

Evidence briefing

Social prescribing: the natural environment

Introduction

This briefing helps set out what the evidence currently tells us about the natural environment and health and wellbeing.

It summarises the key findings from a rapid evidence review, commissioned by NHS England, and delivered by NASP's academic collaborative.

The methodology for the rapid evidence review, a thematic overview of the results, discussion of the reliability of the data, and future recommendations can all be found in more detail [here](#), alongside other rapid evidence reviews [completed](#) in this series.

Headlines from the rapid evidence review

Evidence confirms that:

Time spent in nature is linked to a range of positive mental and physical health outcomes such as:

- Reduced blood pressure, reduced stress levels and associated symptoms, lower levels of cardiovascular and respiratory problems, and reduced risk of diabetes, obesity, and COVID-19. [10, 15, 16, 23, 37, 39]
- Increased wellbeing, including subjective wellbeing, reduced social isolation, happiness, and resilience wellbeing. [22, 38, 49, 53, 54, 55, 64] A decrease in PTSD symptoms and ADHD (when offered alongside therapeutic and mindfulness activities). [36]

Nature-based social prescribing interventions can positively impact on happiness and wellbeing. This can be by reducing social isolation and developing connection to nature, particularly in people likely to be experiencing health inequalities. [35, 50]

Both contact and connection with nature play a role in improving health and wellbeing outcomes. [75]

More research is needed in this area, as most of the evidence currently available looks at the links between spending time in nature and health outcomes rather than nature based social prescribing, and explores contact rather than contact and connection with nature.

As a result of the COVID-19 pandemic there has been a large increase in the demand for outdoor activity.^[12, 34,35,50]

What the evidence tells us about the links between the natural environment and health and wellbeing

Evidence consistently shows a positive relationship between spending time in nature or exposure to nature and good health and wellbeing.

- Living or working close to nature can lead to many physical and mental health benefits, such as lower levels of heart or respiratory problems, lower blood pressure, lower levels of stress and physical symptoms of stress, lowered risk of diabetes and obesity, COVID-19, slower cognitive decline.^[10, 15, 16, 23, 37, 39]
- Mental health benefits reported include increased mental wellbeing, increased mindfulness, happiness, resilience, and subjective wellbeing.^[22, 38, 49, 53, 54,55, 64] Reduced symptoms of PTSD and ADHD were found when nature activities happened alongside therapeutic and mindfulness activities.^[36]

There are different ways this relationship may work, for example nature may inspire positive emotions, and reduce negative thoughts; it may help to renew attention and decrease mental fatigue; or it may be that people have an innate ability to respond emotionally to nature.^[65-67]

The health impact of nature contact/ time spent in nature may be different to that of connection to nature, and both may be needed to optimise outcomes. For example, contact with nature can be more strongly linked to general health outcomes, whereas nature connectedness can be more strongly linked to subjective well-being.^[76]

The evidence base is still relatively small for the impact of blue spaces such as rivers, lakes, or the sea, on mental wellbeing or physical health. However, evidence suggests that wellbeing is improved by spending time in blue space, and this is related to better cardiovascular health, too.^[43,47,48]

- **As a result of the COVID-19 pandemic there has been a large increase in the demand for outdoor activity.**^[12,34,35,50]

The strength of evidence on the benefits of taking part in nature based activities supported the inclusion of Green Social Prescribing as part of the NHS Long Term Plan to improve mental health outcomes and reduce health inequalities, to reduce demand on the NHS, and to make green social activities sustainable and accessible, particularly to communities likely to be experiencing health inequalities.^[68]

What the evidence tells us about the links between nature based social prescribing and health and wellbeing

- **Nature-based social prescriptions can benefit long term health and wellbeing, particularly life satisfaction and happiness.**^[12,34,35,50]
- **Nature based social prescribing interventions can connect people to the wider community, increase feeling of connection to nature and help to increase social connectedness,** in turn this can increase feelings of happiness and wellbeing.^[50]
 - As an example, one study in the review found that social prescriptions for community-based gardening within hospitals, care homes, hospices and third sector organisations reported improved health and wellbeing of participants^[35]
- **There is a clear need for more research to tell us about the impact of different referral pathways to green social prescribing**^[71-73] and some is currently ongoing.^[74]

The role of natural environments in improving health and wellbeing among populations likely to be experiencing health inequalities.

More research is needed to better understand how nature based social prescribing can reduce health inequalities among disadvantaged or marginalised communities. However, evidence suggests that people being referred to social prescribing tend to report that they value green and blue space and understand their benefits.^[7] There is still a lack of representation in the evidence from audiences likely to be experiencing inequalities, due to access restrictions or other barriers outlined in this review. Greater outreach initiatives appear to be enablers for wider engagement.

- **People with severe mental ill-health:** There is a large amount of evidence for the positive impact of green space on severe mental ill-health, although there is less for blue space. Alongside talking therapy and a range of holistic interventions, nature walks can help individuals with severe mental ill-health connect, be active, notice and be mindful. These can also help to prevent relapse and can increase peoples' belief in their ability to achieve goals. Museums on prescription using green spaces were found to positively impact the wellbeing of mental health service users, who experienced increased feelings of connection to nature, and wellbeing.^[24,33, 39]
- **People who are lonely or socially isolated:** Social prescription activities based in nature can improve social connection and feelings of belonging, particularly when social prescriptions work alongside community organisations such as local farms or community gardens. These activities can promote nature contact, strengthen social connection, and improve longer term mental and physical health through developing personal skills, relationships with others and interaction with nature.^[31,50,58]

- **People with dementia or confusion and/ or memory loss:** Most studies have found a positive association with brain health and exposure to green space.^[3,6,8,38]
- **Caregivers facing mental exhaustion:** there is some, evidence that caregiver burden and stress can be relieved through natural environment interventions, but there is need for more research in this area.^[26]
- **Cancer patients:** fitness and fatigue symptoms were improved by nature-based activities.^[9]
- **Socioeconomic status:** People on lower incomes, with fewer educational qualifications, who are unemployed, or living in the most deprived areas are least likely to visit natural spaces.^[63] For example, 44% of people living in poverty in the UK visit green space regularly, compared to 70% of people living in households earning £50,000 or above. Similarly, 45% of adults in England living in areas ranked as most deprived had visited a natural space in the last 14 days, compared to 68% of adults in the least deprived areas.^[63]

What the evidence tells us about barriers to, and enablers of, social prescribing pathways

- Link workers have identified that ‘Green Health Partnerships’ were useful for providing community-based interventions for peoples with long term conditions.^[34]The enablers for these were identified as the health, local authority, social care and third sector organisations working together through these partnerships. It was felt that these should work alongside Green Social Prescribing services to help to reach target populations, such as those with mental health needs.^[34]
- Possible barriers that have been identified for ‘nature on prescription’ include: participants’ past experiences in, or access to, nature, racism and disenfranchisement that may be experienced by Black, Asian and ethnically diverse communities, and the costs that may be incurred by participants.^[54] Enablers include a diversity of settings and activities that can be used to build inclusion, ‘buy-in’ from the communities served by the activities, and flexible referral pathways which allow participants to refer themselves.^[54]

How reliable is this evidence?

The evidence base for social prescribing is relatively new and emerging. It also varies in terms of how well it was designed, and how well factors such as participation, or changes in health and wellbeing were measured. The same issues are encountered for nature based social prescribing.

The quality of the studies included in this review was checked using a standard methodology, involving an assessment of how well the studies were carried out according to agreed standards.

Most of the studies included in the systematic reviews we included reported positive relationships between exposure to nature and health and wellbeing. However the design of these studies means that it is not possible to conclude anything about causality of these relationships (i.e. we cannot say yet whether nature based interventions cause the health benefits.) Longer term research studies are needed to check the role of other factors, such as the effect of socio-demographic factors, on these relationships.

The development and standardisation of better evaluation tools would enable third sector organisations to calculate and understand the impact of nature based social prescribing initiatives.

Evidence informed implications for social prescribing planning, delivery and research

- Improve working partnerships (alongside multi-disciplinary partnerships) between local organisations, social and health care bodies and those providing referral pathways to enable greater access to green social prescribing.
- Increase representation from groups likely to be experiencing health inequalities, due to access restrictions and other barriers. Outreach may benefit people who are not currently accessing nature based prescriptions.
- The development of better evaluation tools would enable third sector organisations to understand and report on the impact of nature based social prescribing initiatives.
- More ‘non nature based’ venues (such as museums) with outdoor spaces could consider integrating programmes of indoor and outdoor activities.
- More nature based social prescribing should be designed to reflect that both contact and connection with nature improve health and wellbeing outcomes.

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