

# Healthy Outdoors:

A guide for measuring health outcomes when  
evaluating outdoor interventions

March 2026

Natural England Commissioned Report NECR725



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1.1	09/04/2026	Edits to 'Using the list of measures' and 'Participant sex'

# Foreword

This guide, *Healthy Outdoors: A guide for measuring health outcomes when evaluating outdoor interventions*, is the result of a collaborative effort involving multiple government agencies, partners, and stakeholders. It reflects the persistence, collaboration, and shared commitment to improving both human health and the natural environment. By working together, we aim to strengthen the evidence base for outdoor interventions, enabling more informed decisions, stronger joint investment, and coordinated delivery that help both nature and people to thrive.

Together, we are working towards a shared vision: a healthier population and a thriving natural environment, achieved through collaboration and evidence-led action. We invite everyone to use this guide to support their evaluation practices and as a foundation for joint investment and delivery, ensuring that outdoor interventions become a cornerstone of both public health and environmental improvement.



***Marian Spain***  
***Chief Executive – Natural England***



The places and communities in which people live, work and spend their time are key determinants of their health. Healthy places are key for healthy populations. This document provides the evidence of how outdoor interventions contribute to population health and reducing health inequalities, and how we measure outcomes – its clear and practical guidance will help decision-makers understand what works, for whom and in what contexts, enabling them to take action.

***Dr Jeanelle de Gruchy***  
***Deputy Chief Medical Officer for England***

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# Introduction

## What is an outdoor intervention?

Outdoor interventions in green or blue spaces can have a significant positive impact on human health and wellbeing ([Wang, Feng and Wang, 2025](#)). These benefits include improving wellbeing, increasing physical activity, and fostering social connections. By *outdoor interventions*, we mean planned activities taking place outdoors, e.g. walking or gardening, as well as activity to increase the quality or quantity of accessible green and blue spaces. This broad definition of outdoor spaces includes not only parks, woodlands, rivers and coastal areas, but also streetscapes, playgrounds, sports fields, community gardens, urban squares, walking and cycling routes and other public outdoor spaces. Examples of interventions include green social prescribing, outside sports, nature conservation activity, arts and cultural activities taking place outdoors, active travel, and infrastructure development.

## The importance of using consistent measures

Currently, there is no single agreed methodology for measuring the impact of outdoor interventions on health and wellbeing. This makes it hard to compare results across studies and to understand which interventions work most effectively to improve health and reduce health inequalities across diverse population groups and in different contexts. Without robust evidence it can be difficult to draw firm conclusions about what works. It is also important to understand how any interventions affect different groups and to ensure that they are not increasing inequalities for example by being difficult to access for some groups.

The Healthy Outdoors guide is a practical tool designed for a range of organisations including government, the voluntary and community sector, the NHS, academia, evaluators, funders, and the private sector. It helps by:

- identifying the most appropriate measures to consistently and effectively evaluate the impact of outdoor interventions on people's health and wellbeing.
- outlining a consistent and robust approach designed to support the development and use of evaluation frameworks, as well as the evaluation of outdoor interventions on human health.
- identifying appropriate measures and principles that can help ensure evaluations are consistent, robust, and focused on health outcomes.

By using this guide, organisations can take a consistent approach to evaluation, helping to build a stronger evidence base. This evidence will not only inform future interventions and investment but also support efforts to bring nature to more people so they can live healthier lives, while creating healthy, inclusive places for our communities for years to

come. In doing so, it aligns with wider cross-government priorities around reducing health inequalities, promoting wellbeing, and ensuring access to green and blue spaces for all.

## How this guide was developed

Many of the measures referenced in this guide can be used across the UK and internationally. However, the guide has been primarily designed to align with surveys and population data for England (e.g. People and Nature Survey ([Natural England, 2020](#)), Short Active Lives Survey ([Sport England, 2018](#)), and relevant indicators from the Public Health Outcomes framework, as well as demographic categories that correspond with ONS data sets for England such as the Census and Index of Multiple Deprivation). This means the guide will be most relevant for outdoor interventions taking place in England.

The Healthy Outdoors guide was designed by Natural England in collaboration with the Department of Health and Social Care, the Department for the Environment Food and Rural Affairs, Sport England and Active Travel England, as well as a wider stakeholder advisory group. The measures have been selected following a rapid review of the evidence for the health impacts of outdoor environments conducted by Cavill Associates in 2023, and developed further in consultation with stakeholders and the project steering group. This collaboration reflects the shared responsibility for addressing the wider determinants of health and tackling health inequalities.

## What do we know about the impact of outdoor interventions on health?

Evidence suggests that outdoor interventions can positively impact human health and wellbeing.

- Access to green spaces - especially in urban environments - has been linked to enhanced mental wellbeing, increased physical activity, and associated health benefits ([Natural England, 2024](#); [PHE, 2020](#)).
- Spending time in natural environments has been shown to encourage higher levels of physical activity among children and adolescents ([Natural England, 2024](#)).
- Nature-based interventions are associated with psychological benefits, including alleviating symptoms of depression and enhancing overall mood ([Natural England, 2024](#)).
- An increasing body of research highlights that being near blue spaces — such as rivers, lakes, or the sea — can support wellbeing and promote physical activity ([Natural England, 2024](#)).
- Encouraging active travel (walking, cycling or wheeling) can contribute to an overall increase in physical activity, supporting better health outcomes including improved metabolic health, reduced risk of some diseases and mental health benefits ([NICE, 2012](#); [PHE, 2018](#)).

- Improvements in areas such as neighbourhood design, housing, food environments, natural spaces, and transport infrastructure can promote healthier behaviours, reduce health risks, and enhance overall quality of life ([PHE, 2017](#)).

## What is the purpose of the Healthy Outdoors guide?

### A practical guide to support consistent and effective evaluation

The Healthy Outdoors guide is a practical guide designed to help organisations consistently and effectively measure the impact of outdoor interventions on people's health and wellbeing. It is envisaged that this guide will:

- **Contribute to the evidence base:** The Healthy Outdoors guide can help individuals and organisations to choose appropriate measures, and report on data collected, which will help build stronger evidence about what works, for whom, and in what settings.
- **Increase consistency:** By using the measures included in this guide, organisations can take a consistent approach to evaluating the health outcomes of outdoor interventions.
- **Inform future interventions:** The Healthy Outdoors guide enables organisations to clearly demonstrate the effectiveness (or not) of their interventions, strengthening their case for future funding bids and investment opportunities.
- **Improve the quality of evaluation:** It supports individuals and organisations to carry out high quality evaluation to understand and demonstrate the impact of their outdoor interventions.

## Who is the Healthy Outdoors guide for?

The following hypothetical examples show how different organisations might use this guide:

**Dimitri** works for a national nature charity who are setting up an intervention to encourage community participation in environmental conservation. The intervention's main objective is to increase biodiversity, but it also aims to improve the wellbeing of people volunteering in intervention activities. As part of his evaluation, Dimitri has decided to run a pre- and post-participation survey with volunteers and uses this Healthy Outdoors guide to choose a suitable survey question. Dimitri decides to use [ONS-4](#) which can be used to measure wellbeing and he can compare his results with national government data.

**Charlie** works in a doctor's surgery which has signed up to a green social prescribing intervention led by a national charity. The intervention delivers weekly local walking and running events which the doctor's surgery signposts patients to. The national charity delivering the intervention wants to know whether it is improving patients' mental health and so work closely with Charlie's surgery to understand the health impact of their intervention. Charlie uses this Healthy Outdoors guide to identify validated clinical measures that they could use to monitor patients' mental ill health, to determine whether there are differences in outcomes for those who choose to participate in the intervention and those who do not. They decide to use the [General Health Questionnaire](#).

**Nadia** works for a government department who are delivering a nationwide active travel intervention to improve physical health and reduce emissions. It includes infrastructure improvements, such as new off-road cycling routes. Nadia is responsible for designing the intervention evaluation. She uses the Healthy Outdoors guide to identify appropriate measures that she could use to understand the intervention's impact on the physical activity levels of the local population. Nadia decides to develop a survey that will be distributed to a random sample of households within a 1-mile radius of the new cycling routes, collecting responses in the year before and the year after completion of the route. She decides to use the shorter physical activity questionnaire, rather than the longer one, to help keep the survey concise. Nadia allows participants to complete the survey online or over the phone, to ensure it is as accessible as possible.

## What to consider when evaluating an outdoor intervention

This section provides information on what evaluation is, the importance of considering health inequalities, and thinking about the needs of the audience.

“Evaluation is a systematic assessment of the design, implementation and outcomes of an intervention” ([HM Treasury, 2011](#)). Evaluation is a vital part of the process of improving public health, helping us understand whether interventions are achieving their intended health outcomes and informing future funding decisions. While often seen as resource-intensive, evaluation is essential for improving intervention quality, accountability, and impact. The Healthy Outdoors guide focuses specifically on evaluating the health impacts of outdoor interventions, aiming to ensure consistency in what is measured and reported. By aligning evaluation practices across interventions, we can strengthen the evidence base, support better investment decisions, help people improve their practice, and ultimately improve health and reduce inequalities.

The Healthy Outdoors guide is not a how-to guide for evaluation. However, Annexes 1 to 4 provide some guidance on things to think about when doing an evaluation and signpost to more detailed information. They cover areas such as:

- [Impact and Process evaluation](#)

- [Theory of Change](#)
- [Quantitative and Qualitative methods](#)
- [Co-design](#)
- [Ethics](#)
- [Reporting findings](#)

## The importance of understanding health inequalities

Health inequalities are unfair and avoidable differences in health across the population, and between different groups within society. Health inequalities can show in various ways, including variation in life expectancy, how common chronic diseases are, access to healthcare, and the distribution of health risk factors across different population groups. For example, individuals from lower socioeconomic backgrounds may experience higher rates of cardiovascular diseases and mental health issues compared to those from higher socioeconomic groups, partly due to differences in living conditions, education, employment opportunities, and access to healthy foods or green spaces.

More information on inequalities is available on [The King's Fund \(2025\)](#) webpage 'What are health inequalities?'

The natural environment is a determinant of health. For an illustration of the wider causes of health, please see the health map for the local human habitat by [Barton and Grant \(2006\)](#).

## Evaluating the impact of outdoor interventions on health inequalities

Understanding the impact of any intervention on inequalities is essential. Although it may not be possible to attribute long-term health changes solely to a single intervention, evaluating impacts on different groups can provide important insight into whether the intervention is, or might be contributing to narrowing or widening health gaps. Establishing whether the intervention works for specific people or communities and not others, can help to inform adjustments to better target populations who may benefit in the future.

A wide range of studies have shown that well designed and targeted outdoor interventions can reduce health inequalities including those promoting outdoor play in children ([Christian et al., 2015](#)), the provision of facilities to support active travel ([Turrell et al., 2013](#)), and the provision of greenspaces in all population groups ([Twohig-Bennett and Jones, 2018](#)). However, more evidence is needed on how outdoor interventions can most effectively improve health and reduce inequalities across diverse population groups and contexts ([Natural England, 2024](#)). It is therefore important that interventions and evaluations consider how they will measure the impact on health inequalities.

## Designing interventions to reduce inequalities

Consistent with the [Institute of Health Equity's \(2010\)](#) 'Marmot principles', interventions should ideally benefit everyone involved, but extra steps should be taken to reduce inequalities by ensuring the people with the biggest barriers to involvement have good access to the intervention and that they participate. By doing so, interventions can deliver more universal health gains, while reducing inequalities. The 'Place-based approaches for reducing health inequalities' report ([PHE, 2021](#)) contains more information on action to reduce health inequalities.

The Marmot Review also includes a specific policy objective (Objective E) focused on creating healthy and sustainable places and communities. This highlights the importance of built and natural environment in shaping health outcomes, and emphasises the role of outdoor interventions in supporting physical, mental, and social wellbeing across the life course.

## Considering your audience

The standardised, consistent measures suggested in this document have been selected for their validity and reliability. When used consistently across interventions they allow for comparison, helping to build confidence in understanding which approaches are most effective. However, it is important to balance this with the needs of participants. Adaptations may be necessary when designing a user-friendly evaluation that is low burden, inclusive, accessible and equitable. To provide the best experience for participants, evaluators may decide to do something different, but any alternative measures cannot be used to compare interventions or synthesise evidence, which limits our ability to learn what works best. This document will be used by a range of groups with access to different levels of technical skills and resources. When considering what to do, plan to do the best evaluation you can, using the recommended measures where feasible, so you gain meaningful insight into how effective your intervention is.

From our theoretical personas:

**Dimitri's** intervention is encouraging community participation in environmental conservation through multiple strands of delivery. This includes (1) working with seed suppliers to provide suitable species for planting, (2) identifying suitable locations in need of conservation efforts, and (3) coordinating groups of volunteers to undertake conservation work, such as tree planting and habitat restoration. Dimitri does not have the budget to robustly evaluate all of the delivery strands, so he decides to focus on just one. As the third delivery strand is the most resource-intensive and aligns with the intervention's primary objective to engage the community in planting, he decides that this is where he will focus his evaluation efforts.

**Charlie's** doctor's surgery is receiving funding from a national charity to evaluate the green social prescribing initiative. The charity recognises that there is a high potential for

learning and contributing to the public health evidence base, by further understanding of what works for social prescribing. They ask Charlie's surgery to undertake an impact evaluation so they can determine the extent to which patient health outcomes can be attributed to their social prescribing intervention.

The nationwide active travel intervention that **Nadia** is evaluating has a large budget allocation. A robust evaluation is important to determine whether the intervention is having a tangible impact on public health. As the intervention is looking at impact at population-level, she decides to collaborate with a university that has relevant academic expertise in public health to inform her evaluation design.

## What types of data do I need to collect?

### Using the list of measures

This guide sets out a list of measures for health outcomes to use when evaluating outdoor interventions. They are primarily recommendations of quantitative items to use, designed to provide robust and comparable evidence across interventions. Although occasional reference is made to qualitative designs/methods in this guide, guidance on how to collect data using qualitative methods can be found from other sources. These quantitative measures are not the only ones that could be used but have been chosen based on some key criteria:

- Measures are based on established, evidence-based tools or indicators that have been tested for validity (measuring the right thing) and reliability (giving consistent results)
- Data can be collected ethically, safely, transparently, and efficiently in outdoor or community settings
- Where possible, measures align with indicators used in national datasets so comparisons can be made to the national picture
- Measures are sensitive to change over time and therefore potentially suitable for measuring before-after changes in intervention outcomes.

Only the measures that fit with the aims and design of the outdoor intervention need to be included in an evaluation. The intervention's [theory of change](#) can help when selecting measures that reflect the key outcomes or processes you expect to influence. At the same time, it's important to consider the burden of measurement, both for yourself as an evaluator, and for participants, and the cost implications of using the measure, and collecting the data.

The Healthy Outdoors Guide deliberately focuses on a core set of characteristics that are widely recognised as key drivers of health inequalities, for example age, sex, ethnicity, disability and socioeconomic disadvantage ([Institute of Health Equity, 2010](#)).

You may wish to measure other participant characteristics that are pertinent to the intervention being evaluated. In the UK, The Equality Act 2010 ([Equality Act, 2010](#)) made it unlawful to discriminate against people with a protected characteristic. These characteristics are age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, and sexual orientation. These characteristics need to be considered in any equality impact assessment and, if this is important to your evaluation, you will need to capture them. Refer to the relevant sections of the Government Statistical Service harmonised standards and guidance ([Government Statistical Service, no date](#)) for questions to ask on other participant characteristics.

In line with the General Data Protection Regulation (GDPR) legal requirements, any personal data collected must be relevant to the research and limited to only what is necessary, refer to [Annex 3](#) for more details.

For many measures, we've provided more than one approach; in the case of physical activity for example you can use a self-report measure which is quick to complete but may result in measurement bias. Alternatively, you could use wearable measurement devices which can be costly and require some technical knowledge of data extraction, although they can provide more accurate measures of activity undertaken. When choosing you also need to account for considerations such as the capacity of participants to provide information, and the consequent need to tailor materials accordingly, for example to meet the needs of those with low literacy.

For some measures there are methods which would require working with a clinician as they need a level of professional training e.g. understanding cognitive performance. Use of these will depend on the type of intervention and evaluation you are doing and who you have the opportunity to collaborate with.

Some participants may feel that the information being asked of them is irrelevant or is an uncomfortable topic. These may also feel like difficult conversations for people collecting the information. It can be useful to understand and explain why these questions are being asked and why it is valued that participants answer them.

Click on each measure in the list below for more information about how to use it.

# List of measures

## How is the intervention delivered?

- [Cost of Resources](#)
- [What is delivered?](#)
- [Where is it delivered?](#)

## How many people are taking part?

- [Number of people registering for the intervention](#)
- [Number of people attending the intervention](#)
- [Number of participants completing the intervention](#)

## What are the participants' characteristics?

- [Participant sex](#)
- [Participant age](#)
- [Participant ethnicity](#)
- [Participant disability](#)
- [Area level deprivation of participants' home neighbourhoods](#)
- [Employment status](#)
- [Carer status](#)

## What was the experience of participants?

- [Participant satisfaction with the intervention](#)

## How does the intervention link the outdoors to health?

- [Time spent outdoors](#)
- [Intention to continue with the activity](#)
- [Intention to get outdoors more](#)
- [Participants reporting feeling connected with nature](#)
- [Change in travel mode](#)

# Which health outcomes is the intervention hoping to achieve?

## Mental health & wellbeing

- [Wellbeing](#)
- [Mood](#)
- [Life satisfaction](#)
- [Loneliness](#)
- [Absenteeism](#)

## Physical health

- [Total physical activity](#)
- [Weight status](#)
- [Sleep quality](#)

## Clinical outcomes (may require engagement with a healthcare professional)

- [Cognitive performance](#)
- [Blood pressure](#)
- [Depression](#)
- [Anxiety](#)
- [Stress](#)
- [Mental ill health](#)

## How is the intervention delivered?

For a comprehensive guide on planning replicable interventions the TIDieR checklist (Template for Intervention Description and Replication) ([Equator Network, no date](#)) can be used. Suggested metrics for a selection of the checklist items are described below.

### Cost of resources used

Understanding the resources needed for an intervention is useful as it can help with determining how feasible it is to scale up or replicate the intervention. The types of costs incurred will depend on the characteristics of the intervention. They might include:

- Staff time and costs
- Volunteer time and costs
- Management costs
- Marketing and publicity costs
- Equipment costs
- Facility costs
- Training costs
- Other participant costs, which may include incentives or reimbursements

### What is delivered?

It is important to keep a record of any materials used, along with a description of any procedures, activities or processes used in the intervention. This ensures that there is clarity on what was delivered, so the intervention can be replicated or scaled in the future. It also ensures there is a clear record for stakeholders and future evaluators who want to learn from what did or did not work, and why. Information to record might include:

- Materials distributed (e.g. educational/training tools, guidance etc.)
- Who delivered the intervention and was specific training needed?
- How was the intervention delivered?
- How many sessions or events were delivered, over what time period? (including what outdoor activity they involved, and the length of time they took)

### Where is it delivered?

As you are evaluating an outdoors intervention, it is important to record where it is being delivered and any impact it may have on the outdoor environment and surrounding people and places.

## Type of outdoor environment

For nature-based interventions it is important to record the type of outdoor environment that the intervention is taking place in. To ensure the types of outdoor environments are measured consistently, the outdoor categories set out in the People and Nature Survey (PaNS) ([Natural England, 2020](#)) can be used. These categories are:

- Urban green space (such as a park, field or playground)
- Grounds of a historic property or country park
- Allotment or community garden
- Woodland or forest
- River, lake or canal
- Hill, mountain or moorland
- Beach/other coastline/sea
- Nature/wildlife reserve
- Fields/farmland/countryside
- Another green and natural space (specify)

If the intervention involves creating or improving green spaces, there are ways to measure this. Recommended metrics are:

- The area of new green or blue space created in square meters. For smaller spaces this can be done by multiplying the length by the width, for irregular areas it can help to split the area into smaller simple shapes. For larger areas online mapping tools or specialised apps can be used.
- Urban Greening Factor which creates a score using a set of weighted green infrastructure surface cover types that include natural and semi-natural vegetation, street trees, hedgerows, sustainable drainage features, green roofs and walls. ([Natural England, 2025](#))

The number and type of nature-based improvements made can also be recorded, e.g. invasive species removed, trees planted, habitat features created (ponds, bird hides, nesting boxes) and/or the number and type of access-based improvements made, e.g. public access, addition of paths, benches, access ramps, lighting.

There are more formal methods of assessing type of nature such as environmental assessments and biodiversity surveys. Use of these will depend on the intervention and local expertise. More information can be found in the 'Handbook for Phase 1 habitat survey' ([JNCC, 2010](#)).

For built environment interventions (e.g. walking and cycling infrastructure, playgrounds, sports facilities etc.) it is also important to document the context in which these are occurring, as the context may influence the outcomes. Context matters because the same intervention can have many different effects in different places. For example, a new cycle lane in a densely populated city with lots of daily cyclists, may change travel behaviour

differently to a low density area. Similarly, a playground built next to a school might attract more families than one placed in an isolated area without suitable access routes. A widely used way we can capture neighbourhood context is the Neighbourhood Walkability Survey (NEWS) or its shorter version (NEWS-A) ([Saelens and Sallis, 2020](#)), a validated survey that asks people about things like residential density, street connectivity, walking and cycling infrastructure, safety and aesthetics. This helps link people's perceptions of their surroundings to actual behaviour and outcomes, making evaluation of built environment changes more informative and meaningful.

## How many people are taking part?

### Number of people registering for the intervention

Measuring the number of people registering for an outdoor public health intervention, even if they do not necessarily attend, is important because registrations indicate the level of interest and intent to participate. It can provide insight into perceived need and effectiveness of communication within the target population. Comparing the number of registrants to the number of attendees can also help evaluate the effectiveness of the intervention's promotion and the barriers to participation.

If it is possible to measure, you may want to categorise registration counts according to routes of entry into the intervention. These might include referral pathways or simply how or where participants found out about the intervention.

### Number of people attending the intervention

Measuring the number of people attending the intervention is important because it can indicate the intervention's reach and how effectively it engages the target population. This can inform whether the intervention is accessible and appealing to the intended audience. Attendance can also provide an indication of the effectiveness of marketing as well as intervention accessibility.

There are several strategies for measuring the number of participants in outdoor public health interventions, and choosing the right method for you will depend on the nature of the intervention, available resources, and the specific information needs. Options are:

- **Registration systems:** This is useful if participants register in advance or upon arrival. This can be done through online platforms, sign-in sheets, or entry tickets.
- **Counting attendees:** Have staff or volunteers count attendees at specific checkpoints or entry/exit points. This method is straightforward but may require multiple counters for larger events.
- **Wearable technology:** Use wearable devices, like wristbands or badges, that can be scanned or counted electronically.

- **Observational estimates:** In some cases, observers may be able to estimate crowd sizes based on area density and space occupied. This method is more subjective but may be the only practical option for outdoor interventions that have high participation but do not require registration.
- **Surveys and feedback forms:** Ask participants to fill out surveys or feedback forms either during or after intervention sessions. This not only provides attendance data but also can be used to collect other data for your evaluation.

## Number of participants completing the intervention and number of activities completed

For interventions with a clear endpoint, such as one involving the provision of a series of ten yoga sessions in a public park, it is important to measure how many participants completed the intervention. For each participant, the total number of planned activities and the number of sessions attended should be recorded. Data can be collected using attendance logs, session registers, or digital tracking systems. The proportion of activities completed can then be calculated as:

$$\% \text{ activities completed} = \left( \frac{\text{No. activities completed}}{\text{No. planned activities}} \right) \times 100$$

If attendance data is used, a participation in 75% or more of sessions could, for example, be taken to indicate completion, this would be guided by your theory of change. In addition to recording completion you may, where feasible, wish to record the reasons for dropping out amongst those who fail to complete it. This can be very valuable information for considering impact on inequalities.

## What are the participants' demographic characteristics?

### Participant sex

Recording participants' characteristics is a widely accepted practice in the evaluation of public health interventions. It is important for understanding how interventions reach and impact diverse communities.

The 2021 UK Censuses (England and Wales, Northern Ireland, Scotland) used this question on sex ([ONS, 2021](#)).

What is your sex?

- Male
- Female

Measuring gender identity is an evolving topic. For more details on collecting data on gender identity, refer to the Government Statistical Service harmonised standards and guidance ([Government Statistical Service, 2024](#)) for the latest official guidance.

## Participant age

Recording participants' characteristics is a widely accepted practice in the evaluation of public health interventions. It's important for understanding how interventions reach and impact diverse communities.

To measure participant age, date of birth or age in numerical digits can be recorded. This allows for later analysis - using a set of age categories which is most suitable. This is because the way age is categorised in national data sets can vary (for example, the categories used in the 2021 UK Census are different to those used by NHS England) ([ONS, 2021](#)). It is worth noting that date of birth is more identifiable than age and has implications for data management (see "The importance of working ethically" in Annex 3).

## Participant ethnicity

Recording participants' characteristics is a widely accepted practice in the evaluation of public health interventions. It is important for understanding how interventions reach and impact diverse communities.

The ONS uses standardised ethnicity categories. They are designed to capture self-identified ethnic groupings. The following wording was used to measure ethnicity in the 2021 UK Census ([ONS, 2021](#)) for England (questions and categories for Wales ([ONS, 2021](#)), Scotland ([Scotland's Census, 2025](#)) and Northern Ireland ([NISRA, 2020](#)) were slightly different):

What is your ethnic group? Choose one section from A to E then tick one box to best describe your ethnic group or background

A) White:

- English/Welsh/Scottish/Northern Irish/British
- Irish
- Gypsy or Irish Traveller
- any other White background, write in \_\_\_\_\_

B) Mixed/Multiple ethnic groups:

- White and Black Caribbean
- White and Black African
- White and Asian
- any other Mixed/Multiple ethnic background, write in \_\_\_\_\_

C) Asian/Asian British:

- Indian
- Pakistani
- Bangladeshi
- Chinese
- any other Asian background, write in \_\_\_\_\_

D) Black/ African/Caribbean/Black British:

- African
- Caribbean
- any other Black/African/Caribbean background, write in \_\_\_\_\_

E) Other ethnic group:

- Arab
- Any other ethnic group, write in \_\_\_\_\_

When analysing ethnic group data, there are standard classifications that are recommended for use ([ONS, 2023](#)).

## Participant disability

Recording participants' characteristics is a widely accepted practice in the evaluation of public health interventions. It's important for understanding how interventions reach and impact diverse communities.

The ONS primarily measures disability using self-reports of long term health conditions, or limitations to day-to-day activities. The recommended measure for disability is the two questions used in the UK Census 2021 ([ONS, 2021](#)):

Do you have any physical or mental health conditions or illnesses lasting or expected to last 12 months or more?

- Yes
- No

People who chose "Yes" to this question are then asked:

Do any of your conditions or illnesses reduce your ability to carry out day-to-day activities?

- Yes, a lot
- Yes, a little
- Not at all

## Area level deprivation of participants' home neighbourhoods

Recording participants' characteristics is a widely accepted practice in the evaluation of public health interventions. It's important for understanding how interventions reach and impact diverse communities.

Area-based measures of socio-economic deprivation are commonly used in public health evaluations. These measures can be linked to participants by collecting their full postcode.

In England, the most widely used measure is the Index of Multiple Deprivation, or IMD ([MHCLG, 2025](#)). The IMD combines indicators covering income, employment, health, education, crime, housing and living environment to produce a single deprivation score for each small area in England. Neighbourhoods (Lower Layer Super Output Areas, LSOA) are ranked from most deprived to least deprived. LSOAs can be matched to postcodes which allows an individual's address to be given a general IMD ranking. IMD scores based on participant postcodes can be obtained using an online lookup ([UK Government, no date](#)).

Equivalent measures are available for the other UK nations:

- Scotland: Scottish Index of Multiple Deprivation (SIMD) ([Scottish Government, 2020](#))
- Wales: Welsh Index of Multiple Deprivation (WIMD) ([Data Cymru, 2019](#))
- Northern Ireland: Northern Ireland Multiple Deprivation Measure (NIMDM) ([NISRA, 2017](#))

### Important Considerations

These rankings describe the areas rather than individual households, so a person living in a deprived area may not be personally disadvantaged and vice versa. However, area level deprivation does provide important context as the neighbourhood socio-economic conditions are known to influence health behaviours independently of individual Socio-Economic Status.

## Employment status

Recording participants' characteristics is a widely accepted practice in the evaluation of public health interventions. It's important for understanding how interventions reach and impact diverse communities.

Measuring participant employment status is useful if it is relevant to the intervention but may also help to understand patterns of participation or drop out. The recommended measure for employment is from the People and Nature Survey (PaNS) ([Natural England, 2020](#)):

Are you...? Please select one option that best applies.

- In full-time employment (31+ hours per week)
- In part-time employment (up to 30 hours per week)
- Self-employed
- Unemployed – less than 12 months
- Unemployed (long term) – more than 12 months
- Not working – retired
- Not working – looking after house/children/other caring responsibilities
- Not working – long term sick or disabled
- Student – in full-time education
- Student – in part-time education

Voluntary work is not included above but could also be captured as an important (non-paid) form of employment for some people.

## Carer status

Recording participants' characteristics is a widely accepted practice in the evaluation of public health interventions. It's important for understanding how interventions reach and impact diverse communities.

Measuring participant carer status is useful if it is relevant to the intervention. The recommended measure for caring is from the UK Census ([ONS, 2021](#)):

Do you look after, or give any help or support to, anyone because they have long-term physical or mental health conditions or illnesses, or problems related to old age?

- No
- Yes, 9 hours a week or less
- Yes, 10 to 19 hours a week
- Yes, 20-34 hours a week
- Yes, 35-49 hours a week
- Yes, 50 or more hours a week

## What was the experience of participants?

It is useful to understand the experience of participants in the intervention as part of ongoing programme monitoring. Feedback on the intervention can be used to identify issues that might be impacting delivery and make improvements. It can also be analysed to help explain why outcomes were (or were not) met.

Measuring participant experience will depend on the characteristics of the intervention. It may include measuring:

- Overall satisfaction with the intervention

- The extent to which participants felt the intervention was relevant or suitable
- Whether the intervention was accessible
- Whether the frequency of any sessions or events was appropriate

## Participant satisfaction with the intervention

All participants should be provided with the opportunity to feedback their satisfaction with the intervention. You may wish to consider using the Friends and Family Test (FFT) to capture participants' overall satisfaction with the intervention, as well as their likelihood to recommend it to others. The FFT provides a simple validated way to measure user satisfaction and can be adapted for your outdoor intervention.

Overall, how was your experience of the service?

Very Good / Good / Neither / Poor / Very Poor / Don't Know

Collecting satisfaction feedback helps identify aspects of the intervention that are working well. If participants are dissatisfied with the way in which an intervention is being delivered, it is less likely they will continue to attend, or to continue to use the facility in the case of infrastructure such as cycle lanes or walking trails. Understanding what works enables interventions to be refined to better meet participants' needs, increasing the likelihood of achieving the intended outcomes.

Any research into participants' satisfaction should be sensitively conducted, particularly if there have been difficulties. To identify strengths and areas for improvement of the intervention, simple quantitative measures such as questionnaires can be used. However, qualitative methods such as focus groups or semi-structured interviews might yield richer information. Where possible, satisfaction should be collected by someone unconnected to intervention delivery as participants might feel more comfortable giving honest feedback to a neutral evaluator. This is particularly important for those who have dropped out of the intervention or who no longer use infrastructure.

A further issue to consider when measuring satisfaction is the influence of context. A high degree of satisfaction with a health walk for example might be driven by positive views of the way the group is organised and run, pleasure from the environments walked through, or a combination of both. Gathering feedback in a structured and methodologically robust way allows evaluators to distinguish what works for who and in what circumstances.

## How does the intervention link the outdoors to health?

### Time spent outdoors

Understanding the amount of time spent outdoors, and the impact any intervention might have on that, is important because this may help establish guidelines for the minimum

amount of time that needs to be spent outdoors in order to achieve desired outcomes. The information can also be used to compare different outdoor interventions, helping to identify which types of activities or settings are most effective, contributing to best practice guidelines.

A recommended measure (which could be used before and after an intervention) is from the People and Nature Survey (PaNS) ([Natural England, 2020](#)):

- 1) How many times, if at all, did you visit [*the specified outdoor space*] in the last 14 days? *Please record a number.*
  
- 2) During the last visit, how long did you spend there? Please select one answer only. If you are unsure, please provide your best estimate.
  - Up to 30 minutes
  - Over 30 minutes and up to an hour
  - Over 1 hour and up to 2 hours
  - Over 2 hours and up to 3 hours
  - Over 3 hours and up to 5 hours
  - Over 5 hours

A range of other methods can be used to measure and record the time spent outdoors, with common ones including:

- **Self-report diaries and questionnaires:** Participants may be able to record time spent outdoors in diaries or respond to questionnaires. Shorter recall periods are preferable (e.g. past day) to reduce recall bias.
- **Wearable technology:** Devices like Global Positioning System (GPS) trackers and wearable devices with accelerometers and light sensors can provide objective data on time spent outdoors. These devices can offer precise measurements but may require a significant investment in equipment. More information is available in 'Wearable technologies for health research' ([Roos and Slavich, 2023](#)).
- **Mobile applications:** There are apps designed to track outdoor activity specifically or that can be adapted for this purpose. These rely on participants having compatible smartphones and being willing to use them consistently and supply the data they record to evaluators.
- **Observational methods:** Direct observation by trained observers, for example by delivery leads or volunteers, can be used to record how long people were outdoors for. This method ensures accuracy but can be labour-intensive and less feasible for large or geographically dispersed groups where time spent outdoors may vary between individuals.
- **Check-in/check-out systems:** For interventions occurring in specific locations (e.g. community gardens or nature reserves), a simple and low-cost check-in and check-out system can track time spent outdoors on-site.

A combination of validated methods is recommended, as is the use of consistent instructions and tools across participants.

### **Intention to continue with the activity**

Some interventions are time limited, an example being five outdoor play sessions delivered for children during the school holiday, whilst others, such as an intervention to encourage participants to actively travel to work via the provision of workplace cycle facilities, may not have a particular endpoint. In either case, measuring the percentage of intervention participants who intend to continue with the activity will indicate the intervention's sustainability, effectiveness, and lasting impact. Indeed, the primary goal of most public health interventions is to induce lasting changes that benefit participants long into the future. For behaviour-focussed interventions, measuring intention to continue allows assessment of whether the intervention is likely to have a sustained health impact. Intention is a useful indicator of future behaviour change.

The most straightforward method to capture intent to continue is to ask participants directly through post-intervention surveys or self-report questionnaires. Questions can range from simple yes/no queries about continuing the activity to Likert scales, which typically ask people to rate their level of agreement or disagreement with statements, for example in relation to their intentions (e.g. "I intend to continue with the activity" with a 1-5 rating where 1=completely disagree and 5=completely agree).

### **Intention to get outdoors more**

This measure does overlap with the intent to continue the activity, but it captures intent to use the setting (outdoor environments) rather than intent to continue the activity or behaviour. Intention is a useful indicator of future behaviour change.

The most straightforward method to capture intent to continue is to ask participants directly through post-intervention surveys or questionnaires. Questions can range from simple yes/no queries about continuing the activity to Likert scales, which typically ask people to rate their level of agreement or disagreement with statements, for example in relation to their intentions (e.g. "I intend to get outdoors more in the future" with a 1-5 rating where 1=completely disagree and 5=completely agree).

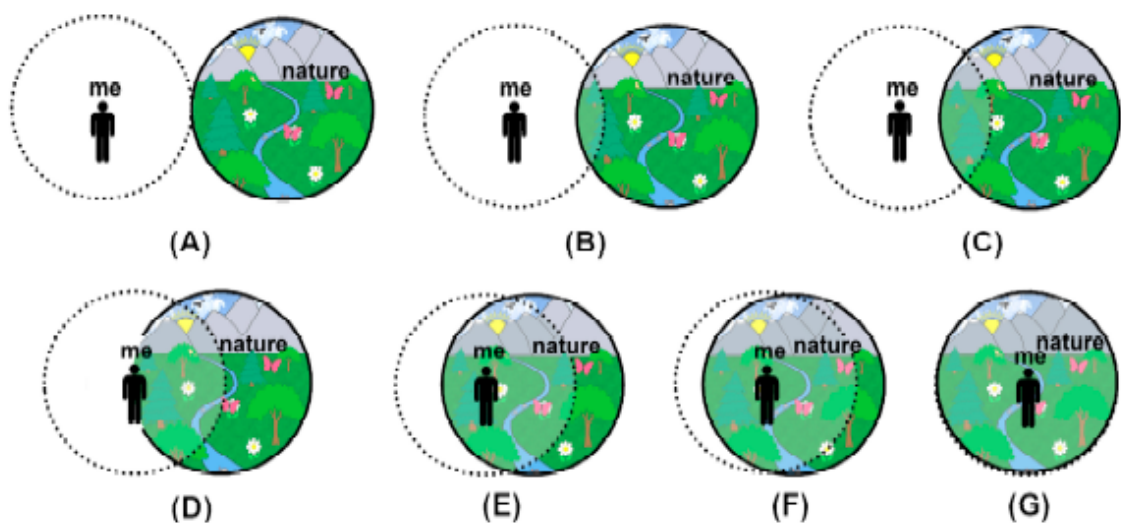
### **Participants reporting feeling connected with nature**

Connection with nature refers to the extent to which individuals feel a sense of belonging to, affinity for, and identification with the natural environment. A range of measures of connection to nature are available, which measure subtly different concepts of nature connectedness. Consideration needs to be made of the pathways by which connection with nature could be achieved as the type and degree of exposure may differ between

repeated participation in a led intervention versus one-off use of a facility such as a walking trail.

The recommended measure is the **Inclusion of Nature in Self (INS) Scale** ([Kleespies et al., 2021](#)) which is used in the People and Nature Survey (PaNS) ([Natural England, 2020](#)). It consists of a series of Venn diagrams that depict two circles: one represents the self, and the other represents nature. The circles vary in their degree of overlap across the series, from no overlap to complete overlap. Participants are asked to select the diagram that best represents their current relationship with nature, and the position they choose reflects their perceived closeness to or inclusion of nature in their sense of self.

How connected do you feel to nature? Please choose the picture that best describes your relationship to nature.



Source: [Kleespies et al., 2021](#), republished under licence [CC BY 4.0](#).

Another measure that could be used is the **Nature Relatedness Scale (NRS)**. It is a self-assessment tool that has been employed in studies investigating the psychological benefits of nature exposure to those exploring environmental attitudes and behaviours. Whilst the main scale consists of 21 items, a short form version of the scale (the NRS-6) uses just 6 items from the full NRS, and is hence very quick to complete and particularly suitable for use in evaluations where time is limited ([Nisbet and Zelenski, 2013](#)).

For each of the following, please rate the extent to which you agree with each statement, using the scale from 1 to 5 as shown below. Please respond as you really feel, rather than how you think “most people” feel.

- My ideal vacation spot would be a remote, wilderness area.
- I always think about how my actions affect the environment.
- My connection to nature and the environment is a part of my spirituality.
- I take notice of wildlife wherever I am.
- My relationship to nature is an important part of who I am.

- I feel very connected to all living things and the earth.

Items are scored 1- 5 (1=disagree strongly, 2=disagree a little, 3=neither agree or disagree, 4=agree a little and 5=agree strongly). A higher score indicates a greater connection to nature.

Although connection with nature is not a health outcome in itself, it might be a mediator or moderator of the relationship. Measuring it can also provide insight on how interventions could foster a deeper relationship with the environment and promote sustainable behaviours and attitudes towards nature conservation.

**Example:** A recent analysis of data collected amongst almost 5,000 English adults found evidence that high levels of natural connection were associated with both better health and higher participation in sustainable and pro-environmental behaviours ([Martin et al., 2020](#)).

## Change in travel mode

Measuring change in travel mode will be important for interventions that aim to encourage physical activity, reduce environmental pollution, or promote healthier lifestyles by encouraging participants to shift from passive modes of transport (like driving) to more active ones (such as walking or cycling).

Active travel (walking, cycling or wheeling) can contribute to an overall increase in physical activity, supporting better health outcomes including improved metabolic health, reduced risk of some diseases and mental health benefits ([NICE, 2012](#); [PHE, 2018](#)).

A useful measure is to use the questions in the National Travel Survey (NTS) as these have been tested and the NTS also provides a national benchmark ([Department for Transport, 2024](#)):

How frequently do you use:

- Private car
- Bus
- Coach
- Train
- Taxi
- Plane
- Walk
- Cycle
- E-Scooter

For each travel mode, the scale used is:

- At least once a day

- 5 or more times a week, but not every day
- 3 or 4 times a week
- Once or twice a week
- Less than that but more than twice a month
- Once or twice a month
- Less than that but more than twice a year
- Once or twice a year
- Less than once a year
- Never

Active Travel England recommend recognising the stages of a journey rather than whole trips as people tend to use multiple modes of travel in one trip.

A number of other methods can be used to measure change in travel mode:

- **Route User Intercept Surveys:** short interviews with transport users ([Active Travel England, 2025](#)).
- **Automated/manual counters** ([Active Travel England, 2025](#)).
- **Pedometers**
- **Travel diaries/logs:** These require participants to record all their trips over a specific period, often a day or a week, using the National Travel categories above. Entries typically include the mode of transport, purpose of the trip, distance, and sometimes the duration of the trip.

## Which health outcomes is the intervention hoping to achieve?

### Mental health & wellbeing

When incorporating mental health and wellbeing tools into evaluation frameworks, it is essential to ensure that their use aligns with ethical practice, safeguarding requirements and participants' right to wellbeing and dignity. Validated tools recommended in this framework are designed for self-completion and do not require administration by trained clinicians unless explicitly stated. However, staff administering questionnaires should be briefed in good practice including informed consent, voluntary participation and data confidentiality.

Measures that assess mental health symptoms may include items relating to low mood, hopelessness and suicidal thoughts. When such tools are used outside clinical settings, establish a clear protocol for responding to distress or high-risk responses. Provide participants with information about support services (e.g. [Samaritans](#), NHS mental health helplines or local crisis services). Tools should not be used for diagnosis unless administered and interpreted by qualified health professionals.

## Impact on participant wellbeing

Please read the [above text on mental health and wellbeing](#) first if measuring mental health and wellbeing.

The concept of wellbeing relates to assessment of the broad aspects of an individual's life and psychological state, including happiness, life satisfaction, and emotional balance. Individual wellbeing is a useful short term outcome measure as aspects of it can change quickly. Although it is subjective (i.e. "If I feel better, then I am better"), that subjectivity is inherent to the wellbeing construct and means the measure is not impacted by the self-report error of some other outcomes.

There are two recommended measures.

- **The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)** ([University of Warwick, no date](#)). The WEMWBS consists of the following 14-item scale:

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks.

1. I've been feeling optimistic about the future
2. I've been feeling useful
3. I've been feeling relaxed
4. I've been feeling interested in other people
5. I've had energy to spare
6. I've been dealing with problems well
7. I've been thinking clearly
8. I've been feeling good about myself
9. I've been feeling close to other people
10. I've been feeling confident
11. I've been able to make up my own mind about things
12. I've been feeling loved
13. I've been interested in new things
14. I've been feeling cheerful

Items are scored 1 - 5 (using 1=None of the time, 2=Rarely, 3=Some of the time, 4=Often and 5=All of the time). Higher scores indicate higher levels of reported wellbeing.

There is also a short version (SWEMWBS) which is a 7-item scale using statements 1, 2, 3, 6, 7, 9 and 11 from the list above. The 14-item scale provides a fuller picture of mental wellbeing, while the 7-item scale is useful to save time when gathering data. More information about each scale is available on the WEMWBS website ([University of Warwick, 2020](#)).

WEMWBS can be used to measure both wellbeing and mental health. Copyright is held by the University of Warwick. Permission is required for use, but non-commercial research and evaluation use is typically free with approval.

- **ONS4** - the Office for National Statistics ([ONS, 2025b](#)) 4-item measure of wellbeing. Because ONS-4 is widely used within the UK by government agencies, it allows for comparisons across different populations and settings and in the context of national trends in wellbeing. It contains four questions designed to capture key aspects of personal wellbeing. Wellbeing is measured by a summed response on a Likert scale ranging from 0 (representing “not at all”) to 10 (representing “completely”) to the questions:

- 1) Overall, how satisfied are you with your life nowadays?
- 2) To what extent do you feel the things you do in your life are worthwhile?
- 3) Overall, how happy did you feel yesterday?
- 4) Overall, how anxious did you feel yesterday?

If you are planning to measure the cost effectiveness of the intervention as part of your evaluation, it is worth noting that an approach exists that allows a financial value of wellbeing to be estimated using a metric known as the WELLBY. This is defined as a change in life satisfaction of one point on a scale of 0-10, per person per year. Detail of how this is computed and how it might be used are available from the [HM Treasury \(2021\)](#) supplementary guidance on wellbeing.

**Example:** The Preventing and Tackling Mental Ill Health through Green Social Prescribing Project (GSP Project) was a two-year £5.77m cross-governmental Shared Outcomes Fund initiative to improve the use of nature-based settings and activities to improve mental health and wellbeing. The evaluation of the project using ONS4 to show statistically significant improvements in wellbeing with increases in happiness, life satisfaction and feeling life is worthwhile ([Haywood et al., 2024](#)).

### Impact on participant mood

Please read the [above text on mental health and wellbeing](#) first if measuring mental health and wellbeing.

Mood is a temporary state of mind or feeling relating to an individual's emotional state and overall sense of wellbeing. Research has shown the positive effects of exercising outdoors on mood, with effect being associated with factors such as exercise intensity and duration ([Fuegen and Breitenbecher, 2018](#)). The transient nature of mood means it can be quickly impacted by exposures in outdoor environments, but this also highlights the need to measure mood either during or immediately after completing outdoor activities and before any potential intervention effect dissipates.

**The Profile of Mood States (POMS)** is a widely used psychological tool that assesses short term transient, distinct mood states, including tension, depression, anger, vigour,

fatigue, and confusion. The POMS can be administered before and after participation in outdoor activities to measure short-term changes in mood. Although the tool contains 65 items with which agreement is recorded, each is a maximum of 3 words in length, so completion is quick. The tool, along with an automatic scoring system can be found online ([Sports Coach, 2024](#)).

## Life satisfaction

Please read the [above text on mental health and wellbeing](#) first if measuring mental health and wellbeing.

Life satisfaction is a self-reported measure of how individuals evaluate their lives as a whole, based on their own standards and expectations, reflecting a subjective sense of wellbeing and contentment. Measuring change in life satisfaction amongst participants of outdoor interventions provides insights into the broader impacts of these interventions on individuals' overall wellbeing, beyond physical health. It helps to assess how engagement with outdoor activities might contribute to a person's sense of fulfilment and happiness. Two self-report scales are commonly used in evaluation:

**1. The Satisfaction with Life Scale (SWLS) ([Kobau et al., 2010](#)):** A short 5-item instrument that asks respondents to indicate their agreement with statements about their life satisfaction. Participants are asked to record their agreement with each on a scale of 1 (Strongly disagree) to 7 (Strongly agree):

- In most ways my life is close to my ideal.
- The conditions of my life are excellent.
- I am satisfied with my life.
- So far, I have got the important things I want in life.
- If I could live my life over, I would change almost nothing.

The scores are summed, and satisfaction is classified according to the sum of scores, with higher scores representing greater satisfaction.

**2. The UK ONS Life Satisfaction Measure ([ONS, 2025a](#)):** The Annual Population Survey (APS) includes a question on overall life satisfaction, asking participants to score their response to “Overall, how satisfied are you with your life nowadays?” on a scale from 0 “Not at all” to 10 “Completely”. Whilst simple, use of this measure allows comparison of national values from the APS.

## Loneliness

Please read the [above text on mental health and wellbeing](#) first if measuring mental health and wellbeing.

Loneliness is a subjective feeling of isolation or lack of connection with others, characterised by a distressing experience that occurs when one's social relationships are perceived to be less in quantity and quality than desired. Loneliness has been linked to

various negative health outcomes, including increased risk of depression, anxiety, and cardiovascular disease, making it a significant public health concern. Measuring change in loneliness will provide insight into the effectiveness of activities in outdoor spaces in fostering social connections and reducing feelings of isolation.

The following measures of loneliness for adults are recommended by the [ONS \(2018\)](#). They suggest using both measures where possible.

1. The UCLA 3-item Loneliness Scale ([Russell et al., 1978](#)): A widely used measure of loneliness, providing a comprehensive assessment of feelings of loneliness and social isolation. Participants rate their agreement with three statements on a scale of 1=Hardly ever, 2=Some of the time, and 3=Often. Higher scores equal greater loneliness. The items are:
  - How often do you feel that you lack companionship?
  - How often do you feel left out?
  - How often do you feel isolated from others?
2. The [ONS \(2018\)](#) Single Item Loneliness Measure: Whilst the outcome categories are simple, the measure has been shown as sensitive to change over time and therefore potentially suitable for measuring before-after changes in intervention outcomes.

How often do you feel lonely?

- Often/Always
- Some of the time
- Occasionally
- Hardly ever
- Never

The UCLA loneliness scale is only suitable for adults as children's experiences of loneliness differ developmentally. For children the Students' Life Satisfaction Scale (SLSS) is a valid and reliable measure ([Huebner, 1991](#)).

**Example:** Research has shown that urban greening may reduce loneliness ([Astell-Burt et al., 2022](#))

## Absenteeism

Many workplace interventions may aim to reduce absenteeism. The number of working-age adults who are out of work due to ill-health is being taken seriously by the UK Government ([Department for Work & Pensions and Department for Businesses & Trade, 2025](#)). Absenteeism, unplanned absence from work for adults, can be a key indicator of the general health and wellbeing of participants. Whilst most companies will track employee absenteeism rates through HR records, confidentiality considerations mean that it is unlikely that these records will be released at the individual level for evaluation purposes. For interventions that target a whole organisation, it may be that aggregate data can be provided and used for evaluation purposes. This may include overall absence rate or persistent absence.

If individual data on absenteeism is required, then this is likely to be self-reported.

The recommended measures for collecting self-reported absenteeism are listed below.

1. The short-form Health and Work Performance Questionnaire (*HPQ*) ([Kessler et al., 2003](#)) which asks about hours worked, absences in the last four weeks and assessments of performance.
2. The Work Productivity and Activity Impairment Questionnaire (*WPAI*) ([Reilly et al., 1993](#)) which asks about hours worked and the impact of health problems on productivity.

## Physical health

### Total physical activity

Increased physical activity is closely linked to numerous health benefits, including reduced risk of chronic diseases (such as heart disease, diabetes, and certain cancers), improved mental health, and enhanced overall wellbeing. The promotion of physical activity is one of the active ingredients that can lead to improved health in many outdoor interventions, and there is evidence that physical activity undertaken outdoors, particularly involving exposure to nature, may bring additional health benefits.

The recommended measures of physical activity are the *International Physical Activity Questionnaire* (IPAQ) and the *Global Physical Activity Questionnaire* (GPAQ) ([Bull et al., 2009](#)). The IPAQ consists of 27 questions and the GPAQ consists of 16 questions. They both measure participant reported physical activity according to different domains (e.g. work, leisure, commuting etc.) and provide a holistic view of overall activity levels rather than a specific measure of outdoor activity. Both are available in different versions targeting children, adolescents, and adults.

For projects in community settings or for projects with limited resources, or for projects delivered within or funded by the sport sector, two alternative pragmatic options would be to use the Short Active Lives Survey (SALS) ([Sport England, 2018](#)) (10 questions) or the Single Item Metric (SIM) ([Milton et al., 2011](#)) (one question).

The SALS is asked as follows:

- 1) In the past 7 days, have you done any of these activities?
  - A continuous walk lasting at least 10 minutes
  - A cycle ride
  - A sport, fitness activity (such as gym or fitness classes), or dance
  - None of these

*Ask if ticked yes to walking:*

2a) In the past 7 days, on how many days did you do a walk lasting at least ten minutes?

2b) How much time did you usually spend walking on each day that you did the activity?

2c) Was the effort you put into walking usually enough to raise your breathing rate?

- Yes
- No

*Ask if ticked yes to a cycle ride:*

3a) In the past 7 days, on how many days did you do a cycle ride?

3b) How much time did you usually spend cycling on each day that you did the activity?

3c) Was the effort you put into cycling usually enough to raise your breathing rate?

- Yes
- No

*Ask if ticked yes to sport or fitness activity:*

4a) In the past 7 days, on how many days did you do a sport, fitness activity (such as gym or fitness classes), or dance?

4b) How much time did you usually spend doing sport, fitness activities, or dance on each day that you did the activity?

4c) Was the effort you put into doing sport, fitness activities, or dance usually enough to raise your breathing rate?

- Yes
- No

If you need to use a shorter measure (for example, if you have a lot of survey questions), you could use the Single Item Metric (SIM) ([Milton et al., 2011](#)) instead:

In the past week, on how many days have you done a total of 30 mins or more of physical activity, which was enough to raise your breathing rate? This may include sport, exercise and brisk walking or cycling for recreation or to get to and from places but should not include housework or physical activity that is part of your job.

Please record a number of days between 0 and 7.

Alternatively, physical activity can be measured using **wearable devices**. Wearable devices such as activities trackers (e.g. Fitbits, Garmins, or Apple Watches), pedometers (devices that measure steps) or accelerometers (devices that measure movement) can all accurately track the amount of physical activity, steps taken, calories burned, and even the intensity of activities. They provide a measure that is free from self-report error, and many devices time-stamp activity which enables the activity undertaken in the outdoor environment to be identified separately from all other activity, something self-report cannot do. The cost of the devices and the technical challenges of extracting the data need to be considered, however. Whilst pedometers are cheap and easy to use, they only record steps and hence are unsuitable where the activity is other than walking. Other devices will provide more flexibility but can be expensive to purchase and often require specialist software to download and interrogate data.

If wearable devices are used, consideration needs to be given to how long participants should be asked to wear them for. If measuring the amount of physical activity accrued during participation in the intervention, wearable devices should only be worn for the session duration. If, however, the aim is to measure the overall amount of physical activity a participant undertakes, then a longer wear time, typically 4 days, should be used. More information is available in 'Wearable technologies for health research' ([Roos and Slavich \(2023\)](#)).

**Example:** A systematic review of trials of outdoor exercise interventions reported that compared with exercising indoors, exercising in natural environments was associated with greater feelings of revitalisation and positive engagement, decreases in tension, confusion, anger, and depression, and increased energy. Participants also reported greater enjoyment and satisfaction with outdoor activity and declared a higher intent to repeat the activity at a later date ([Thompson Coon et al., 2011](#)).

## Weight status

Being overweight or living with obesity increases the risk of numerous health conditions, including cardiovascular diseases (such as heart disease and stroke), type 2 diabetes, certain cancers, and musculoskeletal disorders. It is also associated with mental health issues, including depression and anxiety, and can reduce overall life expectancy ([Department of Health and Social Care, 2025](#)).

Staff gathering data on weight status need to be trained in using the standardised procedures to ensure participant safety, accuracy and reliability. It is important to be respectful and to minimise any discomfort or embarrassment that the participant may feel. Standardised equipment should be used.

Weight status can be measured in a range of ways:

- **Body Mass Index (BMI):** This is the most commonly used measure and is calculated based on the height and weight of an individual. Use a scale on a flat, hard surface. Ideally use a stadiometer for height measurement, with participants

removing their shoes and any heavy clothing, and standing with their back to the stadiometer, feet flat, legs straight, and arms at their sides. BMI is then calculated by dividing the person's weight in kilograms by their height in metres squared ( $\text{kg}/\text{m}^2$ ). BMI can be interpreted according to the categories; underweight (BMI less than 18.5), normal weight (BMI 18.5 to 24.9), overweight (BMI 25 to 29.9), and obese (BMI 30 or greater). More information is available from [NICE \(2025b\)](#).

- **Waist circumference:** A simpler method of estimating weight status is to measure waist circumference to assess central obesity, which is linked to higher risks of certain health conditions, such as type 2 diabetes and heart disease. Measure at the midpoint between the lower rib and the hip bone. The [British Heart Foundation \(2024\)](#) provide a simple resource to help with the interpretation of this data.
- **Fat mass:** If the equipment and a trained person are available, it is also possible to make a more direct estimate of adiposity (amount of body fat) using bioelectrical impedance scales, which can be purchased at relatively low cost. This method estimates body composition by sending a small, safe electrical current through the body and measuring the resistance to flow (impedance). Fat tissue, which contains less water, offers more resistance than lean tissue. These devices provide direct estimates of body fat percentage, but accuracy can be influenced by hydration status, which can be a problem if measurements are taken directly after physical activity.

**Example:** Outdoor environments predominantly protect against unhealthy weight gain by providing an environment for physical activity, although dietary mechanisms, such as growing vegetables in community allotments, may also be important ([Hume et al., 2022](#)).

## Sleep quality

Sleep quality refers to the subjective evaluation of how well somebody sleeps, encompassing aspects such as sleep duration, sleep onset latency, frequency of waking, sleep efficiency, and overall restfulness and satisfaction with sleep.

Sleep quality can be measured using the Pittsburgh Sleep Quality Index (PSQI) ([Reynolds, 2012](#)): which is a validated measure. This is one of the most widely used self-report instruments for assessing sleep quality. It includes 19 items that form seven component scores, each reflecting a different aspect of sleep quality over the last month. The components are summed to provide an overall score, with higher scores indicating worse sleep quality.

Nowadays there are many wrist-worn devices, including most fitness trackers, that record movement and can infer sleep patterns, including total sleep time, sleep efficiency, and waking after sleep onset. Whilst these devices are convenient for participants, they can be costly to purchase and the need to extract information from the device can be a burden for evaluators. More information is available in 'Wearable technologies for health research' ([Roos and Slavich, 2023](#)).

## Clinical outcomes (trained healthcare professional only)

### Participants reporting improved cognitive performance

Cognitive performance measures assess an individual's ability to perform tasks that require mental processes such as attention, memory, problem-solving, and decision-making. There is evidence that outdoor activities can have a positive impact on these processes, and some interventions may be targeted at specific groups, such as older adults at risk of cognitive decline or children with attention deficit. There is also evidence that short-term changes in cognitive performance can be observed; a review of studies looking at short-term exposures to natural environments in students found strong evidence of improvements in cognitive measures such as directed attention and mental fatigue that were associated with daily exposures to nature lasting up to just 90 minutes ([Mason et al., 2022](#)).

The multi-dimensional nature of cognitive performance means that it is less straightforward to measure than other wellbeing indicators. Commonly used methods are listed below.

**These should only be carried out by a trained psychologist.**

- **Stroop Test:** Assesses attention, processing speed, and cognitive flexibility by requiring individuals to name the colour of a word's ink rather than the word itself, highlighting reaction time and error rates ([Ruhl, 2025](#)).
- **Digit Span Test:** Measures working memory capacity by having participants recall sequences of numbers forward and backward ([Psytoolkit, 2025](#)).
- **Trail Making Test (TMT):** Examines visual attention and task switching by asking participants to connect a sequence of numbers (Part A) and then alternate between numbers and letters (Part B), with the completion time indicating cognitive speed and flexibility ([Heerema, 2025a](#)).
- **Verbal Fluency Test:** Evaluates executive function and language skills by asking individuals to generate as many words as possible from a category (semantic fluency) or with a specific letter (phonemic fluency) within a set time limit ([Heerema, 2025b](#)).
- **Rey Auditory Verbal Learning Test (RAVLT):** Assesses short-term auditory-verbal memory, including the ability to encode, store, and retrieve lists of words ([NIH Toolbox, 2023](#)).

These measures have been widely used in cognitive research, making them suitable for evaluating short-term changes in cognitive performance. However, they are typically more time consuming and require higher user involvement than many outcome measures, and their administration and interpretation requires specialist expertise. **It is important not to attempt to use them without suitable training, and it may therefore be helpful to form expert partnerships for the evaluation of interventions where cognitive performance is an important outcome.**

## Blood pressure

Blood pressure is a vital sign and a primary indicator of cardiovascular health. High blood pressure (hypertension) is a significant risk factor for cardiovascular diseases, such as heart attacks and stroke. Exposure to nature has been associated with reductions in blood pressure. Although there are options to test blood pressure at home, the usual position from a research perspective is that to ensure consistent measurement, people measuring blood pressure should all have received the same training. This could be through healthcare professions or otherwise.

**Example:** A systematic review of trials investigating the impacts of Shinrin-yoku (Forest bathing) on blood pressure found that mean systolic pressure was 3.15 mmHg lower in forest compared to non-forest groups, whilst the effect was particularly large (–6.33 mmHg) amongst trial participants who had high blood pressure at baseline ([Ideno et al., 2017](#)).

## Depression

Please read the [above text on mental health and wellbeing](#) first if measuring mental health and wellbeing.

Depression is a mood disorder marked by persistent feelings of sadness, hopelessness, and a loss of interest or pleasure in daily activities. Engagement with outdoor environments, including walking in parks, or participating in green exercise, can help alleviate depressive symptoms and improve overall psychological wellbeing.

The recommended measure is the Patient Health Questionnaire-9 (PHQ9). It comprises nine statements to which answers are scored. The score indicates depression severity. It can be downloaded free of charge from [PHQscreeners.com](#).

More information is available on the [NICE \(2025a\)](#) website: How should I assess a person with suspected depression?

Non-clinical staff can report the score and severity category, but only a trained healthcare practitioner can diagnose using the score.

## Anxiety

Please read the [above text on mental health and wellbeing](#) first if measuring mental health and wellbeing.

Anxiety is an emotional and physiological response characterised by feelings of worry, nervousness, or apprehension, often in anticipation of future events or uncertain outcomes. It can affect concentration, sleep, and daily functioning. Spending time outdoors, through activities such as walking or gardening has been shown to help reduce anxiety symptoms and promote relaxation.

The recommended measure is the Generalised Anxiety Disorder assessment (GAD-7). It comprises seven questions to which answers are scored. The score indicates anxiety severity. It can be downloaded free of charge from [PHQscreeners.com](https://www.phqscreeners.com).

More information about GAD-7 is available on the [NICE \(2021\)](https://www.nice.org.uk/guidance/CG113) website: Generalized anxiety disorder questionnaire.

High scores using GAD-7 or concerning findings should prompt appropriate clinical follow-up or referral.

## Stress

Please read the [above text on mental health and wellbeing](#) first if measuring mental health and wellbeing.

Stress is a psychological and physical response to perceived challenges or threats, affecting an individual's ability to cope with daily demands. There is some evidence that exposure to natural environments is associated with reduced stress levels.

A commonly used self-reporting measure of stress is the Perceived Stress Scale (PSS) ([Cohen et al., 1983](#)). PSS asks individuals to rate how unpredictable, uncontrollable, and overloaded they have found their lives. Although it is often used to measure general stress levels over the past month, the PSS can be modified to assess more acute stress periods by adjusting the time frame of reference to a more recent period, such as the past day or week. The PSS is freely available for use in research evaluation and teaching, provided it is properly cited. Use in commercial products or services requires permission from the copyright holders.

PSS requires participants to score their agreement on a scale between 0 - 4 (0=Never, 4=Very often) with 10 statements:

- 1) In the last month, how often have you been upset because of something that happened unexpectedly?
- 2) In the last month, how often have you felt that you were unable to control the important things in your life?
- 3) In the last month, how often have you felt nervous and "stressed"?
- 4) In the last month, how often have you felt confident about your ability to handle your personal problems?
- 5) In the last month, how often have you felt that things were going your way?
- 6) In the last month, how often have you found that you could not cope with all the things that you had to do?
- 7) In the last month, how often have you been able to control irritations in your life?
- 8) In the last month, how often have you felt that you were on top of things?

- 9) In the last month, how often have you been angered because of things that were outside of your control?
- 10) In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

**Example:** The Japanese practice of forest bathing, or "*Shinrin-yoku*" involves immersing oneself in the atmosphere of the forest, taking in the forest through all the senses, not just a simple walk in the woods, but rather a mindful and deliberate practice of being in nature. A systematic review found evidence that forest bathing had beneficial effects in improving stress, wellbeing and depressive symptoms with studies using a range of validated measures including PSS ([Siah, 2023](#)).

## Mental ill health

Please read the [above text on mental health and wellbeing](#) first if measuring mental health and wellbeing.

In contrast to wellbeing, measurement of mental ill health primarily assesses the absence or presence of conditions and symptoms such as anxiety, depression, or other psychological disorders.

There are clinical diagnostic tools for measuring mental health conditions but these should only be used by trained clinicians. This will not be possible for most evaluations, and therefore self-report will typically be used.

Where a separate measure of mental health is required, the General Health Questionnaire (GHQ) ([Goldberg, 2025](#)) 12-item version is a useful tool. The GHQ is a self-administered tool designed to detect potential psychological distress or non-psychiatric disorders, primarily focusing on two major areas: the inability to carry out normal functions and the appearance of new and distressing phenomena. It is widely used to assess mental health and aims to identify short-term changes, making it particularly useful for assessing outcomes in interventions. Scoring can be undertaken in two ways, but the simplest is where each response is scored from 0 to 3, with higher scores indicating more severe symptoms. The total score is the sum of all items, with a higher total score suggesting worse mental health.

**Example:** A study from Barcelona used GHQ12 to explore the links between mental health and urban green space ([Nieuwenhuijsen et al., 2022](#)).

## Summary

Evidence suggests that outdoor interventions can positively impact human health and wellbeing. As more organisations are considering outdoor interventions aimed at improving physical or mental health there is an opportunity to understand more about the nature of

the relationship and what works (or not) for the greatest benefit to health. This guide is intended to make it easier to evaluate the impact of outdoor interventions on the health outcomes of those who take part.

Using the recommended measures in this guide will increase consistency across evaluations and allow results to be combined to strengthen the evidence base and inform decision making. It offers measures covering how the intervention is delivered, the characteristics of those taking part, the type of outdoor intervention being considered, and the intended health outcomes, promoting a robust but flexible approach to make it relevant to a wider range of interventions.

More detail on what to consider when conducting an evaluation can be found in the Annexes.

# ANNEXES

# Annex 1: What is the difference between impact and process evaluation?

## Types of evaluation: impact and process evaluation

An **impact evaluation** in public health looks at the difference an intervention has made to health and wellbeing. It can capture intended and sometimes unintended consequences and depending on the design used might help determine the extent to which this is a result of the activities undertaken by the intervention. Impact evaluation can also help to determine if interventions could reduce health inequalities by looking at outcomes across different population groups. General information on impact evaluation can be found in the 'Magenta Book' ([HM Treasury, 2011](#)). The Healthy Outdoors guide aims to support individuals and organisations to undertake effective impact evaluation of outdoor interventions which have health and wellbeing outcomes.

A **process evaluation** in public health assesses the implementation of an intervention, focusing on how it was delivered, who delivered it, who received it and the context in which it operates. It is essential for understanding not just if an intervention works, but how and why it achieves, or fails to achieve its intended health outcomes. By examining the delivery process, strengths and challenges can be identified, barriers addressed, lessons learnt and changes made. This approach can help make efficient use of limited resources and facilitates the adaptation and scaling of effective interventions across diverse populations and settings. This increases the likelihood of positive health outcomes and helps reduce health inequalities. More information on process evaluation can be found in OHID's guidance on process evaluation in health and wellbeing ([OHID, 2018](#)).

# Annex 2: How should I plan and scope my evaluation?

## Refer to or develop the theory of change for your intervention

A theory of change is a useful first step for planning, monitoring, and evaluating an intervention. The theory of change gives you a clear understanding of what you are trying to achieve and how that change will come about through your intervention. Importantly, the process of developing a theory of change can help to establish which outcomes are likely (or unlikely) to be impacted by the intervention (intentionally or unintentionally), and for whom and in what ways, within the timeframe of the evaluation. You can read more about constructing a theory of change in the 'Government Analysis Function toolkit' ([ONS, 2022](#)) or the 'Theory of change in ten steps' ([NPC, 2019](#)). In some cases a theory of change may not be necessary, a simpler log frame or logic model may be a proportionate approach.

## Develop an appropriate evaluation design and methodology

Using your theory of change, you can then define your evaluation objectives and questions, your evaluation approach (i.e. overall design), the stakeholders you wish to engage in your evaluation, and how you will collect and analyse data. This step is absolutely fundamental to a good evaluation. A simple way to get this right is to move step by step to:

1. Clarify the main purpose of the evaluation.
2. Use your theory of change to identify the key assumptions or changes you would like to test.
3. Develop your Key Evaluation Questions (KEQ). KEQ should align with the purpose of the evaluation and be grounded in the theory of change. Ensure questions are realistic and evaluative while also keeping them open and neutral.
4. Choose an evaluation approach and appropriate methods that can credibly answer each question, and identify which stakeholders to involve and how.

There are a range of different methods used in evaluation to collect and analyse data. During the planning phase of your project, select the most suitable methods for your intervention.

**Quantitative methods** collect data that can be expressed numerically, making it suitable for statistical analysis. They can be used to quantify demographic information and health outcomes, to determine the impact an intervention has had on health, wellbeing and health

inequalities. Whilst not always possible, experimental and quasi-experimental approaches are the most scientifically robust as they include a 'counterfactual' – a control group who do not receive the intervention. This means changes seen in the intervention group (such as improved health outcomes) can be more confidently attributed to the intervention.

Approaches to collecting quantitative data on health outcomes may include:

- Monitoring information (e.g. a template populated by intervention delivery staff)
- Surveys and questionnaires (e.g. self-reporting by beneficiaries or other stakeholders involved in an intervention)
- Accessing secondary data (e.g. medical records)
- Structured observations (e.g. using a predefined template or coding scheme)
- Using wearable technology (e.g. smart watches, GPS trackers).

**Qualitative methods** collect detailed information on peoples' experiences and perceptions, making it suitable for gathering deeper insight into, for example how an intervention is being delivered, received, its quality, and why it is (or is not) contributing to the desired health outcomes. They can be used to complement, or as an alternative to, quantitative impact evaluation methods. Qualitative data collection methods include:

- Interviews
- Focus groups
- Case studies
- Unstructured observations

Apart from quantitative and qualitative methods, secondary analysis of existing data sources and triangulation can also be useful. For example, you could examine how similar interventions have been evaluated, including the data sources and questions used, to identify gaps where new evidence would be beneficial and to ensure consistency in measurement approaches.

Identifying the outcomes you wish to measure using the list of measures will help you to determine which data collection approach is most suitable for your evaluation. This guide focuses on measures to support quantitative methods. You can find out more about evaluation methods in the 'Magenta Book' ([HM Treasury, 2011](#)).

## **Aim for an evaluation that matches the scale of your intervention**

Approaches to data collection and the types of methods used should be feasible and proportionate to the level of effort and resources available in your evaluation, and to the scale, impact and importance of intervention activities. This may include prioritising specific elements of your intervention for evaluation or choosing less resource-intensive data collection methods.

Factors to consider:

- **Intervention goals** - Which activities in your intervention are likely to contribute significantly towards your desired outcomes?
- **Funding** - What funding has been committed/planned to support the intervention activities?
- **Evidence base** - Would the evaluation fill gaps in the evidence base? What evaluation is required by your funder?
- **Timeliness** - Is it possible to undertake the evaluation during the timeframe of your intervention?
- **Feasibility** - Is it feasible to conduct an evaluation (taking account of your resources, proportionality)?

## Co-design in evaluation

It is good practice to work with service users to co-design the development of a theory of change (if applicable) and your data collection methods, and co-design can make it more likely that your evaluation process will work. For example, if you are evaluating a walking intervention, involving people who already take part can help you understand how people think it works (challenging your assumptions), choose data collection methods that work well for them, help you to use accessible and understandable language, and ensure the evaluation is relevant and engaging for participants. You can read more about co-design in the [NHS \(no date\)](#) evaluation toolkit and in [NIHR \(2024\)](#) guidance on coproducing a research project.

Detailed information on evaluation planning and scoping can be found in the 'Magenta Book' ([HM Treasury, 2011](#)).

# Annex 3: What do I need to consider about working ethically when planning an evaluation?

## The importance of working ethically

### Legal framework

Ethical conduct and data protection are fundamental responsibilities in any public health evaluation involving individuals or communities. Data collection informed by the Healthy Outdoors guide must be guided by key principles of ethical social research, ensuring that it serves public interests, upholds ethical standards, and complies with legal requirements such as the General Data Protection Regulation (GDPR).

Anyone using the Healthy Outdoors guide should ensure strict compliance with the GDPR and the Data Protection Act 2018. Personal data must be collected lawfully, fairly, and transparently; used only for stated purposes; stored securely; retained for no longer than required; minimised to what is necessary; and anonymised where possible. Researchers must also demonstrate accountability and maintain clear records of compliance. It is important to recognise that any data related to physical or mental health constitutes “Special Category” data under GDPR, which imposes additional legal and ethical obligations for its handling.

For further advice, researchers should consult the Information Commissioner’s website ([Information Commissioner, no date](#)) to ensure compliance with current data protection laws.

### Ethics in evaluation

Robust, unbiased evaluation methods should be used when evaluating interventions. Those responsible for evaluating interventions must adhere to professional standards, ensure quality assurance, and remain sensitive to social, cultural, and political environments.

Participation in any intervention evaluation must be based on specific, informed, and voluntary consent, reflecting the principle of autonomy. Clear communication about data use and participants’ rights ensures that individuals can make informed decisions. Evaluation should be conducted in a manner that minimises personal and social harm (non-maleficence), while actively seeking to promote participants’ wellbeing (beneficence). Equitable access and outcomes must be considered for all participants, consistent with justice, ensuring that no groups are unfairly disadvantaged or excluded. Researchers have

a responsibility to consider any possible harmful consequences when collecting data. They must ensure these consequences are identified, assessed, and minimised at all stages of the research and for all groups involved in the research.

More information can be found in the Better Evaluation Ethical guidelines ([Better Evaluation, 2024](#)).

## Key principles

It's important that you conduct your evaluation using ethical principles so that it is respectful, honest, and keeps everyone involved safe and informed. You should:

- **Obtain informed consent.** From all participants (or parents/guardians for children), and provide a clear information sheet explaining the evaluation and data use.
- **Ensure voluntary participation.** Unless data is collected passively (e.g. observing cycle path usage), participants should know they can opt out without affecting their access to the intervention.
- **Use inclusive and accessible materials.** Avoid jargon, and don't assume prior knowledge. Translate or adapt materials where needed to support participants with different language or literacy needs.
- **Protect personal data.** Especially in public settings where conversations may be overheard. Follow data protection laws and store information securely.
- **Plan for sensitive topics and potential distress.** If sensitive topics like emotional health are involved, be prepared to offer immediate support and ensure access to follow-up care.
- **Safeguarding is essential.** Particularly for children, older adults, those with learning difficulties and vulnerable adults. Respect privacy, avoid coercion, and ensure participants feel safe throughout.
- **Respect privacy during measurements.** If results suggest health risks (e.g. underweight, overweight, obesity), advise participants to consult their healthcare provider.

You can find more information on ethics in 'Professional Guidance' ([GSR, 2021](#)). Any engagement via the NHS with patients/practitioners may require specific ethical approvals from NHS bodies – see the [NHS Health Research Authority pages on Research Ethics Service and Research Ethics Committees](#).

# Annex 4: How should I report my evaluation findings to support the evidence base?

## Sharing findings with the diverse audiences (including participants)

It is important to make sure that, if possible, the findings of the evaluation are widely available. This includes making an appropriate version of your findings accessible to the people who took part (which is part of an ethical evaluation process), as well as the wider community and any other key groups of stakeholders. There is guidance available on producing Easy Read documents ([UKAAF, 2022](#)). This will involve thinking about the language to be used and the detail provided. This helps everyone understand what the study found and means that your evaluation is more likely to be impactful. Consider adopting alternative ways of communicating your findings such as:

- **Producing reports or policy briefs for practitioners, funders, and decision-makers:** These documents presenting the main findings alongside clear, actionable insights, can inform strategic decisions and future funding priorities. It is good practice to produce an accessible or easy to read version of any formal report to ensure all audiences can read and understand it.
- **Publishing findings online through organisational websites, open-access repositories, or professional networks:** This ensures transparency and maximises reach, allowing a broader audience to engage with and benefit from the results.
- **Podcast, blog, webinar:** These formats provide an interactive and conversational way to share findings, making them more engaging and easier to digest.
- **Social media posts:** Short, visually appealing updates can quickly capture attention and drive traffic to more detailed resources.
- **A slide deck:** A well-designed presentation can be used for meetings, conferences, or training sessions to communicate key messages effectively.
- **An infographic:** Visual summaries help simplify complex data and make findings more memorable for diverse audiences.
- **An animation:** Animated content can illustrate processes or outcomes dynamically, making the information more compelling and easier to understand.
- **Film:** A short documentary or video can humanize the data by showing real stories and experiences behind the findings.

## **Sharing findings with academic audiences**

Conducting a robust evaluation using the Healthy Outdoors guide can support the development of research suitable for submission to peer-reviewed journals. Academic publication strengthens the wider evidence base for outdoor interventions that improve health and reduce inequalities. By using consistent, valid, and reliable metrics - such as those provided in this guide - findings from different studies can be compared and synthesised over time through systematic reviews and meta-analyses. This enables a clearer understanding of what works, where, and for whom. Working with a local university or partners who have links to academia can be very helpful in understanding what's needed for journal publication.

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# Glossary

## Bias

Bias refers to a deviation from accuracy or objectivity in data collection, analysis, interpretation, or reporting. It occurs when factors such as personal beliefs, methodological flaws, or sampling errors unintentionally or intentionally influence results, leading to inaccurate conclusions.

## Commercial products or services

Refers to any goods, tools, applications, or services that are created, marketed, or sold for profit or business purposes, rather than for academic, research, or educational use. For example, software, products sold to consumers, or services offered for a fee.

## Health inequalities

The unfair and avoidable differences in health status seen within and between different population groups. These are often rooted in social, economic, environmental, and structural disparities such as income, education, housing, and access to green infrastructure.

## Health outcome evaluation

A method of assessing whether, and to what extent, an intervention achieved its intended influence on health outcomes. This supports accountability, improvement and decision making around interventions.

## Intervention

An intervention may also be referred to as a programme or initiative. It is designed to bring about specific changes or improvements in outcomes for individuals, groups, or systems. It typically involves implementing activities or services intended to address identified needs or problems.

## Outdoor interventions

Planned activities taking place outdoors as well as activity to increase the quality or quantity of accessible green and blue spaces. This broad definition of outdoor spaces includes not only parks, woodlands, rivers and coastal areas, but also streetscapes, playgrounds, sports fields, community gardens, urban squares, walking and cycling routes

and other public outdoor spaces. Examples include green social prescribing; outside sports; nature conservation activity; arts and cultural activities taking place outdoors; active travel; and green-infrastructure development.

## **Process evaluation**

Focuses on how an intervention is delivered, determines whether they are being carried out as planned, and identifies any issues or challenges in the process. In a public health context, this is crucial for understanding whether interventions are accessible, equitable and responsive to community needs. May include both quantitative and qualitative elements.

## **Qualitative data**

Non-numeric information that can be used to, for example, explore the how and why behind health outcomes of the interventions, including lived experiences, perceptions and cultural or contextual factors that influence health behaviours. Data may be gathered through interviews and open-ended surveys for example, providing deeper insights than it is often possible to obtain from quantitative data.

## **Quantitative data**

Information that can be measured and expressed numerically, making it suitable for statistical analysis of public health outcomes e.g. changes in physical activity levels, mental health scores or healthcare utilisation.

## **Theory of change**

A structured framework outlining how and why a particular intervention is expected to achieve health related outcomes. It helps clarify assumptions, pathways of change, and the contextual factors necessary for improving population health and reducing inequalities.

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