting started with physical activity, becoming active after a cardiac or other health event that affects their mobility or cardiorespiratory fitness, or during/after cancer treatment. Those who could effect change to support more physical activity among older adults in the health institution setting include health care providers, geriatricians, allied health professionals, health educators, and health system administrators. Home Many older adults spend much of their time at home for a variety of reasons. Being physically active at home can remove several barriers like those related to bad weather or lack of transportation. Older adults can be physically active at home no matter the season, the weather, or time of day. If there are others living in the household, they could provide support through motivation and encouragement or by joining in to be active together. In addition to the familiarity of one's physical space, there is a comfort to trying new physical activities in private (e.g., streaming a group fitness class like Zumba or Pilates) instead of in a public group setting.

532	Those who could effect change to support more physical activity among older adults in the home		
533	setting include individuals, family members/caregivers, home health care providers, property managers		
534	and neighborhood associations.		
535	***Begin Side Bar***		
536	Community Preventive Services Task Force (CPSTF) Recommendation for Home-based Interventions		
537	CPSTF recommends structured home-based exercise interventions for older adults to help them limit		
538	physical inactivity and improve or maintain physical fitness. Home-based physical activity for people		
539	ages 65 and older can improve balance, muscular strength, power, and endurance components. Home-		
540	based interventions provide guidance about how to be physically active and aim to motivate older		
541	adults to engage in physical activity. Interventions may also encourage participants to walk in place or		
542	outdoors to promote aerobic fitness.		
543	CPSTF recommends home-based interventions that include the following components:		
544	Specific exercises, initial instruction on routines, and limited or periodic supervision		
545	Exercise sessions two or more times per week		
546	• Exercises targeting improvements in strength (e.g., muscle strength, muscle power, and muscle		
547	endurance), balance, or both (i.e., multimodal)		
548	• Low-cost equipment for exercises (e.g., hand weights, mats, towels) or exercises that make use		
549	of resources already in the home (e.g., chairs)		
550	Learn more: https://www.thecommunityguide.org/findings/physical-activity-home-based-exercise-		
551	interventions-adults-65-years-older.html.		
552	***End Side Bar***		
553	Home and Community Combined		
554	While the home provides an easily accessible setting for getting active, the addition of a community-		
555	based component provides additional opportunities to increase physical activity. This combined setting		
556	includes community-based organizations and facilities, like local community centers, which provide		
557	information, guidance, and encouragement to do activity at both the center location and at home. Many		
558	group-based physical activity programs take place in community settings such as recreation centers,		
559	senior centers, and faith-based organizations and are often led by trained volunteers or physical activity		
560	professionals who can support and encourage participants. The additional accountability of participating		

561 in group-based activity at a community-based organization, as well as the social aspect, may contribute 562 to the effectiveness of combining the home and community-based setting to increase physical activity. 563 Those who could effect change to support more physical activity among older adults in the combined 564 home and community setting include individuals, family members/caregivers, property managers, neighborhood associations, community center program leads, fitness facility owners and staff (e.g., 565 566 personal trainers), and physical activity and health professionals. 567 Home and Health Institution Combined 568 Encouraging activity in both home-based and health institution-based settings can reinforce physical 569 activity behaviors among older adults. The combination of these settings allows programming from the 570 clinic to be translated to the home and creates opportunities for program staff to provide additional at-571 home support during or after a health-setting-based program. This can make it easier for older adults to 572 practice new physical activity behaviors on their own and incorporate new habits into their lifestyle, 573 while still receiving ongoing support. Such an approach can provide a transition between a structured, supervised program where participants "graduate" and continued physical activity at home. 574 575 Those who could effect change to support more physical activity among older adults in the combined 576 home and health institution setting include individuals, family members/caregivers, property managers, 577 neighborhood associations, geriatricians, allied health professionals, health care providers, health 578 educators, and health system administrators. **Strategies** 579 580 Strategies (tactics used to influence behavioral outcomes) that facilitate physical activity for older adults 581 can target the community at large or individuals. Policy makers; physical activity, health, or allied health 582 professionals; health care providers; gerontologists; and others working with older adults can use these 583 strategies to improve the health and function of older adults in their communities. 584 Community Design Population-level strategies go beyond direct programming or interventions. These strategies involve 585 586 policy, systems, and environmental approaches, such as those related to transportation and 587 neighborhood environments, that make physical activity opportunities available, safe, and easily 588 accessible for all people. This contrasts with strategies focused on the individual, which often require 589 someone to enroll in a program or intervention for a specific amount of time.

One strategy that has been shown to increase physical activity among older adults is making
communities more walkable through community design. Researchers have found that people who live in
walkable neighborhoods are more active than people who do not live in walkable neighborhoods.
Walkable neighborhoods make it safer and easier for community members to walk, bike, or wheelchair
roll for recreation, fitness, or transportation. Elements of community design that improve walkability
include the availability of and access to everyday destinations, street connectivity and quality, and social
and aesthetic components. Walkable neighborhoods include easy access to a mix of destinations, such
$as\ homes; health\ institutions;\ parks,\ trails,\ and\ recreational\ facilities;\ food\ outlets;\ and\ cultural\ centers.$
Such neighborhoods also have connected networks of "activity-friendly routes" like safe and accessible
high-quality sidewalks, curbs, and intersections; multi-use trails; safe bicycle infrastructure; and
convenient public transit. For example, intersections may include clearly marked crosswalks, curb cuts
that remove the need to step up onto a sidewalk from the road, and walk signals with audio and visual
prompts that allow sufficient crossing time for older adults. These features help people, especially those
using mobility devices or who have a mobility impairment, to safely cross the street. Wide sidewalks
with sufficient lighting that are free of trip hazards such as cracks or overgrowth, can also improve
walkability and create safer and smoother paths for older adults who use wheelchairs and other
assistive devices and people who are pushing strollers. Walkable communities can also feature social or
aesthetic components, such as benches, public art, public gathering spaces, shade, and landscaping, and
functional components like access to bathrooms and safe and free drinking water.
Other opportunities to create more activity-friendly communities include creating safe routes for
bicycles. This includes keeping bicyclists and pedestrians separate from vehicular traffic. It also includes
ensuring multi-use trails have enough room for different users to share the space, so older adults can
feel comfortable and safe alongside people riding bicycles or using micro-mobility devices, such as
scooters. Physical activity and walkability considerations can be included in policies like zoning and land-
use ordinances and subdivision guidelines, comprehensive (or master) plans, transportation and transit
policies, roadway design and Complete Streets policies, Safe Routes for All, shared use agreements,
Vision Zero, and recreation and open space plans and policies. Increasing physical activity through
community design has the potential, when thoughtfully carried out in partnership with the community,
to facilitate physical activity for everyone, regardless of age or ability.

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The Community Guide Findings on Community Design

621	The Community Preventive Services Task Force (CPSTF) recommends creating or improving
622	transportation infrastructure to promote active commuting by connecting people from where they live
623	to destinations where they go. The recommendation supports implementing policies and activities to
624	connect pedestrian, bicycle, or public transportation networks (sometimes referred to as activity-
625	friendly routes) to everyday destinations such as homes, healthcare institutions, shops, parks, and other
626	places.
	For older adults, this may mean walking a dog to a dog park or walking grandshildren to school on well
627	For older adults, this may mean walking a dog to a dog park or walking grandchildren to school on well-
628	maintained sidewalks; using a bicycle route separated from vehicular and pedestrian traffic (a complete
629	street) to go to a local coffee shop for breakfast (or other retail businesses); or taking available and
630	accessible public transportation to a senior center or doctor's office.
631	Learn more: https://www.thecommunityguide.org/findings/physical-activity-built-environment-
632	approaches.html.
C22	***End Side Bar***
633	The Erid Side Bar Th
634	Cognitive Behavioral Strategies
635	Individual-level cognitive behavioral strategies can equip older adults with the knowledge and
636	behavioral capability to engage in physical activity. These strategies may be even more effective if
637	multiple strategies are employed together as part of interventions like physical activity counseling or as
638	a part of a formal physical activity program. Cognitive-behavioral strategies include approaches such as
639	increasing physical activity knowledge or awareness, goal setting, self-monitoring, barrier identification
640	and problem solving, and social support. These strategies can be delivered via a variety of modes,
641	including in-person; via phone; through virtual counseling, such as through embodied conversational
642	agent (ECA) technology (i.e., animated computer characters that simulate face-to-face counseling); or
643	through print or text materials. These approaches often begin with an assessment of current physical
644	activity levels and development of incremental goals to increase physical activity.
645	***Start Side Bar***
646	Modes of Delivery for Physical Activity Strategies and Interventions
647	Delivery modes have a direct impact on the potential for large-scale implementation. They can influence
648	the cost, acceptability, feasibility, reach, and effectiveness of interventions. There are several effective
649	methods to deliver physical activity messaging and programming.

Face-to-face (in-person or virtual) approaches and phone calls are one way to support older adults in increasing physical activity levels. In-person interventions can occur in a variety of settings, such as the health institutions setting, congregate living facilities, or the home, and are a common way to deliver supervised physical activity programs and counseling. Moreover, with face-to-face interactions, a participant can receive direct feedback on their performance of an activity. Phone calls are another way to reach older adults and provide education or motivational support for physical activity. Virtual counseling or text message check ins can remove transportation barriers to meeting in-person.

Print materials can complement in-person or phone contact. Print materials can provide information on the benefits of physical activity, the importance of physical activity, behavior change tips, ways to address barriers, and suggested activities in which to engage. They can be tailored to the physical activity levels of individuals, such as those just getting started or working to build up physical activity levels over time. They also allow an individual to re-read the content later rather than remembering

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what was shared during the appointment.

Physical Activity Knowledge or Awareness. Knowledge and awareness of the health benefits of physical activity, how much physical activity is needed, and the role of physical activity in healthy aging can increase motivation and reduce barriers to physical activity. Providing information on different aspects of physical activity, such as how to do specific muscle-strengthening physical activities (i.e., skill building), can increase one's confidence or self-efficacy in doing the activity. Sharing information about physical activity programs, especially those tailored to older adults, can help encourage older adults to learn more about physical activity.

Goal Setting. Goal setting around physical activity can encourage older adults to achieve desired physical activity levels, starting from current levels. Goal setting may utilize S.M.A.R.T. goals – goals that are specific, measurable, achievable/attainable, realistic/relevant, and time-bound. This type of goal setting can help an individual take a general goal (e.g., increasing physical activity) into a tangible action item (e.g., going for a ten-minute walk three times per week). Older adults should increase their physical activity gradually and set goals in line with their current abilities. To reduce risk of injury, it is important to increase the amount of physical activity gradually over a period of weeks to months and in alignment with a person's abilities and fitness.

Self-Monitoring. Self-monitoring is a strategy used to track and record physical activity. Self-monitoring can encourage older adults to work towards achieving physical activity goals and provides regular feedback. Physical activity self-monitoring can be done using a device (e.g., pedometer, wearable tracker, mobile app) or a written instrument (e.g., physical activity log, journal, diary, worksheet) with information kept by the participants or shared with a health care provider or physical activity professional. Since the *Guidelines* recommends a weekly instead of daily target, tracking progress throughout the week can provide valuable feedback on progress toward achieving overall physical activity and fitness goals. Personalized reports on physical activity and sedentary behavior may help maintain increases and prevent decreases in physical activity over time.

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Physical Activity Monitors

Physical activity monitors, such as pedometers or accelerometers, can be effective tools to help increase physical activity among older adults when used as part of a physical activity intervention. Physical activity monitors can help individuals focus on physical activity goals and monitor their own physical activity in real time. Many commonly owned devices like activity trackers, smart watches, and smart phones contain accelerometers and can be used to monitor physical activity or steps.

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Barrier Identification and Problem Solving. Barriers, both real and perceived, can reduce physical activity. Barrier identification is an important first step to help individuals overcome obstacles preventing the adoption or maintenance of physical activity behaviors. Problem solving can help address identified barriers to physical activity by enabling an individual to come up with tangible and specific solutions (see Table 3). Both barrier identification and problem-solving skills are typically practiced through physical activity assessments and counseling, often at the start of a physical activity program. These activities can increase older adults' confidence so they can be more physically active. Over time, it is important to reassess barriers, especially during different times of year when weather or when lifestyle changes (e.g., retirement, increased travel, caregiving, or birth of a grandchild) may present different challenges.

Table 3. Examples of Barriers and Potential Solutions for Older Adults

Barrier	Example of Barriers	Potential Solution
	Too tired/not enough	Plan physical activity during periods of the day when you feel
	energy	most energetic.
		Sign up for group exercise class or training that includes balance components where there will be some form of support or supervision.
Internal	Fear of falling	
(e.g.,		Start slow and with activities that you are most confident with
physical state and		(e.g., chair exercises for support with balance or walking in place to limit trip hazards).
well-being, thoughts, feelings, or	Joint pain	Work with a health care provider to develop a pain management plan.
emotions)	'	Try activities that may minimize discomfort, such water aerobics.
	Lack of knowledge or confidence with	Try free online videos that demonstrate specific exercises.
	muscle-strengthening	Ask if your local gym or community facility offers
	physical activities	demonstrations of the muscle-strengthening equipment.
	Bad weather	Find opportunities to walk indoors, such as at a mall, airport, grocery store, or a big-box store.
External	Expensive equipment	Use inexpensive equipment (e.g., resistance bands) or things you might find in a home (e.g., books) for musclestrengthening activity.
(e.g., cost or access)	No close gym facility	Find ways to add physical activity to the day without specific equipment, such as gardening, dancing, or playing with grandchildren.
		Consider walking or bicycling to do errands.

Social Support. Social support from friends and family can increase motivation and promote physical activity participation. Social support can be fostered through group interaction (e.g., by joining physical activity classes or programs designed for older adults) as well as through physical activity counseling, where participants can learn about different types of social support and identify strategies to build support networks. Walking groups or "buddy systems" where older adults are encouraged to participate in physical activity with others can provide friendship and emotional support for older adults working towards increasing physical activity levels. A form of social support can be provided by health care providers while assessing patient's physical activity levels and through follow-up appointments. Health care providers can also provide referrals to physical activity, health, or allied health professionals and community-based programs.

717	Interventions
718	In this report, interventions are defined as formal programs designed to influence physical activity
719	outcomes by combining behavior change strategies and/or a set of physical activities to complete under
720	supervision or independently.
721	Physical Activity Counseling
722	Physical activity counseling is a common and effective feature of physical activity interventions. This can
723	be led by physical activity, health, or allied health professionals. Physical activity counseling can be done
724	in-person, virtually, or via the phone, and can include a variety of individual-level cognitive-behavioral
725	strategies such as goal setting, self-monitoring of physical activity behavior, barrier identification and
726	problem-solving, social support, and building physical activity knowledge or awareness. When offered in
727	the health care setting, physical activity counseling can provide guidance related to the individual's
728	specific health status. Providing in-person counseling along with printed resources can further improve
729	physical activity levels.
730	***Begin Side Bar***
731	The U.S. Preventive Services Task Force (USPSTF) recommends behavioral counseling interventions,
732	including nutrition and physical activity counseling, to promote a healthy diet and physical activity for
733	adults at increased risk of cardiovascular disease (grade B). Health care providers are recommended to
734	provide this service to patients since it has been found to improve health outcomes. The Affordable Care
735	Act requires private insurers and Medicare to cover preventive services identified by the USPSTF with a
736	grade A of B.
737	***End Side Bar***
738	
739	***Begin Side Bar***
740	Community Preventive Services Task Force (CPSTF) Recommendation for Digital Health Interventions
741	CPSTF recommends digital health interventions to increase physical activity among adults 55 years and
742	older. Digital health interventions include one or more of the following to deliver guidance and support
743	tailored to an individual's activity level, age, and health status:
744	Web-based interactive content (e.g., virtual coaching)

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746 Text messages and reminders 747 Apps with goal-setting, activity tracking, and reminder functions 748 Learn more: https://www.thecommunityguide.org/findings/physical-activity-digital-health-749 interventions-adults-55-years-and-older.html. 750 ***End Side Bar**** 751 Exercise Programs 752 Structured exercise programs help older adults engage in specific exercises for a set amount of time. 753 Exercise is a form of physical activity that is planned, structured, repetitive, and performed with the goal 754 of improving health or fitness. All exercise is physical activity, but not all physical activity is exercise. Exercise programs can be group-based or tailored to a specific individual's needs. Programs can be led 755 756 by physical activity, health, or allied health professionals, or trained recreation leaders. Supervision, 757 whether in group-based exercise programs or individual exercise programs, can support participant 758 confidence and provide specific guidance on various types of exercise. Personalized exercise programs 759 can be tailored to the individual's physical activity and fitness goals, physical function, health conditions, 760 current physical activity or fitness level, and readiness to change behaviors. Personalized exercise 761 programs often include a prescribed or packaged set of exercises for participants to complete. 762 Exercise programs for older adults should include multicomponent physical activity by addressing two or 763 more domains of physical activity, including aerobic, muscle strengthening, or balance. Programs may 764 also include functional training, and/or flexibility. ***Start Call Out box*** 765 766 Exercise is a form of physical activity that is planned, structured, repetitive, and performed with the goal 767 of improving health or fitness. All exercise is physical activity, but not all physical activity is exercise. ***End Call Out box*** 768 769 ***Start Side Bar*** 770 771 What Is Multicomponent Physical Activity?

Telephone sessions with intervention providers or automated voice messages and reminders

For older adults, multicomponent physical activity is important to improve physical function and decrease the risk of falls or injury from a fall. Multicomponent physical activities can be done at home or in a structured group setting. Many studied interventions combine all types of exercise (aerobic, muscle-strengthening, and balance) into one session, and this has been shown to be effective. A multicomponent physical activity program could include walking a dog (aerobic), doing bicep curls (muscle-strengthening), and standing on one foot (balance). Recreational activities such as dancing, yoga, tai chi, gardening, or sports can also be considered multicomponent because they often incorporate multiple types of physical activity.

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Lifestyle-based Physical Activity Programs

Lifestyle-based interventions use cognitive-behavioral strategies and behavior change theories to help older adults self-manage their own physical activity behavior changes. These interventions often include physical activity counseling or advice and help older adults to decide how they want to engage in physical activity throughout their day. With lifestyle-based physical activity programs, older adults can be supported and empowered in their efforts to find opportunities to increase their physical activity that work best in their lifestyle, for example, by taking the stairs when available, playing pickleball with friends, or by carrying groceries.

Conclusion

It's never too late to be physically active and to achieve the benefits of an active lifestyle. Moving more and sitting less are important for individuals of all ages. Especially for older adults, being physically active provides a range of benefits such as improving quality of life, reducing risk of and progression of chronic diseases, and increasing functional ability, which can support independent living. Currently less than 15% of older adults meet the *Physical Activity Guidelines for Americans*, representing a significant physical, mental, societal, and economic burden. It is important to remember that all activities, whether light-, moderate-, or vigorous-intensity "count." Encouraging older adults to start slow and gradually increase physical activity can help build confidence, motivation, and a routine of regular physical activity. Older adults can be physically active in a variety of settings, including the community, home, and health institutions. There are many strategies and interventions, both individual and group-based, outlined in this report, as well as policy, systems, and environmental changes which can positively affect older adults and the entire community in supporting more physical activity. Measuring the effectiveness

of strategies and interventions is key to continually building the list of "what works" to get older adults moving. The key is for policy makers; physical activity, health, or allied health professionals; health care providers; gerontologists; and others working with older adults to partner, plan, and implement ways to connect older adults where they live to destinations where they can access safe opportunities to be physically active. Together, we all can support older adults to be physically active in a variety of settings and to connect them to programs, places, and environments where being physically active is the easy choice.

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811	Glossary
812	Audiences Used in this Report
813	Allied health professionals are individuals who are involved in the delivery of health,
814	rehabilitation, and related services distinct from medicine and nursing (e.g., physical therapists,
815	occupational therapists, physiotherapists, exercise physiologists, respiratory therapists,
816	recreation therapists)
817	Health care providers are individuals who provide medical care and treatment (e.g., physicians,
818	geriatricians, physician's assistants, nurse practitioners, nurses)
819	Health professionals are individuals who deliver health programs and services distinct from
820	medical care (e.g., public health professionals, health and wellness specialists, health coaches,
821	community health workers, health educators)
822	Physical activity professionals are individuals who facilitate and lead physical activity programs
823	in community-based settings such as health and fitness facilities, recreation centers, and senior
824	centers (e.g., personal trainers, fitness instructors, certified exercise professionals, trained
825	recreation leaders, program managers)
826	
827	Aerobic physical activity is activity in which the body's large muscles move in a rhythmic manner for a
828	sustained period of time. Aerobic activity, also called endurance or cardio activity, improves
829	cardiorespiratory fitness. Examples include brisk walking, running, swimming, and bicycling.
830	Aerobic activity has three components:
831	• Intensity, or how hard a person works to do the activity. The intensities most often studied are
832	moderate (equivalent in effort to brisk walking) and vigorous (equivalent in effort to running or
833	jogging)
834	 Frequency, or how often a person does aerobic activity (e.g., minutes per week)
835	Duration, or how long a person does an activity in any one session
836	

Exercise is a form of physical activity that is planned, structured, repetitive, and performed with the goal of improving health or fitness. All exercise is physical activity, but not all physical activity is exercise.

Intensity refers to how much work is being performed or the magnitude of the effort required to perform an activity or exercise. Intensity can be expressed either in absolute or relative terms. Because older adults expend more energy than younger adults for the same task, such as walking at a given speed, and because aerobic capacity declines with age, relative intensity is a better guide for older adults than absolute intensity. Certain activities, such as some types of yoga or tai chi, that are considered light intensity for younger adults may be moderate- or vigorous-intensity for older adults when measured by relative intensity.

- **Multicomponent physical activity** is physical activity that includes more than one type of physical activity, such as aerobic, muscle strengthening, and balance training. Programs may also include gait,

- Absolute. The absolute intensity of an activity is determined by the rate of work being
 performed and does not consider the physiologic capacity of the individual. For aerobic activity,
 absolute intensity typically is expressed as the rate of energy expenditure (for example,
 milliliters per kilogram of body weight per minute of oxygen being consumed, kilocalories per
 minute, or METs; see MET definition below). For muscle-strengthening activities, intensity
 frequently is expressed as the amount of weight lifted or moved.
 - Light-intensity activity is non-sedentary waking behavior that requires less than 3.0 METs;
 examples include walking at a slow or leisurely pace (2 mph or less), cooking activities, or light household chores.
 - Moderate-intensity activity requires 3.0 to 5.9 METs; examples include walking briskly or with purpose (2.5 to 4 mph), mopping or vacuuming, or raking the yard.
 - Vigorous-intensity activity requires 6.0 or more METs; examples include walking very fast
 (4.5 to 5 mph), running, carrying heavy groceries or other loads up stairs, shoveling snow, or participating in a strenuous fitness class. Many adults do no vigorous-intensity activity.
- Relative intensity takes into account or adjusts for a person's cardiorespiratory fitness. For aerobic exercise, relative intensity is expressed as a percentage of a person's aerobic capacity (VO₂max) or VO₂ reserve, or as a percentage of a person's measured or estimated maximum heart rate or heart rate reserve. It also can be expressed as an index of how hard the person feels he or she is exercising (for example, on a 0 to 10 scale).

869	coordination, and physical function training. Examples of multicomponent activities include ballroom			
870	dancing and water aerobics.			
871				
872	Muscle-strengthening activity (strength training, resistance training, or muscular strength and			
873	endurance exercise) is physical activity, including exercise, that increases skeletal muscle strength,			
874	power, endurance, and mass. Muscle-strengthening activity has three components:			
875	• Intensity, or how much weight or force is used relative to how much a person is able to lift;			
876	 Frequency, or how often a person does muscle-strengthening activity; and 			
877	• Sets and repetitions, or how many times a person does the muscle-strengthening activity, like			
878	doing a push-up or lifting a weight (e.g., 3 sets of 12 repetitions each set). Sets and repetitions			
879	for strength training are comparable to duration for aerobic activity.			
880				
881	Older adults (for the purposes of this report) are those ages 65 and older. This age range is consistent			
882	with the definition of older adults in the <i>Physical Activity Guidelines for Americans</i> and used for Healthy			
883	People 2030 objectives. In the United States, ages 65 and older is used as the threshold for Medicare.			
884				
885	Physical activity is any bodily movement produced by the contraction of skeletal muscle that increases			
886	energy expenditure above a basal level. In the Guidelines, physical activity generally refers to the subset			
887	of physical activity that enhances health.			
888				
889				

890	Appendix. Federally Supported Physical Activity Initiatives and Resources
891	for Older Adults
892	U.S. Department of Health and Human Services (HHS)
893	Administration for Community Living
894	Resources will be added for final verison
895	Agency for Healthcare Research and Quality (AHRQ)
896	TAKEHeart Initiative. The AHRQ TakeHeart Initiative is designed to increase patient participation
897	in cardiac rehabilitation after cardiovascular events like heart attacks, heart failure, angioplasty,
898	and heart surgery. (https://takeheart.ahrq.gov/)
899	Centers for Disease Control and Prevention (CDC)
900	• Active People, Healthy Nation SM : Active People, Healthy Nation is a CDC-led initiative to help 27
901	million Americans become more physically active by 2027. Resources include evidence-based
902	strategies to increase physical activity, including through community design, information on
903	how multiple sectors can engage, and facts on the benefits of physical activity.
904	(https://www.cdc.gov/physicalactivity/activepeoplehealthynation/index.html) Specific
905	resources highlighting older adults include:
906	 Information on how much physical activity older adults need.
907	(https://www.cdc.gov/physicalactivity/basics/older_adults/index.htm)
908	 Ways older adults can include physical activity in their daily life.
909	(https://www.cdc.gov/physicalactivity/basics/adding-pa/activities-olderadults.htm)
910	 Information on levels of physical activity among older adults.
911	(https://www.cdc.gov/physicalactivity/inactivity-among-adults-50plus/index.html)
912	Fact Sheet on older adult physical activity levels
913	(https://www.cdc.gov/physicalactivity/inactivity-among-adults-
914	50plus/modules/Adults need more PA factsheet March2022 508.pdf)

915		 Podcast on the importance of physical activity for older adults
916		(https://tools.cdc.gov/medialibrary/index.aspx?deliveryName=FCP_19_DM20977_US
917		CDC_944#/media/id/405188)
918		Mall Walking Resource Guide: Mall walking programs or indoor walking programs in
919		mall-like settings that can address many barriers facing older adults.
920		(https://www.cdc.gov/nccdphp/dnpao/docs/uwmallwalkingguideweb508tagged.pdf)
921	•	Arthritis-Appropriate, Evidence-Based Interventions (AAEBI) - Osteoarthritis Action Alliance
922		(OAAA): The OAAA currently engages in a CDC-funded review of evidence-based interventions
923		to identify community-based programs that meet criteria to be recognized as AAEBI. The most
924		recent list of AAEBI programs includes several physical activity interventions, including
925		EnhanceFitness. (https://oaaction.unc.edu/aaebi)
926	•	Compendium of Effective Fall Interventions: What Works for Community-Dwelling Older
927		Adults: The compendium highlights specific interventions for which there is published evidence
928		of the intervention's ability to reduce falls among community-dwelling older adults. Out of 41
929		(multifaceted, clinical, home modification, and exercise) interventions, 15 are single
930		intervention exercise interventions.
931		(https://www.cdc.gov/homeandrecreationalsafety/pdf/falls/CDC_Falls_Compendium-2015-
932		a.pdf)
933	•	Disability & Health Resources for Facilitating Inclusion and Overcoming Barriers: Resources to
934		assist in creating and using inclusion strategies to improve the health, well-being, and
935		participation of people with disabilities in all aspects of life.
936		(https://www.cdc.gov/ncbddd/disabilityandhealth/disability-resources.html)
937	•	Division of Population Health (DPH), Physical Activity for Arthritis: This DPH website provides
938		resources and guidance on physical activity for individuals with arthritis.
939		(https://www.cdc.gov/arthritis/basics/physical-activity/index.html)
940	•	Increasing Physical Activity Among Adults with Disabilities: Resources for doctors and other
941		health professionals outlining how to increase physical activity among adults with disabilities.
942		(https://www.cdc.gov/ncbddd/disabilityandhealth/pa.html)
943		• Infographic (https://www.cdc.gov/ncbddd/disabilityandhealth/documents/disability-
944		pa-infographic.pdf)
945	•	MyMobility Plan: MyMobility Plan, a set of resources supported by CDC, provides older adults
946		with information, guidance, and tips on how to stay safe, mobile, and independent as they age.

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947	The mobility planning tool has three parts: Tips to manage health and mobility, a home safety
948	checklist for fall prevention, and a plan to stay mobile in the community.
949	(https://www.cdc.gov/transportationsafety/older_adult_drivers/mymobility/index.html)
950	National Center on Birth Defects and Developmental Disabilities, Increasing Physical Activity
951	Among Adults With Disabilities: The National Center on Birth Defects and Developmental
952	Disabilities website provides data, resources, and guidance on increasing physical activity among
953	adults with disabilities. (https://www.cdc.gov/ncbddd/disabilityandhealth/pa.html)
954	Older Adult Falls Program: This collection of effective fall interventions is designed to help
955	public health practitioners, senior service providers, clinicians, and others who want to address
956	falls among older adults in their community. The website also provides a program guide
957	designed for community-based organizations interested in implementing their own evidence-
958	based fall prevention programs.
959	(https://www.cdc.gov/homeandrecreationalsafety/falls/programs.html)
960	 Preventing Falls: A Guide to Implementing Effective Community-Based Fall Prevention
961	Programs: A related "how-to" guide designed for community-based organizations who are
962	interested in program planning, developing, implementing, and evaluating their own evidence-
963	based fall prevention programs.
964	(https://www.cdc.gov/falls/programs/community_prevention.html)
965	The Community Guide: The Guide to Community Preventive Services (The Community Guide) is
966	a collection of evidence-based findings of the Community Preventive Services Task Force
967	(CPSTF). It is a resource to help you select interventions to improve health and prevent disease
968	in your state, community, community organization, business, healthcare organization, or school
969	(https://www.thecommunityguide.org/pages/about-community-guide.html)
970	National Institutes of Health (NIH)
971	National Institute on Aging: Website and resources on exercise and physical activity for healthy
972	aging. (https://www.nia.nih.gov/health/topics/exercise-and-physical-activity)
973	Office of Disease Prevention and Health Promotion
974	 Physical Activity Guidelines for Americans: The Physical Activity Guidelines is an essential

resource for health professionals and policy makers. It includes recommendations for Americans

ages 3 years and over — including people at increased risk of chronic disease — and provides
evidence-based advice on how physical activity can help promote health and reduce the risk of
chronic disease. (https://health.gov/our-work/nutrition-physical-activity/physical-activity-
guidelines/current-guidelines)
 Move Your Way®: Move Your Way® is the campaign from the U.S. Department of Health and
Human Services led by the Office of Disease Prevention and Health Promotion that provides free
tools in both English and Spanish to promote the Physical Activity Guidelines for Americans. The
campaign encourages Americans to get the physical activity they need to get and stay healthy by
increasing awareness, knowledge, and self-efficacy. The campaign resources include interactive
tools, videos, posters, fact sheets, and social media messages for audiences of all ages, including
older adults. (https://health.gov/moveyourway) Specific resources highlighting older adults
include:
 Information on how much physical activity older adults need and why physical activity is
key for healthy aging.
(https://health.gov/sites/default/files/2021-
02/PAG MYW FactSheet OlderAdults 508c.pdf)
 Information on the different types of physical activity older adults need and how they
can get a mix of activity types.
(https://health.gov/sites/default/files/2021-07/PAG_MYW_FactSheet_OlderAdults_07-
<u>08_508c.pdf</u>)
 Story illustrating how two older adults eat healthy and find safe ways to get active.
(https://health.gov/moveyourway/stories/john-patty)
 Planning tool to help people build a personalized weekly activity plan with tips for fitting
activity into their daily routines.
(https://health.gov/moveyourway/activity-planner)
Healthy People: Healthy People provides science-based, 10-year national objectives for
improving the health of all Americans. It has a physical activity topic area, which includes
objectives used to track the progress of populations meeting the <i>Physical Activity Guidelines for</i>
Americans as well as other physical activity areas. (https://healthypeople.gov)

Office of the Surgeon General

• Step it Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities: This Call to Action is intended to increase walking across the United States by calling for improved access to safe and convenient places to walk and wheelchair roll, as well as for a culture that supports these activities for people of all ages and abilities. This publication presents five goals and supporting implementation strategies that are grounded in scientific and practice-based evidence. These goals call for action by multiple sectors of society, as well as families and individuals. (https://www.surgeongeneral.gov/library/calls/walking-and-walkable-communities/index.html)

Environmental Protection Agency (EPA)

- Healthy Places for Healthy People: Healthy Places for Healthy People engages with community leaders and health care partners to create walkable, healthy, and economically vibrant communities that can improve health, protect the environment, and support economic growth. One key focus of the program is creating physical activity programs and supporting sidewalks, bike paths, trails, and parks in the community to promote active living.

 (https://www.epa.gov/smartgrowth/healthy-places-healthy-people)
- National Walkability Index: The EPA's National Walkability Index is a nationwide geographic
 data resource that ranks block groups according to their relative walkability. The national
 dataset includes walkability scores for all block groups as well as the underlying attributes that
 are used to rank the block groups. (https://www.epa.gov/smartgrowth/smart-location-mapping#walkability)

National Park Service (NPS)

Healthy Parks Healthy People Program: The National Park Service's Healthy Parks Healthy
People program connects people to parks through health promotion, fosters society's
understanding and appreciation for the life-sustaining role of parks, and creates the next
generation of park stewards. The program addresses health promotion in parks and
communities, at local, state, national and international levels through five main programmatic
areas, including healthy recreation. (https://www.nps.gov/public health/hp/hphp/about.htm)

U.S. Department of Agriculture (USDA)

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people of all ages and abilities.

1034	•	Forest Service Accessibility Resources: Provides over 15 resources and tools to promote trail
1035		use and outdoor recreation opportunities accessible to older adults with mobility limitations and
1036		persons with disabilities. "Accessibility" defines a facility in compliance with accessibility
1037		guidelines or standards when it was built or altered. One of the most popular pastimes on
1038		forests and grasslands is camping. Many Forest Service campsites are accessible to visitors of
1039		any ability. (https://www.fs.usda.gov/managing-land/national-forests-
1040		grasslands/accessibility/resources)
1041		• These resources include an Interactive Visitor Map. (https://www.fs.usda.gov/ivm/)
1042	U.S. D	epartment of Transportation (DOT)
1043	•	Federal Highway Administration's Complete Streets: This website is focused on helping people
1044		to plan, develop and operate equitable streets and networks that prioritize safety, comfort, and
1045		connectivity to destinations for all people who use the street network.
1046		(https://highways.dot.gov/complete-streets)
1047		Moving to a Complete Streets Design Model: A Report to Congress on Opportunities and
1048		Challenges (https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-
1049		03/Complete%20Streets%20Report%20to%20Congress.pdf)
1050	•	Federal Highway Administration's Bicycle and Pedestrian Program: The Bicycle and Pedestrian
1051		program provides resources to help promote bicycle and pedestrian transportation use, safety,
1052		and accessibility. Resources include a listing of State Pedestrian and Bicycle Coordinators,
1053		information on funding sources, and bicycle- and pedestrian-related legislation.
1054		(https://www.fhwa.dot.gov/environment/bicycle_pedestrian/index.cfm)
1055		 Pedestrian and Bicycle Funding Opportunities: U.S. Department of Transportation
1056		Transit, Safety, and Highway Funds
1057		(https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportu
1058		nities.pdf)
1059	•	Federal Highway Administration's Small Town and Rural Multimodal Networks: The DOT's
1060		Small Town and Rural Multimodal Networks guide is a design resource and idea book to help

small towns and rural communities support safe, accessible, comfortable, and active travel for

1063 (https://www.fhwa.dot.gov/environment/bicycle-pedestrian/publications/small_towns/page00
1064 .cfm)

U.S. Department of Veterans Affairs (VA)

- Gerofit for Veterans: Gerofit is an exercise program that promotes health & wellness for
 Veterans. Veterans are given a personalized exercise prescription and guidance in carrying out
 the exercise program is provided by trained exercise staff such as physiologists, nurses, or
 physical therapists. (https://www.va.gov/GERIATRICS/pages/gerofit Home.asp)
- MOVE! Weight Management Program: MOVE! is a weight management and health promotion program, supported by the U.S. Department of Veterans Affairs' (VA) National Center for Health Promotion and Disease Prevention (NCP), designed to improve the lives of Veterans. The program helps Veterans maintain and lose weight by encouraging healthy eating and increased physical activity. (https://www.move.va.gov/)