

Nature-Based Interventions: Turning Research into Practice for Long-Term Conditions

This briefing supports clinicians, practitioners and Social Prescribing Link Workers in making informed decisions about nature-based interventions (NBIs), often called green social prescribing, for patients with long-term conditions (LTCs). It is based on evidence from a systematic review of 26 high-quality studies.



Social prescribing connects individuals to community-based activities and services that address practical, social, and emotional needs affecting health and wellbeing. As part of Universal Personalised Care, it typically involves link workers co-creating personalised care and support plans based on what matters most to the individual. Green Social Prescribing builds on this model by offering referral pathways to NBIs. These are structured programmes that promote physical, mental, and social wellbeing through meaningful engagement with natural environments. NBIs may include green exercise such as walking, hiking, and forest bathing; gardening and horticultural therapy; and nature-based rehabilitation programmes with defined therapeutic goals. Mindfulness practices in nature, such as Tai Chi, Qigong, and nature crafts, are also commonly used. Additionally, blue prescriptions involve water-based activities like swimming and kayaking.

Systematic Review Methodology: A systematic review was conducted to examine the impact of NBIs on LTCs. Following PRISMA guidelines and Cochrane Handbook standards, high-quality evidence was drawn from systematic reviews, randomized controlled trials, and experimental studies, ensuring methodological rigour and minimising bias.

Key Messages for Practitioners: The evidence shows that NBIs offer valid, non-clinical approaches to supporting people living with LTCs. Clinicians should consider integrating NBIs into personalised treatment plans, or GSP pathways, especially for patients with mental health challenges.

Key Findings of Evidence on Clinical Benefits

- **Mental Health:** A total of 11 research papers reported significant improvements in anxiety, depression, stress, and overall wellbeing (1-11).
- **Cancer:** Two research papers reported improvements in physical functioning, fatigue, vitality, reduced tension, mood (12, 13).
- **Neurological conditions.** One paper reported reduced fatigue, improvements with anxiety & depression for people living with neurological diseases such as Parkinsons Disease and other similar neurodegenerative conditions (14).
- **Chronic Pain.** One paper suggested that NBIs influenced a change in anterior cingulate cortex (ACC) perfusion in ml (blood)/100g (tissue)/min after each

activity compared to baseline. Additionally, there was some evidence that NBIs helped people living with chronic pain through a reduction in pain and improved coping (15).

- **Multiple LTCs.** A total of eleven systematic reviews reported the impact of NBIs on a range of LTCs. This included: increased physical activity, improved cardiovascular markers (e.g., blood pressure, heart rate), and reduced BMI. Papers also reported improved health & wellbeing outcome measures, social connectivity, enhanced social skills, reduced isolation, and improved employability. These papers highlighted overall improvements in life satisfaction and emotional resilience (16-26)

Economic Evidence:

- **Cost Savings:** The evidence suggests that NBIs can reduce intervention costs compared to NHS programmes, reduced GP visits, hospital admissions, and medication use (16, 27-32).
- **Social Return on Investment (SROI):** NBIs have been reported as an SROI of up to £11.94 return per £1 invested (29, 31-36).
- **Quality-adjusted life years (QALYs)** gained through NBIs were found to be cost-effective at £6,800 to £8,600 per QALY, falling within the NICE threshold (29, 32)

Gaps in the Evidence

- There was limited evidence about the impact of NBIs for frail older adults, pain management, children & young people and employability outcomes.
- There is a lack of detail about the referral pathways described in the evidence.
- There was an overall lack of consistency in the methods used for economic evaluations.

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