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# Realising the Potential of Scotland's Natural Health Service in Practice

A Report on Piloting of  
Green Health Partnerships



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## Chief Medical Officer Foreword



**Professor Sir Gregor Smith**  
Chief Medical Officer for Scotland

Experiencing and enjoying Scotland's nature and landscapes is something that most of us spend time doing, be it close to home as part of our everyday lives or further afield. The evidence base for the positive impact that spending time in nature has on our physical and mental health is now substantial, making it an important part of the transition to Realistic Medicine in Scotland. I am a huge advocate for green health (the term

used to describe engagement with nature that benefits our health) and I was delighted to highlight this contribution in my first annual report as Chief Medical Officer in 20/21.

The shared vision across several public and third sector bodies to make more use of our natural environment as a health resource led to the development of the Our Natural Health Service programme, championed nationally by NatureScot. For the first time in Scotland this linked together health, environment and other sectors to further the priorities for both people and nature. This connection is crucial as improving population health and wellbeing is inextricably linked to action to tackle climate change and nature loss. I am really pleased to have been involved in the evolution of this programme and to oversee much of its work both on greening the NHS estate and the development of the four Green Health Partnerships (GHPs) which are the focus of this report.

The starting premise behind these partnerships was simple – how could we better connect the health assets and activities that the environment sector provides with the pathways and prescriptions of the health sector? As this report shows, the solution is relatively simple and low cost, but to do it requires vision, leadership and a culture which is open to change.

Each GHP developed a delivery model that fitted with local circumstances and priorities, and I am hugely impressed by the range of work delivered by them in such a short period (which coincided in part with the pandemic). The evaluation work presented in the report shows that the GHPs have been effective at raising awareness of green health, facilitating green health opportunities and building capacity in each area. The partnerships are superb examples of the added value that can be achieved through collaborative and co-ordinated cross-sectoral working.

The challenge now is to build on this foundation to embed Scotland's natural health service in everyday aspects of our national health service.

In pursuit of this aim, I welcome the work on green health now being progressed by Public Health Scotland and others, as part of the NHS Scotland Climate Emergency and Sustainability Strategy, to provide strategic leadership, establish a learning network and develop guidance for Health Boards.

I firmly believe that if we can work together to realise the full potential of Scotland's natural health service in practice, we can help to improve health and wellbeing and reduce inequalities of everyone in our communities, deliver our ambition for a healthier Scotland and, in addition, help deliver outcomes for climate and nature.

# Introduction

This report provides an overview of the development and impact of Scotland's pilot Green Health Partnerships. The first part of the report outlines the evolution of Scotland's Natural Health Service programme which led to the piloting of Green Health Partnerships. The second and third parts provide further detail on each of the partnerships and summarises their main outputs and impacts. The final part briefly considers lessons learned, wider green health activities across Scotland, and looks ahead to future developments.

## Part 1 – The Evolution of Scotland's Green Health Partnerships

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### Background

#### 'Nature itself is the best physician.' – Hippocrates

Recognition of the contribution that contact with nature makes to health and wellbeing is long-standing and informed early hospital design and practice as well as public health approaches (Bernhardt et al., 2022). More recently, medical professionals and policy makers have begun to promote its role again alongside established approaches to medical treatment.

In Scotland, two influential reports in this process were [Equally Well: Report of the Ministerial Task Force on Health Inequalities \(2008\)](#), which recommended that Government, NHS Boards and other public sector organisations should take steps to encourage the use and enjoyment of green space by all, as a means of improving health; and [Good Places, Better Health \(2008\)](#), which set out a new approach to creating positive physical environments that nurture better health and wellbeing for everyone.

Today, the positive links between the environment and human health and wellbeing are well proven, supported by research from around the world (Jimenez et al., 2021; Twohig-Bennet and Jones, 2018; Nelson et al., 2019) and echoed in powerful individual life stories of how contact with nature can help people acquire and maintain healthy behaviours. The long-term impacts of COVID-19 on health and wellbeing documented in various [health surveys](#), and the growing recognition of the health and wellbeing impacts of the [climate emergency](#) has further strengthened the case for action to realise the significant potential of the natural environment to contribute to a modern, sustainable health and social care system that supports a happier and healthier Scotland.

## Our Natural Health Service

Scotland has an extensive, diverse, and accessible natural environment which has long been important for many people's health and wellbeing. But to realise the potential of Scotland's outdoors to contribute to better health and wellbeing required a more joined up approach between health, environment and other sectors in three main areas:

- **Place-making** - improving the supply, quality and accessibility of nature for all;
- **Participation** - increasing the number of people who regularly connect with nature, particularly those who will benefit from it most; and
- **Policy synergy** - the extent to which the benefits are recognised in health and environmental policy and practice.

Scotland's [Our Natural Health Service](#) (ONHS) programme was developed to deliver on the last of these elements. Led by NatureScot, it was commissioned in 2015 by Ministers for both Health and Environment and involved partners from local and national government and voluntary organisations across a range of sectors.

One of the key catalysts for the programme was the [NHS Greenspace Demonstration Project](#) established in 2012. This was led by the Green Exercise Partnership comprising Scottish Forestry, NatureScot, NHS National Services Scotland and NHS Health Scotland (now part of Public Health Scotland). This initiative resulted in a range of inspiring projects contributing to tangible greenspace improvements across 87 hectares of the NHS estate together with increased use of the estate by patients, staff, visitors, and the local community. Importantly, it also brought policy makers and practitioners from both sectors closer together and laid the foundations for more joined up approaches.

Building on the success of this demonstration project, the ONHS programme aimed to bring the health, environment and other sectors closer together to maximise the potential benefits of our natural environment to human health and wellbeing. The overall aims of the programme were:

- **Greater public and professional awareness and uptake** of the benefits and opportunities to use the outdoors as part of their everyday lives.
- **Increased use of nature based health promotion solutions** to be routinely embraced by the health and social care sectors for prevention, care and supported self-management.
- **Stronger recognition** across key sectors of the shared responsibility for improving public health through prevention and early intervention.

Figure 1 was developed to illustrate the simple conceptual framework underpinning Scotland's Our Natural Health Service, recognising three principal ways in which people engage with the natural environment through a range of green health activity: everyday contact with nature (recreation, active travel, etc.); nature based health promotion initiatives (nature based activities to encourage activity, increase wellbeing and/or social contact); and nature based interventions with a defined social or health outcome (green referral and/or prescribing).

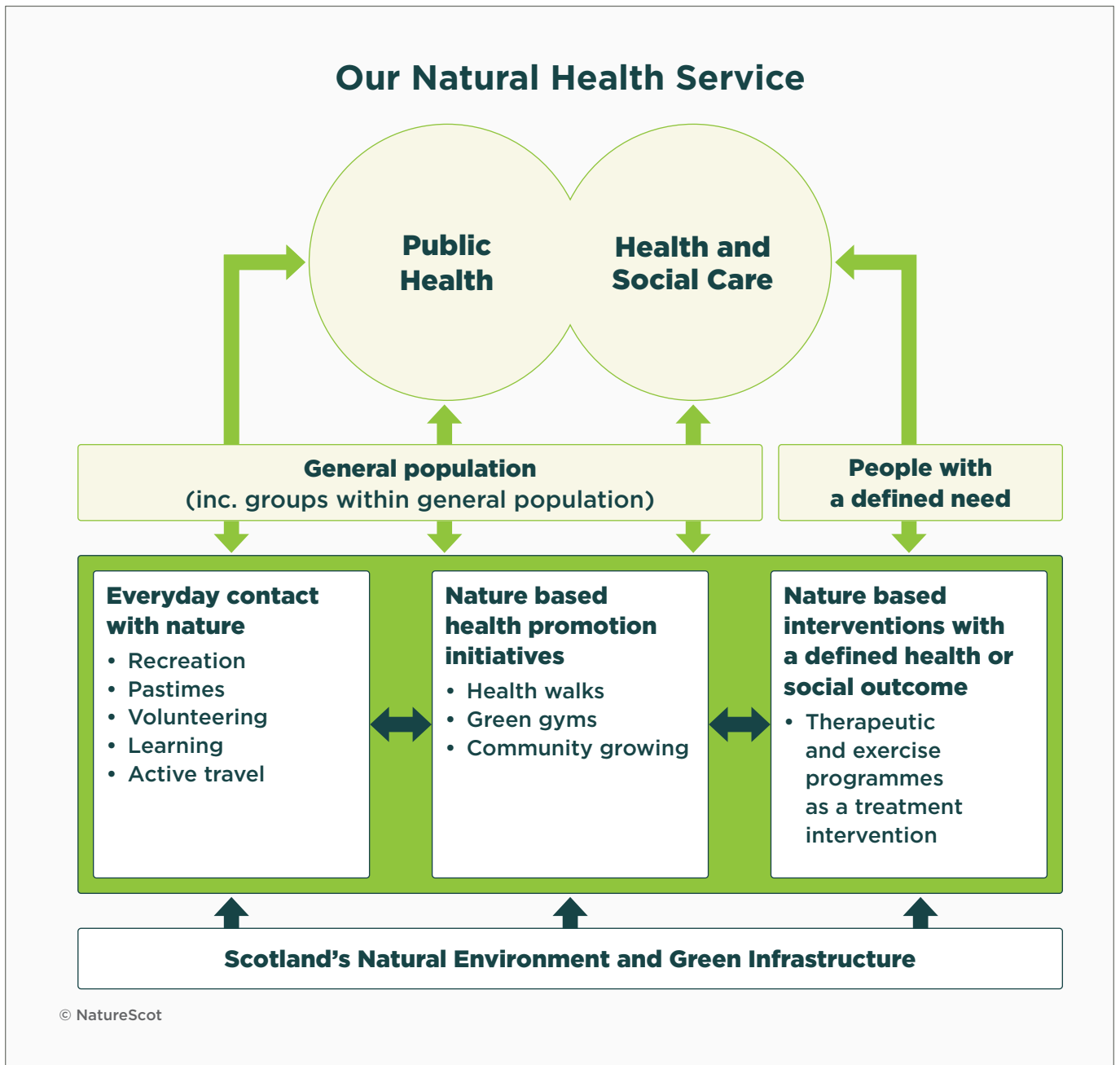


Figure 1: A diagram depicting the simple conceptual framework underpinning Scotland's Our Natural Health Service and highlighting the three main ways that people engage with the natural environment to the benefit of their health and wellbeing.

A cross sectoral ONHS Steering Group was established in 2016 to guide the development of the work programme, with representation from health, environment, transport and youth organisations. The ONHS programme comprised several areas of work such as policy briefing (including top-line Scottish Government briefing), the development and communication of key nature and health messages (for the public and specific target groups), and the funding of further work at NHS Greenspace Demonstration sites to encourage greater use of the improved grounds by staff, patients, visitors and the local community. But as the programme developed, the piloting of Green Health Partnerships (GHPs) became an increasingly central focus, guided by revised ONHS Governance arrangements and a steering group co-chaired by the (then) Deputy Chief Medical Officer.

Across Scotland, it was recognised that there were already several innovative projects providing green health activity for a range of different purposes and people. In broad terms, much of this work could be characterised as opportunistic (dependent on key individuals with a strong interest and drive), fragmented, uncoordinated, untargeted and unsustainable with the profile and impact limited due to the short-term nature of project funding. Nonetheless, the potential to build upon this foundation was clear.

GHPs were conceived as a place-based approach to unlock this potential and shine a spotlight on nature as a local resource for health and wellbeing through co-ordinated and collaborative working by local stakeholders. Led locally by health boards and local authorities, with involvement from a range of cross sectoral partners, GHPs were established to focus on shared priorities drawn from health and social care and community planning partnerships. Four pilot partnerships were identified to demonstrate the approach across different geographies and administrative structures to explore how cross-sectoral working can improve individual and community health and wellbeing through engagement with nature.

A timeline of the key milestones in the development of the ONHS programme and GHPs is shown in Figure 2.





Figure 2: Timeline of the key milestones in the development of the Green Health Partnership approach and the wider 'Our Natural Health Service' initiative.

## Part 2 – Piloting Green Health Partnerships

During 2018, four GHPs were established in Dundee, Highland, Lanarkshire and North Ayrshire, collectively covering a range of both urban and rural areas in Scotland experiencing health inequalities, disadvantage and low levels of physical activity.

Rooted in local circumstances and leadership, the origins of the development of each of the GHPs were different, as were the arrangements put in place to deliver them. For example, discussions about establishing a Lanarkshire GHP had been taking place for several years, stimulated by the mental health team in NHS Lanarkshire. Formative discussions in North Ayrshire, Dundee and Highland were initiated following the involvement of each area's Health Board in the NHS greenspace project and recognition of the potential to broaden green health work to a wider community scale. Due to the different origin, scale and geography of each GHP, the relationship between health board and local authorities also varied including one health board to two local authorities (Lanarkshire GHP and Highland GHP); and part health board to whole local authority area (North Ayrshire GHP and Dundee GHP).

The GHPs each received around £100,000 core funding per year for the first three years – this enabled each partnership to employ a dedicated project officer post providing the necessary additional capacity to drive forward and co-ordinate their work programme, supported by a small programme delivery budget. The balance of spending varied between GHPs depending on their existing resources, requirements and priorities. To supplement this core budget each of the partnerships drew on a range of national and local delivery partners and made use of other programmes and external funding streams to increase the leverage of the core funding and enable each to deliver an ambitious range of project-based activity.

Each GHP developed differently with stakeholder involvement and governance arrangements established to suit local circumstances and priorities. Despite these differences, all the GHPs shared the following five aims:

1. An increase in the number of people having contact with nature.
2. Greater awareness in health professionals of the contribution of nature based health promotion and interventions to physical and mental health and wellbeing.
3. Public Health and Health & Social Care sectors routinely embracing nature based health promotion and interventions for prevention, treatment and care.
4. Greater public awareness of the benefits & opportunities for contact with nature as part of everyday life.
5. Nature based contributions to health mainstreamed and funded sustainably.

These goals were delivered through a range of co-ordinated action by the local health board, local authorities, public bodies and voluntary sector organisations which included stakeholder engagement, building capacity for green health in each area, green health project delivery, promotion and advocacy. In the early stage, work by each of the GHPs focused on:

- Engaging local stakeholders to raise the profile of green health and its benefits.
- Conducting a review of the most relevant local health priorities.
- Building support within the health board and local authority.
- Auditing existing green health opportunities and programmes to identify existing synergies and possible gaps in promotion, pathways and provision.
- Developing a work programme and evaluation framework.
- Establishing a website presence for the partnership.
- Delivering some quick wins – such as the provision of small green health projects or community challenge funds.

Common types of activity developed by the GHPs to deliver these goals included the following.

- Improving access to green health information – collating information about accessible green spaces and green health projects to be integrated into information sources used by the public and health practitioners.
- Raising awareness of the value of green health within healthcare – communicating the benefits of green health to practitioners from the health, social care and voluntary sectors and ways to connect their service users to local opportunities.
- Developing referral pathways to green health projects – establishing green prescription pathways or incorporating green health options into existing physical activity, mental health, social prescribing and lifestyle pathways and programmes.
- Promoting the benefits of green health to the public – promoting green health activity such as active travel, volunteering, community gardening and informal recreation through social media, leaflets and animations shown in health and leisure settings and an annual Green Health Week.
- Developing green health projects and opportunities – working with partners and green health activity providers to deliver new or expand existing projects for the public or target locations / clinical groups.

Boxes 1-4 provide further detail on the individual journeys of each GHP and their main achievements.

## Box 1: Dundee Green Health Partnership

The [Dundee Green Health Partnership](#) (DGHP) is led by NHS Tayside, Dundee Volunteer and Voluntary Action (DVVA) and Dundee City Council's Greenspace (Environment) Team. The Partnership aims to support local people to access and engage with local nature based interventions and outdoor opportunities across the City of Dundee. DGHP was formally launched by the Minister for Public Health, Sport and Wellbeing at an event in the city's botanic gardens.



The Partnership's Project Co-ordinator post was initially hosted by Dundee City Council and co-managed by the Council and the Health Board's Public Health Team. Funding was also provided for a post based at DVVA which facilitated the development of and support for the bespoke green prescribing system. Following a period of staff change the GHP Co-ordinator post moved to sit in the Social Isolation team within DVVA. Operating from within DVVA allowed the DGHP to deliver practical support to local people and activity providers across the city. Dundee's GHP is a health promoting means that incorporates prevention, intervention and recovery and has been flagged as the gold standard in green health delivery.

One of the main defining features of the DGHP is the Green Health prescribing programme. We were one of Scotland's first nature prescribing pilots, where the 'Green Health Prescription' was developed to allow and connect clinicians and other professional groups to directly prescribe green health related activity to patients/clients of all ages. The [Green Health Prescriptions](#) have become a trusted and well-established source of support that (medical and non-medical) prescribers rely on. The continued work by the partnership, through the prescription service, aims to alleviate the pressures on healthcare services, by providing a streamlined and robust [pathway](#) to non-medical community-based support. The Dundee model has been celebrated locally and nationally due to the value, learning and practical application of a non-medical health intervention that has made a difference to local people and our professional practices. One of our achievements has been the relationships that have been built with both primary and secondary care providers, that has allowed us to become an assured and trusted partner for referring patients to.

Another significant aspect of the Dundee GHP is the promotion of our service and engagement with the wider community. We promote and facilitate collaboration between partners and support action on the ground to ensure our local Green Health Providers are celebrated and accessed by local people looking to improve their health and wellbeing, access the outdoors and engage in sustainable nature based interventions. The Dundee GHP website includes [personal stories](#) about how green health initiatives in Dundee have impacted people's lives.

### **Our key achievements:**

- Green Health Prescription Pathway
- Development and delivery of ReDiscover Dundee - ebike/trike project
- Promotion of Dundee's greenspaces and campaign activity to encourage use
- Small Grants for local nature based interventions

- Supporting NHS Tayside colleagues, based in Dundee, to bring Green Health activity into their settings, providing direct support to patients under their care
- Database of nature based intervention providers
- Matching local people with their preferred local option, utilising social prescribing approaches
- Winner of the Best Nature Based Social Prescribing Project Award at the 2021 International Social Prescribing Conference and the 'Colin Mair Award for Policy in Practice' at the 2020 Holyrood Events Scottish Public Service Awards.

While we no longer have a funded GHP, we still have a steering group of partners who are keen to explore what the GHP can look like in Dundee in the future. We are currently looking to meet with other colleagues who may have an interest in supporting the 'social prescribing' aspects of the GHP, to actively support local people in their local area with nature based interventions. Our overall ambition is to have green health built into existing structures and delivered as part of a menu of options for local people.

## Box 2: Highland Green Health Partnership – Think Health Think Nature

[Think Health Think Nature](#) is the public facing work programme of the Highland GHP. Highland has a challenging climate and geography covering a third of the Scottish land mass, with some of the most sparsely populated communities in the UK. Our partnership therefore focused on addressing rural needs and reducing health inequalities. While there may be a perception that Highland has plentiful greenspaces, there are issues around equality of access and barriers to participation.



In 2019, we commissioned local voluntary organisations to map green health provision across Highland and created an online [directory of services](#). This assisted in identifying gaps and priority areas for action. Between 2019 and 2023, we developed locality networks to encourage pathways and opportunities that took account of local structures and need. We supported 98 community groups with small grant funding to build capacity and provision in areas of need. We also worked in partnership with High Life Highland on a LEADER funded project which delivered several events and funded 12 community groups to distribute over 2000 [Green Health Home Packs](#) to vulnerable households. Other key strategic partnerships with Cairngorms National Park Authority and RSPB have significantly increased community impact.

We explored the implementation of referral pathways from healthcare into green health activities through four pilot projects, recognising that the variation in service delivery and support across the region meant there was no one-size fits all approach. Through this work we gained insights and experience and developed [toolkits, guidance and resources](#).

### Our successes include:

- Creating networks of learning
- Training and skills development – capacity building among service providers
- Tackling inequalities through small grants scheme
- Toolkits and guidance
- Engagement of health staff
- Collation of [case studies](#)
- Integration into policy and practice
- Supporting the development of Nature Prescriptions programme in Badenoch and Strathspey.

### Key learning points have been:

- Communities are integral to the long-term success of referral pathways
- Short-term funding cycles leave initiatives vulnerable
- Support of a Development Officer is essential to coordinate action
- Link workers play an essential role in making referral pathways successful
- Referral pathways can come through a variety of routes and not all need be healthcare led

- IT systems to capture and monitor information need to be in place and consistent across stakeholders
- Self-led resources and promotion of information is valuable where there are few organised groups available.

In 2024, Highland GHP published their [Sustainability Action Plan](#) to continue the work including through our Community Planning Partnership structure where we have published [guidance](#). Our renewed vision is that:

‘By 2030, the natural environment will be valued as essential for the health & wellbeing of the people of Highland. We will work together to support individuals and communities to connect with and enjoy nature, while safeguarding our natural spaces and promoting inclusion.’

We have joined forces with Highland Adapts, the Highland Environment Forum and the Highlands and Islands Climate Hub to launch a [Charter](#) for individuals and organisations in Highland to sign-up, committing to take action for climate, nature and health.

## Box 3: Lanarkshire Green Health Partnership

The [Lanarkshire Green Health Partnership](#) (LGHP) was established in March 2018 and comprises of a wide range of health, social care, third sector and voluntary local and national partners working together to connect people with nature through a range of activity. LGHP was formally launched by the Cabinet Secretary for Communities and Local Government at an event in September 2018.



The aim of the partnership is to coordinate making more use of green spaces for public health benefits, improve information about, and awareness and promotion of, green infrastructure, as well as the provision of supportive green health programmes across Lanarkshire.

Lanarkshire GHP has been successfully integrated into service delivery via a sustainable post positioned within NHS Lanarkshire's Health Improvement department. Other aspects of the work, primarily around delivery of green health interventions by partners, remains reliant on short term and uncertain funding.

Over the past 5 years the LGHP has built capacity and profile by:

- Integrating green health within the Lanarkshire Weight Management Service
- Recruiting a new team leader for green health & weight management
- Securing a permanent contract through Voluntary Action South Lanarkshire for the current green health volunteering development officer
- Providing funding contribution to Voluntary Action North Lanarkshire to recruit a green health volunteering officer
- Providing funding contribution to North & South Lanarkshire Councils to recruit a Get Walking Lanarkshire coordinator and Get Walking Lanarkshire assistant
- Providing funding contribution to appoint a communications and marketing officer
- Securing funding for the community hospital growing programme delivered by Clydesdale Community Initiative over a 5-8 year period. This was supported by NatureScot for three years, NHS endowment funding for one year and is currently funded by NHS Charities Together & Greening Communities fund until June 2026
- Achieving an "Outstanding contribution to collaboration for working in Partnership" from the NHS National Service Scotland
- Leading and delivering on the greenspace work stream for NHS Lanarkshire's Sustainability strategy
- LGHP Strategic group is chaired by the Director of Public Health and the quarterly implementation group continues to include multi sector representation from key stakeholders
- NHS Lanarkshire have appointed a Biodiversity & Horticultural Officer who is working with the LGHP to develop community usage of NHS greenspace and increase biodiversity.

As a partnership we recognise the importance of an integrated approach and the LGHP will continue to develop opportunities and pathways to ensure individuals within our communities are able to engage in such activities.



## Box 4: North Ayrshire Green Health Partnership

North Ayrshire has a mix of rural, urban, coastal and island communities, some of whom live in the 5% most deprived communities in Scotland. North Ayrshire is served by NHS Ayrshire & Arran who led the programme following a successful [NHS Greenspace Demonstration Project](#) at University Hospital Ayr/Ailsa (South Ayrshire); and woodland management, planting and path creation at Ayrshire Central Hospital (North Ayrshire).



[The North Ayrshire Green Health Partnership](#) (NAGHP) was established with the endorsement of the North Ayrshire Health and Social Care Partnership (NAHSCP) and the Community Planning Partnership (CPP), with governance via the Active Communities Strategic Partnership. The partnership delivered across the 3 key themes of ONHS. Keen to build on existing provision and recognising the importance of community-based grass roots activity, there was a strong focus on Locality Planning Priorities and the [Local Outcome Improvement Plan](#) themes.

### Key defining features and achievements of the NAGHP were:

- **Partnership and collaboration via a multi-agency / multi-disciplinary Steering Group**
- **Introducing an environment sector and community support skillset via the GHP Senior Project Officer:** The post was hosted and managed by The Conservation Volunteers, with support from the Steering Group.
- **Investment in communities via the Green Health Development Fund (GHDF):** Building grassroots provision and supporting community groups was a high priority for the partnership. Around £114K was distributed to 47 community initiatives addressing locality priorities and targeting vulnerable groups.
- **Sharing knowledge, skills and resources via the Green Health Network:** This was initially for groups funded by the GHDF but quickly became an opportunity for anyone interested in green health, with 13 events delivered online and across the six localities in North Ayrshire.
- **Investment in capacity building to increase delivery locally:** This included the creation of KA Leisure Walking for Health Co-ordinator, TCV Healthy Active Journeys and Natural Health Senior Project Officer posts; and Sustrans Active Travel Workplace Engagement Officer.
- **Exploring options for green health referral and signposting:** This was already established via Community Link Workers in primary care and green health options were introduced to the KA Leisure Active North Ayrshire exercise referral programme. A pilot also took place using the Senior Project Officer as a contact for referrals via a Realistic Medicine Pharmacy Pilot.
- **Expanding communication and green health promotion:** via social media; talks/ presentations, supporting events and delivering Green Health Week.
- **Developing and sharing resources:** including the [NAGHP Website](#), a weekly events calendar, calendar of activities to guide activity, leaflets, posters, short films and information to support staff making green health referrals.
- **Capturing information, stories and knowledge:** this included GHDF follow up and associated case studies.

We commissioned the development of a Green Health Strategic Framework for North Ayrshire, pulling together the strategic context, evidence underpinning green health as well as the learning, key achievements and activities generated by the GHP. It sets out a vision, principles and goals for green health going forward in North Ayrshire aligned to the CPP priorities of Wellbeing, Work and World. This will be underpinned by the need to consider how best to continue to increase participation of local people in nature based activity; integrate green health into policy and strategy and continue to improve the provision, quality and accessibility of local greenspaces.

### **Key challenges and learning in the Framework include:**

- Green health is increasingly embedded in local policies and plans, but corresponding capacity and core resources are not always aligned accordingly.
- Sustaining funding for dedicated posts who can lead, co-ordinate and operationalise green health planning and delivery is challenging, particularly with current budget pressures.
- Sustaining funding for third sector and community groups is also an ongoing challenge which places increasing pressure on communities and volunteers to find solutions.
- Gathering useful empirical data from a wide range of players is challenging, therefore finding other ways of capturing knowledge and stories of change is important.
- Green health is one strand of social prescribing. Therefore, it may be more sustainable to develop a wider social prescribing system with green health integrated into it.

The [North Ayrshire Green Health Framework](#) has been developed as a legacy of the North Ayrshire Green Health Partnership. It has been endorsed by the CPP Board and will report within the Wellbeing theme of the Local Outcome Improvement Plan (LOIP), although it is recognised as having potential to influence across the other key themes of World and Work.

Inevitably, the delivery of some projects was impacted by COVID-19 restrictions, but many GHP projects were re-purposed and helpful resources were developed to communicate key messages about the benefits of contact with nature and to promote more use of local greenspace. Each of the GHPs also produced 'Keeping Healthy in the Outdoors during COVID' videos, organised walking challenges, and distributed 'Green Health' packs to encourage outdoor exercise and an interest in nature.

All of the Partnerships experienced a degree of staff turnover during the pilot phase affecting leadership roles and project staff. This had some short-term impact on delivery, momentum and stakeholder relationships while new staff were recruited.

At the end of the three-year funding period, the project evaluation and on-going discussion with the GHPs confirmed that strategic work towards mainstreaming of pilot activity had also been impacted by the pandemic and would require more time to gain traction. Between 2022 and 2024, a further 2 years of core funding of circa £100,000 per year was therefore provided to three of the four partnerships, with the fourth (and longest running partnership) in Lanarkshire being integrated into the structure and funding of the board's health improvement department.

This second phase of programme delivery embraced further action to develop and mature green health delivery in each of the three areas and the strategic development required to build the connections locally to create the case for mainstreaming the work in the longer term. As well as NatureScot and Transport Scotland, this further two years of funding was also supported by the Active Scotland Division in Scottish Government. This final two years of funding ended in March 2024. At the time of preparing this report, each of these partnerships remain active and are working to embed green health into their local health and community planning structures.

## Part 3 – Impact and Evaluation

The impact of the pilot GHPs has been assessed in various ways throughout its five years, including a qualitative appraisal after year 1, quantitative assessments for years 1-3 underpinned by an evaluation framework; and a National Institute for Health and Care Research (NIHR) funded evaluation of the green health prescriptions in years 4-5.

### Evaluation Framework

At the outset of the GHP pilot programme an Evaluability Assessment (EA) of the GHPs and the wider ONHS programme was carried out by the University of Glasgow with Public Health Scotland to understand how best to evaluate these initiatives.

The EA process concluded that the scale of investment (across the 4 GHPs) did not justify large scale primary health data gathering at that stage. Instead, the EA advised that the level of engagement was perhaps the strongest measure of effect in the early stages, and it was recommended that evaluation of the GHPs for years 1-3 should therefore focus most on processes: recording participation and engagement of local service providers and agency staff in the delivery and dissemination of GHP activities, participation of the public in events and schemes delivered by the GHPs, and contextual constraints and enablers of change.

A logic model, which presents the relationship between goals, activities, and short, medium and long-term outcomes of the program (Figure 3), was developed during the EA. This set out the kinds of activities that GHPs might undertake to generate the outcomes sought.

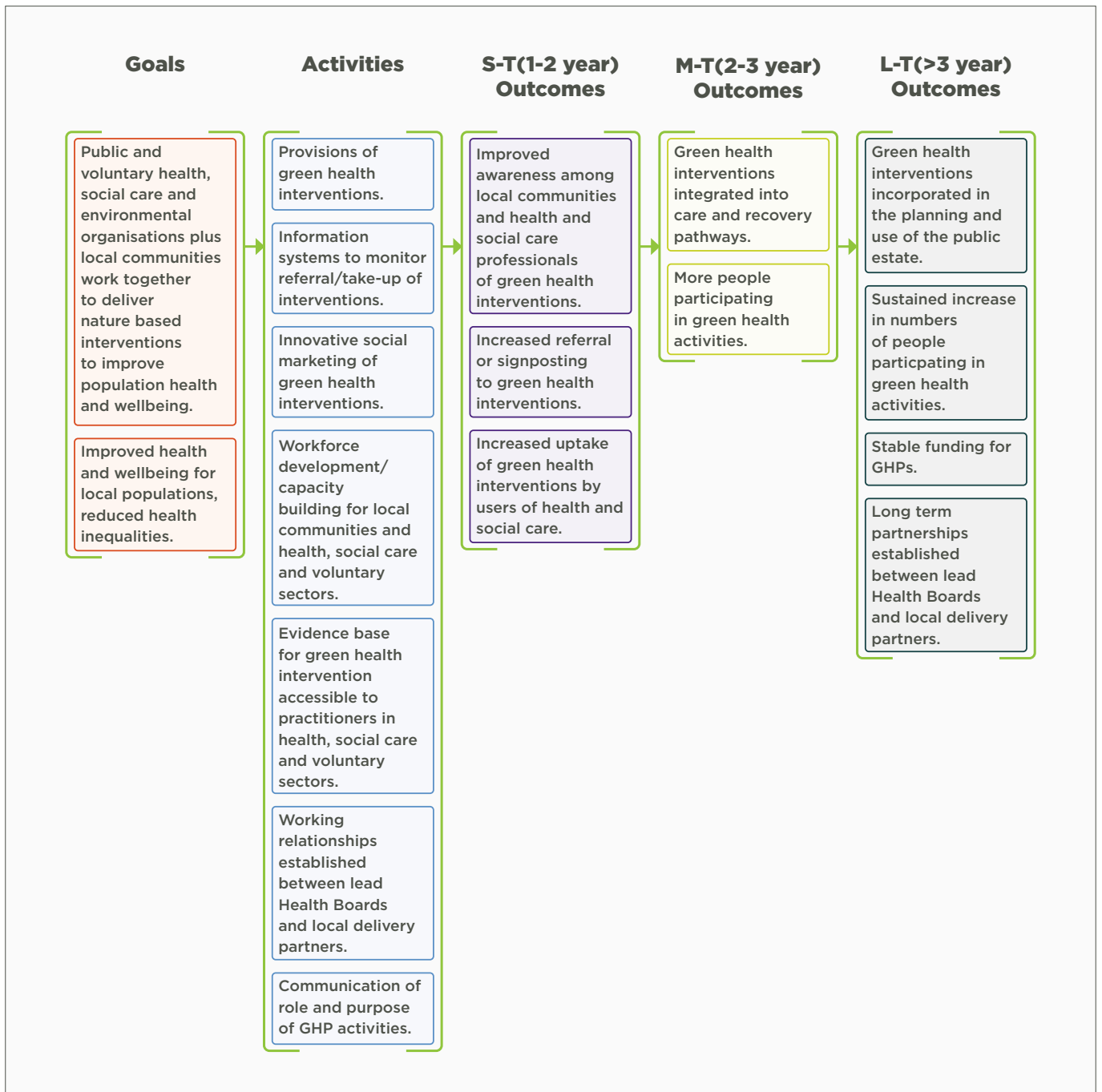


Figure 3: The logic model developed during the Evaluability Assessment which shows the relationship between the goals, activities, and short, medium and long-term outcomes of the program.

For the evaluation, the GHPs worked with the University of Glasgow and NatureScot to produce a set of more defined activities and core measures to measure progress for these activities (Table 1). This more defined set of activities and core measures drew on the operational experience of the GHPs as well as their capacity to collect certain data in a consistent and robust way. Data collection was piloted and refined to simplify and further standardise the data collection process.

Activities	Core measures
Facilitate and support the provision of a range of green health interventions/ opportunities	<ol style="list-style-type: none"> <li>1. Changes in the number and range of delivery partners offering green health interventions/ opportunities within GHP area</li> <li>2. Changes in the number and range of opportunities for people to participate in green health activities within GHP area</li> <li>3. Changes in the overall number of people participating in green health activities in GHP area</li> </ol>
Deliver local workforce development/ capacity building for local communities and for practitioners from the health, social care and voluntary sectors	<ol style="list-style-type: none"> <li>4. Changes in health &amp; social care workforce's awareness of the benefits and options for connecting people to nature</li> <li>5. Changes in capacity and skills of community-based organisations to contribute to GHP objectives and deliver green health opportunities</li> </ol>
Establish information systems to monitor referral and take-up of local green health interventions	<ol style="list-style-type: none"> <li>6. Changes in the number of pathways in Health and Social Care services linking into green health interventions</li> <li>7. Changes in the number of referrals made to green health interventions</li> <li>8. Changes in the number of people taking up green health intervention referrals</li> </ol>
<p>Raise public awareness of local green health interventions/opportunities</p> <p>Communicate the role and purpose of the GHP to local policy &amp; decision makers and health &amp; social care professionals</p> <p>Make the evidence base for green health accessible to local communities and practitioners in the health, social care and voluntary sectors</p>	<ol style="list-style-type: none"> <li>9. Changes in the number and range of promotional tools used to market green health interventions/opportunities to the public</li> <li>10. Changes in the number and range of promotional tools used to engage policy/ decision-makers and health &amp; social care professionals in the work of the GHP</li> </ol>
Establish working relationships between Area Health Boards and local delivery partners	<ol style="list-style-type: none"> <li>11. Changes in the number and range of strategic policies and plans in which GHPs are embedded</li> </ol>

Table 1: The evaluation framework developed to measure progress against the aims of the pilot Green Health Partnerships.

## Year 1 Qualitative Assessment

To supplement the collection of quantitative data by the GHPs, a [qualitative assessment](#) of stakeholders' views on the progress of the GHPs during their first year of delivery was also commissioned from Edinburgh Napier

University. This involved telephone interviews with key strategic-level stakeholders and focus groups in each of the GHP areas with operational partners. The conclusions were broadly positive and helped to reinforce the approach taken to the quantitative evaluation. Key findings included:

- Employment of Green Health Partnership project officers was seen as pivotal to success as they provide focus, knowledge, and time to help develop green health interventions.
- GHPs identified a need to engage politicians and healthcare professionals at both a local and national level as green health champions.
- Stakeholders suggested that more focus on the mental health benefits of green health activities would increase strategic importance of the GHPs.
- Stakeholders were concerned about the short-term nature of GHP funding and about expectations for intervention delivery from third sector, community, and voluntary organisations.

## **Year 1-3 Evaluation Report**

The substantial task of sourcing and recording the quantitative data was undertaken by the GHPs, with coordination, cleaning, analysis and interpretation of the data undertaken by NatureScot and the University of Glasgow who prepared a combined year 1-3 report: [Green Health Partnerships in Scotland – evaluation of the first three years](#).

This report concluded that, collectively, the GHPs had achieved connections across social, economic and clinical policy and practice, and delivered substantial local activity. The GHP model was considered to have been effective at facilitating green health opportunities, awareness, and capacity-building activities across sectors. Key quantitative findings include:

- GHPs facilitated or promoted nearly 550 opportunities for green health activities across all three of the ONHS ‘types’ of interaction with nature (everyday, promotional initiative, targeted intervention). Participation in these likely increased contact with nature and introduced new users to nature.
- GHPs undertook more than 440 awareness raising and capacity building activities with the data showing more than 11,500 health and social care, and nearly 8,000 green health delivery staff were engaged. The numbers and range of nature based health promotion activities and referral pathways increased over time, showing health professionals became aware and involved.
- The GHPs reported 63 referral pathways established or facilitated. These were for a variety of client groups / health problems or situations, including clinical therapies such as cardiac rehabilitation and cancer care.
- Around 300 public-facing outreach and information activities were completed.
- Green health / the GHPs were mentioned in 58 local policies and plans, including those focused on health. This is an important marker of mainstreaming and cross-sectoral reach.

This report included an assessment of progress towards each of the five GHP aims by the end of year 3. The conclusions are summarised in Table 2 below. Overall, progress towards each aim or goal had been substantial, with certainty of progress established for some of them.

GHP Aim	Evidence	Achieved? Certainly not X X X Very unlikely X X Unlikely X Likely ✓ Very likely ✓✓ Certain ✓✓✓
1. An increase in the number of people having contact with nature.	GHPs facilitated a substantial number and variety of opportunities for green health activities across all 3 of the ONHS 'types' (everyday, health promotion, targeted intervention). Participation in these likely increased contact with nature and introduced new users to nature.	✓
2. Greater awareness in health professionals of the contribution of nature based health promotion and interventions to physical and mental health and wellbeing.	GHPs undertook a substantial number of awareness raising and capacity building activities with the majority reaching health and social care staff. The numbers and range of nature based health promotion activities and referral pathways increased, showing health professionals were aware and involved.	✓✓✓
3. Public Health and Health and Social Care sectors routinely embracing nature based health promotion and interventions for prevention, treatment and care.	Numbers of activities classed as nature based health promotion rose, numbers of referral pathways increased and diversified. Important clinical groups now have referral pathways in place.	✓✓
4. Greater public awareness of the benefits and opportunities for contact with nature as part of everyday life.	Very large numbers of public outreach and information activities completed. Presence of mass media and government campaigns during Covid-19 will have boosted GHP efforts.	✓
5. Nature based contributions to health mainstreamed and funded sustainably.	Green health and GHPs mentioned in large numbers of local policies and plans, including those focused on health. Lanarkshire GHP is sustainably funded. Other three GHPs remain refunded via NatureScot	✓✓✓

Table 2: Summary of the progress made towards each of the five GHP aims by the end of year 3.



## Public Health Evaluation – Years 4-5

At the outset of the programme, the evaluability assessment (EA) recommended that measuring and attributing contribution to health improvement and reduction in inequalities should only take place once GHPs had been successfully established and had their delivery and reach assessed. Further research was therefore carried out by the University of Hertfordshire during Years 4 and 5, following a successful joint application by the GHPs to the Public Health Intervention Responsive Studies Teams (PHIRST) programme, funded by the National Institute for Health and Care Research (NIHR).

The research sought to evaluate the green referral pathways that were at varying stages of implementation in Dundee, Highland and North Ayrshire, through a series of interviews with referrers, link workers, activity providers, and service users across the three GHP areas to gather detailed feedback. The aim was to investigate:

- if green health prescriptions were considered to be acceptable, practical, effective, affordable, beneficial to people or groups equally, and if there were any negative side-effects; and
- whether green health prescriptions increase contact with nature, improve health and wellbeing, and have an impact on health inequalities.

The detailed feedback from staff and service users of their perceptions and experience of using green health prescriptions enabled the researchers to draw several conclusions, including:

- Staff and service users generally found the concept of using green spaces and green health prescriptions acceptable, and there were reported improvements in a wide range of physical and mental health, and social outcomes for service users.
- The green health prescriptions were considered affordable in terms of the limited (if any) cost to attendees of the green health activity sessions.
- The main barrier for staff, particularly those referring people into the programme, was the lack of strong underpinning IT infrastructure in terms of noting that a referral had been made, communication with link workers, and feedback and data capture to reflect on service user progress.

The evaluation report made several recommendations that would lead to further improvements, including the need for improved IT systems to support better data capture to track and evidence outcomes. It also highlighted the need to invest in:

- an ongoing programme of training and support for staff across the system to know how, what, and where to refer and to be able to confidently champion green health; and
- long-term funding for staff to maintain what is available and identify new opportunities to build the portfolio of activities on offer.

Examining the staff time and costs involved in processing a green referral in Dundee to match an individual to a suitable green health activity, the research was able to conclude that a green health prescription typically cost £49 (ranging from £26-£61), based on 2022/23 actual Dundee staff costs. While this did not include the costs of staff (e.g. a GP) making the initial referral and other background activities required to deliver the pathway, the costs are comparable or better than those reported for physical activity.

The published research briefing and infographics from the evaluation can be accessed here: [Green Health Prescription Evaluation \(GRAPPEL\) for Dundee, Highland and North Ayrshire.](#)

## Part 4 – Next Steps for GHPs and Related Green Health Activity

The overall purpose of the pilot GHP intervention was to demonstrate the added value of collaborative and co-ordinated working and more effective use of nature based activity within the health sector for delivering health outcomes. The monitoring and evaluation exercise demonstrated that an increase in cross-sectoral collaboration and awareness of the potential contribution of nature to health has been achieved in the GHP areas.

Going forward, the GHP model can be considered effective at facilitating green health opportunities, awareness, and capacity-building activities across sectors. However, the pilots have ably demonstrated that the model needs to be tailored to local circumstances and priorities, rather than adopting a one size fits all approach. In these terms, the pilot has been highly successful and demonstrated the potential for wider roll out.

The impact of this programme can be seen in the development of a range of similar green health partnerships and other green health activity elsewhere across Scotland, many increasingly funded through health budgets. Inspired by engagement with the NHS Greenspace demonstration project, NHS Lothian published its greenspace and health [strategy](#) in 2019 (updated for 2023-28), with the core aim of maximising 'Lothian's Natural Health Service'. Implementation, including the development of a green health prescribing programme, has been supported and led by NHS Lothian Charity's Green Health Programme Team. Green health initiatives have been developed in other locations in the same Health Board area as the GHPs, including NHS Tayside (Angus and Perth & Kinross) and South Ayrshire (NHS Ayrshire & Arran), where a [Green Health app](#) and green health calendar helps link individuals with local green health activities. Building on work piloted by Highland GHP, nature prescriptions are now available from health and social care practitioners in Badenoch and Strathspey, as part of the National Heritage Lottery funded Cairngorms 2030 programme. Within the voluntary sector, RSPB have been delivering their [nature prescription programme](#) in Shetland, Edinburgh and more recently Orkney and Lanarkshire. Elsewhere in Scotland, green health initiatives have been developed in Fife (River Leven) and options have been explored for a partnership initiative in part of Glasgow.

In seeking to maximise the health outcomes of existing or proposed nature based activity, the intervention was relatively low cost compared to conventional health programmes. In addition, it can help deliver outcomes for climate and nature. As such, it has delivered in practice many of the recommendations of the Christie [report](#) on the future delivery of public services, for example, stronger cross sector working by public bodies and the third sector (i.e. local and national health and environment partnership); services designed with and for people rather than top down (i.e. linking grassroots community initiatives to core public health provision) and maximising scarce resources by using available public/third sector resources to deliver multiple aims (i.e. delivering for health, climate and nature). While beyond the scope of the programme, further assessment of its cost effectiveness (e.g. cost of green health paths compared to conventional treatment; decreased drug prescription; savings from taking a preventative approach; valuing the community and

environmental benefits etc.) and the longer-term impacts on health and wellbeing would be useful areas for further research.

The links between health, climate and nature also now regularly feature in national policy, with recognition of green health partnerships and related green health activity in recent publications such as:

- [Physical Activity for Health: Scotland's National Framework](#)
- [NHS Scotland Climate Emergency and Sustainability Strategy](#)

The latter includes several key steps for NHS Scotland and Public Health Scotland to continue to mainstream green health partnerships and related green health activity in routine health practice. These include the development of a learning network / community of practice to share experience and good practice across the green health initiatives in Scotland; new guidance on establishing green health initiatives across Scotland; funding for new GHPs; and action to improve and make more use of NHS greenspace for green health activity.

To realise the potential of green health partnerships and similar green health activity, it will be important to learn the lessons from the evaluation of the pilot GHPs. Further work may be needed to look at the costs-benefits of these interventions from both a health and environmental perspective. Perhaps more importantly will be a more strategic, joined up and longer-term approach to investment in the providers of green health activity and the nature-rich settings needed for it.

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