

Can gardens, libraries and museums improve wellbeing through social prescribing?

A digest of current knowledge and engagement activities



**GARDENS,
LIBRARIES
& MUSEUMS**



NUFFIELD DEPARTMENT OF
PRIMARY CARE
HEALTH SCIENCES

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This report was designed by Ruby Lyons. Ruby is a Chemistry student at Oxford University. She has been involved in a variety of student-led projects as a graphic designer but has also had roles in marketing and set design. Alongside her studies she has worked on magazines, radio plays, short films and theatrical productions. Samples from her portfolio can be found on Instagram under riblyonsgraphics.

Foreword

It is widely accepted that our health and wellbeing is affected by a variety of factors. It stands to reason then that approaches to promote good health and provide high-quality care should also be multifaceted. But despite commitments to providing holistic care, healthcare providers are already overstretched. Innovative ways of delivering care to people, that genuinely take a whole-person-centred approach, while recognising the challenges facing modern medicine, are the future.

Social prescribing lends itself well to this sort of thinking. The approach seeks to recognise, address and manage the non-clinical needs of individuals. The key though is that this much-needed platform can support, complement and enhance conventional ways of providing clinical care. As a result, social prescribing is increasingly, and formally, being recognised by health care providers both nationally and internationally.

Part of the approach to supporting social prescribing is to unleash the potential of existing cultural environments, local-services and community-based assets. In 2017, the All-Party Parliamentary Group on Arts, Health and Wellbeing produced the report *Creative Health: The Arts for Health and Wellbeing*. The report highlighted how the arts can help keep us well, support some of the significant challenges facing health and social care and save money for already overstretched services.

In this beautifully presented report, the authors from the University of Oxford seek to explore how spaces such as gardens, libraries and museums can be used to support social prescribing. The report outlines two main themes. Firstly, the report highlights the findings of a literature review of the current knowledge and evidence base for gardens, libraries and museums supporting good health and wellbeing. The literature review showcases the importance of intentional therapeutic landscapes in creating a sense of calm and wellbeing. The authors also highlight some tools which have been used to evaluate social prescribing initiatives.

Secondly, the report reflects on two knowledge exchange events held in Oxford in July 2019. Through these events, the authors have obtained valuable perspectives of stakeholders and members of the public on social prescribing in promoting population level and individual-focused wellbeing. For example, the report shares personal experiences of people who have engaged with some of the local initiatives in Oxford such as “Meet Me at the Museum”, “Brain Diaries” and “Story Makers”. These compelling, intimate and real-world narratives bring home the richness that these initiatives have to offer. The stories also highlight how local areas can use their own unique local assets to serve and benefit their local communities.

Thankfully, the role of social prescribing in the nation’s health and wellbeing is now being recognised as an exciting area requiring focus and attention. Its potential is boundless and hugely promising. But this promise needs close interdisciplinary working to ensure policies are evidence-based and accessible. The launch of the new National Academy for Social Prescribing will go some way towards that as will other championing. The passion and enthusiasm with which this report has been written will ensure that it is elevated beyond a simple exchange of ideas, to a catalyst to inspire and motivate further the social prescribing movement.

Rt Hon. Lord Howarth of Newport CBE,
Co-Chair of the All- Party Parliamentary Group on Arts, Health and Wellbeing



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Executive Summary

Background

There is growing recognition that our health is influenced by a variety of factors. Some of these may be medical, others may be social, environmental or economic. As a result, there is a need to support people by taking a more whole-person-centred approach to health and wellbeing.

Social prescribing may be one way of facilitating this. It may involve referral or signposting patients to a range of local, community based non-clinical services (or “assets”), aiding patients to receive the appropriate support for their non-medical needs (1). Social prescribing may also relieve pressures on overburdened healthcare systems (2), particularly given the estimations that up to one in five appointments with a GP are related to non-medical problems, such as housing, financial concerns, and social isolation (3).

Releasing the full potential of community assets may be key in ensuring social prescribing is sustainable. Such assets may include existing spaces such as gardens, libraries and museums. However, there is a knowledge gap between how, why and under what conditions these assets may support social prescribing initiatives.

This report seeks to close some of that gap and reflects on a joint venture between the University of Oxford Centre for Evidence-Based Medicine (CEBM) and the Gardens, Libraries and Museums (GLAM) division of the University of Oxford, exploring the ways that these venues could contribute to health and wellbeing and be a part of social prescribing.



The aim of this report

The aim of of this report is two fold:

1. To present findings from a rapid literature review of the current knowledge and evidence base from interventions in gardens, libraries and museum for health and wellbeing.

This includes identifying some of the key frameworks and concepts underpinning such interventions; characterising the evidence base; describing barriers and facilitators to running or engaging in activities based in gardens, libraries and museums; highlighting the various tools that have been used in evaluating such interventions; and presenting case studies of some of the activities that are run by Oxford's own Gardens, Libraries and Museums (GLAM).

2. To present findings from two participatory workshops held in Oxford in July 2019, the first for members of the public and the second for stakeholders who provide or commission social prescribing services. The aims of the workshops were to gauge an understanding of social prescribing; identify future research priorities and shared interests in the area of social prescribing; obtain the perspectives of members of the public on social prescribing in general and, more specifically, the role of GLAM for health and wellbeing.

Findings from the literature review

A search of the Medline database yielded 208 studies. Of these, 27 were included after title, abstract and full text screening. Nine were primary qualitative studies; two were cohort studies; eight were observational studies with a pre-post design; one study was quasi-experimental; three were systematic or scoping reviews; three were narrative pieces; and one paper described the development of a tool. The studies covered interventions across a range of conditions encompassing mental health, social isolation and exclusion, old age, and long-term conditions such as dementia and cancer. A further two key reports and documents were identified and included through Google searches and discussions with experts.

Three key concepts emerged as underpinning gardens, libraries and museum interventions:

1. Therapeutic landscapes;
2. Creating a sense of "flow"
3. Drawing on social capital

Furthermore, the review identified some of the mechanisms through which engaging in gardens, libraries and museum activities can produce benefits for health and wellbeing. These include: knowledge and skill acquisition; providing a sense of structure and purpose; relaxing and comforting environments; memory, repetition and reminiscence; and social connection.

Several key barriers and facilitators to running and engaging in gardens, libraries and museum activities were identified in both the literature and through the public engagement and involvement workshop. These include: organisational factors; staff capacity; physical safety; cost; accessibility; regularity of sessions; and awareness of gardens, libraries and museum activities.

The review also identified a number of tools used in evaluating gardens, libraries and museum activities. A list of these tools and examples of their use can be found on pages 35-36.

We found that the evidence across the literature is unevenly distributed and of variable quality. Across the field, there is a call for high-quality evaluations which permit comparative analysis. Furthermore, there is a need to develop evaluation methods that work in GLAM settings and with people living with long-term conditions such as dementia.



The studies covered interventions across a range of conditions encompassing mental health, social isolation and exclusion, old age, and long-term conditions such as dementia and cancer.



Case Studies from Oxford's Gardens, Libraries and Museums

This report presents the following three examples of the activities which take place at Oxford's GLAM venues to support people's health and wellbeing:

Meet Me at the Museum – a regular group for older adults and their carers where participants meet for coffee and then take part in a variety of museum activities such as object handling and “behind the scenes” tours.

Story makers – a programme which engages with local primary schools in Oxford in areas with government indices of multiple deprivation. The programme is designed for 7-11 year olds with communication difficulties, and the adults who work with them in school, to support developing speech and language through engagement in the arts and visits to Oxford's museums and gardens.

Brain Diaries – a collaborative project between the charity Headway Oxfordshire, poet Kelley Swain and the Joint Museums Community Engagement team in response to the Brain Diaries exhibition at the Museum of Natural History. The programme was for those affected by brain injury, along with their families and carers.

Participatory workshops with members of the public and stakeholders

As part of our engagement activities, we held two knowledge exchange workshops, summarised below:

Workshop 1:

What have gardens, libraries and museums got to do with your health and wellbeing?

A workshop for members of the public

The aim of the workshop was to explore what members of the public understand and think about social prescribing and talk to them about how GLAM venues could contribute to their health and wellbeing. The workshop was attended by 30 members of the public from a wide range of age groups.

Through group discussion, barriers and drivers towards using GLAM spaces for health and wellbeing were identified. These included: cost, accessibility (e.g. parking, special sessions for those with sensory sensitivities or who struggle in crowded spaces, signage and exhibit descriptions), regular sessions, having social experiences, advertising of events, and opening outside of regular working hours.

Many participants came and told us after the day how much they enjoyed it and how interesting they found the discussions.

Workshop 2:

How can gardens, libraries and museums support social prescribing?

A meeting to foster awareness and collaborations

The aim of the workshop was to bring together key stakeholders with an interest in social prescribing, who were keen to explore how GLAM venues could become part of social prescribing offers. A key goal of the day was to encourage networking and build new and accelerated knowledge exchange relationships, where mutual research and implementation priorities could be identified.

The workshop was attended by 33 stakeholders representing a range of institutions and services. These included: the Royal College of General Practitioners; Wellcome Trust; Arts Council England; The All-Party Parliamentary Group on Arts, Health and Wellbeing; researchers from different departments at the University of Oxford; the local Clinical Commissioning Group; the local council; as well as many local charities and social prescribing service providers.

Throughout the day it was evident that participants enjoyed the opportunity to network and learn about existing social prescribing initiatives. Business cards were exchanged and stakeholders identified opportunities for collaboration with one another as well as with the GLAM and CEBM teams.

The day ended with a discussion on priorities for future work in the area of social prescribing and GLAM for health and wellbeing. These included: the importance of sharing examples of best practice; the need for high quality evaluation and better evaluation tools; the sustainability of social prescribing initiatives; ensuring social prescribing initiatives do not exclude “harder to reach” groups; and developing commissioning and implementation structures that ensure social prescribing initiatives align with local needs and assets.

Participant feedback about the workshop was overwhelmingly positive and it was clear that the day was a valuable knowledge exchange and networking event for everyone involved.

Concluding Remarks

This report is a catalyst for that ambition and reflects a growing partnership between the Centre for Evidence Based Medicine, Nuffield Department of Primary Care Health Sciences, and the University of Oxford Gardens, Libraries and Museums division. There has been a considerable movement within the arts, cultural and heritage sectors over the last two decades, looking at the well-being benefits from community-based gardens, libraries and museums. This project has highlighted the great enthusiasm and support for social prescribing and the role that these spaces play in health and wellbeing. This movement could be accelerated by developing a stronger evidence base for how these community "assets" can support the current policy for social prescribing.

Our literature review highlighted several key concepts to facilitate the use of these assets for social prescribing. It also drew out some of the mechanisms through which these interventions can benefit health and well-being, and the tools for evaluating these benefits. The review also highlighted gaps in the evidence base as well as the need for better ways of measuring outcomes to capture the nuanced and rich impact that community assets have on individuals and communities. These gaps must be addressed to improve evidence-informed decision making.

Our knowledge exchange workshops demonstrated the considerable potential for these spaces to support public health and wellbeing, but also highlighted the barriers that would need to be overcome to enable this. Part of the solution will depend on wider stakeholders taking a more integrated approach to the implementation of these interventions.

As a result of this partnership, we have developed new lines of interdisciplinary research. Together we are exploring the impact of culture and the arts on people's wellbeing, which in the longer term, will have a significant effect on population health provision and policy. Our work chimes with governmental level thinking. The Department of Health and Social Care, the Department for Digital, Culture, Media and Sport, and the Arts Council England are developing policy, funding streams, and advocacy for the central role museums, arts, heritage and culture can play in health and well-being.



Background and relevance of this report

In November 2018, a team from the Centre for Evidence-Based Medicine (CEBM) was awarded a Knowledge Exchange grant by the University of Oxford to work alongside the University's Gardens, Libraries and Museums (GLAM) to explore how these venues could contribute to health and wellbeing and be a part of the social prescribing initiative.

There is growing recognition that our health is influenced by a variety of factors and therefore there is a need to support people by taking a more whole-person-centred approach to health and wellbeing. The 2016 NHS GP Forward View set out ambitious plans to provide a better NHS, and specifically made a point of recognising that “people’s health is determined primarily by a range of social, economic and environmental factors” (4). Social prescribing is one of the strategies which sets out to facilitate this whole-person-centred approach.

While the evidence for social prescribing is currently limited to a small number of evaluations, of variable quality, most of these report positive outcomes (1). Social prescribing now features as a central part of the NHS Long-Term Plan’s commitment to delivering personalised care and NHS England will invest in the training of 1,000 social prescribing link workers over the coming years (5). These individuals help patients to identify their health and well-being priorities; they then connect people to local activities, organisations and groups that can help them address some of their non-clinical needs and goals. Community assets and services, such as walking groups, luncheon clubs, and gardening activities, are often provided by charitable, volunteer and community sector organisations (6). Social prescribing may also relieve pressures on overburdened healthcare systems (2), particularly given the estimations that up to one in five appointments with a GP are related to non-medical problems, such as housing, financial concerns, and social isolation (3).

Releasing the full potential of community assets may be key in ensuring social prescribing is sustainable. Such assets may include existing spaces such as gardens, libraries and museums. However, there is a knowledge gap between how, why, and under what conditions these assets may support social prescribing initiatives. This report seeks to close some of that gap and reflects on a joint venture between the University of Oxford Centre for Evidence-Based Medicine (CEBM) and the Gardens, Libraries and Museums (GLAM) division of the University of Oxford, exploring the ways that these venues could contribute to health and wellbeing and be a part of social prescribing.



Evidence for the benefit of museums and creative activities on health and wellbeing is growing rapidly.

The potential role for Gardens, Libraries and Museums

Garden, library and museum environments present valuable opportunities and spaces for activities that could be incorporated into social prescribing schemes. Gardens, libraries and museums have long been involved in running workshops and community outreach events and evidence for their positive effect on health and wellbeing is mounting (7). Gardening activities have been shown to have benefits for physical and mental wellbeing through both the management and prevention of ill health (8). For example, Lewisham NHS Clinical Commissioning Group has created a partnership with the Sydenham Garden Community, to help people in their recovery from mental and physical ill-health (9). During the 2018 “Libraries Week”, NHS England’s Director for Experience, Participation and Equalities highlighted the ways that public libraries could help the NHS promote health and wellbeing, particularly for patients with long-term conditions (10). Evidence for the benefit of museums and creative activities on health and wellbeing is growing rapidly (11). There is a strong movement through the Culture Health and Wellbeing Alliance (12) and the All-Party Parliamentary Group on Arts, Health and Wellbeing (7) to promote and evidence the benefit of museums and other cultural activities on health and wellbeing. The University of Oxford’s GLAM division has a portfolio of implemented health and social wellbeing public initiatives. These include: “Meet me at the Museum” (a social workshop for older people and those living with dementia); “Story Makers” (a collaborative project with Fusion Arts and local schools to help support children with communication difficulties using creative approaches); “My Brain Diaries” (a joint project with Headway Oxfordshire in response to the Brain Diaries exhibition for those living with the effects of brain injury and their families and carers).

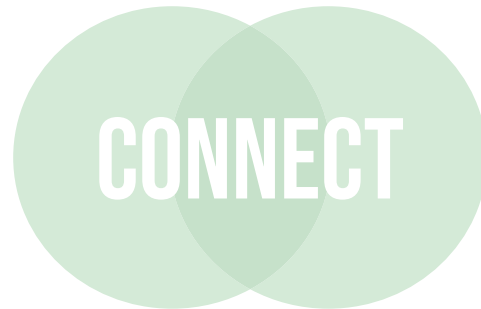
Framing the potential benefit: The 5 Ways to Wellbeing

The “5 Ways to Wellbeing” is an evidence-based framework developed by the New Economics Foundation to provide guidance on actions that people can take to improve their wellbeing (13). The framework was commissioned by the UK Government’s Foresight project on Mental Capital and Wellbeing (14) in 2008. The project set out to identify and analyse the most important drivers of mental capital and wellbeing, and develop a vision for its maximisation and sustainability for the benefit of society and individuals. Rather than being a comprehensive model of wellbeing, the five recommendations (connect; be active; take notice; keep learning, and give) are intended to provide a practical, memorable, achievable and “evidence-based” guidance to prompt thinking about the things in life which are important for wellbeing (13). The five actions aim to promote behaviour change by creating feedback loops that encourage people to reflect upon and adopt behaviours that positively affect their wellbeing (13). In this report the framework is used to help conceptualise how some of the activities in Oxford’s GLAM venues may contribute to health and wellbeing for all those participating.

5 Ways to Wellbeing Framework

Connect:

Build relationships with people around you in your everyday life. These connections will support and enrich you every day.



Stay active:

Exercise makes you feel good. Choose something you enjoy and that suits your level of fitness.

Keep Learning:

Learning new things can be fun and will make you more confident. Pick up something new or rediscover an old interest.



Give:

Giving to others – by doing something nice for someone, volunteering, or joining a community group – can be incredibly rewarding and creates connections with people and communities around you.

Take notice:

Being aware of the world around you, reflecting on your experiences and what you feel will help you appreciate the things that matter to you.



The aim of this report

The aim of this report is to reflect the outcomes from a knowledge exchange project led by the University of Oxford's Centre for Evidence Based Medicine and Gardens Libraries and Museums division. This project aimed to promote knowledge exchange between academics, clinicians, policymakers and members of the public, providing or receiving NHS social prescribing initiatives, and partners at the University of Oxford Gardens, Libraries and Museums (the GLAM) division. The objectives included were to:

- Build new and accelerated knowledge exchange relationships where mutual research and implementation priorities are matched by public need.
- Raise general awareness of the role and value of social prescribing.
- Convene two participatory workshops for members of the public and other stakeholders involved with the use, implementation or dissemination of social prescribing schemes.
- Identify future research priorities of shared interest, including the potential development of a new social prescription scheme.
- Rapidly synthesise current evidence on the topic, including exploring key frameworks and concepts underpinning these interventions.

In this report, we will:

1. Explore key frameworks and concepts underpinning gardens, libraries and museum interventions;
2. Characterise the evidence base for gardens, libraries and museum interventions;
3. Highlight barriers and facilitators to undertaking gardens, libraries and museum interventions;
4. Highlight various tools that have been used in evaluating gardens, libraries and museum interventions;
5. Present case studies of programmes currently run by the University of Oxford's own GLAM institutions;
6. Report on two participatory workshops.





The evidence for Gardens, Libraries and Museums improving health and wellbeing

A rapid review of evidence

A rapid review was conducted to identify some of the key, current literature exploring the potential of gardens, libraries and museums to affect health and wellbeing:

The question that guided the review was: “What are the interventions involving gardens, libraries and museums for improving health and wellbeing?”

Searching for the evidence

A rapid search on Medline database was conducted. A detailed search strategy can be found in Appendix 1.

A rapid search through Google was also conducted to help identify policy reports or opinion pieces related to gardens, libraries and museum for health and wellbeing.

In addition, key documents were identified through discussion with subject experts and attendance at a workshop about connecting research policy and practice on arts, health and wellbeing and an All-Party Parliamentary Group meeting on the arts for health and wellbeing.

Inclusion Criteria

We included all study designs whether quantitative or qualitative. We included all population types but limited the studies to those conducted in the United Kingdom. We excluded studies exploring the effect of exposure to green space on health and wellbeing as this literature was vast and not directly relevant to our project.

Results

The Medline search yielded 208 studies. Of these, 27 were included after title, abstract and full text screening. Nine were primary qualitative studies; two were cohort studies; eight were observational studies with a pre-post design; one study was quasi-experimental; three were systematic or scoping reviews; three were narrative pieces; and one paper described the development of a tool. A further two key reports and documents were identified and included through Google searches and discussions with experts. The studies covered interventions across a range of conditions including dementia, cancer, social isolation, various mental health conditions, behavioural difficulties, general aging, and multiple sclerosis. A summary of each of the 27 included papers can be found in Appendix 2.

Analysis

Full text papers were explored thematically (15) in order to identify some of the key mechanisms and frameworks underpinning gardens, libraries and museums interventions for health and wellbeing. This was done by organising and coding full text papers in NVivo (16). Once coding was completed, codes were organised into a broader thematic framework which was derived from the analysed literature.

Key reports

Our search highlighted two key reports in the field, summarised below.

Report 1

Creative Health: The Arts for Health and Wellbeing

Authors

All-Party Parliamentary Group on Arts, Health and Wellbeing

Summary

Offers an extensive review of the existing evidence and practice around the role that the arts and culture play in health and wellbeing.

Key Findings

The Arts for Health and Wellbeing

Outcomes of creative processes can be accessed in a variety of ways such as walking through cities or heritage sites, visiting concert halls, galleries, museums or libraries. The act of creation, and our appreciation of it, can provide an experience that has a positive effect on wellbeing across all life stages.

The Arts and the Social Determinants of Health

The social determinants of health are now a central consideration across health policy documents in the UK. Devolved administrations in the UK and combined authorities in England are increasingly using arts-based strategies to address the social determinants of health. Health inequalities and their social determinants operate across the life course and engagement with the arts may help mitigate the effects of an adverse environment. It does this by influencing maternal nutrition and mental health; childhood development; shaping educational and employment opportunities; enabling self-expression; tackling chronic distress; and through empowerment and overcoming social isolation. Accessing the arts through health and wellbeing routes may also help address some of the inequalities related to access to the arts in general.

Evidence

The evidence for the positive role that the arts play in health and wellbeing spans a range of research and evaluation methodologies and practices. Evidence is unevenly distributed across the field, is of variable quality and is sometimes inaccessible. Future research should focus on good-quality evaluation, which permits comparative analysis. Furthermore, there is a need for longitudinal research into the relationship between arts engagement and health and wellbeing.

Policy, Commissioning and Funding

The crisis in health and social care caused by an aging population and the prevalence of long-term conditions is demanding innovative solutions. Engagement in the arts has a positive effect on health and wellbeing and may therefore play a vital role in supporting population health – both in terms of prevention and coping with long-term conditions. It can also improve the humanity, value for money and overall effectiveness of the complex health and social care system.

**Place,
Environment
and Community**

The natural and built environments in which we live can have a significant effect on our wellbeing and health. The shift in health and social care towards a patient-centred, holistic approach relies upon the existence of individual and community assets. The arts can play an important role in person-centred and place-based care. Social prescribing can provide a pathway for arts engagement, which can help reduce anxiety, depression and stress, as well as aid the management of long-term conditions.

**Childhood,
Adolescence
and Young Adulthood**

Arts can foster and develop cognitive and socio-emotional skills during the early years of life. Engagement with literature encourages linguistic advancement; learning to play music affects the morphology of the brain and can improve literacy and spatial reasoning. Arts in the community can also provide a welcoming environment outside of school; this can be particularly important for children excluded from school.

**Working Age
Adulthood**

Arts engagement at work and in leisure time may help to overcome anxiety, depression and stress – leading causes of sickness and absence from work. The arts can play an important role in recovery from stressful events and illness – such as stroke, cancer, cystic fibrosis and Parkinson’s disease.

Older Adulthood

Engagement with the arts can help foster healthy aging. It can boost brain function and improve the recall of personal memories – particularly beneficial for those living with dementia and their carers.

End of Life

The arts can offer physical, psychological, spiritual and social support to those facing death. They can help people to cope with the pain and anxiety associated with terminal illness and to find meaning and narratives of hope as well as coming to terms with dying.

Reference

(11) Creative Health: The Arts for Health and Wellbeing
Available from: http://www.artshealthandwellbeing.org.uk/appg-inquiry/Publications/Creative_Health_Inquiry_Report_2017.pdf

Report 2

Gardens and Health: Implications for Policy and Practice

Authors

David Buck; Kings Fund

Summary

A report commissioned by the National Gardens Scheme to contribute to the understanding, assessment and development of the links between gardens and health. It examines the impact of gardens and gardening on health and wellbeing and explores what the health and social care system can do to maximise this impact.

Key Findings

The Evidence

Evidence of gardens for health and wellbeing is closely related to the wide range of evidence surrounding “green spaces and health”. Increased exposure to green spaces has been linked to health benefits including long-term reductions in overall health problems (such as heart disease, cancer and musculoskeletal conditions); increased levels of physical activity and reductions in obesity; improved mental health; and opportunities for learning and vocational development. Most studies evaluating the effects of green space on health are qualitative and observational, with relatively few randomised controlled trials. Gardens and gardening become increasingly important in older age as a source of physical activity as well as a source of identity and independence.

Gardening and its place within the health and care system

Gardens are becoming a key aspect of social prescribing and community referral schemes; an increasing number of community garden schemes support individuals in different ways. Examples include schemes for growing food or reciprocal garden schemes which connect older isolated people with untended gardens with people who do not have a garden and want to be involved in gardening. Gardens have also been shown to play an important role in recovery from illness as well as in the management of dementia, where gardens can help reduce symptoms such as agitation and aggression.

Reference

(8)David Buck A, Waller S, Petrokovsky C, Harrison D, Rosen E, Fell G, et al. Gardens and health Implications for policy and practice
Available from: <https://www.kingsfund.org.uk/publications/gardens-and-health>



Engagement in the arts has a positive effect on health and wellbeing and may therefore play a vital role in supporting population health.

Key concepts underpinning Gardens, Libraries and Museums interventions for health and wellbeing

Our rapid synthesis and thematic exploration of the evidence drew out three common concepts that underpin gardens, libraries and museums as supporting health and well-being. These were: “Therapeutic Landscapes”; “Creating a Sense of Flow”; and “Drawing on Social Capital”.

Theme 1:

Therapeutic Landscapes

The concept of “therapeutic landscapes” was identified across the reviewed literature. Therapeutic landscapes are spaces “where the physical and built environments, social conditions and human perceptions combine to produce an atmosphere which is conducive to healing” (17). The concept originates from the geographic literature (18) but has since been expanded, refined and applied across the social sciences and applied health research (19). These landscapes can be either “natural” or created. They can satisfy a human need for roots, as well as acting as the location for social networks and providing settings for therapeutic activity (18,20). The concept offers a holistic, socio-ecological understanding of health that highlights the complex interactions between the physical, mental, emotional, spiritual, societal and environmental aspects of life and their impact on health and wellbeing (20).

Gardens can be therapeutic in a number of ways, for people across all ages and health statuses (21) (20). Physical engagement with the environment (through activities such as gardening or moving through it), as well as mental engagement (through sensory experiences and people’s sense of place), have aesthetic and therapeutic benefits (20) (8). In particular, studies of gardening activities have shown

that they can offer a site of comfort and an opportunity for individuals to experience emotional, physical and spiritual renewal and relaxation (20)(22) as well as providing a sense of achievement and ownership (21–24).

In the reviewed literature, libraries were discussed as being more than just buildings that house services and provide access to materials. Research by Brewster (25) identifies three aspects of the public library that may be therapeutic: the library as a familiar and welcoming environment; a quiet and calm atmosphere; and the empowerment associated with being able to make non-commercial and unpressured decisions about what to read (p. 99).

While the idea of “therapeutic landscapes” was not explicitly discussed in reference to museums, authors have highlighted a number of aspects of the museum and gallery environments which may have therapeutic properties (26)(27). Museums are spaces free of assumptions about illness or wellness and in the UK are usually accessible to all (27). They tend to be non-stigmatising settings which people are not judged for attending. Museums can also be spaces that encourage people to learn more about themselves, their culture and society, as well as the larger world around them (26).

Theme 2:

Creating a sense of “flow”

The concept of flow is discussed in an article about therapeutic experiences of community gardens (20) (22) and is defined as “the state in which people are so involved in an activity that nothing else seems to matter” (28). When in flow, time passes quickly and individuals cease to feel separate from the task they are undertaking. Concentrating on the activity at hand, one becomes so absorbed that the task feels effortless and other concerns or worries are forgotten (22). The concept of flow can help to explain how certain activities can be restorative, highlighting characteristics that can be replicated and transferred to create further opportunities for therapy (22). While flow tends to be discussed in relation to how gardening activities achieve positive health and wellbeing outcomes, it is evident from the literature on libraries and museums that the concept, while not explicitly mentioned, is present. For instance, physical distance from work or home, or aspects of everyday life that are difficult, reinforces mental distance from these stressors. Flow is therefore more likely to occur in spaces which are “away” from normal life (22). The therapeutic properties of being away from everyday life and being able to meaningfully engage in other activities was highlighted in the literature on libraries (25), museums (29) as well as gardens (23)(21,24).



THERAPEUTIC LANDSCAPES



CREATING A SENSE OF FLOW



DRAWING ON SOCIAL CAPITAL

Theme 3:

Drawing on social capital

Throughout the literature on gardens, libraries and museums, the importance of socialising, building social networks and reciprocal relationships, is prominent. Social capital can be understood as the features of society and social organisations that enable that society to function, such as the networks of people who live in a society, social norms, and social trust (30). The amount of social capital possessed by an individual will depend on the size of the social network they can effectively mobilise (30). Social capital has been linked to a number of health outcomes (31) through different mechanisms, such as mitigating loneliness and having access to advice. Many of the gardens, libraries and museum interventions for health and wellbeing reported that their participants valued the connections they formed with others involved in the activity (21,32) and feeling part of a group (25) (27)(29). Activities that encourage reminiscence, which are often used in gardens, libraries and museum interventions for older people and those living with dementia, can help stimulate bonding social capital which promotes positive feelings (30). It is worth noting that there are a number of variants and understandings of social capital which depend on the context in which it is being studied (31).

Mechanisms through which Gardens, Libraries and Museums may improve health and wellbeing

In reviewing the literature, we have identified five common concepts through which GLAM interventions could promote wellbeing, detailed below.

Concept 1:

Knowledge and Skill Acquisition

Learning is a key element of many of the gardens, libraries and museum activities and features prominently as a key factor in the improvement of health and wellbeing across the literature (21,25,32–35). Through knowledge and skill acquisition, participants across interventions gained a sense of empowerment and independence. Learning new skills or having access to knowledge is considered empowering (25) and allows for personal and career development (21,25). Public libraries provide access to opportunities for learning which are free of charge (25). This is particularly important for those for whom cost is a barrier to learning. Learning helps keep the mind “active” and can be an important therapeutic element for people living with dementia (29). Activities such as museum object-handling can level the playing field and knowledge hierarchy for people with dementia, as the objects are usually new to everybody participating. Acquiring new knowledge together in groups can be empowering and helps build confidence in people living with dementia (29). Learning is also one of the activities for wellbeing highlighted in the “5 Ways to Wellbeing” framework (13).

Concept 2:

Providing Structure and a Sense of Purpose

Activities such as visiting gardens, gardening, nature conservation (23,36), and visiting libraries (25) can offer structure, routine and purpose. This can be particularly important for those suffering from depression who may struggle with everyday tasks (25).

Concept 3:

Relaxing and Comforting Environments

Gardens, libraries and museum spaces can be environments of enjoyment, relaxation and comfort. Gardens, for example, can offer an escape from the stresses associated with urban life (37) and be a source of pleasure (21,23). Likewise, libraries are perceived to be calm and quiet spaces, away from the stresses of the outside world (25). For those living in care homes, gardens can provide normalising spaces for visits which can help them be more relaxing and enjoyable (23).



Concept 4:

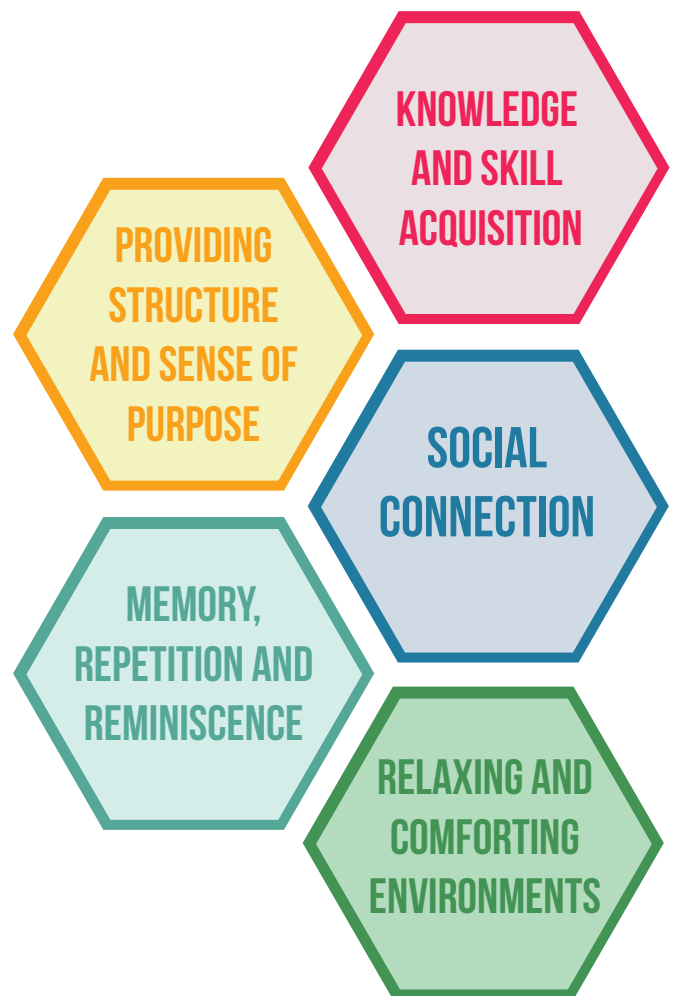
Memory, Repetition and Reminiscence

In the reviewed literature, studies discussed interventions for people with dementia or those living in care homes. For these groups, activities that encourage repetition and reminiscence may be particularly therapeutic. Object-handling can help trigger memories and encourage participants to reminisce about life in the past. The activity allows participants to develop their own interpretations of the objects and connect with them in individually meaningful ways (34). People living with dementia who took part in an art viewing intervention reported feeling that they were able to remember further back than they thought they could (35). For participants in a study exploring the effect of a garden in a care home setting (23), the garden was a place where residents were able to connect with the lives they had outside the care home. Feeding birds and watering the garden brought back memories from childhood about which they were then able to talk.

Concept 5:

Social connection

Connecting socially is one of the tenets of the “5 Ways to Wellbeing” framework (13) and features prominently across the literature reviewed. Most of the interventions involved a strong component of social engagement and interaction which was observed to be a key contributor to health and wellbeing. For example, these interventions can improve relationships for people who are socially marginalised or isolated (20,26). Volunteering in a green space helped men who had been in trouble with the law and were socially marginalised to interact with members of the public who visited the garden and to improve their social skills (21). Those attending museum-based interventions considered the social aspect to be one of the key drivers of improvements in wellbeing (24,27,29,32). Museum object-handling interventions allow people to feel connected to other cultures and groups of people as well as the wider world around them (38). Learning and acquiring new skills through volunteering allowed socially marginalised people to feel like they were giving back to others and the environment (21). Giving is also identified as a key way to wellbeing (13).



The connection that participants formed with the staff delivering these interventions or employed in these spaces is seen as therapeutic. For people living with mental health conditions, public library staff are an integral part of their positive experiences of visiting libraries. Through getting to know regular library visitors, the staff gain an understanding of their condition and are able to offer recommendations which can be helpful (25). Getting to know the staff contributes to these spaces becoming familiar and therefore therapeutic (25). Developing relationships with staff is also important for participants in a volunteering gardening programme where one participant’s relationship with the staff helped him become more independent from his carer (21). Because the staff got to know him and his needs, he was able to attend sessions without his carer. Staff and volunteers in a care home reported rewarding interactions with residents in the garden (23), which links with the “giving” element of the 5 Ways to Wellbeing (13).

Barriers and Facilitators to Running Gardens, Libraries and Museums Interventions

One of the aims of this review was to explore barriers and facilitators to running gardens, libraries and museums interventions for health and wellbeing. In the reviewed literature, barriers and facilitators were only discussed in detail in the literature relating to gardens. This may be because gardening and being outdoors involves a number of potentially challenging components, particularly for older people, compared to museum or other art-based interventions. From the gardens for health literature, organisational factors, staff capacity, physical safety and the weather, are factors which affected these interventions and activities. While these are discussed below in relation to gardens, it is likely that some of these factors are applicable across gardens, libraries and museums interventions.

Furthermore, in our public workshop, outlined on pages 43-50, participants highlighted barriers and facilitators that should be considered when setting up and running gardens, libraries and museums interventions for wellbeing. Cost, accessibility, regularity of sessions, and awareness of sessions were identified as factors that could determine engagement with such spaces. These are discussed in greater detail on page 48.

Organisational factors

A scoping review of sensory garden horticultural interventions for people with dementia (33) identified a number of organisational factors that enabled or hindered the use of garden areas. Institutional values and staff attitudes are key in creating barriers to using the garden, barriers such as the locking of garden doors and the absence of support for those who wished to visit the garden. Lack of leadership and institutional policies reduced the use of sensory gardens for people living with dementia (33). Tensions between staff and inadequate respect from managers can make gardens unhappy places and deter involvement (22).

Staff Capacity

Interventions that require more technical knowledge and skills for their delivery may hinder staff from engaging with them if they are not provided with appropriate training and support (33). In gardens in care home interventions, enough staff are required to support residents to use the garden, some of whom may be living with dementia. This was perceived by staff to be quite challenging when they did not have the capacity to ensure resident safety (23).

Physical Safety

Many interventions in the literature were for older people or those living with long term conditions. Physical safety is a concern for staff involved in supporting older people to use gardens as they are worried about the risk of falls and the hazards posed by gardening equipment (23). Gardening activities may also be physically challenging for some, with activities having to be modified according to their needs (24).



Gaps in the evidence

We found the evidence across the field to be unevenly distributed and of variable quality. Most of the studies are qualitative and observational with small sample sizes. Longitudinal research was lacking. Across the field there is a call for high-quality evaluations which permit comparative analysis. Furthermore, there is a need to develop evaluation methods that work in gardens, libraries and museums settings and with people living with long-term conditions such as dementia. Consultation with specialists in this area and attendance at workshops highlighted some of the difficulties with using currently established wellbeing measures such as the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) (39). These questionnaires are long and often difficult to use when working with people living with conditions such as dementia or complex mental health needs.

Future research could do more to explore whether interventions for improving health and wellbeing are enhanced by taking place in gardens, libraries and museums venues as opposed to other settings.

One paper recommended that future research would benefit from the audio and video recording of museum/gallery interventions as this would allow more detailed qualitative and quantitative analysis of the nuances and changes that take place during the sessions (29).

Research exploring ways of overcoming some of the organisational barriers to taking up or running museum or garden interventions could also be a valuable contribution to the evidence base (23).

Evaluation tools

We extracted evaluation tools used by the studies found in our review of the literature. Each has its advantages and limitations which should be taken into consideration before they are used.

Evaluation Tools and Measures	Examples of Use
The Warwick-Edinburgh Mental Wellbeing Scales - (S) WEMWBS (39)	Developed to enable the monitoring of mental wellbeing in the general population and the evaluation of projects, programmes and policies which aim to improve mental wellbeing. WEMWBS is a 14 item scale with 5 response categories, summed to provide a single score ranging from 14-70. The scale has been widely used for monitoring, evaluating projects and programmes, and investigating the determinants of mental wellbeing. (37)
Visual Analog Scales (VAS) (40)	Used to measure subjective wellbeing. VASs are suitable for assessing change across a short period of time, have validity within subjects, and are usually easily administered. Has been successfully used in assessing wellbeing in people living with dementia. (41)(42)(38)(43)
Positive Affect and Negative Affect Schedule (PANAS)(44)	Used as a psychometric scale, the PANAS comprises two mood scales, one that measures positive affect and the other measures negative affect. It can show relationships between positive and negative affect with personality states and traits. These scales are brief and relatively easy to administer. (41)(38)
Museum Wellbeing Measure for Older Adults (MWM-OA)(45)	A custom designed scale for museums and heritage activities developed and validated for older adults. It assesses psychological wellbeing as an indicator of the mental state of the individual. Although there are other aspects of wellbeing such as physical and social wellbeing, the measure focuses on levels of self-reported changes in six emotions found to be aspects of wellbeing more likely to change as a result of a relatively short intervention, such as participating in a museum/gallery activity. (32)
The Museum Engagement Observational Tool for People Living with Dementia (46)	A coproduced observational tool developed for systematised continuous video analysis. The tool looks at six dimensions of engagement within a museum object handling session for people with dementia. The six dimensions are: address; attention; engagement with object; social interaction; well-being (mood); agitation. (46)
Connectedness to Nature Scale (47)	A validated measure of individuals' trait levels of feeling emotionally connected to the natural world. (48)(48)(48)(47)(47) (47)

**The Nature
Relatedness
Scale (49)**

A scale that assesses the affective, cognitive, and experiential aspects of individuals' connection to nature. (49)

**Five Ways to
Wellbeing (13)**

An evidence-based framework developed by the New Economics Foundation to provide guidance on actions that people can take to improve their wellbeing. While the framework is a set of recommendations, it is being used to situate and understand interventions for health and wellbeing. (37)

**Mental Well
Being Impact
Assessment
(MWIA) (50)**

An evidence-based qualitative tool which aims to assess the potential impact of a specific policy, service, project or program on the mental well-being of a population. It was developed by the Care Services Improvement Partnership in collaboration with a number of partners. (37)

**Dementia
Quality of Life
(DEMQOL)(51)**

A scale used to measure wellbeing and quality of life in people with dementia. The tool is a 29-item, 4-point Likert scale where a higher score indicates better quality of life. (35)

**Zarit Burden
Interview (ZBI)
(52)**

A measure used to quantify levels of burden among carers of people living with dementia. (35)

**Bristol
Activities of
Daily Living
Scale (BADLS)**

An assessment of activities of daily living designed for use with people living with dementia. The assessment is a validated carer rated instrument consisting of 20 daily-living abilities. (35)

Case studies from the University of Oxford's Gardens, Libraries and Museums

In this section we illustrate some of the ongoing work around health and wellbeing at the University of Oxford's Gardens, Libraries and Museums (GLAM). The GLAM teams run numerous initiatives across their sites. Their programmes target people of all ages, conditions and social groups. We selected three case studies that illustrate some of this variation. In order to put together these accounts, the report's authors spoke to those who run the programmes, and where possible, attended the sessions themselves.

Meet Me at the Museum

Who is the programme for?

The programme was initially designed and intended for people living with dementia and their carers. However, now its attendees are older people from late 50s to 90s, the oldest participant being 96. Each session usually has 20 people who attend, however over 50 people have a registered interest in the programme. Some attend every week, others attend when they can.

Where does the initiative take place?

The sessions move between Oxford University's museums: Pitt Rivers, Museum of Natural History, History of Science and Ashmolean.

When did the programme start running?

A pilot of the programme started in 2016 and it has been running since this time.

How often does the programme run?

The programme runs once a month during a two hour session. The sessions are developed around the interests of those who attend them.

What are the activities involved?

The session begins with a tea and coffee. This is followed by various activities which are arranged according to the interests of the group. These may include talks about museum collections from specialist curators or conservation teams, object handling, tours "behind the scenes", and meetings with people who have personal connections to the objects on display. The activities are designed to be fun and engaging and to facilitate a comfortable environment in which people can learn together and get to know each other. The aim is to make museums accessible to everyone. Object handling, for instance, can serve to create knowledge equity as the objects being handled tend to be new to everybody in the room. This can be therapeutic for people living with dementia who may have lost confidence in their knowledge. When an object is new to everyone, knowledge can be acquired together and all attendees can make a meaningful contribution to the discussion.

How do people find out about the initiative?

The museum has outreach activities through which initiatives such as "Meet Me at the Museum" are publicised. The programme is also promoted through local charities and groups and Oxfordshire County Council. However, the team has found that most of the participants hear about the programme through word of mouth, and this has been by far the most effective way of recruiting new participants.

What lessons have been learned through running the initiative? For example, what are some of the challenges and successes?

Transport is key when arranging activities for older people. Venues need to be easily accessible by public transport or have parking spaces for blue badge holders. It also needs to be clear

which member of the museum team is the named contact that participants can reach with any queries. This individual should be contactable in multiple ways (through telephone as well as email). Sessions for people with dementia should be tailored to the participants and need to be shorter and conducted in smaller groups. It is important that the sessions run regularly and are not cancelled more than once in a row otherwise momentum is easily lost. Continuity is important to ensure participants keep attending.

Has the initiative been evaluated?

No evaluation has yet been conducted, but there is a strong desire for this to be done. The team keeps people's comments, emails and anecdotes about participating and has experiences of very closed and isolated people opening up and actively contributing by the end of a session.

How much does it cost to run the initiative?

There are costs associated with employing a member staff who organises and coordinates the programme; this amounts to a couple of hundred pounds per session. Other costs (e.g. tea and coffee and volunteers) add up to about £55 a session.

What impact did the initiative have on those running it?

Beth McDougall, who coordinates the programme, noted that running Meet Me at the Museum is, "the best bit of my job". For her, it is important for cultural institutions to understand the varying needs of the different audiences that visit them. In particular it is important to highlight that people with dementia or older people in general still have a lot they can contribute and knowledge they can share. Beth noted that our society often holds stereotypes about aging which can leave older people and those with dementia negatively perceiving themselves. It is important to break down these stereotypes so that those with dementia, as well as their families, see the value they bring to society.

Those who volunteer at the sessions do so on a regular basis and value the interactions they have with participants. It gives them an opportunity to speak to and learn from somebody from a different generation. The older people participating in the programme often teach the coordinating and volunteering team new things. It is very much a reciprocal relationship. For Beth, the key element of "Meet Me at the Museum" is the opportunity it provides for equal knowledge exchange and learning which help promote living well in older age.

Story Makers

Who is the programme for?

Story Makers engages with local primary schools in Oxford, in areas with Government indices of multiple deprivation. The programme is designed for 7-11 year olds with communication difficulties, and the adults who work with them in school, to support developing speech and language through engagement in the arts. Speech and language therapists, teaching assistants and volunteers participate in the groups alongside the children. Everyone works together creating work as artists engaging in learning and experimentation.

Inspiration is taken from museum visits where the emphasis is on sensory experiencing of objects in the collections. Later, in sessions in the schools, these experiences are brought to life through movement and art. This makes the learning and ideas visible and stimulates participants' capacity to think reflectively and dialogically. Through use of arts and creative approaches, Story Makers nurtures and encourages children's self-expression and self-belief. It helps them to embark on a journey of discovery about skills and creativity they did not know they had. The programme provides a platform to develop a range of skills that will build firm foundations as they go through their young lives.

Story Makers offers a medium that encourages the use of the body and mind in group situations. It builds on the range of senses and emotions needed to help children improve their self-esteem, confidence and social skills so they develop sustained, closer peer relationships, and a new trust in adults, together with hope for the future. The adults are supported to create new relationships with the children, feeling more confident and resourced in their learning interactions with the children.

Where does the initiative take place?

Story Makers takes place in Oxford University's Museums and primary schools.

When did the programme start running?

The programme started running in 2010 and has been running every year since. Story Makers was devised by Integrative Arts Psychotherapist Helen Edwards in partnership with Fusion Arts and Oxford University Museums.

How often does the programme run?

Story Makers runs after school hours for 12 weeks with 3 schools, initially in the autumn term and more recently in spring. At the end of the 12 weeks there is a Family Open Day as well as an exhibition, both in the museum.



What are the activities involved?

During the sessions, every participant is treated as an artist who creates, reflects, improvises and shares with the group. The aim is to create opportunities to build self-confidence and capacity for emotional expression and reduce isolation. Each year the groups visit a museum twice, during which they explore the museum and are encouraged to learn from specimens, ideas and concepts from sensory engagement with objects in the collections. Following the museum visits, the children create new stories where they explore narrative and poetic word through creative activities such as painting, sculpting, shadow play, costume, movement, play and enacting characters from their stories.

These activities encourage the engagement of the senses – sight, smell, touch, sight, balance – through which the children build and share narratives and stories which emerge from the art. The new ideas shared in the group build and blend together, helping create a playful and trusting environment where children feel safe, happy and eager to learn. These activities encourage the children's

capacity to take in, absorb and understand information, build sensory motor integration, develop their vocabulary and build receptive and expressive capacity. Participants create individual as well as group pieces working with a range of scale, dimension and texture. Story Makers books are made for each school group as a compendium of the imaginative stories, ideas and images created together.

How do people find out about the initiative?

Story Makers reaches out to schools in areas of deprivation in Oxford. The programme is very successful and schools are eager to develop long term partnerships with the initiative.

What lessons have been learned through running the initiative? For example, what are some of the challenges and successes?

Story Makers is committed to building trusting, strong relationships with partners involved in running the programme – Helen Edwards, Fusion Arts, the University



Museums, the volunteers, the schools, and the children and their parents. Planning with and involvement of organisational partners in designing each year's project supports the quality of work and legacy of learning to be carried by those organisations. Inclusion of parents is important (e.g. in some of the sessions and Family Open Day) and this can help integrate the learning from the project into everyday life and the future. The quality of the work creates committed, reliable, consistent strong relationships between the adult partners and participants. This is important for the children's experience of adults around them working in a cooperative and joined-up way. The programme continues to grow and be flexible, tailoring it to the children's needs and letting them lead in the direction they are interested in.

Some of the challenges that the project has faced have involved the limitations of the school (such as providing teaching assistants); timing the programme to fit with the multiple needs of different partners; meeting the range of needs of participants with unique presentations, such as selective mutism; and negotiating the environments in the museum spaces which may sometimes be busy. These challenges have always been overcome as the project progressed, deepening trust and partnership at all levels. Helen Edwards, the artist who runs the project, noted that it is important to "imagine the impossible" when running Story Makers. There have been wonderful and memorable moments which defy expectations. A favourite is when children in one project – Soundbodies and Stories of Sound – enjoyed dancing around a museum gallery at the Ashmolean Museum dressed in cloth and peacock feathers accompanied by the music of a harpsichordist.

In Story Makers children and adults have new experiences of each other outside of traditional educational roles and access transformative learning using the museum environment, unique gallery spaces and collections.

Has the initiative been evaluated?

The project has three defined outcomes:

- 1) Increased capacity for emotional expression – (more feeling vocabulary used by child; child's ability to reflect on work etc.)
- 2) Increased relationality reducing isolation from peer group – (reported feeling by child; turn taking in circle etc.)
- 3) Improved self-confidence (use of new art materials; initiation of interactions etc.)

As the project is funded by BBC Children in Need, Fusion Arts is required to deliver a detailed evaluation annually, which evaluates the project against the three outcomes detailed above. Evaluation forms are completed for each child at the end of the project by the adults who participate in the programme with them as well as their teachers and parents, who follow their progress each week. The evaluation is built into the process with children reflecting on sessions and their experience. At the end everyone completes a participant evaluation questionnaire.

How much does it cost to run the initiative?

Story Makers was awarded £55,000 over 3 years. This funding covers the cost of 9 twelve week programmes – 3 schools take part every year. There is also a Family Open Day and Exhibition in the Museum each year and a learning symposium at the end of the 3 years.



What impact did the initiative have on those running it?

Volunteers who get involved always enjoy what they do and the projects help build their confidence. The programme provides invaluable work experience for them and many have gone on to work in their desired career path. Primary schools are resourced with new skills for working creatively with children and including art in their educational learning practice. Relationships between parents and schools are strengthened. Museums are inspired and resourced, seeing new creative interpretations of their collections and the value of working both verbally and non-verbally. In delivering the programme the museums have developed new learning outcomes and ways of engaging the public, particularly harder to reach communities.

Furthermore, the project helps museums develop new understandings of the social value of their collections. Museum staff come up to do internships which often leads to further opportunities for them. Those who run the programme feel touched emotionally and that they are making a real difference. There is time for reflection and learning about good practice in art and education. As Story Makers needs to be redeveloped and adapted each time it runs, it provides its organisers with constant opportunities for learning and development. This is a challenge that they have enjoyed and have had to think about creatively.

Brain Diaries

Who is the programme for?

Brain diaries was a collaborative project between the charity Headway Oxfordshire, poet Kelley Swain and the Joint Museums Community Engagement team in response to the Brain Diaries exhibition at Oxford University's Museum of Natural History. The programme was for those affected by brain injury, along with their families and carers.

Where does the initiative take place?

It took place in the Museum of Natural History.

When did the programme start running?

The programme was a one-off series of workshops which ran during the period of the Brain Diaries exhibition.

What are the activities involved?

Group members were introduced to the Brain Diaries exhibition at the Headway Oxfordshire centre in Kennington, including a presentation on MRI scanning by Professor Stuart Clare. Over 4 weeks the group members then created visual poems, reflecting their own personal Brain Diary. Participants created foam heads using words, images and painting, drawing on the now-disproven science of Phrenology, popular in the 1800s, where plaster heads were labelled with different 'traits' for different areas of the skull.

How do people find out about the initiative?

Participants got involved through Headway Oxfordshire.

What lessons have been learned through running the initiative? For example, what are some of the challenges and successes?

This programme taught those at the museum the importance of accessibility and outreach. Members of the museum team conducted sessions at Headway Oxfordshire which was more accessible for some of the participants.

Has the initiative been evaluated?

No formal evaluation was conducted.

How much does it cost to run the initiative?

No formal costs outside of staff time.

What impact did the initiative have on those running it?

The museum staff helping to run the programme learned a lot about brain injury and were positively touched by experiences shared by the participants.

The Knowledge-Exchange Workshops

As part of this knowledge-exchange project we held two workshops in July 2019, the first for members of the public and the second for those involved in delivering and commissioning social prescribing services, as well as representatives from the arts and cultural sector.

Workshop 1:

What have gardens, libraries and museums got to do with your health and wellbeing?

A workshop for members of the public

The aim of the workshop was to explore what members of the public understand and think about social prescribing and talk to them about how gardens, libraries and museums (and specifically Oxford University's GLAM venues) could contribute to their health and wellbeing.

Recruitment

Museum engagement staff recruited workshop participants through some of the regular groups that already meet at the museums (link to "Meet Me at the Museum"). Research staff contacted local groups such as Oxfordshire Mind and Age UK Oxfordshire and invited them to circulate information about the workshop to their service users. Invitations were also sent through an established networks of patient and public contributors. Furthermore, the workshop was also promoted on Eventbrite where anybody who was interested could sign up. It was attended by 30 members of the public.

Activities

We organised a full-day interactive workshop designed to be social, informative and to generate discussion. The workshop was held at a local conference centre in Oxford which was selected because of its accessibility. Participants were provided with a free lunch and live singers performed during the lunch break.

The activities were preceded by short presentations from the research and museum teams, explaining social prescribing in the context of the healthcare system and within Oxford; and showcasing some of the activities the museum engagement teams are running at GLAM venues as well as in the community. Three participants who regularly participate in "Meet Me at the Museum" gave moving and powerful personal accounts of how the activities run by the museum have had a positive impact on their lives.



What have Gardens, Libraries and Museums got to do with your health and wellbeing?

This is the subject of today's workshop. They have all played a very important part in mine.

Having experienced nearly all of the list of most stressful things that can happen in life, including 2 life saving operations, family estrangement, the death of my husband and close friends as well as PTSD after an accident.

I have been through short periods of counselling and I admit talking things through helped, as well as the support of my children and friends. However, I realised that gardens and libraries were very important in my early life and museums have stimulated my mind in my old age.

Today, I'm going to focus on how Gardens and museums have helped my health and wellbeing.

Gardens

I started school in 1939 aged 5 - a child during the Dig for Victory years. My father and grandfather were keen gardeners - we always had home grown vegetables. When my father was called up, my mother and grandfather continued growing as much as possible and I 'helped'. As I grew older I realised I was enjoying it, and had a love of gardening.

During my teacher training course, to become a Primary school teacher, I chose to specialise in rural science, one of the best decisions of my life.

My husband was a keen gardener as well, and for years organised the flower and produce show, held at the University Press. Unfortunately, he developed Parkinson's Disease and had strokes which meant an end to his normal gardening life. But knowing how important it was for him and me I redesigned the garden with raised beds so he could continue doing what he loved.

I found then, and still do now that the stresses of life at whatever stage, vanish when planning, pottering, planting or just sitting and watching the insect life around the garden.

Museums

Growing up in Oxford with the Pitt Rivers, the Ashmolean, and Natural History Museum easily accessible was a wonderful way to look and learn - not only about their contents but seeing the imposing buildings impressed me as well.

I've enjoyed visiting museums in different places over the years, some even found by accident when taking a wrong turn.

10 years ago, my cousin introduced me to Memory Lane, a group at the Town Hall, led by Helen Fountain for pensioners, to reminisce about our own experiences and those of our family. Helen Fountain was excellent. She encouraged and brought out the best in us- I even found myself contributing, which was very unusual - I was fine with children, but always uneasy in front of adults.

Helen then began the Meet Me at the Museum sessions at the Pitt Rivers, Natural History and the Ashmolean where we had talks on various subjects and were allowed to handle some of the objects.



When she had to leave, Sarah took over the Town Hall projects and Beth, here, did Meet Me at the Museum. In my old age I was experiencing something new. Going behind the scenes, watching precious objects being restored, handling ancient objects, being told the stories behind the exhibits.

At the beginning of last year, some of us took part in the Messy Realities project at the Pitt Rivers, comparing the health aids we use today against those from the past. It involved not only pensioners, but students, researchers, academics and others. At the end of the first session we were all asked to say one word that described how we felt. That's where at first my mind went blank and I couldn't think of anything, but something came out, I managed.

My confidence must have grown during these sessions because during the last one, which was a general discussion, I suddenly found myself speaking for a couple of minutes without losing words or stumbling, or my mind going blank, most unusual for me. I felt exhilarated after. I had done something in my 80's that I'd been scared to do all my life.

When Beth asked for people to talk today I actually volunteered. If I've got through it without panicking too much I've reached another goal.

Both gardens and museums help to keep me stimulated and sane and I want to continue nurturing both to the end of my life.

Jean Gibbons, workshop participant and regular attendee of Meet Me at the Museum



“

Five years ago I was asked to work with a 93yr old lady suffering with severe anxiety and depression who had become socially isolated. To help her with this I was advised to try to get her out of her home as much as possible. We were invited to the pilot Meet Me at the Museum session at Pitt Rivers where for a short time she was able to forget her anxiety.

I continued to take her to this group, Age of Nature and Memory Lane to try to help with her anxiety. She would often appear disinterested, with her head in her hands asking why we were there. Then one day Helen asked her about her time in the Land Army. It was like watching a tree emerge from winter as she started talking about what she had done in the Land Army. Slowly this lady began to bloom like a tree waking from the winter through blossoming in spring to fruiting in summer, the transformation was amazing, she grew taller and her body opened up from its curled state. You could hear a pin drop in the room, everyone was totally enthralled in her experience as it was living history. Afterwards most people went to speak to her about it and I looked at her face, realizing how good this was for her.

In the handling of object sessions I witnessed this happening to her on several occasions, she would be curled up head in hands and then an object would catch her eye and the same thing would happen like a tree waking up she would become totally interested in the object and finding out as much as she could about it. Once you could get her talking about things that she was really interested in she just came alive.

This to me is what Social Prescribing is all about, the difference it can make to people's lives, especially the people who are isolated through illness or living arrangements.

This lady is no longer with us but I still go to the groups for the interest they have arisen in me and for the very good friends I have made.

Sheila, workshop participant and regular attendee of Meet Me at the Museum

”

“

I was a carer for my parents over 12 years. They had Parkinson's, dementia and Alzheimer's, between them. It was a very stressful and tough calling, but I had such lovely parents who always helped and loved me over the years.

Over the years I faced a number of difficult and stressful situations including developing Myasthenia Gravis, a stress and an auto immune disease. There are only 10,000 of us in the country with the condition. Symptoms included muscle weakness, dropping eyelids, swallowing and breathing problems, and great fatigue. However, the disease is manageable, although frustrating in many ways, and you need to pace yourself – although for myself I am always too eager to be out doing things and experiencing new ventures – not always wise!

When I was better I returned to all the fabulous clubs run for the over 50s – reminiscences at Memory Lane, Meet Me at the Museum, where we have the lovely Beth, Helen and Sarah and hosts of volunteers to keep the wheels turning. At these monthly get-togethers I also met some very kind and charming friends, who have all proved to be excellent.

I also know that all the friends and organisers have helped me through bad episodes of illness, moving house – too many times, and other worrying situations. All of these get-togethers are incredibly valuable and interesting, providing comfort, friendship and fun.

Jane, workshop participant and regular attendee of Meet Me at the Museum

”

The Washing Line of Knowledge

As workshop participants registered on arrival, they were asked to write down what they understood by “social prescribing” and to hang their note on a washing line. The aim of this activity was to establish what participants’ baseline understanding was of social prescribing.

Activity 1:

Where adds to your health and why?

Participants were given a map of Oxford and invited to stick flags on the spaces that they use to support their health and wellbeing. They talked about spaces they find visually stimulating (e.g. museums, the Oxford Botanic Gardens, the Harwell Science and Innovation Campus), spaces they find relaxing (e.g. parks) and spaces where they carried out activities they enjoy (e.g. theatres, restaurants). It was noted that places such as gardens and libraries can provide refuge from the cold or the heat and can be safe spaces for people with nowhere else to go.

Activity 2:

Barriers and Enablers to using GLAM settings for health and wellbeing

In this activity groups discussed photographs of Oxford University’s GLAM venues and were encouraged to think about what might encourage or prevent them from visiting these spaces.

Cost, accessibility (disabled access, parking, special sessions for those with sensory sensitivities or who struggle in crowded spaces), regularity and timing of sessions, advertising of events and accessible exhibit descriptions were all factors that might affect people’s likelihood of visiting GLAM venues.

Cost: For many, the cost of activities in these venues is an important consideration in whether they would engage in them. There was a strong feeling that activities in GLAM venues should be free, or at least affordable if they are to benefit a wide range of people.

Accessibility: Another key factor is the accessibility of these venues and activities. It is important that spaces are accessible to those with a range of mobility needs. For some, accessibility by car and disabled parking are key

in determining whether they were likely to engage in an activity. Others had sensory requirements (such as needing to have low light levels, or quieter spaces); GLAM venues could consider holding sessions which cater to these needs. Furthermore, exhibit descriptions could be written in more accessible, lay language. It was also noted that a large section of the population are adults with full time jobs, so if they are to benefit from the potential of GLAM spaces, these should be accessible outside of regular working hours.

Regularity of sessions: GLAM venues could help maximise their impact on people’s health and wellbeing by running regular sessions. Structure and regularity can be important for people, including those managing physical or mental health conditions, and therefore having somewhere they know they can go at a particular time can be beneficial.

Awareness of events: Participants noted that many of them were not aware of the activities and programmes offered at Oxford University’s Gardens, Libraries and Museums. Lack of awareness of what GLAM venues offer is a key barrier in engaging with them.

Activity 3:

Prioritising drivers towards using GLAM venues

After considering barriers and facilitators to attending GLAM venues, groups were asked to discuss and prioritise what might drive them to using these spaces. These drivers included practical accessibility; active referral; affordability; engaging with GLAM because it is enjoyable; having social experiences; programmes targeted for specific groups.

Participant Feedback

Many participants came and told us after the day how much they enjoyed it and how interesting they found the discussions. As a research team, we benefitted greatly from the rich insights generated from the discussion and activities.



“Didn’t know about GLAM’s work.
Very interesting way to bring people of
different backgrounds/ages together.”

“Yes – financial cuts over the past 20
years meant many of the facilities
that were available and were so useful
in my caring have gone. Now social
prescribing is another way going back
to how everyone helped each other
years ago. No labels, just caring and
helping people to join in as much as
they can.”



Workshop 2:

How can gardens, libraries and museums support social prescribing? A meeting to foster awareness and collaborations

The aim of the workshop was bringing together key stakeholders to explore how gardens, libraries and museums could become part of what the social prescribing initiative offers. A key goal of the day was to encourage networking and build new and accelerated knowledge exchange relationships where mutual research and implementation priorities can be identified.

Recruitment

The teams from CEBM and GLAM collaboratively put together a list of key stakeholders to invite who received personalised invitations to attend the event at Kellogg College, Oxford. The workshop was attended by 33 stakeholders representing a range of institutions and services. There was representation from the Royal College of General Practitioners, Wellcome Trust, Arts Council England, The All-Party Parliamentary Group on Arts, Health and Wellbeing, researchers from different departments at the University of Oxford, the Oxford Clinical Commissioning Group, Oxford City Council, as well as many local charities and social prescribing service providers.



The workshop

Following coffee and introductions, the day opened with a series of short presentations from the local GP Federation of 20 practices, who provide social prescribing initiatives, who laid out the landscape of social prescribing in Oxford; the CEBM and GLAM teams who presented their work on social prescribing and their collaboration. Each of the presentations generated a significant number of questions and much discussion from participants. Discussions centred around understanding existing social prescribing infrastructure in Oxford and the potential of the third sector to contribute to social prescribing; funding models to support and ensure the sustainability of social prescribing; regulation and quality assurance of activities; the importance of high quality evaluation; and sharing examples of best practice. The amount of interest in the topic and the desire to connect and network was striking. The energy and enthusiasm generated through discussions continued over lunch where participants were able to sit outside and network.

In light of the eagerness to continue the conversation, the team changed its initial plan for the afternoon from a structured table group session to a more open whole group discussion. This flexible approach helped ensure that all stakeholders wishing to make a contribution to the wider discussion were able to. It also allowed the research team to explore issues that were central to stakeholders, particularly those in relation to future research priorities.

Future priorities

The day ended with a discussion identifying priorities for future work in the area of social prescribing and gardens, libraries and museums for health and wellbeing. These are presented below.

- It is important to share examples of best practice;
- There is a need for high quality evaluation of social prescribing initiatives. A 'one size fits all' tool for evaluating social prescribing interventions does not yet exist and further research could help to develop one or more tools which are effective in measuring the impact of social prescribing;
- The language around social prescribing should be considered – the juxtaposition of something “social” and “clinical” i.e. prescribing may not correspond with people’s understandings of a healthcare model;
- Evaluations need to consider how these initiatives are delivered, and not only their effectiveness;
- There is a need to take measures to ensure that social prescribing programmes and activities are sustainable;
- It is necessary to consider how social prescribing initiatives should be implemented in “harder to reach” areas such as rural communities or areas of high socio-economic deprivation;
- The sustainability of link workers needs to be considered and it is fundamental that they are adequately supported and receive the training they need to deliver social prescribing effectively;
- Commissioning and implementation structures should be in place to ensure that social prescribing activities align with local needs and assets.

Participant Feedback

Throughout the day it was evident that participants enjoyed the opportunity to network and learn about social prescribing initiatives. Business cards were exchanged and stakeholders identified opportunities for collaboration with one another as well as with the GLAM and CEBM teams.

All participants provided feedback on an evaluation form, where they were invited to reflect on what they had learned; identify actions they would take forward; and whether they would like to attend a similar event in the future. Feedback was overwhelmingly positive and it was clear that the day was a valuable knowledge exchange and networking event for everyone involved.

**“I thought arrangements were perfect-
timings/chairing/facilitation were very
impressively managed.”**

**“A very helpful and accessible event.
Very well organised. Thank you!”**

Concluding Remarks

There has been a considerable movement within the arts, cultural and heritage sectors over the last two decades, looking at the well-being benefits from community-based gardens, libraries and museums. This movement could be accelerated by developing a stronger evidence base for how these community “assets” can support the current policy for social prescribing.

This report is a catalyst for that ambition and reflects a growing partnership between the Centre for Evidence Based Medicine, Nuffield Department of Primary Care Health Sciences, and the University of Oxford Gardens, Libraries and Museums division. As a result of this partnership, we have developed new lines of interdisciplinary research. Together we are exploring the impact of culture and the arts on people’s wellbeing, which in the longer term, will have a significant effect on population health provision and policy.

Our literature review highlighted several key concepts to facilitate the use of these assets for social prescribing. It also drew out some of the mechanisms through which these interventions can benefit health and well-being, and the tools for evaluating these benefits. But the review also highlighted gaps in the evidence base, which must be addressed to improve evidence-informed decision making. Some of the arts, cultural and heritage organisations are already providing schemes to support health and well-being, and our case studies reflect some of this ongoing work. As this grows, new initiatives should ensure they are meeting the needs of the populations they serve. Our knowledge exchange workshops demonstrated the considerable potential for these spaces to support public health and wellbeing, but also highlighted the barriers that would need to be overcome to enable this. Part of the solution will depend on wider stakeholders taking a more integrated approach to the implementation of these interventions.

Our work chimes with governmental level thinking. The Department of Health and Social Care, the Department for Digital, Culture, Media and Sport, and the Arts Council England are developing policy, funding streams, and advocacy for the central role museums, arts, heritage and culture can play in health and well-being. The Arts Council England is currently consulting over its next 10-year strategy and Simon Mellor, Deputy Chief Executive recently wrote of the cultural sector’s need to demonstrate, ‘...that investment in culture will lead to communities that are more socially cohesive and economically robust and in which residents experience improved physical and mental well-being. In doing so, we recognise that publicly funded cultural provision is currently uneven, especially outside larger metropolitan areas.’

Together we are building a portfolio of social prescribing research and evaluation activities, have developed a Social Prescribing Research Network and are building the foundations for a future Centre for Social Prescribing. We urge others to join us and support this cause.



Appendix 1: Search Strategy

#	Searches	Results
1	Gardens/	158
2	Libraries/	2406
3	Museums/	3326
4	(garden? or public librar* or national librar* or museum? or art galler* or palace? or historic house? or stately home?).ti,ab.	19143
5	((cultur* or heritage or green or historic) adj2 (space? or exhibition?)).ti,ab.	1152
6	(english heritage or "department of culture media and sport" or "royal horticultural society" or national trust).ti,ab.	29
7	1 or 2 or 3 or 4 or 5 or 6	23732
8	"Quality of Life"/	172518
9	depression/ or exp stress, psychological/	216637
10	mental disorders/ or exp anxiety disorders/ or exp mood disorders/	317316
11	(well-being or wellbeing).ti,ab.	77074
12	("quality of life" or qol).ti.	62441
13	stress.ti. or ((psycholog* or mental*) adj3 stress).ti,ab.	215504
14	(mental* adj3 (ill* or disorder*)).ti,ab.	72231
15	(depress* or low mood or mood disorder? or anxiety).ti,ab.	514174
16	(social prescri* or ((patient? or care) adj3 navigat*)).ti,ab.	2218
17	8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16	1193805
18	7 and 17	771
19	limit 18 to english language	709
20	limit 19 to "reviews (maximizes specificity)"	62
21	exp United Kingdom/	350487
22	(national health service* or nhs*).ti,ab,in.	166626

23	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.	90890
24	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.	1899584
25	(bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's " or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in.	49069
26	(aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in.	188835
27	(armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in.	23052
28	(bath or "bath's" or ((Birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worchester not (massachusetts* or boston* or harvard*)) or ("worchester's" not (massachuse tts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in.	1263242
29	21 or 22 or 23 or 24 or 25 or 26 or 27 or 28	2452373
30	19 and 29	163
31	20 or 30	208

Appendix 2:

Summaries of Included Studies

How Can Contemporary Art Contribute Toward the Development of Social and Cultural Capital for People Aged 64 and Older (MUSEUMS)

Citation	(30) Goulding A. How Can Contemporary Art Contribute Toward the Development of Social and Cultural Capital for People Aged 64 and Older[doi: 10.1093/geront/gns144]
Study Type	Qualitative Study
Summary	The study aimed to investigate how culturally inactive older people respond to galleries. Participants identified as having low rates of engagement in the arts (men, those with a limiting disability, people from minority ethnic backgrounds, those in lower socioeconomic groups and people living alone) participated in group gallery visits. The visits included a tour of the exhibitions by the gallery education staff. The session ended with an opportunity for questions and discussion.
Number of Participants	19
Age of Participants	>64
Condition	Those identified as having low rates of engagement in the arts
Measures	Pre-tour focus group interview; post-tour focus group discussion. Data interpreted through a constant comparison process.
Main Findings	Spontaneous reminiscence was a functional part of the post-tour discussion that facilitated shifts in participants' social and cultural capital. Participants developed bonding social capital with each other, bridging social capital with group leaders, and linking social capital with gallery staff and researchers. Participants' cultural capital developed in terms of an increase in knowledge and understanding of contemporary art.
Limitations	The study had a small sample size, and findings may therefore not be generalisable; only one participant was "isolated"; group sizes of the gallery tours varied and the effects of the group size could have been tested more systematically.

Museums and art galleries as partners for public health interventions (MUSEUMS)

Citation	(26) Camic PM, Chatterjee HJ. Museums and art galleries as partners for public health interventions. <i>Perspectives in Public Health</i> . 2013.
Study Type	Theoretical/Essay
Summary	This paper presents the rationale for using museums and art galleries for public health interventions and health promotion programmes. The paper highlights the social role that these organisations can play in the health and wellbeing of the communities they serve.

Museum activities in dementia care: Using visual analog scales to measure subjective wellbeing (MUSEUMS)

Citation	(43) Johnson J, Culverwell A, Hulbert S, Robertson M, Camic PM. Museum activities in dementia care: Using visual analog scales to measure subjective wellbeing. <i>Dementia</i> . 2017 Jul 13;16(5):591–610. Available from: http://journals.sagepub.com/doi/10.1177/1471301215611763
Study Type	Quasi-experimental crossover design
Summary	The aim of the study was to compare the impact of two museum-based activities and a social activity on the subjective wellbeing of people with dementia and their carers. Participants met at museums in groups of 4–8 people; eleven sessions were run by facilitators and two volunteers. The sessions included object handling, art viewing and social activities. Participants filled out an evaluation form at the end of each session. Participants were recruited through dementia support groups, and by the museum.
Number of Participants	63 (30 carers and 36 people with dementia)
Age of participants	58–85 (people with dementia); 48–82 (carers)
Condition	People with dementia and their carers
Measures	Visual Analog Scales (VAS) and an open-ended feedback questionnaire to elicit responses about participants' experiences.
Main Findings	Wellbeing significantly increased from object handling and art viewing for those with dementia and caregivers. An end-of-intervention questionnaire indicated that experiences of the session were positive.
Limitations	Selection bias may have been present as participants were recruited through dementia support groups – therefore it is not possible to generalise findings. There was a gender imbalance – most people living with dementia were male and most of the carers were female – this may be a potential confounding variable. Due to their brevity, the dimensions captured by the VAS were limited in scope and comprehensiveness. The study had a small sample size and lacked a control group, meaning that the benefits from the intervention cannot be causally linked to improvement in wellbeing outcomes.

Well-Being With Objects: Evaluating a Museum Object Handling Intervention for Older Adults in Health Care Settings (MUSEUMS)

Citation	(38) Thomson LJM, Chatterjee HJ. Well-Being With Objects. <i>J Appl Gerontol.</i> 2016 Mar 24 [8];35(3):349–62.
Available from: http://journals.sagepub.com/	Quasi-experimental crossover design
Study Type	A mixed, pre–post design
Summary	The aim of the study was to examine the extent to which a museum object-handling intervention enhanced older adult well-being across three health care settings. To determine whether therapeutic benefits could be measured objectively using clinical scales. Facilitator-led, 30 to 40 minute sessions handling and discussing museum objects were conducted in acute and elderly care (11 one-to-ones), residential (4 one-to-ones and 1 group of five), and psychiatric (4 groups of five) settings.
Number of Participants	40
Age of Participants	65–85
Condition	Those in acute elderly care
Measures	PANAS and VAS
Main Findings	Positive affect and wellness increased significantly in acute and elderly and residential care, but not in psychiatric care, whereas negative affect decreased and happiness increased in all settings. Examination of audio recordings revealed enhanced confidence, social interaction, and learning.
Limitations	Small sample size; short intervention exposure (a one off); lack of control group; mix of one-to-one and group sessions

Museum object handling: A health-promoting community-based activity for dementia care (MUSEUMS)

Citation	(42) Camic PM, Hulbert S, Kimmel J. Museum object handling: A health-promoting community-based activity for dementia care. <i>J Health Psychol.</i> 2019 May 5;24(6):787–98.
Available from: http://journals.sagepub.com/	Quasi-experimental crossover design
Study Type	Pre-post design
Summary	The study explored the wellbeing impact of handling museum artefacts, by testing for differences across domain, time, gender and stages of dementia. Object-handling sessions were carried out by museum staff who had received dementia awareness training. The sessions took place at the Alzheimer’s Society day-centre and at a museum. Sessions were between 55-75 minutes long and were conducted in 12 groups of four to eight people. The objects chosen for the handling session were deliberately chosen to be neutral- to avoid reminiscence; while reminiscence is often used as a therapeutic strategy, it can sometimes be stressful for some, or isolating for those of different cultural and ethnic backgrounds. The sessions aimed to foster an environment of learning, curiosity, intrigue and humour.
Number of Participants	80
Age of Participants	54-89
Condition	Dementia – mild to moderate levels
Measures	VAS – administered before and after each session
Main Findings	People living with early and moderate impairment showed positive increases in wellbeing, regardless of the type of dementia but those with early stage dementia showed larger positive increases in wellbeing.
Limitations	The study only had a small sample size. Participants were self-selected. There was no control group.

Coffee, Cake & Culture: Evaluation of an art for health programme for older people in the community (MUSEUMS)

Citation	(53) Roe B, McCormick S, Lucas T, Gallagher W, Winn A, Elkin S. Coffee, Cake & Culture: Evaluation of an art for health programme for older people in the community. <i>Dementia</i> . 2016; 15(4):539–59. Available from: https://journals.sagepub.com/doi/pdf/10.1177/1471301214528927
Study Type	Qualitative evaluation
Summary	The study aimed to identify the impact of an arts for health programme on the wellbeing of older adults living in care homes and supported living facilities. Participants attended supported and facilitated visits to a gallery and museum. Each session comprised; an introduction to the exhibition and collections; refreshments; social interactions; and creative activities. Participants were self-selected residents from a supported living facility and care home (n=17), their care staff and one relative (n=11).
Number of Participants	28
Age of Participants	75-92
Condition	Older people living in supported care facilities
Measures	Non-participant observation and semi-structured interviews
Main Findings	The study demonstrated that the programme was feasible and enabled older people from care homes to access museums and galleries. Participants and staff reported positive feelings about engaging in the programme. Considerations needed to be paid to the accessibility of buildings and how participants were able to move through them.
Limitations	Small sample size; short time frame (6 months); no before/after comparison; few of the participants attended all or most of the sessions

Effects of a museum-based social prescription intervention on quantitative measures of psychological wellbeing in older adults (MUSEUMS)

Citation	(32) Thomson LJ, Lockyer B, Camic PM, Chatterjee HJ. Effects of a museum-based social prescription intervention on quantitative measures of psychological wellbeing in older adults. <i>Perspect Public Health</i> ; 138(1):28–38.
Available from: http://journals.sagepub.com/	Quasi-experimental crossover design
Study Type	Pre-post design
Summary	The effect of a novel social prescription intervention for older adults, called Museums on Prescription, on six self-rated emotions ('absorbed', 'active', 'cheerful', 'encouraged', 'enlightened' and 'inspired') was explored. Twelve programmes, facilitated by museum staff and volunteers, were conducted in seven museums in central London and across Kent. The programmes ran in a series of 10 weekly two hour sessions. Participants were referred to the intervention through health and social care and third sector organisations.
Number of Participants	115
Age of Participants	65-94
Condition	Vulnerable older adults at risk of loneliness and social isolation
Measures	Museum Wellbeing Measure for Older Adults (MWM-OA) administered pre-post session at start-, mid- and end-programme; in-depth interviews
Main Findings	Multivariate analyses of variance showed significant participant improvements in all six MWM-OA emotions, pre-post session at start-, mid- and end-programme. Two emotions, 'absorbed' and 'enlightened', increased pre-post session disproportionately to the others; 'cheerful' attained the highest pre-post session scores whereas 'active' was consistently lowest. Participants valued the opportunity to interact with curators, visit parts of the museum normally closed to the public and handle objects which are normally behind glass. Participants also appreciated the opportunities for learning and co-production of activities as well as to meet people in new contexts.
Limitations	Each programme was relatively short.

Enhancing Cancer Patient Well-Being With a Nonpharmacological, Heritage-Focused Intervention (MUSEUMS)

Citation	(41) Thomson LJ, Ander EE, Menon U, Lanceley A, Chatterjee HJ. Enhancing Cancer Patient Well-Being With a Nonpharmacological, Heritage-Focused Intervention. <i>J Pain Symptom Manage</i> ;44(5):731–40. Available from: https://www.sciencedirect.com/science/article/pii/S0885392412001777?via%3Dihub
Study Type	Pre-test/post-test, quasi-experimental design
Summary	<p>The study explored the effectiveness of a heritage-focused intervention with adult female cancer inpatients. A key aspect of the study was to explore whether tactile stimulation would be more salient among patients with cancer compared with non-oncology patients</p> <p>Facilitators approached patients without visitors and invited them to participate in one-to-one object-handling sessions. The sessions lasted approximately 30 minutes, with an additional 10 minutes for evaluation.</p> <p>The control group viewed and discussed photographs of the objects handled in the experimental group. The tactile component of the intervention was therefore absent.</p> <p>The sample was a convenience sample of inpatients on four wards.</p>
Number of Participants	Total n= 100 (experimental group= 79; control + 21) All were female
Age of Participants	25-85
Condition	Cancer and non-cancer conditions
Measures	Semi structured interviews where PANAS and VAS were used to compare baseline and intervention wellbeing and happiness levels.
Main Findings	Positive emotion, well-being, and happiness were significantly enhanced in the experimental condition compared with the control condition for both oncology and non-oncology patients.
Limitations	There were more participants in the experimental group, this was due to difficulties recruiting to the control group.
5 Ways to Wellbeing	Connect; take notice; keep learning; give

Museum-based programs for socially isolated older adults: Understanding what works (MUSEUMS)

Citation	(27)Todd C, Camic PM, Lockyer B, Thomson LJM, Chatterjee HJ. Museum-based programs for socially isolated older adults: Understanding what works. <i>Health Place</i> ; 48:47–55. Available from: https://www.sciencedirect.com/science/article/pii/S1353829217303878
Study Type	Qualitative Study
Summary	<p>The study aimed to understand how a large scale social prescribing scheme (Museums on Prescription, across a number of museums) reduced social isolation and loneliness, by determining the specific components involved and how these interact to create environments that enhance psychological wellbeing.</p> <p>Each museum programme consisted of group sessions of 5-12 per group, lasting approximately 2 hours over a period of 10 weeks. Each museum developed specific activities based on their collections and staff expertise and interests. These activities included: object handling, discussions about objects, participatory arts (creative writing, drawing, painting, sculpture and collage made in response to museum collections, crafting items, singing and making music with instruments in response to exhibitions or themes), behind the scenes tours or storage facilities, presentations accompanied by discussion, participatory art making, and curatorial decision making. These activities were not necessarily the same across the museums. All sessions included information sharing components led by staff, consisting of brief lectures or introductions to the topic area of the day. Interviews were conducted post-programme and follow-up interviews were carried out 3 months after the end of the intervention.</p>
Number of Participants	20
Age of Participants	65-87
Condition	Self-identifying lonely or socially isolated
Measures	<p>The larger study n= 115 used a number of wellbeing measures: R-UCLA; WEMWBS; MWM-OA – these are reported elsewhere.</p> <p>This qualitative study used semi-structured interviews and analysed weekly passports (diaries) kept by participants.</p>
Main Findings	<p>The study identified 4 explanatory components for how museums can create environments that enhance psychological wellbeing:</p> <ol style="list-style-type: none">1.Interacting social context - contexts for social interaction, communication and sharing experiences2.Museum as a positive enabler – museums are welcoming and stimulating environments and provide spaces for new experiences3.Individual journey – the 10 week experience was novel and created opportunities for learning, emotional experience and personal connection4.Relational processes – participants were socially isolated and museums created opportunities for social interactions and the building of relationships

Limitations	There were differences between the information some participants provided through their interviews versus what they noted in their passports. Limited information was collected about previous experiences of groups.
5 Ways to Wellbeing	Connect; be active; take notice; keep learning; be active; give

Cultural engagement and cognitive reserve: museum attendance and dementia incidence over a 10-year period (MUSEUM)

Citation	(54)Fancourt D, Steptoe A, Cadar D. Cultural engagement and cognitive reserve: museum attendance and dementia incidence over a 10-year period. <i>Br J Psychiatry</i> ;213(5):661–3. Available from: https://www.cambridge.org/core/product/identifier/S0007125018001290/type/journal_article
Study Type	Cohort study
Summary	<p>The aim of the study was to explore whether visiting museums among adults aged over 50 is associated with lower incidence of dementia over a 10-year period. Data from the English Longitudinal Study of Aging (a large representative cohort study of adults aged 50 and over) was analysed. Participants who were included were those who were core members of the study and who were free of dementia at baseline and for whom data was available across all variables of interest.</p> <p>Variables of interest were: cultural engagement (measured using a self-report scale of frequency of engagement in visiting museums, art galleries and exhibitions); dementia determined at each wave by using an algorithm based on a combination of self- or informant-reported physician diagnosis of dementia or Alzheimer’s disease, or a score above the threshold of 3.38 on the 16-question Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE)</p>
Number of Participants	3991
Age of Participants	Mean 63.8 S.D 8.3
Condition	Older adults; dementia
Measures	Cultural Engagement – measured using a self-report scale Incidence of Dementia
Main Findings	Among those who visited museums every few months or more, there was a lower incidence rate of dementia over a 10-year follow-up period. While much of the association was explained by demographic and socioeconomic variables, the relationship for more frequent engagement was maintained even when controlling for these confounders.
Limitations	The study is observational rather than experimental and there may have been other confounding variables that were not identified. There may have been ascertainment bias in determining dementia incidence due to the challenges of diagnosing dementia.

Viewing and making art together: a multi-session art-gallery-based intervention for people with dementia and their carers (MUSEUMS)

Citation (35) Camic PM, Tischler V, Pearman CH. Viewing and making art together: a multi-session art-gallery-based intervention for people with dementia and their carers. *Aging Ment Health* .18(2):161–8.

Available from: Quasi-experimental crossover design
<http://www.tandfonline.com/doi/abs/10.1080/13607863.2013.818101>

Study Type Mixed -methods pre-post design using standardised questionnaires and interviews

Summary The study aimed to understand the experience of an eight-week art-gallery-based intervention galleries for people with mild to moderate dementia and their carers. The study examined impact on social inclusion, carer burden, and quality of life and daily living activities for a person with dementia. The intervention took place at two distinctly different galleries and participants were recruited through Alzheimer’s Society, Extra Care Charitable Trust and the host galleries.

The intervention consisted of eight two-hour sessions over an eight-week period at both sites. The sessions were divided into two sections: one hour of art viewing and discussion followed by one hour of art making.

Number of Participants 24

Age of Participants >55

Condition Mild to moderate dementia

Measures A health related quality-of-life: Dementia Quality of Life (DEMQOL-4)
Zarit Burden Interview (ZBI) – completed by carers
Bristol Activities of Daily Living Scale (BADLS)

Semi-structured interviews were conducted with participants living with dementia 2–3 weeks after the intervention.

The research team kept detailed observational data recording the sessions.

Main Findings There was no difference in scores across the three measures between the two different sites. There was no statistically significant difference between the combined scores at the two time points, although there was a slight trend towards a reduction in burden over the course of the intervention, which was more strongly supported by thematic analysis.

Limitations The study had a small sample size which may have hindered the detection of statistically significant results. The study had no control group.

Cultural engagement and incident depression in older adults: evidence from the English Longitudinal Study of Ageing (MUSEUMS)

Citation	(55) Fancourt D, Tymoszuk U. Cultural engagement and incident depression in older adults: evidence from the English Longitudinal Study of Ageing. <i>Br J Psychiatry</i> [Internet]. 2019 Apr 13 [cited 2019 Jul 29];214(4):225–9. Available from: https://www.cambridge.org/core/product/identifier/S0007125018002672/type/journal_article
Study Type	Cohort study
Summary	<p>The aim of the study was to explore the association between cultural engagement in older adults and the risk of developing depression over a 10 year period.</p> <p>Data was gathered from the English Longitudinal Study of Ageing who were free from depression at baseline. Logistic regression models were used to explore the associations between frequency of cultural engagement (visiting museums, theatres, concerts, opera, cinema, and galleries) and the risk of developing depression measured using a combined index the Centre for Epidemiological Studies Depression Scale (CES-D) and physician diagnosed depression.</p>
Number of Participants	2148
Age of Participants	Mean= 62.9 years (range 52–89)
Condition	Older adults; depression
Measures	<p>Cultural Engagement – measured using a self-report scale asking about frequency of visits to (a) the theatre, concerts or opera, (b) the cinema and (c) an art gallery, exhibition or museum. Answers from these questions were combined to produce an overall frequency of cultural engagement</p> <p>Depression: Centre for Epidemiologic Studies Depression Scale (CES-D), a self-report measure of depressive symptoms; also measured using physician diagnoses</p>
Main Findings	There was a dose-response relationship between frequency of cultural engagement and risk of developing depression which was independent of sociodemographic, health-related and social variables. Those who engaged in cultural activities every few months were at a 32% lower risk of developing depression (odds ratio = 0.68, 95% CI 0.47–0.99, $P = 0.046$); those who participated in cultural activities once a month or more were at a 48% lower risk of developing depression (odd ratio = 0.52, 95% CI 0.34–0.80, $P = 0.003$). These results were independent of sociodemographic factors, health and behavioural factors and other forms of social and civic engagement including other hobbies, social interactions, community group and civic engagement. It was also independent of open personality type.
Limitations	An observational rather than experimental study.

Museums, health and wellbeing research: co-developing a new observational method for people with dementia in hospital contexts (MUSEUMS)

Citation	(46) Morse N, Chatterjee H. Museums, health and wellbeing research: co-developing a new observational method for people with dementia in hospital contexts. <i>Perspect Public Health</i> ; 152–9. Available from: http://journals.sagepub.com/doi/10.1177/1757913917737588
Study Type	Development of a new observational tool – Museum Engagement Observational Tool
Summary	<p>This paper presents a new observational tool. The tool was designed to assess the impact of museum object handling on wellbeing, social interaction, level of engagement and agitation in people living with moderate to severe dementia in hospital settings.</p> <p>The tool was coproduced with a range of stakeholders, including those delivering a museum intervention in a hospital setting and those living with moderate to severe dementia.</p>
Condition	Moderate to severe dementia
Measures	This paper presents the development of a measure.

Mixed methods evaluation of well-being benefits derived from a heritage-in-health intervention with hospital patients (MUSEUMS)

Citation	(34) Paddon HL, Thomson LJM, Menon U, Lanceley AE, Chatterjee HJ. Mixed methods evaluation of well-being benefits derived from a heritage-in-health intervention with hospital patients. <i>Arts Health</i> ; 6(1):24–58. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25621005
Study Type	Mixed-methods; pre-post design
Summary	<p>This study explored the effects of a heritage intervention on well-being. The intervention was a hospital-based object-handling session which included objects from archaeology, geology, natural history and art collections.</p> <p>The study was carried out with volunteer inpatients over a six-month period. Sessions took place during afternoon visiting hours with patients who did not have visitors. The sessions were led by facilitators, including a psychologist and museum professional who were also researchers on the project. The sessions lasted between 30 and 40 minutes.</p> <p>Well-being was measured pre- and post-session using quantitative measures of well-being. Semi-structured interviews were conducted to explore the ways in which patients engaged with the objects. Interview questions were linked to the physical and emotional properties of the objects.</p>
Number of Participants	57
Age of Participants	Not reported
Condition	Mixed
Measures	Semi-structured interviews Interview questions were linked to the physical and emotional properties of the objects. PANAS VAS
Main Findings	There were highly significant improvements in all PANAS and VAS measures for pre- and post-session scores comparisons. Most patients showed similar levels of improvement on all measures even those who started from lower baselines. Those undergoing neurological rehabilitation showed less improvement on measures of wellness and happiness.
Limitations	The study was not longitudinal and had a small sample size.

The public library as therapeutic landscape: A qualitative case study (LIBRARIES)

Citation	(25) Brewster L. The public library as therapeutic landscape: A qualitative case study. <i>Health Place</i> ; 26:94–9. Available from: https://www.sciencedirect.com/science/article/pii/S1353829213001792
Study Type	Qualitative
Summary	<p>This study aimed to examine the role of the public library by people with mental health problems and explore whether libraries constitute “therapeutic landscapes”. The study was conducted in an area which was undergoing cuts to public library services. Participants were recruited through a bibliotherapy group, recruitment posters on library notice boards, through reading articles about the research and then contacting the research team.</p> <p>Interviews were conducted at locations convenient to participants and lasted 60-90 minutes. The interviews focused on participants’ use of books and libraries for mental health and well-being, but the interview was kept open so that the participant could shape it themselves.</p>
Number of Participants	16
Age of Participants	Mid 20s- mid 70s, with majority being in their 30s and 40s
Condition	Variety of mental health conditions including schizophrenia, social anxiety, and depression
Measures	In-depth life-course interviews analysed using a constant comparative method
Main Findings	Three aspects of the public library as a therapeutic space emerged as important: the familiar and welcoming environment; the quiet, calm atmosphere; the empowerment associated with making free decisions about what to read. Libraries as physical spaces were valued differently by different people, demonstrating that qualities of a safe space cannot be predicted and can to some extent cannot be defined.
Limitations	Selection bias – participants made contact through the library meaning that only those who had a strong view about libraries and their impact on health volunteered to participate.

Bibliotherapy for mental health service users Part 1: a systematic review (LIBRARIES)

Citation	(56) Fanner D, Urquhart C. Bibliotherapy for mental health service users Part 1: a systematic review. <i>Heal Inf Libr J</i> ;25 (4):237–52. Available from: http://www.ncbi.nlm.nih.gov/pubmed/19076670
Study Type	Systematic review
Summary	<p>This article systematically reviews the evidence for the effectiveness of bibliotherapy (the use of written, audio, or e-learning materials to provide therapeutic support) in mental health services). The review was guided by the following questions:</p> <ol style="list-style-type: none">1. Is bibliotherapy effective in assisting treatment of mental health conditions? (if it is, in which conditions, and how?)2. How can the information needs of mental health service users be assessed?
Condition	Mental health
Main Findings	<p>Library-based interventions and provision of information could be a cost-effective way of support service users with mental health conditions.</p> <p>Bibliotherapy is significantly more effective when used in conjunction with psychotherapies, however it is difficult to assess the contribution of bibliotherapy itself. The evidence to guide the development of more sophisticated bibliotherapy services is limited.</p>
Limitations	The review does not report the total number of included papers

Primary-care based participatory rehabilitation: users' views of a horticultural and arts project (GARDENS)

Citation	(24) Barley EA, Robinson S, Sikorski J. Primary-care based participatory rehabilitation: users' views of a horticultural and arts project. <i>Br J Gen Pract.</i> 2012 Feb;62(595):e127-34. Available from: http://www.ncbi.nlm.nih.gov/pubmed/22520790
Study Type	Qualitative interview study
Summary	<p>The aim of the study was to explore in depth the views and experience of participants of a primary care-based and participatory arts rehabilitation project – Sydenham Garden.</p> <p>The project is a social and therapeutic horticulture and participatory arts rehabilitation programme based in primary care. The garden facilitates meaningful creative activities. Users are referred to as co-workers and work as part of a community with staff and volunteers to coproduce activities and decisions. The garden is used for art groups and growing fruit and vegetables which are then used or sold by co-workers at community fairs from a weekly stall.</p>
Number of Participants	16 (7 female, 9 male)
Age of Participants	38-91
Condition	Significant mental/and or physical illness – social isolation, bipolar disorder, anxiety, depression, psychotic disorder, multiple sclerosis, cancer
Measures	Semi-structured interviews analysed with constant comparison and thematic analysis
Main Findings	Participants reported many benefits of being involved in Sydenham garden which provided them with an enjoyable and purposeful activity which provided an escape from life's pressures. The social element of the project was particularly valued by participants. The opportunity for learning and skill acquisition was also important - many of the participants developed a number of transferrable skills including nationally recognised qualifications.
Limitations	Just over half of the participants agreed to take part in the research. Data was not collected on reasons for why the remaining participants did not take part. It is possible that those who volunteered were the ones who were more engaged in the programme. This study did not measure objective changes in wellbeing or functioning using established measures. Sessions did not always run at full capacity due to the vulnerability of the group of participants and it was not possible to assess whether group size had any impact on health and wellbeing outcomes.

Volunteering in nature as a way of enabling people to reintegrate into society (GARDENS)

Citation	(21) O'Brien L, Burls A, Townsend M, Ebdon M. Volunteering in nature as a way of enabling people to reintegrate into society. <i>Perspect Public Health</i> ; 131(2):71–81.
Study Type	Ethnographic and interview study
Summary	The volunteering intervention involved a number of different gardening and conservation activities such as coppicing, footpath improvement, removal of invasive species, habitat maintenance. Participants volunteered for two or three full days a week.
Number of Participants	88
Age of Participants	16-76
Condition	Marginalised groups - unemployed, in care, depression, not working due to ill health, special learning needs
Measures	Semi-structured interviews focused on why and how participants got involved with the project, the perceived benefits derived from volunteering and any barriers to participating that they themselves or others may have encountered.
Main Findings	Contact with nature was reported to be beneficial by a number of participants. Three key themes of particular relevance to marginalised groups were identified: 1.Improving relations with others and nature 2.Working alongside others who are different 3.Developing social and employable skills The engagement with environmental conservation work is an approach that may provide people with a new role, identity, skills and social networks.
Limitations	There was a relatively small sample size and there is a risk of selection bias – those more interested in nature are more likely to have participated and more likely to experience benefits.

‘Cultivating health’: therapeutic landscapes and older people in northern England (GARDENS)

Citation	(20) Milligan C, Gatrell A, Bingley A. ‘Cultivating health’: therapeutic landscapes and older people in northern England. <i>Soc Sci Med</i> ; 58(9):1781–93. Available from: https://www.sciencedirect.com/science/article/pii/S0277953603003976
Study Type	Mixed method evaluation with interviews, focus groups and ethnography
Summary	<p>The aim of the study was to explore the evidence for the therapeutic potential of gardening and to examine how communal gardening activity on allotments might improve health and wellbeing in older people.</p> <p>Participants were recruited through general practice lists and gardened on two allotment sites provided by the local city council during a 9 month period. Participants could choose the site based on its proximity to home. The allotments were supported by a full-time qualified gardener who played a key role providing initial leadership and in setting-up and facilitating the development of the group. All the gardening equipment was provided by the project. Participants were free to choose what they wanted to grow and whether they wanted to garden communally or individually on small plots.</p>
Number of Participants	19
Age of Participants	Older adults
Condition	Older age
Measures	<p>Focus groups and interviews were conducted before and after the project.</p> <p>Before the project focus groups and interviews were used to explore participants’ self-assessment of their mental and physical health and wellbeing and the factors that affect them. They also examined the extent to extent to which the natural landscape and local environment affected their daily lives</p> <p>After the project a second phase of interviews and focus groups were conducted to discuss the experience of gardening and whether participants felt it had an impact on their health and wellbeing. Furthermore, participants were asking to complete weekly diaries with three standard questions about their health and wellbeing. There was also unstructured space in which participants were encouraged to write about events that may have impacted their wellbeing and their thoughts and perceptions about the gardening activities.</p> <p>Researchers also gathered data ethnographically through observing, and through verbal and written reports from the leading gardener.</p> <p>Grounded theory was used to analyse the data from the interviews.</p>
Main Findings	<p>The study illustrates that participants experienced a sense of achievement, satisfaction and aesthetic pleasure as a result of the gardening activities. However, the physical difficulties associated with aging meant that they sometimes needed more support to carry out certain tasks. Communal gardening sites create inclusive spaces in which older people can benefit from gardening in a supporting environment which helps mitigate the effects of social isolation and helps them build social networks. These are mechanisms through which quality of life can be improved and communal gardening spaces can be seen as “therapeutic landscapes”.</p>

Limitations

The sample size was small and selection bias is likely to have been present.

Therapeutic experiences of community gardens: putting flow in its place (GARDENS)

Citation

(22) Pitt H. Therapeutic experiences of community gardens: putting flow in its place. *Health Place*; 27:84–91. Available from: <https://www.sciencedirect.com/science/article/pii/S1353829214000276>

Study Type

Ethnographic case studies

Summary

This paper aimed to theoretically develop the concept of therapeutic places by exploring the role of activity. This was done through the exploration of three case studies in three different gardens. Garden 1 was a small inner-city garden at a community centre in a deprived neighbourhood. It is run by volunteers and aims to provide opportunities for learning. Garden 2 was in a semi-urban area experiencing post-industrial decline. The garden was initiated by a regeneration charity to provide environmental training and horticultural enterprise.

Garden three was on the edge of a rural town and created by a group of friends who were keen to source local, organic produce and engage in practical environmental action.

Number of Participants

Unclear

Age of Participants

19–60

Condition

A range of physical and mental health issues with anxiety and depression most highly reported.

Measures

Regular participant observation over a year; 32 semi-structured interviews with visitors, volunteers and staff. Fieldwork and analysis followed a sensory ethnographic approach (57) to help develop a holistic understanding of the experiences people have of “place”

Main Findings

Comparing the three different gardens shows that where people are is just as important as what people do there. Having the freedom to pursue a desired activity in a preferred is important in being able to benefit therapeutically. Gardening is therapeutic through moving in ways which enable intensely focused movements of absorption in skilled and rhythmic activities (a state of flow).

Limitations

It is not clear how many participants in total contributed to the gathered data.

Exposure to nature gardens has time-dependent associations with mood. Improvements for people with mid- and late-stage dementia: Innovative practice

Summary	(22) Pitt H. Therapeutic experiences of community gardens: putting flow in its place. <i>Health Place</i> ; 27:84–91. Available from: https://www.sciencedirect.com/science/article/pii/S1353829214000276
Citation	(58) White PC, Wyatt J, Chalfont G, Neale C, Trepel D, Graham H. Exposure to nature gardens has time-dependent associations with mood improvements for people with mid-and late-stage dementia: Innovative practice. <i>Dementia</i> ; 17(5):627–34. Available from: https://journals.sagepub.com/doi/pdf/10.1177/1471301217723772
Study Type	Observational study, pre-post
Summary	The aim of the study was to use carer-assessed measures to evaluate change in the mood of residents in a care home with mid to late stage dementia following exposure to a nature garden.
Number of Participants	28
Age of Participants	Not stated
Condition	Mid to late stage dementia patients
Measures	This study did not use established measures. Carers and activity coordinators were asked to complete datasheets on the outdoor experiences of residents. Resident numbers were randomly assigned and anonymised, and data were collected on the date, mood level of resident before going outdoors (carer-assessed score on a scale of 1–3, representing poor, medium and good, respectively), time spent outdoors based on carer observation, and mood level of resident after returning indoors again (carer-assessed score as previously).
Main Findings	Exposure to nature was associated with an improvement in mood, and the extent of the improvement was associated with the length of time the resident was exposed to the natural environment. The extent of these benefits increased with time exposed, but only to a certain level. After 80-90 minutes of being outside, no additional benefits were found. After 100 minutes of exposure, the benefits reduced rapidly.
Limitations	The study was observational rather than experimental, therefore causality cannot be inferred.

What Is the Impact of Using Outdoor Spaces Such as Gardens on the Physical and Mental Well-Being of Those With Dementia? A Systematic Review of Quantitative and Qualitative Evidence (GARDENS)

Citation	(23) Whear R, Coon JT, Bethel A, Abbott R, Stein K, Garside R. What Is the Impact of Using Outdoor Spaces Such as Gardens on the Physical and Mental Well-Being of Those With Dementia? A Systematic Review of Quantitative and Qualitative Evidence. <i>J Am Med Dir Assoc.</i> ;15(10):697–705. Available from: https://www.sciencedirect.com/science/article/pii/S1525861014003399?via%3Dihub
Study Type	Systematic review
Summary	The review aimed to examine the impact of gardens and outdoor spaces on mental and physical wellbeing in people with dementia resident in care homes and to understand the perspectives of people with dementia, their carers, and care home staff on the value of outdoor spaces.
Number of included studies	17 (9 quantitative; 7 qualitative; 1 mixed methods)
Condition	Dementia
Main Findings	<p>Quantitative studies were of poor quality but suggested decreased levels of agitation with exposure to gardens. Experiences of gardens in these settings were often discussed in relation to how the garden was used; the nature of interactions; the effect of gardens; the mechanisms through which gardens were thought to have an effect on wellbeing; and any negatives, such as perceiving the garden as a hazard.</p> <p>There is a need for high-quality studies to understand mechanisms that underpin these interventions and evaluate them.</p> <p>It is not clear from the evidence synthesised in this review how much of an impact different residential environments may have had on outcomes. The interactions between staff and care home residents, as well as the interactions between the residents may have had an impact. Features of the different gardens may also have affected the extent of their impact on wellbeing outcomes.</p> <p>Qualitative studies lacked depth in the data that were collected. This limited the further interpretation and synthesis of the findings.</p>
Limitations	The data collected in the studies did not allow a meta-analysis. The results of this review may be at risk of bias due to the low number of RCTs and inconsistencies in study design and data analysis, small sample sizes, unclear baseline details, and in some cases, invalidated collection tools.

Benefits of sensory garden and horticultural activities in dementia care: a modified scoping review (GARDENS)

Citation	(33) Gonzalez MT, Kirkevold M. Benefits of sensory garden and horticultural activities in dementia care: a modified scoping review. <i>J Clin Nurs</i> ; 23(19–20):2698–715. Available from: http://doi.wiley.com/10.1111/jocn.12388
Study Type	Modified scoping review
Summary	<p>This review aimed to provide an overview of the benefits associated with the use of sensory gardens and horticultural activities in caring for those with dementia.</p> <p>The review only included studies which provided clear descriptions of key information about the aim of the study, research focus, sample, design and method, procedure and content of the intervention, outcome measure and results.</p>
Number of Included studies	16
Number of Participants	Number of participants in different studies ranged from 8-129
Age of Participants	Not stated.
Condition	Dementia
Main Findings	The findings reported in studies mainly related to behaviour, affect, and well-being. These interventions may improve well-being, sleep, and reduce disruptive behaviour, as well as the use of psychotropic drugs, and incidents of serious falls.
Limitations	The field of research in this area is limited, with most research being conducted in the United States and small sample sizes. Due to the lack of randomised controlled studies, it is difficult to make conclusions about causal relationships.

Green space, health and wellbeing: making space for individual agency (GARDENS)

Citation	(36) Bell SL, Phoenix C, Lovell R, Wheeler BW. Green space, health and wellbeing: making space for individual agency. <i>Health Place</i> ; 30:287–92. Available from: https://www.sciencedirect.com/science/article/pii/S1353829214001518
Study Type	Essay
Summary	<p>The study aimed to explore the assumptions of greenspace use which underpins much of the existing research on greenspace and health. It encourages the field to move forward by considering two overlooked aspects of individual agency: the effect of shifting life circumstances and the role of personal orientations to nature. The essay argues that these aspects influence personal wellbeing priorities and practices as well as how opportunities for wellbeing are perceived and experienced. The essay concludes with four recommendations to enhance the consideration of individual agency in future studies.</p> <ol style="list-style-type: none">1. Including questions about connectedness to nature, life circumstances and environmental past within qualitative studies and within large-scale survey designs could help improve the understanding of individual drivers of interactions with place and wellbeing. Longitudinal studies which track the influence of life transitions on perception of place would be valuable.2. More funding could be directed to investigating community green space interventions over in real time using mixed method approaches.3. Greater emphasis could be placed on relational agency when considering how people use different green spaces for wellbeing.4. The focus should shift towards people's everyday lives and priorities rather than the physical organisation of their parks and green spaces. This will help understand how these spaces are integrated into people's daily lives and whether they are conceptualised as being part of their health and wellbeing.
Limitations	This is an opinion piece and is not based on a systematic review of the literature.

Are we ready to use nature gardens to treat stress-related illnesses? (GARDENS)

Citation	(59) Coventry PA, White PCL. Are we ready to use nature gardens to treat stress-related illnesses? <i>Br J Psychiatry</i> ; 213(1):396–7. Available from: https://www.cambridge.org/core/product/identifier/S000712501800082X/type/journal_article
Study Type	Editorial
Summary	The article calls for pragmatic trials to highlight and establish the processes and benefits that nature gardens offer for health and the environment.

A haven of green space: learning from a pilot pre-post evaluation of a school-based social and therapeutic horticulture intervention with children (GARDENS)

Citation	(37) Chiumento A, Mukherjee I, Chandna J, Dutton C, Rahman A, Bristow K. A haven of green space: learning from a pilot pre-post evaluation of a school-based social and therapeutic horticulture intervention with children. <i>BMC Public Health</i> . 2018;18(1):836. Available from: https://bmcpublikealth.biomedcentral.com/articles/10.1186/s12889-018-5661-9
Study Type	Observational, Pre-post design
Summary	<p>The study aimed to assess the effect of a school-based social and therapeutic horticulture intervention on the mental wellbeing of children and to situate the evaluation within the “Five Ways to Wellbeing” framework.</p> <p>The intervention involved a monthly session over 6 months with two horticulturalists and psychotherapists across three different schools. During the sessions children directed the development of greenspaces at their schools. Each session lasted for two hours during which psychotherapeutic techniques were employed to facilitate the exploration of themes relating to the environment and wellbeing, in line with the five ways to wellbeing framework.</p>
Number of Included studies	36
Number of Participants	0-15
Condition	School children with behavioural, emotional and social difficulties.
Measures	Five Ways to Wellbeing Mental Well Being Impact Assessment (MWIA) Wellbeing Check Cards - based on WEMWBS
Main Findings	<p>The intervention was associated with improved mental wellbeing. MWIA factors relating to mental wellbeing (“emotional wellbeing” and “self-help”) were positively impacted in all three schools. However, findings from the wellbeing check cards challenge this, with worsening scores across many domains. Results from Wellbeing check cards not statistically significant.</p> <p>The Five Ways to Wellbeing were observed to have been met in the intervention.</p>
Limitations	It was a pilot study with a small sample size and lack of control group.

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Limitations	It was a pilot study with a small sample size and lack of control group.

Heritage, health and place: The legacies of local community-based heritage conservation on social wellbeing (GARDENS)

Citation	(60) Power A, Smyth K. Heritage, health and place: The legacies of local community-based heritage conservation on social wellbeing. <i>Health Place</i> ; 39:160–7. Available from: https://www.sciencedirect.com/science/article/pii/S1353829216300235?via%3Dihub
Study Type	Qualitative study using interviews and questionnaires and a user-designed conceptual mapping technique
Summary	<p>The study aimed to explore personal motivations and impacts associated with people’s growing interest in local heritage groups.</p> <p>The study aimed to recruit 32 Heritage Lottery Fund “All Our Stories” community groups.</p>
Number of Included studies	21 leaders of local heritage groups.
Number of Participants	30s-70s
Condition	n/a
Measures	Interviews Questionnaires a user-designed conceptual mapping technique Data was analysed using a grounded theory approach.
Main Findings	<p>The study identified a number of positive benefits on participants’ social wellbeing within the community such as:</p> <ul style="list-style-type: none">- personal enrichment- satisfaction from sharing the heritage products with others- less anxiety about the present <p>These benefits were counterbalanced by some of the challenges associated with running these projects.</p>
Limitations	<p>Outcomes of interest were not clearly stated.</p> <p>Most of the participants were married, a group not typically associated with social isolation. The benefits reported by these participants may therefore not apply to the same extent to individuals who may be more socially isolated and disconnected from the community. There was no data gathered on wellbeing before involvement in the heritage programme making it difficult to know whether these participants always experienced positive mental health. Furthermore, wellbeing was not measured using any established measures.</p>

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