6 Critically exploring public realm greenspace as a therapeutic landscape and the role of Green Social Prescribing

Jessica Thompson, Michelle Howarth, Michael Hardman, and Penny Cook

Everybody needs beauty as well as bread, places to play in and pray in, where Nature may heal and cheer and give strength to body and soul. This natural beauty-hunger is displayed in poor folks' window-gardens made up of a few geranium slips in broken cups, as well as in the costly lily gardens of the rich, the thousands of spacious city parks and botanical gardens, and our magnificent National Parks.

John Muir (1908)

Introduction

Nineteenth-century pioneer conservationist, John Muir, is perhaps best known for his writing on the virtues of being immersed in the North American wilderness. Muir (1908) was a true advocate of the therapeutic properties of the wild landscape – provided there weren't too many people or tourists! – away from the hustle and bustle of the emerging towns and cities. And yet, in the quote which opens this chapter, Muir moves away from the wilderness and brings to the fore the importance, the innate need, the 'beauty-hunger' felt by rich and poor alike, to have a connection with nature in areas of human habitation. Muir acknowledges, too, the differences between the fortunate and less fortunate in their attempts to forge their own connection with the natural world in their day-to-day lives. Muir was not alone in his thinking. At around the same time, British urban planner Ebenezer Howard founded the garden city movement with his publication, *To-morrow: A peaceful path to real reform* (1902), which aimed to reduce the disconnect experienced by humans and society from nature, particularly amongst the working classes. Howard incorporated the principle of integrating public realm natural environments into British social housing developments for the benefit of those who would become occupants. What both pioneers had in common was insight and passion for the therapeutic properties that an everyday natural environment can offer.

The connection between humans and nature was highlighted in Edward O Wilson's 'biophilia hypothesis' in 1984. Since that time, evidence confirming that natural environments benefit humans has accumulated, and a range of theories further explicate this hypothesis. In 1992, health geographer Wilbert

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Gesler introduced the idea of a 'therapeutic landscape' which can promote wellness and healing. Since 2020, the advent of COVID-19 has had a remarkable effect on communities globally and influenced a revived interest in and recognition of the value of the natural world and green spaces for wellbeing (Burnett et al. 2021; Gray and Kellas 2020).

This chapter explores the concept of, and presents the case for, public realm greenspace as a therapeutic landscape. We argue that the act of cultivating this landscape is a means by which to offer opportunity for wellness through access and interaction. Civic environmental participation relies on pathways to nature-based activities designed to cultivate, or nurture, the landscape at a neighbourhood level. Green Social Prescribing (GSP) is a relatively new health initiative to connect those with a health or wellbeing need through a 'prescription' to activities associated with the cultivation of public realm greenspace, particularly in the urban context, with the aim of improving health and reducing the burden on health care systems. This chapter brings together narratives from the environment sector, public health and health geography to understand the relevance of GSP in the green public realm landscape in the wake of COVID, an era now alert to climate and biodiversity emergencies and rife with chronic health and mental health issues. The chapter will discuss why it is that the environmental 'third sector' (i.e., non-governmental and non-profit-making organisations) is driving forward the GSP movement, rather than the health sector. We draw upon case studies based in the northwest of England to reflect on practice issues that may influence the success of GSP in the long term.

Public realm greenspace: Therapeutic or a collection of hot spots and grot spots?

At first glance, the concept of public realm greenspace as a therapeutic landscape might seem a little far-fetched. Public realm is defined as a space that is free and open to anyone (MDAG 2022), while green public realm (defined in this chapter as 'greenspace') consists of the openly accessible green infrastructure found at a neighbourhood level, scattered in and around our towns and cities (Benedict and McMahon 2012). Typically, in the Global North, this is made up of component parts, such as formal parks, urban countryside, and Local Nature Reserves, but also informal recreational grounds, small-scale incidental woodlands, and community orchards. Its collective sense of scale as a 'landscape' is probably rarely considered outside of Local Government Planning departments or strategic bodies centred on green infrastructure and natural capital. To most users, public realm greenspace may be experienced on a practical level, and consciously perceived as singular places found at pavement scale. Perhaps the more enthusiastic user may seek to discover and utilise any linkages and/or green connections between component parts, in pursuit of safer, greener active travel (walking, cycling) routes. Furthermore, particularly within the urban setting, public realm is not always of good quality, but often a product of poor design and lack of management and maintenance, giving a

'grotty' (unpleasant, poor quality) appearance. This begs the question of whether this type of landscape could indeed offer therapeutic properties to the user? Urban greenspace is subject to the complexities of social economic factors and anti-social behaviour that may lead, at best, to a smattering of litter and, at worst, areas of 'fly-tipping' (illegal dumping of large amounts of waste). This is a stark contrast to Muir's 'costly lily gardens of the rich' (1908, p. 5), many of which are now private or charity-run formal gardens. Relatively speaking, these are well resourced, well staffed, and well managed. Such enclosed places have been meticulously planned and maintained to present a landscape where nature is cultivated, sculpted, and designed to be beautiful, calming, restorative, and therapeutic.

Whilst public greenspace may not always score highly aesthetically, its value lies in the opportunities it offers local residents to engage in civic environmental participation that is based on cultivating the landscape at the neighbourhood level: for meaningful activity, for placemaking, and for improved health and wellbeing. We argue that there is value in both the process (nature-based activities) and the product (better quality green provision), influencing the fabric of people's lives and livelihoods.

Cultivating the landscape through civic environmentalism

Civic environmental activity is the process by which people voluntarily take part in in developing, improving, nurturing, and maintaining public realm urban green spaces. The ways in which people take part, the activities they partake in, and the pathways to participation vary. Activities are nature-based and may include, but are not limited to, planting trees, low-level woodland management, habitat improvement, and street greening. What links all these activities is a drive to improve the quality of greenspace and green provision found at the neighbourhood level. This may be defined as *civic environmentalism* – 'voluntary communal actions undertaken to promote ecosystem sustainability' (Townsend 2006, p. 111). These actions are driven not only by reasons related to ecosystem sustainability or re-wilding, but also for wider benefits, including social cohesion, learning new skills, and outdoor exercise (Hansen-Ketchum and Halpenny 2011; Lovell et al. 2015; O'Brien et al. 2011).

The journey to social prescribing: A shift in paradigm

Social prescribing is part of this personalised care approach, which uses a streamlined system designed to refer people with a non-clinical need to an asset in the community for support. The UK National Academy of Social Prescribing (NASP) defines social prescribing as a way of 'supporting people, via social prescribing link workers, to make community connections and discover new opportunities, building on individual strengths and preferences, to improve health and wellbeing' (NASP 2020, p. 7). This approach is predicated on a 'salutogenic' paradigm that asks, 'What makes people healthy?' rather than,

'How do we treat disease?' (Antonovsky 1987). Salutogenic approaches are those based on a person's strengths rather than their deficits (Henry and Howarth 2018). Social prescribing has emerged as one way to promote the benefits of nature to communities.

The notion that nature can promote wellness has influenced contemporary national and international health care policy and practice. This has largely been inspired by an international social movement which aims to limit the dominant medical paradigm of 'fixing' people through clinical treatments. An example of this movement can be observed in the United Kingdom, through the introduction of the National Health Service (NHS) Plan (2019), which emphasises supporting the health *and* wellbeing of people and communities. Predicated on the need to combat the development of long-term conditions, the NHS Plan has used this paradigm shift to manage demands placed on primary care. Significantly, the NHS Plan signalled a sea change in the way health is promoted, advocating a response which is reliant on a 'personalised' approach that considers the wider determinants of wellbeing and the priorities of the person. In parallel, a social movement to promote non-clinical approaches to wellbeing has been acknowledged as an approach that prioritises what matters and is important to the individual, rather than the more traditional medical model, which advocates a priority over what the matter is (NHS 2019). In doing so, the NHS Plan and subsequent proliferation of 'asset-based' approaches (i.e., where individual and community knowledge, skills, and capacity are acknowledged and valued) have ensured that the wider determinants of health and wellbeing are assessed and considered as part of a health promotion strategy.

Green Social Prescribing: A pathway to wellness

One niche aspect of social prescribing which has been gaining popularity as a non-medical intervention is Green Social Prescribing (GSP), which 'links people to nature-based interventions and activities, such as local walking for health schemes, community gardening and food-growing projects' (NHS England 2022). It is understood that nature-based activities that are socially prescribed can support diverse population groups, in a range of contexts (Howarth, Lawler and Da Silva 2021). For example, GSP can help to reduce health inequalities (NHS England 2022), reduce social isolation (Howarth et al. 2016), and improve physical activity (de Boer et al. 2017). Typically, asset-based GSP approaches use a range of interventions to empower individual resilience through community support, which increasingly includes access to, and engagement with, nature. There is mounting evidence for advocating contact with nature as an effective salutogenic social prescription to promote health and wellbeing (Howarth and Lister 2019). Several papers have evaluated the impact of GSP on people with chronic conditions; for example, Howarth et al.' (2021) qualitative study explored the benefits of a Royal Horticultural Society (RHS)-led wellbeing programme. This found that gardening using structured approaches can

have a transformational impact on individuals, by providing space to recover, think, and connect. Other forms of GSP are observed through 'care farming' programmes, which use farming practices to help support the mental, physical, emotional social wellbeing of an individual (Bragg and Leck 2017). In another study, de Boer et al. (2017) reported that the physical activity, social engagement, and active connection of nursing home residents on a green care farm were significantly higher than for residents living in traditional nursing homes.

The global evidence for GSP has grown over the past decades, culminating in the publication of systematic reviews (see Kunpeuk et al. 2020; Lu et al. 2020) and scale-up studies to understand practical and sustainable solutions. In Australia, 'wilderness therapy' has been found to have a range of positive benefits (Nevin et al. 2018). The benefits of nature and, in particular, the positive impact on the relationship dynamic between the therapist and the client, are thought to make the therapy multi-dimensional (Horn 2021). The benefits of nature have also been reported for diverse populations. In Denmark, for example, Poulsen and colleagues' (2018) qualitative study reported that nature-based therapy enhances social activity and employment for veterans suffering from post-traumatic stress disorder (PTSD). In Japan, research into 'forest bathing', which helps restore physical and psychological wellbeing through exposing the five senses to nature, has repeatedly demonstrated positive effects on physical and mental health (Wen et al. 2019). Hence, the value of nature is recognised as a natural asset that can be used to support wellbeing for a range of populations. Access and interaction with nature presents an ideal non-medical opportunity to underpin GSP, enabling access to green spaces and activities that can help improve mental health, reduce stress, and reduce social isolation (Cook et al. 2019; Howarth et al. 2016).

Social Prescribing has recently been integrated into the United Nations (UN) Sustainable Development Goals (SDGs). In 2021, the Global Health Social Prescribing Alliance (GHSPA) was formed to help support the implementation of the UN SDG3, which aims to work globally to ensure 'healthy lives and promote well-being for all at all ages' (UN 2022). The Alliance established a global working group to promote social prescribing through collaborative working and change through innovation (GHSPA 2022).

In this Anthropocene era, the drive to maintain ecological stability in the face of climate change is compelling. Organisations globally are faced with the stark reality that our natural environment impacts human health and wellbeing. Indeed, the highest priority for global public health is to collaborate to promote and protect the natural environment and combat climate change (Cook et al. 2019). Salutogenic approaches to social prescribing that promote nature-based activities provide an opportunity to bring people together in nature.

Developing GSP has been a rocky road, however. Critical practice issues, including a complex mix of evidence standards, a health sector rooted in traditional paradigms, and the funding challenges faced by the third sector, have all played a role in the GSP journey. These critical practice issues are addressed in more detail further into the chapter.

The context: Poor health, climate change, biodiversity decline

Several narratives support the rationale for public realm greenspace as a therapeutic landscape and transform this notion beyond the realm of the conceptual into something tangible and important. These narratives are intrinsically linked and highlight a convergence of health, geographical, socio-economic, and environmental issues.

Public health

The role of public health is to prolong healthy life and healthy communities; in doing so, it must address health inequities (Acheson 1988). A health inequality occurs when particular groups, such as those of lower socio-economic status, have significantly worse health outcomes in comparison to other groups in the broader community. For example, the life expectancy of low socio-economic status individuals can be up to ten years lower than for individuals from wealthy backgrounds, even after controlling for risk behaviours, such as diet and physical activity (Elo 2009; Marmot 2013). The public health professional seeks to intervene to improve these outcomes; one resource that can be used to promote health and wellbeing is the natural environment. It has long been understood that increased exposure of a population to greenspace is linked to lower rates of morbidity and mortality (de Vries et al. 2003; Dennis et al. 2020; Mitchell and Popham 2008) in all groups, but especially in the most economically and socially disadvantaged groups (de Vries et al. 2003; Mitchell and Popham 2008). Unfortunately, the most socially disadvantaged are also the least likely to have good quality green infrastructure (Cook et al. 2019; Diaz et al. 2006).

Human health and the health of the natural environment are inextricably linked. The public health role therefore falls into two main areas: (i) to influence policy, since globally the single greatest priority is working across governments to act against climate change and protect natural environments (Watts et al. 2015); and (ii) to intervene to connect people to natural environments. On the first of these priorities, public health leaders and policymakers within spheres of government collaborate to incorporate health considerations into environment and sustainability strategies, and vice versa. For example, the UK's environment strategy incorporates human health and wellbeing goals (Department of Environment, Food and Rural Affairs [DEFRA] 2018). Health strategies should also include protecting the environment and promoting access to nature. Public health professionals can play a role in ensuring the availability of green spaces of appropriate size, quality, and accessibility for the health of the population. On the second of these priorities, professionals with responsibility for planning health locally should put in place interventions to connect people to local natural environments; for example, using a GSP model. These interventions have a double benefit: not only do they support the health of the individuals participating (Bertotti et al. 2018), but they can also contribute to protecting our natural environment.

Those who are responsible for improving the public's health (and who hold the financial resources to do so) often ask for evidence that a green intervention produces better health. For example, local Clinical Commissioning Care groups who may fund some green interventions require outcomes data to ensure that the service provided is effective – particularly in relation to preventing inappropriate general practitioner (GP) consultations and/or hospital attendances. However, such 'outcomes/proof' is currently lacking – in part, because these interventions are complex and difficult to evaluate. The field would benefit from further research: public health researchers should attempt to quantify health benefits and cost savings, in order to be able to present this evidence for investment to those who commission or pay for health services (Cook et al. 2019). Similarly, obtaining funding for such research can be challenging because of the complexity. Therefore, those who fund research and health interventions in the green space realm must recognise and embrace the complexity.

Health geography

Health geography is a large field of study, involving work ranging from service access in medically underserved areas to public health policy and, more recently, GSP (Curtis and Riva 2010). Brown et al. (2018, p. 2) argue that health geography in its simplest form is 'how the interaction of humans, materials and the environment shapes and constrains health, wellbeing, survival and flourishing'. Schwanen and Atkinson (2015, p. 99) argue that geographers are uniquely placed to contribute to key debates on health and wellbeing due to their often-interdisciplinary stance and focus on 'context and space'. The sub-discipline has expanded rapidly of late, with geographers engaging heavily in work around the COVID-19 pandemic: from using spatial analysis to explore trends and spread to leading debates around healthier cityscapes post-COVID (see, e.g., Andrews et al. 2021; Florida et al. 2021).

The concept of GSP has been explored by geographers for some time, with reflections on interventions such as care farming and community gardening appearing frequently in the literature (see, e.g., Alkon and Agyeman 2011; Holland 2004; Milbourne 2011). Pitt's (2014) ethnographic study on the therapeutic experiences of community gardening helps to illustrate the unique contributions of geographers in this growing area of research. Comparative investigation across several community gardens reveals how 'spatial characteristics influence the extent to which people achieve therapeutic experiences' (Pitt 2014, p. 88), with the author ultimately providing recommendations on how to achieve the most value from these sites. More recently, Gorman and Cacciatore's (2020) analysis of care farming models reveals that structured programmes have a positive impact on participant health, with the authors recommending an upscaling of these sites to tackle inequalities. We argue that geographers are uniquely positioned to draw on an array of interdisciplinary methodologies and spatial tools to review the power of movements such as GSP.

Indeed, similar studies surrounding the health impacts of practices such as allotment and community gardens have risen rapidly of late. As Mitchell et al. (2021) argue, a case study approach to exploring GSP has been favoured by geographers, with research often focusing on specific measures within urban contexts. In the city context, geographers are arguably at the forefront of radical new approaches and are well positioned to reflect on their effectiveness using an array of tools. Cinderby and Bagwell's (2017) longitudinal study of an innovation in urban green infrastructure in central London reveals the immense benefits of these spaces for office workers. Likewise, Taylor et al. (2015) highlight how even urban treescapes offer opportunities within the GSP context, by using mundane landscapes to reduce reliance on antidepressants in city dwellers. Although these studies perhaps do not necessarily conform to GSP in its strictest sense (which often involves structured programmes linked to the environment), they do highlight the exploratory nature of how geographers are engaging with debates and possibilities in this field, and centring much of their work around the urban environment, due to population, development, and associated pressures.

Perhaps, unlike their colleagues in other fields, geographers tend to place a strong critical lens on the role of GSP. Although not against the approach, Bell et al. (2018, p. 2) argue that standardised models that provide a 'homogenous dose' of nature are not ideal. Rather, their critique highlights the need for more individual and often personalised plans for GSP to be effective. The authors argue that more researchers need to adopt such a lens for exploring GSP; they urge prescribers to consider individual needs, as opposed to a one-size-fits-all approach. Adding to this, Mitchell's (2021) analysis of care farming reveals the financial vulnerability of these schemes and how innovative funding models are often required to sustain activities. Their findings highlight the grant-reliant nature of many GSP initiatives and the negative impact on participants of funding cuts. As Schwanen and Atkinson (2015) argue, this critical lens is an important contribution by health geographers to this field; it will be increasingly important, if GSP is to be mainstreamed and upscaled.

Environmental factors

Historically, the natural environment has played a role of muse for beauty, poetry, mythology, religion, and indigenous identity. In the United Kingdom, the role of the natural landscape has entered a unique era. In more recent years, from a practical perspective at least, the role of the natural landscape could be crudely divided into recreation and production (agriculture and timber). Today, the natural landscape, particularly in and around towns and cities, must work harder than ever to be both productive and therapeutic: it not only provides a place for nature, but is also a carbon sink, a sponge for excess rainwater, provides air conditioning and a space for leisure and play, and functions as a container for active travel routes, for example. The realisation of the multifunctional benefits of the natural environment brings with it increased

opportunities for people to become cultivators of the landscape and to access the health and wellbeing benefits of interaction with the natural world. The act of facilitating participation in nurturing public realm environments specifically is not new to the environmental sector; in fact, it has been around since at least the early 1990s (England's Community Forests [ECF] 2022).

In the United Kingdom, the declaration of climate emergencies by both national and local governments, along with challenge of meeting Net Zero across City Regions (GMCA 2022), emphasises the decarbonisation of both commercial and domestic activity. The challenge of meeting Net Zero targets, coupled with real-life, real-time events attributed to a changing climate (such as extreme weather leading to flooding, drought, and wildfires), means that nature-based solutions are now being sought for mitigation and adaptation opportunities. This has led to significant, never-before-seen national investment in initiatives, such as the £640 million Nature for Climate (DEFRA 2021b), which aims to support the acceleration of tree planting and peatland restoration across the United Kingdom. To maximise targets (which in forestry terms amounts to 30,000 hectares per year before the next Parliament), the UK Government has reached beyond the traditional government agencies (such as the Forestry Commission) by commissioning agents, including England's Community Forests network (ECF 2022), to deliver on the acceleration of woodland creation. The shift from traditional forestry practices to valuing a community forestry approach (centred around involving people and geographically linked to towns and cities) is significant. Here, we see a move from a linear, traditional forestry method to a much more multidimensional, outcomes-focused approach that extends beyond the physical geography of the landscape into the social landscape. This provides new opportunities for people to become custodians of the landscape at a neighbourhood level through the act of cultivating; for example, by planting trees or nurturing greenspaces. These nature-based activities have been shown to have multiple health benefits (Hansen-Ketchum and Halpenny 2011; Lovell et al. 2015) and are ripe for the emerging GSP movement.

The climate emergency is not the only pressing environmental issue. A biodiversity crisis has also been declared (DEFRA 2021b) and provides another strategic angle important to the discussion. Scientists predict a loss of one million plant and animal species, some within decades (Tollefson 2019); Nature Recovery strategies have been piloted with the aim of targeting nature restoration across landscapes. Policy is responding, introducing mechanisms such as Biodiversity Net Gain to address the biodiversity agenda (to a degree) in the planning process, with the drive for nature recovery sparking debate around land use and land designation.

It should not be assumed that the strategic agendas concerning climate change and biodiversity neatly align with landscapes and landscape use. In order to achieve either at scale, there is a tipping point of compromise. This becomes a critical practice issue when deciding, designing, creating, and changing landscapes. Until very recently, scheme objectives were largely centred around the wants of the landowner/land manager, with economic return in

rural and semi-rural areas (based on the European Union (EU) Common Agricultural Policy) and regeneration outcomes in urban and peri-urban areas being key drivers. Since the UK left the EU in 2020, a new policy to replace the Common Agricultural Policy has been in development. The anticipated Environmental Land Management (ELM) policy will see a shift to 'payments on public land for public good' and numerous government-commissioned Test & Trials are currently underway. If introduced, ELM will provide a framework, order, and process to landscape and land management, and a shift in paradigm towards land for 'public good' (DEFRA 2021a). It does not yet offer a neat solution to the conflict of land use.

Whilst the issues highlighted here are neither new nor surprising to the environmental sector, the role of the landscape in the context of climate change and nature recovery has stimulated interest from a broader range of sectors, for example, from the public sector and public health through to utility companies and the private sector. Each sector is turning towards nature-based solutions to achieve, in its own way, the triple bottom line pillars of sustainability: economic, social, and environmental factors. This, in turn, casts a spotlight on the potential and capacity of environmental organisations, which are well versed in nature restoration and engaging people in the process of cultivating the natural landscape.

The context highlights pressing, interrelated issues around ill health, a changing climate, and declining biodiversity – each of which identifies the potential for cultivating public greenspaces. The opportunity to improve health and wellbeing through nature-based activities that not only facilitate a positive connection to nearby natural environment, but also *improve* the quality of the natural environment for the wider population, whilst creating a more climate-resilient, species-rich landscape is compelling. There would appear to be a new alignment of common aims and desired outcomes that should neatly fit together. However, although various health and environmental emergencies have been declared, these are not new problems, and the environmental third sector has been running environmental activities to achieve health for decades (Nolan and Vaughan 2001). Given the longstanding association between the benefits of nature and human health – in contemporary evidence-based practice, coupled with the hunches, writings, and actions of the likes of Muir and Howard, it might be assumed that further progress should have been made. An investigation into the critical practice issues may provide some explanation of why nature-based health practices are not an integrated part of public and preventative health. In the following section, we ask why a green health agenda and the concept of green referrals have taken so long to gain momentum.

Public realm greenspace as a therapeutic landscape: Critical practice issues

Many critical practice issues relate to the role and functionality of public realm greenspace and the implications for engaging communities for health and wellbeing outcomes. The perspectives from public health, health geography, and the

environmental sector have introduced some of these practical considerations, such as conflicts and changes in land use. Public realm greenspace holds the potential to be a functioning therapeutic landscape, a medium for nature-based activities, and GSP is a potential mechanism by which people can access and interact with therapeutic properties. However, a number of critical practice issues (discussed next) highlight the complexities and practicalities in realising public greenspace potential as a medium for health and wellbeing. Critical practice issues that have also challenged GSP activity and progression.

Poor neighbourhoods, poor health, and poor-quality environments

Geographically, there is a correlation between areas of poor health having low levels of green provision and/or poor-quality green provision (Dennis et al. 2020). This signifies that health inequalities, which are rooted in structural social economic issues, are linked to environmental inequalities. Therefore, health issues and inequalities are intrinsically linked to environmental justice. Hence, it would be assumed that the green health agenda would be championed by both the health sector and the environmental sector in equal merit. However, this agenda has been largely driven by the environmental sector (Bragg and Leck 2017) – although this is changing, with the NHS, Public Health, and government now turning their attention to the possibilities of GSP (Cook et al. 2019). One critical issue is the failure to appreciate public realm greenspace a 'therapeutic' landscape and therefore a potential asset to address health issues and inequalities.

Understanding evidence: Square peg, round hole

A key reason for the health sector's reluctance to embrace green referrals stems from conflict over standards of evidence (Bragg and Leck 2017). Debate over what constitutes scientific evidence is not new and harks back to the 'science wars' of the 1990s (Ashman and Baringer 2001). The health sector still regards a randomised controlled trial as the 'gold standard' for assessing whether nature-based initiatives as an intervention 'works' and, therefore, whether it is worthy of investment from a health perspective. However, the reality is that assessing the impacts of an activity or intervention designed to engage community participants in nature-based activities within green public realm does not fit into an experimental or quasi-experimental design. Such engagement initiatives are essentially social programmes, based on theories of change (Pawson and Tilley 1997); therefore, implementing controls is not appropriate in evaluation design. Social programmes are open, complex systems subject to many variables (Pawson and Tilley 1997). In the case of nature-based engagement programmes, these variables are many and are influenced by external and internal factors, often beyond the control of the delivery organisation. Factors such as funding, staff capacity, motivations for participation, participation retention, and access to land are just some examples of variables that may influence a community engagement programme, and each is subject to many variables of

its own. Furthermore, often the desired outcome of engagement programmes is improved wellbeing; again, this is subjective because it is a personal state of mind (Deci and Ryan 2008). However, there is growing recognition that the reliance on traditional standards of evidence needs to change to accommodate the social prescribing movement (Bragg and Leck 2017).

Green Social Prescribing: A pathway to nature-based activities?

In this chapter, public realm greenspace has been conceptualised as a therapeutic landscape, a medium through which nature-based activities can be carried out to help cultivate the landscape. GSP has been discussed as a pathway to reach the destination activity, which in turn leads to a pathway of increased wellness for the participant. We recognise that this is an oversimplified version of this theory of change. The schools of thought presented in this chapter, bringing together perspectives from public health and health geography, and the background to social prescribing, have each articulated that a one-size-fits-all approach, a single delivery model, is neither conducive to the principles of social prescribing nor appealing to large numbers of people.

In the next section, we use case studies to explore how several projects in the north-west of England are taking a multi-disciplinary, multi-partnership approach to addressing some of the practical issues around GSP delivery models. Case Study 1 outlines four green public realm landscape programmes to elucidate different models of engagement and their intrinsic links to funding models. Case Study 2 highlights the complex picture of critical practice issues and GSP by examining a national initiative currently underway in Greater Manchester.

Case Studies

Case Study 1: Different engagement models

Engagement models are driven by a number of factors, including meeting the needs of people with specific health issues, sourcing funding, and framing the activity in the context of wider health issues. The practice issues addressed in these first case studies include: How delivery models are framed, whether as therapy or as prevention? How should specific needs be addressed? What are the best ways to reach out to participants? What are the implications for funding models? Case study 1 highlights four different engagement or delivery models, all based in the north-west of England; all use the green public realm landscape as a medium for delivery.

The Mersey Forest's Nature for Health programme: A 'dose of treatment' model

The first model is an example of how the nature-based activities, framed as 'a dosage', operate as a treatment for specific health needs. The Mersey Forest is one of 13 England's Community Forests, and runs Nature for Health, a programme under the banner of 'The Natural Health Service' (The Mersey Forest 2022). This

engagement model takes an approach that offers five distinct 'products': (i) Health Walks, designed to meet individual fitness levels and taking a target-based approach to increase physical activity levels and improve wellbeing; (ii) Horticulture Therapy, which includes growing activities for physical activity in a sociable environment; (iii) Mindfulness Practice in nature to tackle stress and anxiety, with a focus on self-management for longer-term conditions; (iv) Forest School, a Scandinavian pedagogy based outside the classroom for children and younger people to achieve increased activity levels and positive nature connections; and (v) Healthy Conservation, which includes conservation-based activities to improve stamina and fitness, increase confidence, and learn skills.

Activities are run as programmes over a set number of weeks, and participants are expected to finish the course, or 'dose'. This particular model has been designed to connect into the NHS commissioning frameworks but is also funded through grant-giving organisations, such as the National Lottery. The focus is product-based and advertised as evidence-based doses of treatment to address various health issues experienced by participants. Challenges to this type of model are recruiting and retaining participants for a set number of weeks to full completion of a programme, especially when the funding is based on 'payment by results'.

City of Trees' Citizen Forester programme

City of Trees is the Community Forest organisation that works across Greater Manchester. The organisation supports a movement to improve the quality of life for people through nurturing a tree and woodland culture. Under City of Trees' 'Citizen Forester' programme, volunteers can help plant trees and look after existing woodlands and greenspaces across Greater Manchester (City of Trees 2022). In line with City of Trees' aspiration to enable every person to play their part in a movement to improve the landscape across Greater Manchester, Citizen Forester is open to everyone. The audience is broad, ranging from local residents, climate activists, corporate groups, and people seeking vocational and/or therapeutic rehabilitation to those with a defined health need (e.g., people affected by dementia). The programme's ethos is that everyone taking part is a Citizen Forester, regardless of their pathway, motivation, background, or health need. Volunteers take part as and when they wish, based on a calendar of events taking places across Greater Manchester. The programme is not specifically promoted as a 'health service' but uses messaging around joining in the City of Trees movement to create a greener Greater Manchester. From a health perspective, it is in line with Public Health messaging and campaigns around prevention and self-care, using the '5 Ways to Wellbeing' (Aked et al. 2008) as a basis for evaluation. Citizen Forester combines investment in national capital infrastructure programmes for woodland creation, with philanthropic funding, grants, and trusts, as well as donations from the private sector. A challenge to this model is the roving nature of activities. Activities are centred around seasonal tree planting and specific site-by-site maintenance requirements, which means the location of activities shifts as part of a dynamic pipeline of schemes.

Wildlife Trust for Lancashire, Manchester and North Merseyside: My Place

The Wildlife Trust for Lancashire, Manchester and North Merseyside (2022) delivers the My Place programme in partnership with the Lancashire and South Cumbria NHS Foundation Trust. Promoted as ecotherapy, My Place targets people with defined health needs, with a focus on mental health. Participants can be referred or self-refer and sign up to the scheme for a six-week programme. For participants with specific mental health needs, My Place offers face-to-face sessions, practical conservation activities, and training courses, as well as online sessions to provide virtual nature-based activities for those unable to leave their home. With a focus on young people, the programme also delivers a strand called 'MyPlace for Gamers', which encourages Minecraft activity to build virtual green worlds. The programme is funded through a blend of European Social Funds, lottery grants, and government grants for 'Green Recovery'. A challenge for this type of delivery model is the skills capacity of staff; those employed as environmental project officers often lack the skills required of mental health professionals.

Northern Roots

Northern Roots is an ambitious project to create the largest urban farm and eco-park on 160 acres of green space in the Greater Manchester district of Oldham. Its mission is to transform the landscape into a 'destination for learning, growing, and leisure activities' that will benefit both the environment and the quality of life for those that live near or interact with the space (Northern Roots 2022). The land is currently owned by Oldham Metropolitan Borough Council, but a charitable company has been set up to take on the lease and management of the site. At the heart of the Northern Roots project is a business plan to establish a truly sustainable funding model – drawing income from market gardening, mountain biking, a woodland wedding venue, and a Forest School – to support both the physical maintenance of the site and community engagement opportunities. The proposed funding arrangements are complex and, together with Northern Roots' ability to create its own circular economy, are yet to be tested. However, there is enormous drive for this to become a success. If this is achieved, the outcome will be ground-breaking as a model for landscape-scale public realm greenspace as a means to therapeutic activity.

Case Study 2: Critical practice issues

Green Social Prescribing Test and Learn

Case Study 2 highlights critical practice issues in relation to green social prescribing by examining a national initiative taking place within Greater Manchester in 2022. The Green Social Prescribing Test and Learn project aims to tackle poor mental health across Greater Manchester, to ease

demand on the health and social care system, reduce health inequalities, and set and share best practice at a local level for health and environmental practitioners. This project tackles critical practice issues head on, by identifying what infrastructure is needed to support a thriving GSP scene across Greater Manchester, recognising unrealised opportunities, and addressing any barriers.

At a national strategic level, the ambition for this nationwide test project stems from the UK Government's commitment to transform mental health services nationally (NHS 2022). We see an intersection of this policy with the Government's 25 Year Environment Plan (DEFRA 2018), which recognises the links between the natural world and human health and commits to taking steps to support all people to have everyday access to the natural environment to realise the health benefits.

In spring 2021, Greater Manchester's Health and Social Care Partnership was successful in its bid to secure £500,000 to deliver a 'Test and Learn' Green Social Prescribing Programme across Greater Manchester, as one of seven test projects taking place nationally between October 2020 and March 2023. The project is delivered as a programme of 'test and learn' strands, four of which are site based. The test sites seek to explore the impact of nature-based activities in public realm greenspace on mental health needs, ranging from low-level emotional mental health needs to diagnosed mental health conditions. These tests sites also aim to gain a greater understanding of the pathways that may lead people to the activities on offer, as well as how the pathways could be scaled up to improve accessibility at the neighbourhood level. The test sites offer nature-based activities that will connect with a variety of audiences with a range of needs. The sites offer activities for self-referrals, as well as referrals from various settings, such as primary and secondary care, third sector services, and local community provision.

A fifth test strand seeks to understand and identify the infrastructure required to support a GSP network, with a focus on the practicalities from the perspectives of clients, health workers, and environmental practitioners. This will identify the various elements required to build the networks and systems operating at different levels, for example, data requirements for software systems used by GPs and Social Prescribing link workers, communications tools and channels to promote activities, and resource sharing and best practice to develop standards. The test site strands are led by a consortium of key partners from the third sector, including City of Trees, Lancashire Wildlife Trust, Petrus, Sow the City, and Salford CVS. The partners share a collective ambition to embed their nature-based activities in the health sector, through the social prescribing pathway. There is an emphasis on employing a partnership approach; a wider partnership is directly involved in the project, made up of a mix of mental health, environmental, and specialist services. The project runs until March 2023 and will inform national policy and practice.

We have seen how delivery models can differ, depending on how they are framed, what they set out to achieve, and who they are looking to engage or

target. Furthermore, how delivery models are funded can have a significant influence on how a delivery model is designed and how successful the model is in achieving its outcomes. Funding is a perennial challenge for organisations and the success of GSP (Bragg and Leck 2017). The nature of third sector funding is volatile, typically characterised by a mix of funding streams that support the delivery of activities in the short- to medium-term. Funding often comes from grants, philanthropic sources, and/or the private sector. The health sector's current commissioning process is highly competitive, with relatively small amounts granted over short periods of time. This is not favourable, practical, or reasonable in terms of organisational business planning, and it prevents sustained activity in a certain place over a period of time. This poses a critical problem for GSP. The public realm landscape already hosts a number of nature-based activities designed to cultivate the landscape, but the landscape is dynamic, in that where and for how long those activities are available is subject to frequent change due to funding structures.

Conclusion

This chapter makes the case for public realm greenspace as a therapeutic landscape and explores the role for green social prescribing to generate connections between environmental and health sectors. Public realm greenspace plays an important role in servicing the need for people to have day-to-day access and exposure to the natural world – described by Muir (1908) as 'beauty-hunger'. Community engagement activities, typically delivered by non-profit third sector organisations, aim to facilitate human interaction with nature through activities that help to cultivate the landscape at a neighbourhood level. The importance of cultivating the physical landscape is only increasing, as the climate emergency escalates and biodiversity declines. There is also growing interest from the health sector, which is seeking solutions to chronic health and mental health issues and health inequalities. GSP is a potential pathway to encourage greater participation in nature-based activities for health and wellbeing outcomes, but critical practice issues – particularly funding – will determine the success of GSP in the long term.

This chapter also demonstrates that environmental justice, civic environmental nature-based activities, and the growing GSP movement can align to meet health needs and the appetite for 'beauty-hunger', which is especially salient in the COVID-19 era. It is to be hoped that the GSP movement will provide a tangible way to bring the environmental and health sectors closer together to achieve common aims in relation to health and wellbeing. This alignment has the potential to help redress health inequalities linked to environmental inequalities. It is evident that the inequalities observed by Muir in the early twentieth century – poor folks' geranium slips in broken cups versus the expensive lily gardens of the wealthy – still resonate today.

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