

Evidence is available from studies that mostly assessed leisure domain physical activity; the type of activity was mostly aerobic (such as walking or swimming), although there is some evidence from studies assessing interventions that also included strength training (e.g. circuit training), or combinations of aerobic and muscle-strengthening exercise. However, overall there is insufficient evidence to determine if the associations between physical activity and health outcomes vary by type or domain or timing (pre-pregnancy, antenatal or postnatal) of physical activity.

- There is moderate certainty evidence that pregnant and postpartum women should incorporate a variety of aerobic and muscle-strengthening activities. Gentle stretching may also be beneficial.





SEDENTARY BEHAVIOUR RECOMMENDATION

For pregnant and postpartum women, sedentary behaviour is defined as time spent sitting or lying with low energy expenditure while awake, in the context of occupational, educational, home and community settings and transportation.

In pregnant and postpartum women, as in all adults, higher amounts of sedentary behaviour are associated with the following poor health outcomes: all-cause mortality, cardiovascular disease mortality and cancer mortality and incidence of cardiovascular disease, cancer and incidence of type-2 diabetes.

It is recommended that:

➤ **Pregnant and postpartum women should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.**

Strong recommendation, low certainty evidence

Supporting evidence and rationale

Sedentary behaviour was not included in the 2020 *Global recommendations on physical activity for health* (1). Due to a lack of population-specific evidence, the primary evidence base for assessing the associations between sedentary behaviour and health outcomes in pregnant and postpartum women was the scientific literature collated and reviewed for adult populations.

The findings from evidence on sedentary behaviours in the general adult population were reviewed, including assessing whether the outcomes would be any different, or would not apply to, or would be contraindicated, for pregnant and postpartum women.

Based on available evidence and expert opinion, the evidence was extrapolated to inform the new WHO recommendations on sedentary behaviour for pregnant and postpartum women for the common set of critical health outcomes. Due to indirectness of the evidence, the level of certainty was downgraded.

Given the lack of evidence specific to this population, and that pregnant women were excluded from studies, the recommendation to increase levels of physical activity beyond recommended levels to counter the detrimental effect of high sedentary behaviour was not extrapolated for women during pregnancy and the postpartum period.

The GDG concluded that:

- The evidence on sedentary behaviours in the general adult population could be extrapolated to inform recommendations for pregnant and postpartum women for the common set of critical health outcomes.
- The benefits of minimizing sedentary behaviour outweigh the risks for pregnant and postpartum women.
- The certainty of the evidence should be downgraded due to indirectness.

ADULTS AND OLDER ADULTS WITH CHRONIC CONDITIONS (aged 18 years and older)



To date, most physical activity guidelines for people with chronic conditions have been limited to clinical or therapeutic guidance. For example, there are clinical practice recommendations and resources developed by the professional medical associations for oncology (101), type-2 diabetes (102), hypertension (103), and other chronic diseases (104). WHO also has clinical practice guidance which includes recommending physical activity to patients with chronic disease (17).

These guidelines are the first WHO population-based guidelines on physical activity for people living with chronic conditions, specifically those living with cancer (from here on referred to as “cancer survivors”), hypertension, type-2 diabetes, and HIV.

Given the advances of effective and widely available antiretroviral treatment for HIV, this condition is now also considered a chronic condition. For patients undergoing acute treatment (e.g. chemotherapy), or not yet stabilized on their chronic medication, health-care providers should also refer to clinical practice guidelines relevant to each chronic condition.

PHYSICAL ACTIVITY RECOMMENDATION

For adults living with chronic conditions, physical activity can be undertaken as part of recreation and leisure (play, games, sports or planned exercise), transportation (wheeling, walking and cycling), work or household chores, in the context of daily occupational, educational, home or community settings.

All adult cancer survivors and those living with hypertension, type-2 diabetes and HIV, should try to meet these recommendations where possible, as able and without contraindication.

Physical activity can confer health benefits for adults and older adults living with the following chronic conditions: for **cancer survivors** – physical activity improves all-cause mortality, cancer-specific mortality, and risk of cancer recurrence or second primary cancer; for **people living with hypertension** – physical activity improves cardiovascular disease mortality, disease progression, physical function, health-related quality of life; for **people living with type-2 diabetes** – physical activity reduces rates of mortality from cardiovascular disease and indicators disease progression; and for **people living with HIV** – physical activity can improve physical fitness and mental health (reduced symptoms of anxiety and depression), and does not adversely affect disease progression (CD4 count and viral load) or body composition.

It is recommended that:

- **All adults and older adults with these chronic conditions should undertake regular physical activity.**

Strong recommendation, moderate certainty evidence

- **Adults and older adults with these chronic conditions should do at least 150–300 minutes of moderate-intensity aerobic physical activity; or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for substantial health benefits.**

Strong recommendation, moderate certainty evidence

- › **Adults and older adults with these chronic conditions should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional benefits.**

Strong recommendation, moderate certainty evidence

- › **As part of their weekly physical activity, older adults with these chronic conditions should do varied multicomponent physical activity that emphasizes functional balance and strength training at moderate or greater intensity on 3 or more days a week, to enhance functional capacity and prevent falls.**

Strong recommendation, moderate certainty evidence

- › **When not contraindicated, adults and older adults with these chronic conditions may increase moderate-intensity aerobic physical activity to more than 300 minutes; or do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for additional health benefits.**

Conditional recommendation, moderate certainty evidence

**GOOD PRACTICE
STATEMENTS**

- When not able to meet the above recommendations, adults with these chronic conditions should aim to engage in physical activity according to their abilities.
- Adults with these chronic conditions should start by doing small amounts of physical activity and gradually increase the frequency, intensity and duration over time.
- Adults with these chronic conditions may wish to consult with a physical activity specialist or health-care professional for advice on the types and amounts of activity appropriate for their individual needs, abilities, functional limitations/complications, medications, and overall treatment plan.
- Pre-exercise medical clearance is generally unnecessary for individuals without contraindications prior to beginning light- or moderate-intensity physical activity not exceeding the demands of brisk walking or everyday living.



Supporting evidence and rationale

The scope of these guidelines assessed the associations between physical activity and the following health outcomes: **for cancer survivors** – all-cause mortality, cancer-specific mortality, and risk of cancer recurrence or second primary cancer; **for people living with hypertension** – cardiovascular disease mortality, risk of co-morbid conditions, physical function, health-related quality of life, and disease progression (here defined as the blood pressure response to physical activity); **for people living with type-2 diabetes** – cardiovascular disease mortality, risk of co-morbid conditions, physical function, health-related quality of life, and disease progression; and **for people living with HIV** – physical function (physical fitness, exercise tolerance and strength), health-related quality of life, mental health (symptoms of anxiety and depression), cardiometabolic disease risk indicators (blood lipids, blood glucose and body composition) and adverse effects on disease progression (namely CD4 count and viral load).

The evidence informing these guidelines was the report of PAGAC (35) which was updated with 16 new reviews identified from 2017 to 2019 for cancer ($n=1$), hypertension ($n=2$) and type-2 diabetes ($n=13$). In addition, a commissioned umbrella review on physical activity and health-related outcomes among people living with HIV provided evidence from 19 eligible reviews published 2002–2018. Full details of the methods, data extraction and evidence profiles can be found in the [Web Annex: Evidence profiles](https://apps.who.int/iris/bitstream/handle/10665/336657/9789240015111-eng.pdf).

In adults and older adults (aged 18 years and over) living with cancer (cancer survivors), hypertension, type-2 diabetes, or HIV, what is the association between physical activity and health-related outcomes?

Physical activity promotes beneficial short- and long-term changes in metabolic, hormonal, and inflammatory pathways, which are thought to be protective for **cancer** incidence and survival (35). Evidence shows that higher levels of physical activity after cancer diagnosis were found to be protective for all-cause mortality following breast cancer (HR= 0.58 [95% CI: 0.52 to 0.65], 17 studies); colorectal cancer (HR= 0.63 [95% CI: 0.50 to 0.78], 10 studies), female reproductive cancer (HR= 0.66 [95% CI: 0.49 to 0.88], 4 studies); glioma (HR= 0.64 [95% CI: 0.46 to 0.91], 1 study); hematologic cancer (HR= 0.60 [95% CI: 0.51 to 0.69], 2 studies); kidney cancer (HR= 0.60 [95% CI: 0.38 to 0.95], 1 study); lung cancer (HR= 0.76 [95% CI: 0.60 to 0.97], 2 studies); prostate cancer (HR= 0.60 [95% CI: 0.46 to 0.79], 5 studies); and stomach cancer (HR= 0.75 [95% CI: 0.61 to 0.93], 1 study) (105).

Greater amounts of physical activity after cancer diagnosis are also associated with lower risks of cause-specific mortality in breast cancer, colorectal cancer, and prostate cancer survivors. The meta-analysis found reduced hazards of mortality for those in the highest versus the lowest levels of postdiagnosis total physical activity for all cancers combined (HR= 0.63 [95% CI: 0.53 to 0.75], 4 studies); breast cancer (HR= 0.63 [95% CI: 0.50 to 0.78], 13 studies); colorectal cancer (HR= 0.62 [95% CI: 0.44 to 0.86], 6 studies); and prostate cancer (HR= 0.70 [95% CI: 0.55 to 0.90], 4 studies) (105). There was, however, insufficient evidence to determine if physical activity is associated with cancer recurrence or second primary cancer.

Physical activity is important for both the primary prevention and management of **hypertension**, with evidence showing that physical activity improves physical function, cardiovascular disease progression (i.e. blood pressure response to physical activity), and cardiovascular disease mortality in people living with hypertension (35). For example, compared with no exercise control groups, people with hypertension who are physically active can reduce systolic blood pressure by approximately 12mm Hg and diastolic blood pressure by approximately 6mm Hg (SBP MD= 12.26 mm Hg [95% CI: 15.17 to 9.34], $p < 0.05$; DBP MD= 6.12 mm Hg [95% CI: 7.76 to 4.48], $p < 0.05$) (106). Emerging evidence demonstrates that people with

hypertension who are physically active can significantly improve their health-related quality of life compared with those with hypertension who are inactive (54).

Physical activity, including aerobic activity, muscle-strengthening activity, and aerobic plus muscle-strengthening activity, is associated with improved secondary indicators of risk of progression (HbA1c, blood pressure, BMI, and lipids) in adults with **type-2 diabetes** (35). For example, recent research found that resistance training was associated with greater reduction in HbA1c versus control groups, and that high-intensity resistance training has significant positive effects on fasting insulin (107). There is insufficient evidence to assess the effects of physical activity on health-related quality of life and physical function in adults with type-2 diabetes.

Physical activity in people living with **HIV** improves cardiorespiratory fitness. The interventions studied involved either aerobic exercise, or exercise combined with progressive muscle-strengthening exercise, for at least 30 minutes, 3 times per week (108, 109). There is also evidence that physical activity interventions can improve markers of cardiometabolic risk (e.g. lipids) although results are mixed; no effects were established on insulin concentration, although glucose was lowered after aerobic training (110). Physical activity, whether aerobic, or combined with muscle-strengthening exercise, in people living with HIV is positively associated with health-related quality of life (111) and a reduction in symptoms of depression and anxiety (112). The meta-analysis for depression (9 studies) showed an SMD of 0.84 (95% CI: 1.57 to 0.11) favouring the intervention groups ($p = 0.02$). The SMD for reduction in anxiety (5 studies) was also statistically significant, favouring the intervention (1.23 [95% CI: 2.42 to 0.04], $p = 0.04$) (112). Physical activity is also associated with significant standardized mean increases in lean body mass of 1.75 kg and a significant decrease in percent body fat of 1.12% for participants in the exercising control groups, as well as an increase in peripheral leg and arm muscle area, compared with participants in the non-exercising control groups (111), but is not associated with changes in BMI or waist circumference in people living with HIV (111). Physical activity does not adversely influence markers of HIV disease progression, such as CD4 count (cells/mm³) or viral load (111). Importantly, this evidence suggests that HIV as a chronic disease will not be adversely affected by physical activity.

The GDG concluded that:

- There is moderate certainty evidence that greater amounts of physical activity after cancer diagnosis are associated with lower risks of all-cause, cause-specific, and cancer-specific mortality in cancer survivors.
- There is high certainty evidence that physical activity reduces the risk of cardiovascular disease progression in adults with hypertension.
- There is moderate certainty evidence that physical activity improves physical function and health-related quality of life outcomes in adults with hypertension.
- There is high certainty evidence that physical activity improves markers of disease progression (HbA1c, blood pressure, BMI, and lipids) in adults with type-2 diabetes.
- There is moderate certainty evidence of an association between physical activity and improvements in fitness (maximal oxygen consumption, exercise tolerance) and muscular strength for people living with HIV, and favourable associations between physical activity and body composition, health-related quality of life, reduced symptoms of depression and anxiety, and no change in viral load or CD4 count in people living with HIV.
- The benefits associated with engaging in regular physical activity in cancer survivors and people living with hypertension, type-2 diabetes, and HIV in relation to specific health outcomes, outweigh the risks.

Is there a dose-response association (volume, duration, frequency, intensity)?

Greater amounts of physical activity after **cancer** diagnosis have been linked with lower risks of all-cause, and cancer-specific mortality. Evidence demonstrates a non-linear relationship between increasing levels of post-diagnosis physical activity and breast cancer-specific and all-cause mortality up to 10–15 MET-hours per week (consistent with 150 mins/week of moderate- to vigorous-intensity physical activity) with no evidence for harms at higher levels (105). There is a suggestion of similar dose-response association for other cancer sites however there were too few studies to permit a formal meta-analysis. Further research is needed to determine strength of association.

There is a clear dose-response relationship between physical activity and cardiovascular disease mortality for people living with **hypertension** (35). Findings show that as systolic blood pressure increases within hypertensive ranges, the risk of cardiovascular disease mortality increases, but this increased risk is attenuated with higher levels of physical activity (35). Similar to

recommendations for the general population, most of the traditional interventions are based around 30–60 minutes of moderate-intensity aerobic activity, 3 days per week, and/or 2–3 sessions of resistance training per week.

There is substantial evidence of an inverse curvilinear association between volume of physical activity and risk of cardiovascular mortality in adults with **type-2 diabetes** (113–115). Higher amounts of physical activity (from both below and at, or above the recommended levels of 150 mins/week of moderate-intensity activity) progressively reduce risk. For example, compared with doing no activity, engaging in some activity was associated with a 32% reduction in risk of cardiovascular disease mortality (adjusted HR= 0.68 [95% CI: 0.51 to 0.92]), while engaging in amounts of activity meeting physical activity guidelines or above was associated with a larger 40% reduction in risk of cardiovascular disease mortality (adjusted HR= 0.60 [95% CI: 0.44 to 0.82]) (115). Most interventions are based around 150–300 minutes of moderate-intensity aerobic activity or 75 minutes of vigorous-intensity activity, and/or 2–3 sessions of resistance training per week. For some outcomes (e.g. HbA1c and blood pressure) in adults with type-2 diabetes, there is evidence for a stronger effect with more aerobic activity (i.e. greater than 150 mins/week versus less than 150 mins/week), but limited evidence for intensity (35).

In people living with **HIV**, there is insufficient evidence to establish a dose-response relationship between physical activity and body composition, or for intermediate markers of cardiometabolic diseases (such as blood lipid profiles, insulin resistance, fasting glucose concentrations or blood pressure). The majority of studies providing evidence involved physical activity interventions conducted at least 3 times a week for 12–48 weeks, and involved at least 30 minutes of moderate- to vigorous-intensity aerobic exercise alone or in combination with progressive resistance training. There is also insufficient evidence to establish more precisely the dose-response relationship for mental health and health-related quality of life outcomes. The available evidence is from studies typically assessing physical activity interventions of 3 or more times weekly.

Overall there was evidence ranging from moderate to high certainty to support a physical activity recommendation of 150–300 minutes of moderate-intensity physical activity (or equivalent) for the specified populations of people living with chronic disease and the specific set of health outcomes. There was clearer evidence of higher levels of activity being associated with greater benefits in the evidence addressing people living with hypertension,

type-2 diabetes and cancer survivors. The variations in the certainty and directness of the evidence according to the specific chronic condition and specific outcomes examined was acknowledged. Where evidence showed positive outcomes from strength training exercise, the frequency of activity was 2 or 3 sessions of resistance training per week.

The GDG concluded that:

- There is moderate certainty evidence of a dose-response relationship between physical activity and decreased all-cause mortality and cancer-specific mortality in cancer survivors.
- There is high certainty evidence of a dose-response relationship between physical activity and cardiovascular disease mortality for adults with hypertension.
- There is evidence of an inverse, curvilinear dose-response relationship between activity volume and risk of cardiovascular mortality among adults with type-2 diabetes.
- There is insufficient evidence for a dose-response relationship between physical activity and intermediate markers of cardiometabolic diseases, body composition, and health-related quality of life symptoms of anxiety and depression in people living with HIV.
- Interventions in the range of 150–300 minutes of moderate-intensity aerobic activity (or equivalent) provided favourable health outcomes, and positive outcomes from strength training exercise, where noted, with 2 or 3 sessions of resistance training per week.

Does the association vary by type or domain of physical activity?

There is evidence that different types and domains of physical activity provide favourable health outcomes. **Cancer survivors** who are meeting recommended levels of aerobic and muscle-strengthening physical activity, versus not meeting either recommendation, have significantly lower risk of cancer mortality (adjusted HR= 0.70 [95% CI: 0.50 to 0.98]) (84). Evidence demonstrates that adhering solely to muscle-strengthening physical activity recommendations versus not adhering is also beneficial in improving cancer mortality outcomes (HR= 0.66 [95% CI: 0.48 to 0.92]) (84). A meta-analysis also reported these associations by physical activity domain and found the most consistent reductions in mortality for all cancers, breast cancer, and colorectal cancer-specific mortality for recreational

physical activity (105). For adults living with **hypertension**, evidence supports aerobic activity, muscle-strengthening activity, and combinations of the two for improving cardiovascular disease progression. The blood pressure lowering effects between traditional modes of physical activity (i.e. aerobic and resistance activity) do not appear to vary significantly among people with hypertension (35); however, this evidence is not based on direct comparisons between activity types. There is also emerging evidence to support beneficial effects of other forms of exercises in people living with hypertension (e.g. Tai Chi, yoga, Qigong), however further research is needed to explore these specific types of activity to determine strength of association.

Aerobic activity, muscle-strengthening activity, or a combination of both, is associated with improved secondary indicators of risk of progression (HbA1c, blood pressure, BMI, and lipids) among adults with **type-2 diabetes** (35, 107). One review of 24 RCTs ($n= 962$) reported that resistance training was associated with greater reduction in HbA1c versus control groups (MD= 0.45 [95% CI: 0.65 to 0.25], 20 trials; $n= 824$). Statistically significant effects were found for high-intensity resistance training versus control groups on fasting insulin (MD= 4.60 [95% CI: 7.53 to 1.67], 5 trials; $n= 174$) (107). Another review of 7 RCTs ($n= 189$) reported that interval training (2–5 times/week; intervals 1–4 mins duration; total session lengths 20–60 mins) was associated with statistically significantly decreased HbA1c by 0.26% (95% CI: 0.46 to 0.07%, 5 RCTs) compared with MICT, and by 0.83% (95% CI: 1.39% to 0.27%, 4 RCTs) compared with no-exercise control groups (116). As with recommendations for the general population, most of these interventions are based around aerobic activity consistent with the recommendation of 150–300 minutes of moderate-intensity aerobic activity (or 75 minutes of vigorous-intensity activity) and muscle-strengthening activity conducted 2–3 sessions per week. For some outcomes (e.g. HbA1c and blood pressure), there is evidence for a stronger effect with more aerobic activity (i.e. greater than 150 mins/week versus less than 150 mins/week), but limited evidence for intensity. More recent studies provide evidence that traditional Chinese exercise, such as Tai Chi may have glycaemic benefits, but these were of moderate and variable certainty (i.e. risk of bias or inconsistency). Further research is needed to determine these associations.

Multiple types of physical activity, including aerobic and resistance-training, have been shown to have positive effects on health-related quality of life in people living with HIV (111). Recent research examining changes in health-related quality of life in response to aerobic, progressive resistance exercise, or a combination of both, demonstrates significant improvements in general health, and mental health. There is also evidence that both aerobic and multicomponent activity is related to a reduction in symptoms of depression and anxiety in people living with HIV (112). Evidence for the effects of physical activity on mental health symptoms has involved aerobic or aerobic combined with progressive muscle-strengthening activity, or yoga. Evidence also demonstrates that aerobic exercise alone, or when combined with resistance exercise, does not result in any significant change in viral load or CD4 count in people living with HIV (111).

Direct evidence, from both the existing and updated literature, supports the inclusion of the recommendations for people living with type-2 diabetes and hypertension to undertake aerobic and muscle-strengthening physical activity. Although there is a lack of published evidence, there is biological plausibility for the benefits of aerobic and muscle-strengthening physical activity for adults living with HIV and cancer survivors. Furthermore, as

noted by the GDG, established international clinical practice guidelines recommend aerobic and muscle-strengthening physical activity for these populations (for example ACSM "Moving Through Cancer" guidelines (101) based on a systematic review of evidence (3)). Recognizing this evidence base is still emerging, the level of certainty was downgraded.

The GDG concluded that:

- There is moderate certainty evidence for combined or additive effects of aerobic or muscle-strengthening activity for reduced cancer mortality, improvements in blood pressure among those with hypertension.
- There is high certainty evidence that aerobic activity, muscle-strengthening activity, and aerobic plus muscle-strengthening activity improve markers of disease progression (HbA1C, blood pressure, BMI, and lipids) in adults with type-2 diabetes.
- There is moderate certainty evidence that regular aerobic exercise alone, or combined with resistance exercise, does not result in any significant change in viral load or CD4 count in people living with HIV.
- There is insufficient evidence for an effect of strength training alone on health-related quality of life in people living with HIV.





SEDENTARY BEHAVIOUR RECOMMENDATION

Sedentary behaviour was not included in the 2010 *Global recommendations on physical activity for health* (1). The scope of this new recommendation on sedentary behaviours in cancer survivors and those people living with hypertension, type-2 diabetes and HIV.

Sedentary behaviour is defined as time spent sitting or lying with low energy expenditure, while awake, in the context of occupational, educational, home and community settings, and transportation.

In adults, including **cancer survivors** and people living with **hypertension, type-2 diabetes** and **HIV**, higher amounts of sedentary behaviour are associated with the following poor health outcomes: all-cause mortality; cardiovascular disease mortality; cancer mortality; incidence of cardiovascular disease; cancer; and type-2 diabetes.

For cancer survivors, and adults living with hypertension, type-2 diabetes and HIV, it is recommended that:

➤ **Adults and older adults with chronic conditions should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.**

Strong recommendation, low certainty evidence

➤ **To help reduce the detrimental effects of high levels of sedentary behaviour on health, adults and older adults with chronic conditions should aim to do more than the recommended levels of moderate- to vigorous-intensity physical activity.**

Strong recommendation, low certainty evidence

Supporting evidence and rationale

Due to a lack of population-specific evidence, the primary evidence base for assessing the associations between sedentary behaviour and health outcomes in adults and older adult cancer survivors and those adults and older adults living with hypertension, type-2 diabetes, and HIV, was the scientific literature collated and reviewed for adult populations.

The findings from evidence on sedentary behaviours in the general adult population were reviewed, including assessing if there was evidence that the outcomes would be any different, or would not apply to, or would be contraindicated, for adults and older adults living with chronic conditions.

Based on available evidence and expert opinion, the evidence was extrapolated to inform the new WHO recommendations on sedentary behaviour for adults living with chronic conditions for the common set of critical health outcomes. The extrapolation of evidence is supported largely by the assessment that the majority of studies imposed no upper age limit criterion, included adults over the age of 65 years and may have included adults with chronic conditions, such as cancer survivors, those living with hypertension or type-2 diabetes. For people living with HIV, no reasons were identified as to why the evidence on the health impacts of sedentary behaviours would not apply. Due to indirectness of the evidence to develop these recommendations, the level of certainty was downgraded.

The applicability of evidence on the benefit of undertaking more moderate- and vigorous-intensity physical activity to help counteract the potential risks of high levels of sedentary behaviour was also considered and was also extrapolated to inform recommendations for adults with chronic conditions for the common set of critical health outcomes. Given the indirectness, the certainty of the evidence was downgraded.

The GDG concluded that:

- The evidence on sedentary behaviours in the general adult population could be extrapolated to inform recommendations for adult and older adult cancer survivors and those adults and older adults living with hypertension, type-2 diabetes, and HIV for the common set of critical outcomes, with the level of certainty of the evidence downgraded due to indirectness.
- The evidence on the benefits of undertaking more moderate- and vigorous-intensity physical activity to help counteract the potential risks of high levels of sedentary behaviour in the general adult population could be extrapolated to inform recommendations for adult and older adult cancer survivors and those adults and older adults living with hypertension, type-2 diabetes, and HIV for the common set of critical outcomes, with the level of certainty of the evidence downgraded due to indirectness.
- The benefits for minimizing sedentary behaviours outweigh the harms for cancer survivors and those people living with hypertension, type-2 diabetes, and HIV.

