

# *Creating A Transformative Space for Change: A Qualitative Evaluation of the RHS Wellbeing Programme for People with Long-Term Conditions*

## **Author names and affiliations.**

Corresponding author Michelle Howarth Senior Lecturer <sup>1</sup>

Cormac Lawler Research Fellow <sup>1</sup>

Anna da Silva Project Director, Northern Roots, previously Programme Director RHS Bridgewater <sup>2</sup>

<sup>1</sup> University of Salford. School of Health and Society, Social Prescribing Hub, Frederick Road Campus, Salford Manchester M6 6PU [m.l.howarth2@salford.ac.uk](mailto:m.l.howarth2@salford.ac.uk)

<sup>2</sup> Anna da Silva: [anna@silvasolutions.co.uk](mailto:anna@silvasolutions.co.uk)

## **Acknowledgements:**

The authors would like to formally acknowledge and thank Professor Alistair Griffiths, RHS Science Director, for his support of the Wellbeing Programme.

## **Abstract**

**Purpose:** Our research aimed to evaluate the impact of the RHS Wellbeing (WB) Programme on people with long-term conditions.

**Findings:** A thematic analysis identified how the WB programme facilitated improved social connectivity, sense of wellbeing and purpose through the creation of a ‘healthy, natural and safe space’ predicated on ‘person-centred approaches’. Participants felt they were ‘part of something larger’ which enabled ‘transformation of their health and wellbeing’.

**Conclusions:** The WB Programme offered space to grow, heal and reconnect. Losing oneself in a nature-based space can have a lasting transformative impact on individuals.

## **Keywords**

Therapeutic Horticulture; Social Prescribing; Healthy Spaces; Social Connection; Qualitative; Transformation

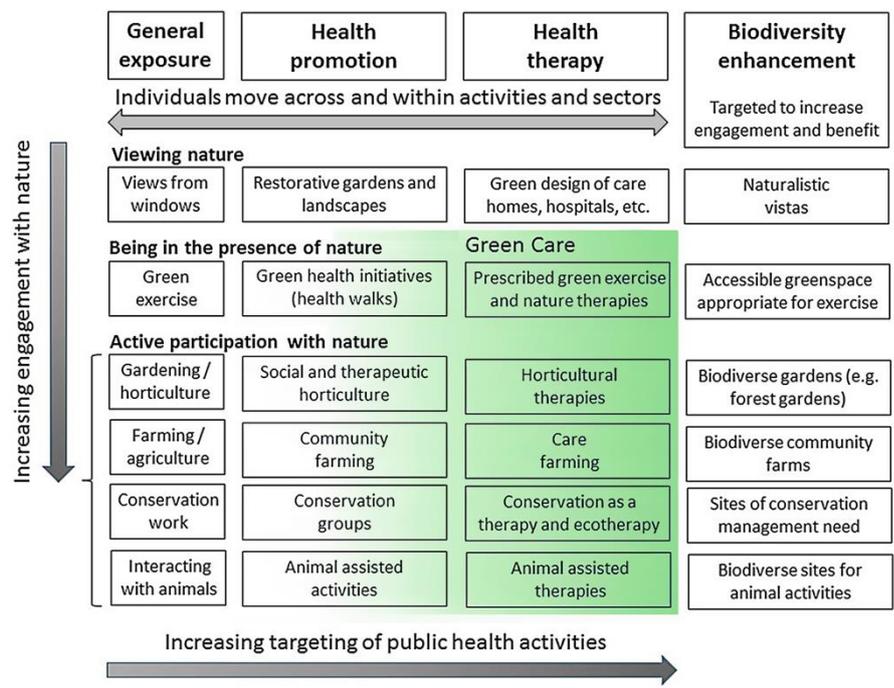
## **Introduction**

According to the World Health Organisation (2017), non-communicable diseases present a significant cause of death. Cardiovascular disease, respiratory conditions, and type 2 diabetes account for 70% of deaths worldwide. Similar trends are reflected in the UK, where it is estimated that the number of people with coronary heart disease represented the biggest causes of death in the UK. Moreover, more than 800,000 people are living with chronic obstructive pulmonary disease. Comparable with global

estimates, the number of people with diabetes in the UK is reported to be 4.7 million (Diabetes UK 2019). In determining appropriate responses and solutions to these problems, global health policies are becoming increasingly focused on the underlying (social, economic, etc.) conditions of life that cause these individual health conditions. A prime example of this is the condition of the natural environment and state of the ecosystem (Patz et al. 2012), and thus, utilising the natural environment as a population health intervention is now a key strategy that can promote wellbeing whilst helping combat climate change (Cook et al. 2019).

Historically, health policy makers have utilised traditional ‘clinical’ approaches to promote health. For example, the drive to ‘cure and treat patients’ utilising a pathogenic medical model, has resulted in a focus on approaches that heal and treat, rather than non-medical therapeutic activities that can promote wellbeing. More recently, the need for alternative non-clinical approaches that promote wellbeing through engaging with outdoors spaces and places is increasingly recognised as a ‘more than medicine’ approach to supporting wellbeing. Subsequently, UK government publications illustrate the drive to embrace the natural environment as an asset. For example, ‘The Natural Environment White Paper’ (DEFRA 2011) outlined an ambitious strategy that was designed to reinforce individuals’ and communities’ connectedness to nature to promote wellbeing. The notion that green spaces can benefit humans is not novel. Indeed, as reported in this journal, there are an array of theories that explicate this concept. For example, Pitt (2003), Conradson (2005), Milligan, Gatrell & Bingley (2004) all evidence how the natural landscape can influence wellbeing. More specifically, Gesler’s work in 1992 explicated how the ‘therapeutic landscape’ can promote healing and recovery. Within the therapeutic landscape, nature-based activities are perceived as being “*interventions that treat, hasten recovery, and/or rehabilitate patients with a disease or a condition of ill health, with the fundamental principle that the therapy involves plants, natural materials, and/or outdoor environment, without any therapeutic involvement of extra human mammals or other living creatures*” (Annerstedt & Währborg 2011). It is acknowledged that nature-based activities can help to improve general health (Wood et al. 2016) and heart rate (Wichrowski et al. 2005), and reduce social isolation (Howarth et al. 2016) and anxiety (Gonzalaz et al. 2011). Hence, interest in the relationship between nature and its positive benefits for humans has grown over the last 20 years. In DEFRA’s Evidence Statement on the links between natural environments and human health, Maxwell & Lovell (2017) identified that there is “*an extensive and robust body of evidence suggests that living in greener environments associated with a range of significant health outcomes indicators*”. Commonly reported health outcomes include reduced rates of mortality, improved self-related health outcomes and a reduction in health inequalities. Maxwell & Lovell’s (2017) review concluded that biodiversity is critical to underpin ecosystem functioning and the delivery of goods and services that are essential to human health and wellbeing. The influence of a biodiverse ecosystem on health and wellbeing was illustrated by Cook et al. (2018) who developed Bragg & Leck’s (2017) original work highlighting the influences on health (see figure 1).

**Figure 1: Model of the interactions between level of engagement with nature, level of public health targeting, and benefits due to enhanced biodiversity (from Cook et al. 2018).**



Cook et al's (2018) model illustrates how increasing participation in nature and biodiverse environments can promote public health through a range of ascribed levels. These levels of engagement, originally created by Pretty (2004), refer to how people engage with nature through 'viewing', 'being in' and 'active participation' with nature. Each level can benefit individuals, but active participation in biodiverse contexts is often more structured and can elicit greater health and wellbeing benefits. Such nature-based interventions often have multiple measurable therapeutic benefits for a range of populations. This includes those with long-term conditions who may experience degrees of healing through active engagement with nature. Arguably, and as reported in *Health & Place*, healing takes place in a range of contexts and landscapes, and not just green spaces – for example, in traditional landscapes, such as the medical clinic, or in non-traditional settings, such as nature, fields, leisure & parks (Milligan, Gatrell & Bingley 2004). Furthermore, in recognising the multiple definitions of 'landscape', Gesler (1992) draws on the fields of anthropology, geography, psychology and sociology to postulate the 'therapeutic landscape' as a conceptual framework that focuses on treatment or healing. Gesler argues that landscapes are products of the human mind and material circumstances. Thus, it is acknowledged that human interactions and the wider determinants of society contribute to the therapeutic landscape and the wellbeing of people therein.

Communal gardening sites offer one practical way for social interaction in which it may be possible to develop a therapeutic landscape (Milligan, Gatrell & Bingley 2004). Thus, nature-based therapeutic interventions, such as communal gardening, are considered to be an example of therapeutic landscapes, and, as reported by Howarth et al. (2018), these landscapes are congruent with the social prescribing paradigm which acknowledges the influence of the wider social determinants of health on populations. Similar to Gesler's (1992) concept of the therapeutic landscape, the process of social prescribing recognises the effect of the socio-economic context and environment as having significant influence on the resilience of individuals. Bragg & Leck (2017) describe social prescribing as a way of linking patients in primary care with sources of support within the community through community connectors or link workers. Predicated on the assumption that patients' wellbeing could improve if their social, emotional and practical needs were met, social prescribing promotes a 'more than medicine approach' (Kenkre & Howarth 2018). The UK National Academy for Social Prescribing defined social prescribing as a process that "*supports 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*" (National Academy for Social Prescribing 2020). The increased use of various forms of social prescribing is being driven by two convergent forces: a move towards providing more holistic person-centred care to promote wellbeing rather than a focus on interventions to heal sickness; and an increased appetite to implement non-medical solutions to help reduce pressures on GPs and costs to the NHS (Gibbons, Howarth & Lythgoe 2018). There is evidence to suggest that social prescribing can influence a reduction in A&E attendances, outpatient appointments and inpatient admission by 20–21%, which equates to potential cost savings of £1.98 for every £1 invested (Dayson et al. 2015). These methods dovetail with NHS England's ambitions to promote health and reduce the incidence of long-term conditions through harnessing individual assets, supporting individual resilience and recovery

Against this backdrop of growing interest in, and evidence of, the health and wellbeing benefits of gardening and access to nature, the Royal Horticultural Society (RHS) announced in 2015 that they would be creating their fifth garden, RHS Garden Bridgewater, on the site of Worsley New Hall in Salford, Greater Manchester. The garden was originally due to open to the public in July 2020, however, due to Covid-19 the opening was postponed until May 2021. In determining the high-level outcomes for RHS Garden Bridgewater, it was agreed that health and wellbeing should be a core priority, for a number of reasons:

- The site's proximity to some of the most deprived communities in Salford and the UK who experience health and wellbeing that is worse than the national average.
- The devolution in 2015 of a £6bn health budget to the Greater Manchester Combined Authority, which brings with it the ability to set health priorities and policies locally.

- The emerging body of evidence around the health and wellbeing effects of gardening and access to nature, and the presence in Greater Manchester of three Universities with a keen research interest in this area.

Consequently, a space for a Wellbeing Garden was incorporated into the masterplan for RHS Garden Bridgewater. The design and development of the Wellbeing Garden were recognised as an important opportunity to engage the local community, consult about their needs, and learn from their expertise. The first partner consultation sessions were held in October 2017 **with local residents, gardening groups, public health officials, the Clinical Commissioning Group and the wider general public who may use or visit the garden.** The consultations explored the following questions:

1. How would partners want to use the space?
2. How does the space need to work?
3. How does the space need to feel? How do we want people to feel when they're in it?

In 2018, with the construction of RHS Garden Bridgewater ongoing, an opportunity arose to apply for Innovation Funding from Salford Clinical Commissioning Group (CCG). A partnership was formed between RHS Garden Bridgewater, the newly created Enhanced Care Team from Salford Primary Care Together, and the School of Health and Society in the University of Salford; and a joint proposal for a project piloting, and evaluating, a programme of social prescribing to RHS Garden Bridgewater over the course of 2019-20 was successfully submitted. Up to 75 people were to be referred to the garden on 3-month placements, where possible helping with the creation of the Wellbeing Garden, and otherwise supporting the work across the wider site. At the start of the project, staff from the RHS, the Enhanced Care Team and the University all received training in therapeutic horticulture from the national organisation, **'Thrive', who use gardening to support the wellbeing of people living with disabilities, ill health or who may be otherwise disadvantaged or vulnerable. Thrive provide accredited training to support social and therapeutic gardening approaches through trained horticulturalists.**

This project - the Wellbeing Programme - was an opportunity to pilot partnerships, referral pathways and activities prior to the opening of RHS Garden Bridgewater. It was envisaged that learnings from the project could then be applied in the operation of the Wellbeing Garden and Programme in RHS Garden Bridgewater, once open. The project took place during a period of intense construction and clearing activity on the RHS site, which created challenging conditions. The area allocated for the future Wellbeing Garden - within the Victorian Walled Garden - was still under development and not safely accessible for most of the duration of the project. Therefore, the project had to use the spaces and facilities available, which included a room, and adjacent outdoor area, in a former Scout Hut, on the edge of the woodland.

Over the course of the project these spaces were transformed. Shelving, seating, work benches, artwork and heating were installed in the Social Prescribing room, and the outside area was progressively cleared, extended and planted up, and a pond, potting shed and greenhouse were constructed. Project participants helped with many of these improvements as part of their placements. They were supported by Wellbeing volunteers, recruited from the local community, and the RHS's first ever Therapeutic Horticulturalist. This area of the garden has now been named The Spinney and, as a result of this project, will be retained as an enduring feature of RHS Garden Bridgewater, providing a second location for provision of health and wellbeing activities alongside the more formal Wellbeing Garden.

### Research Aims & Objectives:

Our research aimed to evaluate the impact of the RHS Wellbeing (WB) Programme on people with long-term conditions. A series of objectives were included to enable the research to achieve the overall aim:

- Explicate the views of participants who were referred to the WB programme as a social prescription
- Describe the experience of the participants to undertake therapeutic gardening activities
- Explicate the context and mechanisms used to develop and support the WB programme
- Understand the perceived outcome of the WB programme on participants' subjective reported wellbeing.

### Methodology

An overarching qualitative 'Realist Evaluation' theoretical framework was used to help understand what works, how and for whom (Bertotti et al. 2018). Realist evaluations often explicate the impact of an intervention or service through first understanding the context of a situation, such as key stakeholders and policies that may have been the main influences for change. This is followed by explicating the mechanisms by which programmes of change work, and the processes involved in enabling this. Finally, the Realist Evaluation approach captures the outcomes resulting from the context and mechanisms. Using this framework enabled our research team to gain a rich description of all aspects of the RHS Wellbeing Programme, including key activities at each stage of the referral process, and the experiences of, and outcomes for, both those who delivered the service and the participants (Pawson & Tilley 1997). We applied Corbin & Strauss's (2008) analytic framework, using Grounded Theory principles to ensure our analysis of project outcomes was robust and rooted in individuals' perceptions of reality. Our view recognised the researcher as a conduit to facilitate meaningful outcomes that are derived through co-production, rather than just through the researchers' interpretations (Ponterotto 2005). This shaped our approach of co-production based on Grounded Theory methods that enabled the individual's

interpretation of reality to emerge. Corbin & Strauss (2008) argue that co-production enhances the robustness of a study through improving credibility and dependability of the findings. Our data collection therefore included input from a range of people involved in the Wellbeing Programme to generate meaning about the mechanisms, process, benefits and intended and unintended outcomes. Triangulating data from these co-produced sources **derived between the researcher and participants about the context, mechanisms and outcomes**, helped provide a unique and rich insight into the phenomenon. Charmaz (2006) advocates that researchers should focus on establishing credibility through examining the research for its links between data, argument and analysis, originality (fresh categories), resonance (fullness of the experience of the WB programme) and usefulness (through co-production & triangulation). Hence, our approach was underpinned by an adapted methodological approach which used qualitative methods to enable us to capture an emic perspective of the experience of the Wellbeing Programme. The use of qualitative approaches in health care is advocated by the World Health Organisation as being critical in the development of guidelines for health and complex decision making (Langlois et al. 2018). The qualitative Realist evaluation design enabled us to understand the experience of the Wellbeing Programme and gain insight into the subjective phenomena to make recommendations for practitioners and future social prescriptions.

### *Sample*

Ontologically, a qualitative methodology typically seeks to understand complex phenomena as opposed to generalising findings to a wider population (Curtis et al. 2018). This paradigmatic view influences the collection of data that is meaningful to the practice and which can facilitate an emic perspective of unique experiences such as the RHS Wellbeing Programme (Marshall 1996). Typically, purposive sampling strategies are used deliberately to select a sample that can yield meaningful data (Curtis et al. 2018). Thus, a purposive sample was used to ensure appropriate representation of people with long-term conditions who typically access socially prescribed services. **It is acknowledged that sampling strategies in qualitative research are difficult to justify. In this study, we saturated the concepts emerging from the data, as advocated by Charmaz (2006) and reflected by Guest et al. (2006).** Participants included in the evaluation were those with 2 or more chronic long-term conditions who had been referred by an Enhanced Care Team or Social Prescribing Community Connectors. Sample size in qualitative research should be predicated on the ability to saturate concepts as part of the analytic process (Howarth 2012). Miles & Huberman (1994) note that the quality of the sampling procedure as opposed to the sample size should dictate the recruitment, selection and total number of participants in a qualitative study. The relevance of the sample and opportunities to collect rich, emic data was important and influenced our sample size. A total of 47 people was referred to the Wellbeing Programme, out of whom, 11 participants agreed to be interviewed. To ensure that we were able to understand the context, mechanisms and outcomes, we included the RHS Wellbeing staff and people who had been referred and participated in the gardening activities. Many of the Wellbeing Programme

participants ( $n=44$ ) were referred by the Enhanced Care Team, and a smaller number ( $n=3$ ) were referred by the local social prescribing community connectors. Common reasons for referral included: anxiety, to improve confidence, to re-engage with others, and to improve mental and/or physical health.

### *Data Collection*

To ensure that we captured data about the context, mechanisms and outcomes of the Wellbeing Programme, we conducted focus groups and interviews with different people who either took part or helped facilitate the WB programme. For example, to understand the outcomes and benefits of the WB programme, we conducted three focus groups with the gardening participants ( $n=11$ ). We then explicated the mechanisms, i.e. how the programme was operationalised, through a one-to-one interview with the therapeutic horticulturalist. Finally, to explore the context of how the WB Programme supported participants, we also conducted focus groups with the wellbeing volunteers ( $n=3$ ). The semi-structured interview methods that were used to explore the gardening participants' experiences of the WB Programme predicated on Kruger & Casey's (2000) interview framework to help structure the questions to enable equal participation and generate understanding and depth of their experience. Typical questions used for beneficiaries covered the specific activities that participants were involved with. For example, we asked participants to describe their experiences of working in the WB programme, and in particular, how it made them feel – whether there were any benefits and what these were. We focused on encouraging the participants to describe the detail of their day so that we could understand what specific aspects of their experience were impacting on their wellbeing. We also asked broader questions about the perceived impact this had on their physical and mental wellbeing. We used the same methods to encourage the therapeutic horticulturalist to describe the activities co-developed with the participants, the relationship she built with them, and the impact of the programme on participants. The interviews took place at a designated and co-created space called 'The Spinney' and were digitally recorded with consent and later transcribed verbatim. For presentation of the data, interviewees were given an ID code: programme participants beginning with 'P' and RHS staff and volunteers beginning with 'RHS'.

### *Data Analysis*

Challenges associated with qualitative analysis include the ability to demonstrate the analytic process used which includes the coding and thematic analysis process (Armstrong et al. 1997). Hence, the research team utilised Corbin & Strauss (2008) analytic approach to ensure a robust analysis. The rich data elicited was triangulated by MH & CL and subjected to a thematic line by line analysis based on a Grounded Theory analytic framework (Corbin & Strauss 2008), using Nvivo to develop thematic codes, explicate emergent themes and search for cross categories. The research team met to review the emergent themes and compare code development to ensure credibility and enhance trustworthiness

(Guba 1990). Dependability and transferability was enhanced through wider discussion of emergent findings with the wider project team (AdS, MH, CL). From this process, four key themes emerged from the data:

- *Creation of a healthy, natural space,*
- *The value of person-centred activities,*
- *Being part of something larger,*
- *Transformation of health and wellbeing.*

We used Grounded theory principles based on Corbin & Strauss (2008) to develop understanding about the experience of the WB programme. In doing so, we used Grounded Theory to guide the analysis, rather than as an applied methodology. This approach enabled the research team to explicate core concepts, and tentative findings that are not necessarily considered to be an empirically orientated theory.

## **Findings**

Our findings identified how the WB programme facilitated improved social connectivity, wellbeing and purpose. The thematic analysis revealed four key themes which illustrate how the WB programme ‘created a healthy, natural and safe space’ predicated on ‘person-centred approaches’. **Similar to other research published in *Health & Place*** we highlighted the complexities in which the therapeutic landscape influenced the individuals’ interactions and subsequent relational outcomes **as described by Conradson (2005) and Burgess, (1996). The WB programme used the surrounding landscape and the transformational process of creating a new RHS Garden to promote wellbeing through encouraging participants to engage with the landscape and the garden project.** The participants felt as though they were ‘part of something larger’ which, in combination with the previous two themes, facilitated the ‘transformation of their health & wellbeing’. These four themes are interlinked and symbolic of the experiences of the participants.

### ***Creation of a healthy, natural and safe space***

At the core of the programme was the importance of developing a healthy, nurturing space for the participants. Part of what gave the space these qualities was its location, surrounded by trees, as described by the RHS therapeutic horticulturalist:

*“... because it's a woodland workshop, it's a garden, but it's a woodland... that's what makes that special, that space, because you feel enclosed, the birds are coming, they're feeding... There's squirrels darting around and straightaway, that actually makes people relax, they love it when they're here, because of that.” (RHS1)*

Our findings echo McQuoid (2017) who found that people with chronic illness enjoyed benefits of leisure such as that experienced in the WB programme. The activities that the gardening participants experienced enabled them to better cope with their ‘sick body’ (McQuoid 2017) and improved their outlook and ability to cope with their disabilities. Participants in our study also spoke of how they had benefited from being in a pleasant environment:

*“It is really beneficial coming and being part of the project, and being in the outdoors. I think it does really get you back and think, oh, this is a nice place to be.” (P5)*

In the design and development of a healthy space, there was also a clear theme of the need for the space to feel ‘safe’. The feeling of safety also reflected the practical aspects of a developing green space. This was particularly relevant, given the fact that the initiative took place during the development phase of the RHS Bridgewater in which it was a building site - as outlined by the therapeutic horticulturalist:

*“...that was the first element that I felt I had to address, was people's comfort, and their safety, and this site is very difficult for managing trip hazards and so on.” (RHS1)*

Interestingly, concerns about the ‘practical’ safety of the environment were not emphasised by the gardening participants during focus group interviews. Rather, another aspect of what a ‘safe space’ means came out strongly: which is the need for participants to feel safe in order for the space to be beneficial to their health. For some, the experience living with chronic long-term conditions had left them feeling socially isolated, and disempowered. Chronic conditions affected their mobility, emotional wellbeing and ability to engage and get outside. As a result, the gardening participants described how the safe space created empowered them to take part in the activities and feel re-engaged. Similar findings were reported by Pitt (2013) who observed how therapeutic places, such as those described by our participants, enabled individuals to feel safe in a world that was dominated by illness and fear. The RHS therapeutic horticulturalist also identified this as an underlying ethos which shaped how she had designed, set up and managed the space:

*“I am learning how much it means to people to be in a safe space. Being in a safe space is so important and needing that as part of recovering .... It's so intrinsically in need, and something we should have readily available in the care and support of people. ... I will always want to support this, because it's not about whether you're a gardener or love gardening, it's about the space is good for people, a good place to come.” (RHS1)*

In addition to the garden being a safe space, and a pleasant physical environment, there was also a strong emphasis on its value as a *social* environment which made participants feel connected and less socially isolated:

*“We have this banter, and then we have the radio on, and then we start singing. So it's different. It's so relaxed. It's funny how, when that door opens the singing just stops. We think we sound like the Salford Cathedral Choir, but we don't. All what we sound like is some screeching bats.”*  
(P10)

The need to observe and understand the wider social implications has been highlighted by Gesler (1992) who purports that the impact of the landscape cannot be observed in isolation of all other human factors. The chronic nature of the gardening participants' long-term conditions meant that they often spent endless days stuck inside their homes. The resultant apathy experienced by many of the gardening participants exacerbated feelings of hopelessness with no sense of liberation. However, attending the WB Programme provided them with a sense of personal liberation within the group setting as highlighted in the above quote. Equally, another participant described the programme as “uplifting”. Also clear were the personal qualities of the RHS staff and volunteers - as the following quote about the therapeutic gardener shows:

*“You could come in feeling knackered, and no energy, and within ten minutes of her you want to go and run a marathon, because she's got that impact on you, and she makes me laugh...”*  
(P10)

Uplifting experiences, such as those described here, resonate with the characteristics likely to contribute to psychological wellbeing reported by English et al (2008). The calming effects of the garden combined with the social connections made in the space contributed to the experience and quality of the landscape. Our findings reflect findings previously reported in *Health & Space* (English et al. 2008, Pitt 2003) and highlight the potential of the therapeutic landscape to provide a place of safety that can enable recovery and re-engagement.

### ***The value of person-centred activities***

Linked to the nurturing aspects of previous themes, our findings indicate how the activities at RHS Garden Bridgewater were adapted and personalised for individual participants. This was tailored to their individual abilities, personal challenges and prior experiences with gardening. Similarly, Conradson's (2005) work also reported how individuals often engage with landscapes predicated on relational dimensions predisposed by prior experiences and socio-natural influences. Interestingly, the therapeutic gardener revealed how relational dimensions may have influenced the development of personalised activities:

*“I look at each individual and [what] I am able to learn from them, what skills they already have, that they're not utilising, either they've become ill, they feel no longer capable,*

*.....building that back up by their involvement here...how we are building this RHS Bridgewater garden.” (RHS1)*

Wellbeing volunteers also outlined how they would be attentive to the interests, experiences and skills that the participants talked about:

*“Also, once you get to know the people that are coming and your little group, they may say, 'Oh, I did a lot of woodwork in the garden,' or, 'I'm really keen on doing that. I was a joiner by background,' or whatever, so then you can pick up on that. We've been making bird houses and bug houses and things like that, so it's about using their talents and skills really.” (RHS3)*

Conradson (2005) asserts that the ‘relational outcome’ emerges as a result of complex interactions with the individual and wider socio-environmental contexts. Similarly, our findings also revealed how activities allowed participants to be centred *in themselves*. Participants often talked about being ‘in their own world’ during activities, giving them an opportunity to ‘focus directly on something’:

*“...because when you're doing the things you're in your own zone, aren't you? You're relaxed and - you know, obviously, you're aware and you talk to people if they speak to you, but you don't necessarily have to; you can just do your own thing. ... So it's just you're in your own different world, sort of.” (P6)*

Alignment ‘with their own world’ resonates with Conradson’s (2005) notion that the relational dimension of the therapeutic landscape is often influenced by prior experience. For many of our participants, the constraints caused by their chronic health conditions meant that they welcomed the garden as a distraction from other concerns in their lives. The garden also provided an emotional, relational and mental space that made them feel free and relaxed.

### ***Being part of something larger: part of history***

Being involved and being part of history was perceived by the gardening participants as a positive experience which facilitated a common connection with others. English et al’s (2008) findings also suggest that the larger community environment as a landscape can help healing, through connections to others and engagement in social activities. This was evident in the creation of ‘The Spinney’ as part of the WB Garden. Being part of something and connecting socially can contribute to wellbeing (English et al. 2008) and concurs with Conradson’s (2005) notion about the influences of the self-landscape encounter on our relations with others. The human and non-human influences of the Spinney reflects the growth of therapeutic landscape that goes beyond its original location of Gesler’s (1992) medical

geography, and engages with the physical, ecological and symbolic environments (Kearns & Milligan 2020).

Most of the participants had memories of the site's history, and of what buildings on the site used to be used for – e.g. the building in which wellbeing activities were based used to be a scout hut. Through participating in this project, and the development of RHS Garden Bridgewater, they saw themselves as part of that history – and the making of history.

*[In the future] “they could introduce people to the system, to the site, to what's been done and be reminded about what we've been doing - and like that notice board in there, there's comments from people who worked here from 1872. In the reception area, if they've got a board like that, the likes of us who attended - and [RHS1] has got photographs - that sort of thing could go up on the board ... and it's something to be remembered.” (P3)*

Participants particularly liked the fact that they have been part of the creation of something important for Salford and the local community:

*“It'll be nice for myself, bringing the buggy down and having a look and think, well, I was here at the start of this. ... It'll just be nice to go round again...to know you've contributed and say, 'I was at the start of this,' to people who joined later on.” (P2)*

*“You can see a difference each week when we come down. As we drive down, you can see different pathways in and different things. When we first came, it was just mud, wasn't it?”(P1)*

There was a palpable sense of pride in being part of something larger - i.e. the development of a resource for Salford:

*“I feel so proud and honoured to be part and parcel of it, and making new friends, and getting to know people. It's just - you can't put it into words. It's just unbelievable.” (P10)*

In fact, the social prescribing programme played a significant role in the development of RHS Bridgewater, in that The Spinney was the first garden space to be developed on site, as pointed out by the therapeutic gardener:

*“The first flowers we have on site, on this 154 acres, was created by social prescribers. ... I had to keep reminding them that, although you can't see what's going on over there, the walled gardens and the outer walled gardens, they're construction sites. Right now, you've created the first Eden on this site, that people can have a look at.”(RHS1)*

Moreover, it was highlighted that some of the operational approaches and the aesthetics that emerged organically in the Spinney were to be incorporated in the future operation of the Wellbeing Garden.

## Transforming health & wellbeing

The creation of the WB programme enabled the gardening participants to enjoy themselves in a landscape that appeared to transform both physical health and mental wellbeing as it itself was being transformed. It is acknowledged that the creation of landscapes that are seemingly natural can help human flourishing through supporting a sense of identity (Gesler 1992). Moreover, the notion of therapeutic landscapes can support social interaction, and ultimately create therapeutic spaces (Milligan, Gatrell & Bingley 2004). The development of social spaces and subsequent interactions was evident in the participants' described experiences, as many spoke passionately about how they had changed in themselves through taking part at RHS Garden Bridgewater - one going so far as to say it had "saved" her:

*"How it's relaxed me. I mean, when we're tidying up the baskets ... .. I love every minute of it, and I can honestly say, coming here, my daughter now says I'm getting my mojo back. She says, 'My mum's coming back to me.' I'm cracking jokes, laughing, laughing at myself. Having banter with the volunteers. ... I'd say it's saved me. ... I don't know where I'd have gone if there hadn't have been this." (P10)*

Another spoke of the new "spark" he had been given, after having felt before he started like he'd "given up" by constantly watching 'box sets' (i.e. collections of films or television series packaged together):

*"It's self-esteem for me, has been a big factor in this, because I'd just given up before I came here, just... oh, a boxset today; another box set today. ....it gets me out in the fresh air, a bit of sun, ... It has put a new spark into me that I didn't have before."(P2)*

Another woman who was there with her husband, in her capacity as his carer, spoke of how it had given her a sense of freedom, and of being herself again:

*"I feel released, because I have to care for [my husband] at home, ....and I can just go out because I know [RHS staff and volunteers] sort of take him in hand and look after him. ... I can - I just go out and de-head all the flowers - I'm good at that one - but I can be me again. I can be free." (P9)*

About her husband, she also added that in other places *"I have to walk around and hold his hand [but] here he's free." (P9)*

There was an interesting discussion amongst participants of what it was at RHS Garden Bridgewater that had contributed to their transformed sense of wellbeing:

*"What is it that's done it?' you could not put your finger on it. ... It's everything. It's everything and anything, and it's who you're with as well. It's the relationships, because you're building relationships up with other people, and it's just going from there." (P10)*

The therapeutic horticulturalist agreed that it was a combination of factors, with nature as the underlying, nurturing, factor:

*“...when people come here, all these social anxiety elements, ... They're actually, it's like, I've taken the corset off, I can breathe, I can relax, and they're talking to others as though they've known them for a long time. ... So I think, I am not actually doing anything, this is just happening and that's the key, nature is a key healer, is the key carer,” (RHS1)*

Community gardens offer an opportunity for everyday places to serve as therapeutic landscapes (Milligan, Gatrell & Bingley 2004). The WB programme participants valued gardening as a leisure activity that helped them to cope with their illness, providing hope which reflected McQuoid (2017) concept of the ‘leisure-scape’. Moreover, the garden and joint activities that individuals participated in, helped to develop participants’ social networks which improved their wellbeing.

## **Discussion**

Williams (1998) suggests that the ‘therapeutic landscape’ embodies a holistic approach that integrates societal, environmental and emotional determinants as the key influencers. Taking this view highlights how the therapeutic landscape paradigm affords greater insight about the relational aspects of nature-based interventions that can benefit people with chronic illness. Equally, and consistent with a realist evaluation approach, we identified the context in which the WB Programme was embedded into the wider social prescribing ecosystem, thus embracing societal and environmental influences, that improved the wellbeing of participants. Once triangulated, our findings illustrated the way in which nature-based, therapeutic approaches helped to provide a sense of meaning and purpose and reduce social isolation. These wider determinants helped the participants to reframe their perceptions of their medical conditions and promote confidence through enhanced wellbeing.

The RHS WB programme used a transformative approach that ultimately benefitted participants on a number of levels. Firstly, our findings highlighted personal transformations through participation in nature-based activities and the creation of new community connections and a new community asset. This was reinforced by a personalised approach to wellbeing, acknowledging the wider policy shift in the UK towards personalised care (NHS 2019). Secondly, the Realist Evaluation approach enabled insight into the context in which the project was able to operate, namely, the impact of the wider Greater Manchester Devolution strategy and subsequent transformation of public health and local health services. This enabled collaboration between three key health organisations and the RHS, to provide a social prescribing pathway that supported people from across the community. Thirdly, the explication of mechanisms that enabled this collaboration highlighted the transformation of the RHS model and mindset to incorporate community development, therapeutic horticulture, and person-centred wellbeing principles. The fact that the Spinney is to be maintained as part of the larger site, as well as inspiring a more community-minded approach to developing the Wellbeing Garden itself, is testament to this shift in thinking. Equally, the participants in our study described a strong sense of pride, involvement and ownership in their co-creation of the site. Finally, and similar to Conradson’s (2005) and Williams’s

(2002) key influences, the participants were part of the transformation of a physical space, in both the Spinney and the wider RHS Garden Bridgewater site, which underpinned these personal, relational and organisational transformations.

It is acknowledged that therapeutic landscapes are spaces that can promote or support treatment or healing (Gesler 1992). Specifically, Gesler describes therapeutic landscape as places in which “*physical and built environments, social conditions and human perceptions combine to produce an atmosphere which is conducive to healing*” (Gesler 1992: 96). The wider determinants, such as person, environment and societal highlighted in our findings also echo the three key influences as described in Conradson’s (2005) concept of the ‘self-landscape encounter’. Arguably, these ‘ongoing internal connections with people and events in other places and times’ as espoused by Conradson (2005: 338) illustrate how the key influences shape our perceptions and experiences of the landscape and activities within it. Thus, wellbeing which also includes the physical aspect of the therapeutic landscape, can be also be influenced by the connections between others and self within the landscape. Ensuring the success and sustainability of future nature-based projects means adopting a transformative approach that tackles a system predicated on a pathogenic rather than wellness model (Antonovsky 1979). The traditional medical paradigm that focuses on ‘what’s the matter with the person’ is being transformed through a re-focus on ‘what matters to the person’, moving policy-makers, commissioners and practitioners to consider the wider social determinants of health and wellbeing. Arguably, the transformative ‘more than medicine’, personalised approaches adopted by the RHS WB Programme benefitted participants through both the social connections they created *and* their access to the natural landscape. Equally, as a therapeutic landscape the RHS WB programme also provided participants opportunities and space for solace. The relationships developed through social networks in the WB Programme resonate with the dimensions described by Conradson’s (2005) analysis of Holton Lee’s rural respite care centre. For example, the participants in our study developed a relationship with the therapeutic gardener, wellbeing volunteers and other people who attended the WB Programme. Coupled with the leisure activities embedded within the gardening, these relationships appeared to have a positive influence on the participants’ wellbeing.

The gardening participants in our study had all experienced chronic, long-term conditions, resulting in a loss of mobility, ability and, in some cases, confidence. Working with the Volunteers and the Therapeutic Gardener, as part of the wider WB Programme, facilitated the creation of a space in which healing took place. Our research approach recognised the significance of the individuals experience and provided a platform for participants to tell their story and share their experiences. Participants were able to make sense of the world through sharing their experiences and telling a story about the way in which they had been empowered to participate in the WB programme. Green Spaces such as gardens, woodlands, forests and parks are recognised as assets that can promote health and wellbeing (PHE

2020). Some of the positive benefits reported suggest that green spaces that are biodiverse have been shown to improve immune systems (Pedersen 2007), boost mental wellbeing (Howarth et al. 2016) and improve physical activity (Coombes et al. 2010). Significantly, green spaces as a therapeutic landscape can help people to reconnect with each other and nature, and provide an opportunity for people to share their experiences, feelings and aspirations. Stories are, by definition, person-centred, and the qualitative interviews provided a space to share their experiences of feeling part of the bigger story of RHS Garden Bridgewater. According to Sheard, (2004: 24) person-centred care should be understood “*as a life philosophy – an aspiration about being human, about pursuing the meaning of self, respecting difference, valuing equality, facing the anxieties, threats and guilt in our own lives, emphasising strengths in others and celebrating uniqueness and our own ‘personhood’*”. It is acknowledged that our ‘personhood’ can be influenced by our relationships with others (Howarth 2012), and, significantly, the therapeutic relationship provided through the WB programme helped to empower people through embracing the person, as opposed to their long-term condition. Therapeutic relationships, such as that engendered by the therapeutic gardener and transformational approach of the RHS WB programme helped individuals to maximise their independence. Our findings reflect that of English et al (2008), through the way in which participants felt that their own stories and journeys had value by finding new, and rediscovering old, aspects of themselves, and indeed by being part of a larger ‘story’, i.e. history. We take this to indicate that the transformative, person-centred approach of the WB Programme helped participants shed the mindset dominated by their medical condition and instead focus on their wellbeing.

The use of therapeutic horticulture is recognised as a common approach used to support the rehabilitation and treatment of people with chronic long-term conditions (Kamioka et al. 2014) and form part of a range of transformational practices that have positive benefits on wellbeing. The participants described how they were able to ‘lose themselves’ in an activity, which appeared to dilute their focus on their long-term condition and enabled them to enjoy the activities and socialise. This causal journey boosted participants’ self-confidence and helped shape friendships in a space that felt safe. Being completely absorbed, or ‘losing oneself’ in an activity, as described by the gardening participants resonates with Csikszentmihalyi’s (2008) work which describes an optimal experience as being that which people experience when they are “intensely involved in doing something that is fun to do” (2000a, p. 381). Hence, many people with chronic long-term conditions, who often experience multiple social, physical and emotional challenges can benefit from non-medical, nature-based approaches. Equally, this relates to Pitt’s (2013) concept of ‘flow’, which highlights how therapeutic places can benefit person-place interactions and thus enhance wellbeing. Engaging in a beautiful, natural space, that is also person-centred, can be healing (Howarth et al. 2018). Therapeutic activities can help reduce social isolation and improve their confidence in a cyclical and mutually reinforcing pattern (Howarth et al. 2016). The support of the therapeutic gardener was key to the success and helped nurture the participants’ wellbeing through adopting a salutogenic approach to personhood that focused

on an individual's assets rather than deficits, thus promoting self-confidence and growth (Antonovsky 1979, Henry & Howarth 2019).

The beneficial impact of the WB programme indicates how people with long-term conditions can be supported to flourish, gain new skills and engage with nature. Our findings suggest that the participants also felt pride in being part of something historic, which influenced their ongoing participation in the programme, even after they had completed their 12-week engagement. It is well-documented that green spaces can have transformative impacts on health & wellbeing, and this was increasingly observed during Covid-19 restrictions, which influenced many people to use nature as a natural escape (Ma 2020). Chambers (2020) argues that we need nature more than ever and encourages governments to add nature to the recovery plan using 'vitamin N' to support resilience. Similar advice is reported by Hargreaves (2020) who comments that older generations can also benefit from nature - particularly those with cognition problems such as dementia. Within an international context, the World Health Organisation's 'Manifesto for a Health Recovery from Covid-19' (WHO 2020) recommends 'prescriptions for a health and green recovery from Covid' to ensure reciprocal benefits of nature and the environment for human health and environmental health. Thus, globally, there is a strong recognition of nature as a key element of public health and the wider determinants of health. In 2017, the Institute for European Environmental Policy highlighted the value of nature and advised that health and social inequalities were often linked to limited access to nature (Kettunen et al. 2017). In the UK, a series of policy frameworks to support access to green space and nature have been produced, for example, the Biodiversity Framework (2011) and the updated 2019 National Planning Policy Framework (Ministry of Housing, Communities & Local Government 2019), with the latter arguing for "open spaces that reflect current and future needs and support communities' health, social and cultural well-being" (Ministry of Housing, Communities & Local Government 2019: 5). Moreover, there is growing recognition of the importance of green spaces to individual, environmental and social health (Cook et al. 2019), however, urban green spaces are under significant threat due to austerity. Consequently, several initiatives are exploring new economic models to safeguard urban greenspaces and the benefits they generate, such as the National Trust Future Parks Accelerator programme and wider public health strategies to improve access to green space (PHE 2020). The importance of being outside and being able to view a vista (Pretty 2004) or actively participating in nature has a range of benefits (Howarth et al. 2020) which should not be overlooked. Utilising nature-based and therapeutic gardening programmes could furthermore have significant benefits for people who may be shielded due to Covid-19 or who may have been denied access to green space. Green spaces, and activities therein, can provide shelter, comfort and a path to recovery for many, post-Covid and beyond. **The therapeutic qualities experienced in our study existed outside of the project participants' normal daily living. English et al (2008) argues that such experiences can enhance wellbeing through the calming effects of non-traditional sights and sounds. With the use of non-medical approaches, such as the therapeutic landscape, through social prescribing, gaining**

significant momentum over the past few years, the Covid-19 pandemic further emphasises the importance of projects such as the RHS WB programme and other similar nature-based interventions to provide an evidence-based approach to health promotion and behaviour change.

## Conclusion

Our qualitative research has explicated the benefits of nature-based approaches **within a therapeutic landscape** as a social prescription. The RHS Wellbeing Programme was transformational and offered a space to grow, heal and reconnect, improving confidence, self-esteem and wellbeing for those who participated. The recent challenges of Covid-19 and the resultant lockdown measures have unintentionally highlighted the human need to connect with nature, reinforcing the importance of nature as a healer. Many community spaces can promote wellbeing, but, as this research shows, there is something intangible and yet invaluable in creating natural spaces where people can lose themselves in nature and find themselves in the process.

## References

- Annerstedt, M. & Währborg, P. (2011) 'Nature-assisted therapy: Systematic review of controlled and observational studies', *Scandinavian Journal of Public Health*, 39: 371-388.
- Antonovsky, A. (1979) *Health, Stress and Coping*. San Francisco: Jossey-Bass.
- Armstrong, D., Gosling, A., Weinman, J. & Martaeu, T. (1997) The place of inter-rater reliability in qualitative research: an empirical study. *Sociology*, 31(3): 597-606.
- Bertotti, M., Frostick, C., Hutt, P., Sohanpal, R. & Carnes, D. (2018) A realist evaluation of social prescribing: an exploration into the context and mechanisms underpinning a pathway linking primary care with the voluntary sector. *Primary health care research & development*, 19(3), 232–245. <https://doi.org/10.1017/S1463423617000706>
- Bragg, R. & Atkins, G. (2016) *A review of nature-based interventions for mental health care*. Natural England Commissioned Reports, Number 204, London.
- Bragg, R. & Leck, C. (2017) *Good practice in social prescribing for mental health: The role of nature-based interventions*. Natural England, York.
- Chambers, R. (2020) Vitamin N: the power of nature to help us through difficult time. *Inside Track. The Green Alliance*. <https://greenallianceblog.org.uk/2020/04/14/vitamin-n-the-power-of-nature-to-help-us-through-difficult-times/>
- Charmaz, K. (2006) *Constructing Grounded Theory. A Practical Guide through Qualitative Analysis*. London: Sage Publications.

Conradson, D. (2005). Landscape, care and the relational self: therapeutic encounters in rural England. *Health & Place*, 11: 337-348.

Coombes, E., Jones, A.P. & Hillsdon, M. (2010) The relationship of physical activity and overweight to objectively measured green space accessibility and use. *Social Science & Medicine*, 70: 816-822

Cook, P.A., Howarth, M. & Wheeler, C.P. (2019) Biodiversity and Health in the Face of Climate Change: Implications for Public Health. In: Marselle M, Stadler J, Korn H, Irvine K, Bonn A. (eds) *Biodiversity and Health in the Face of Climate Change*. 2019 Springer Press. [https://doi.org/10.1007/978-3-030-02318-8\\_11](https://doi.org/10.1007/978-3-030-02318-8_11)

Corbin, J. & Strauss, A. (2008) *Basics of Qualitative Research* (3rd Ed). London: Sage Publications.

Csikszentmihalyi, M. (2000). Flow. In A. E. Kazdin (Ed.), *Encyclopaedia of Psychology* (Vol. 3, pp. 381-382). New York: American Psychological Association.

Curtis, S., Gesler, W., Smith, G. & Washburn, S. (2000) Approaches to Sampling and Case Selection in Qualitative Research: Examples in the Geography of Health. *Social Science & Medicine*, 50(7-8): 1001-14. [https://doi.org/10.1016/s0277-9536\(99\)00350-0](https://doi.org/10.1016/s0277-9536(99)00350-0)

Dayson, C., Bashir, H., Bennett, E. & Sanderson, E. (2015) *The Rotherham social prescribing service for people with long-term health conditions. Annual evaluation report*. Sheffield Hallam University Centre for regional, social and economic research.

DEFRA (2018) *A Green Future: Our 25 Year Plan to Improve the Environment*. Department for Environment, Food and Rural Affairs, London.

DEFRA (2011) *Natural Choice: Securing the Value of Nature (Natural Environment White Paper)*. Department for Environment, Food and Rural Affairs, London.

Diabetes UK (2019) *Tackling the crisis: Transforming diabetes care for a better future*. April 2019.

English, J., Wilson, K., Keller-Olaman, S., (2008). Health, healing and recovery: therapeutic landscapes and the everyday lives of breast cancer survivors. *Social Science & Medicine*, 67: 68-78.

Gesler, W. M. (1992). Therapeutic landscapes: Medical issues in light of the new cultural geography. *Social Science & Medicine*, 34(7): 735-746.

Gibbons, A., Howarth, M. & Lythgoe, A. (2018) *Evaluation of Social Prescribing Across Greater Manchester*. University of Salford.

Gonzalez, M.T., Hartig, T., Patil, G.G., Martinsen, E.W. & Kirkevold, M. (2010) Therapeutic horticulture in clinical depression: a prospective study of active components. *Journal of Advanced Nursing*, 66(9): 2002-13.

Guba, E.G. (Ed) (1990) *The Alternative Paradigm Dialog*. Sage Publications. London.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59-82.

Hargreaves, A. (2020) Connect with nature and brighten darkest days. *Mental Health Practice RCNI*. <https://rcni.com/mental-health-practice/opinion/comment/connect-nature-and-brighten-darkest-days-160781> (accessed 21 May 2020).

Henry, H. & Howarth, M. (2018) An overview of using an asset-based approach to nursing. *General Practice Nursing*, 4(4): 53–59.

Howarth, M.L. & Lister, C. (2019) Social prescribing in cardiology: rediscovering the nature of and within us. *British Journal of Cardiac Nursing*. 14(8): 1-9.

Howarth, M.L., Rogers, M.M., Withnell, N. & McQuarrie, C. (2018) Growing spaces: an evaluation of the mental health recovery programme using mixed methods. *Journal of Research in Nursing*, 23(6): 476-489.

Howarth, M.L., Brettle, A.J., Hardman, M. & Maden, M. (2020) What is the evidence for the impact of gardens and gardening on health and wellbeing: a scoping review and evidence-based logic model to guide healthcare strategy decision making on the use of gardening approaches as a social prescription. *BMJ Open*, 2020(10).

Howarth, M. (2012) *Being Believed and Believing In: The Impact of Delegitimation on Person-Centred Care for People with Chronic Back Pain*. PhD Thesis. University of Salford.

Kamioka, H., Tsutani, K., Yamada, M., Park, H., Okuizumi, H., Honda, T., Okada, S., Park, S.J., Kitayuguchi, J., Abe, T., Handa, S., Mutoh, Y. (2014) Effectiveness of horticultural therapy: A systematic review of randomized controlled trials. *Complementary Therapies in Medicine*, 22(5): 930-943.

Kenkre, J. & Howarth, M. (2018) Guest Editorial: Social Prescribing. *Journal of Research in Nursing*, 23(8): 640-645. <https://doi.org/10.1177/1744987118816127>

Kearns, R. & Milligan, C. (2020) Placing therapeutic landscape as theoretical development in Health & Place. *Health & Place*, 61. <https://doi.org/10.1016/j.healthplace.2019.102224>

Kettunen, M., Illes, A., Rayment, M., Primmer, E., Verstraeten, Y., Rekola, A., Ring, I., Tucker, G., Baldock, D., Droste, N., Santos, R., Rantala, S., Ebrahim, N. & ten Brink, P. (2017) *Summary report - Integration approach to EU biodiversity financing: evaluation of results and analysis of options for the future*. Final report for the European Commission (DG ENV) (Project ENV.B.3/ETU/2015/0014), Institute for European Policy (IEEP), Brussels /London.

Krueger, R.A. & Casey, M.A. (2000) *Focus groups: A practical guide for applied research*. Thousand Oaks, CA: Sage Publications.

Langlois, E.V., Tunçalp, Ö., Norris, S.L. & Ghaffar, A. (2018) Qualitative evidence to improve guidelines and health decision-making. *Bulletin of the World Health Organisation*, 96(2): 79-79a.

Marshall, M.N. (1996) Sampling for qualitative research. *Family Practice*, 13(6): 522–525, <https://doi.org/10.1093/fampra/13.6.522>

Ma, M. (2020) Dose of nature at home could help mental health, well-being during COVID-19? *Psychology & Psychiatry News*. <https://medicalxpress.com/news/2020-04-dose-nature-home-mental-health.html>

Maxwell, S. & Lovell, R. (2017) *Evidence Statement on the Links between Natural Environments and Human Health*. Department for Environment, Food and Rural Affairs, London.

McCormack, B. (2004) Person-centredness in gerontological nursing: an overview of the literature. *Journal of Clinical Nursing*, 13(3a): 31–38.

McQuoid, J. (2017). Finding joy in poor health: The leisure-scapes of chronic illness. *Social Science & Medicine*, 183: 88-96.

Milligan, C., Gatrell, A. & Bingley, A. (2004) 'Cultivating health': therapeutic landscapes and older people in northern England. *Social Science & Medicine*, 58(9): 1781-93.

Miles, M.B. & Huberman, A.M. (1994) *Qualitative Data Analysis: An Expanded Sourcebook*. (2nd Ed) Sage: London.

Ministry of Housing, Communities and Local Government (2019) *National Planning Policy Framework*. February 2019. London.

National Social Prescribing Academy (2020) *A social revolution in wellbeing. Strategic plan 2020–23*. [https://socialprescribingacademy.org.uk/wp-content/uploads/2020/03/NASP\\_strategic-plan\\_web.pdf](https://socialprescribingacademy.org.uk/wp-content/uploads/2020/03/NASP_strategic-plan_web.pdf) (accessed 15 May 2020)

NHS (2019) *The NHS Long Term Plan*. NHS England, London.

Patz, J., Corvalan, C., Horwitz, P., Campbell-Lendrum, D., Watts, N., Maiero, M., Olson, S., Hales, J., Miller, C., Campbell, K., Romanelli, C. & Cooper D. (2012) *Our Planet, Our Health, Our Future. Human Health and the Rio Conversations: Biological Diversity, climate Change and Desertification*. WHO: Geneva.

Pawson, R. & Tilley, N. (1997) *Realistic evaluation*. Sage.

Pedersen, B.K., Åkerström, T.C.A., Nielsen, A.R. & Fischer, C.P. (2007) Role of myokines in exercise and metabolism. *Journal of Applied Physiology*, 103(3): 1093–1098. <https://doi.org/10.1152/jappphysiol.00080.2007>

Pitt, H. (2014). Therapeutic experiences of community gardens: Putting flow in its place. *Health & Place*, 27, 84-91.

Ponterotto, J.G. (2005) Qualitative research in counselling psychology, A Prime in research paradigms and philosophy of science. *Journal of Counselling Psychology*. 52(2): 126-136.

Pretty, J., Peacock, J., Sellens, M. & Griffin, M. (2005) The mental and physical health outcomes of green exercise. *International Journal of Environmental Health Research*, 15(5): 319–337.

Public Health England (2020) *Improving access to greenspace: A new review for 2020*. PHE Publications, London.

Sheard, D. (2004) Person-centred care: the emperor's new clothes? *Journal of Dementia Care*, 12(2): 22–4.

WHO (2017) *Noncommunicable diseases progress monitor 2017*. World Health Organization. September 2017.

WHO (2020) *Manifesto for a healthy recovery from COVID-19*. World Health Organization, Geneva.

Wichrowski, M., Whiteson, J., Haas, F., Mola, A., & Rey, M.J., (2005) Effects of horticultural therapy on mood and heart rate in patients participating in an inpatient cardiopulmonary rehabilitation program. *Journal of Cardiopulmonary Rehabilitation and Prevention*, 25: 270 –274.

Williams, A., (2002). Changing geographies of care: employing the concept of therapeutic landscapes as a framework in examining home space. *Social Science & Medicine*, 55: 141-154.

Wood, C.J., Pretty, J., & Griffin, M. (2016) A case–control study of the health and well-being benefits of allotment gardening. *Journal of Public Health*, 38(3): e336-e344. <https://doi.org/10.1093/pubmed/fdv146>