

SPACE TO BREATHE

Valuing green space at NHS sites
for staff wellbeing



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Valuing green space at NHS sites for staff wellbeing

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Executive summary

This research investigates the benefits of green space for staff wellbeing at three NHS sites that have encouraged staff to spend time in their gardens and grounds. Staff wellbeing and stress are critical issues for the NHS. In the 2019 NHS staff survey, even before the arrival of Covid-19, more than four in 10 staff reported feeling unwell as a result of work-related stress in the last 12 months (NHS England, 2020). Meanwhile, an expanding evidence base points to the value of engaging with natural environments for wellbeing. This study explores whether the restorative use of green space at health sites could help in alleviating staff stress and adding to quality of life.

Between them the three sites evaluated through this research have undertaken an impressive range of green space initiatives. Broomfield Hospital in Chelmsford, run by Mid and South Essex NHS Foundation Trust, has a Natural Health Service Project, through which volunteers, including staff, help in cultivating and conserving hospital gardens and other green spaces that include the site's natural woodlands. A Wellbeing Terrace, with games, plant boxes and shaded tables is popular with staff in summer months. Guild Lodge, a medium secure mental health unit in Preston, run by Lancashire and South Cumbria NHS Foundation Trust, has a Grow Your Own Project that supplies the hospital kitchens with organic produce; an annual competition for the best ward garden; and a staff initiative to promote informal workspace walking. Mount Vernon Cancer Centre in West London, run by East and North Hertfordshire NHS Trust, has run outdoor activities, such as Qigong, for staff and volunteers and has plans to enhance the amenity of the site's expansive green lawns.

Our research focused on staff experience of green space at work. We explored the perceived benefits of spending time in green space at these sites; the ways in which staff engaged with green space during the working day; the issues that deterred them from doing this; and the changes that might help in addressing these. We also examined the relationship between spending time in green space and both staff wellbeing and self-reported absence. The research was comprised of in-depth case study interviews with green space leads; site tours and observations; interviews with staff who did and staff who did not spend time in green space at work; consultation workshops; and site-wide staff surveys.

The study found that at all sites there was an appetite from staff to spend time in green space during the working day. Benefits reported included feeling relaxed and calm, refreshed and re-energized and positive effects on mental and physical wellbeing. A large majority of staff at each site said they would like to spend more time in gardens and green spaces at work than they currently did. A sizable proportion said attractive green spaces were important to them in considering where to work – suggesting that this affects recruitment and retention. The most common way in which staff reported spending time in green space in the course of the working day was taking a walk around the site during a

break. This points to strong potential for encouraging informal, self-guided walking, an initiative that has already proved successful at Guild Lodge.

Staff who regularly spent time in the sites' gardens, terraces and other green areas during the working day reported significantly higher levels of wellbeing. Moreover, the more ways in which staff spent time in green space at work, the higher was their reported level of wellbeing. While only a modest proportion of staff at each site had engaged in organised recreational activities, this group had slightly higher wellbeing scores than those who had not, indicating a specific benefit related to being active in green space. Staff who had contact with patients or worked in clinical areas spent less time in green space than those who did not. Data on self-reported absence was poorly differentiated, diminishing the validity of this variable and scope for interpretation, but an unexpected finding, that staff who sat out to eat and relax had slightly higher self-reported absence, merits further study.

A range of issues deterred staff from spending time in green space at work. Our in-depth interviews identified '7Ps'. While *pressure* of work was most common, other related factors were also important. These included the *proximity* of green space to where staff work; the *permission* for staff to leave the area rather than remain close by in case they were needed; *perceptions* of site conditions, such as seating availability; concerns about whether taking a break in green space allowed sufficient *privacy* from patients; *personal* priorities; and the *provision* of outdoor activities. Our site-wide surveys confirmed the role of these barriers. Staff proposals to address the issues focus on improving physical opportunities afforded by the site – for instance with more seating, structures offering protection from sun and light rain, and staff-only outdoor areas – while also building a supportive working culture.

The research shows that for NHS sites to realise the wellbeing benefits of green space for staff, it is important to design-in green spaces close to people's workspace. Hospital canteens should ideally have access to green views and outdoor seating with shade. In locating restorative green areas close to work areas it is important to consider staff privacy and to avoid locations that are readily overlooked or where staff feel their conversations cannot be private. In particular, sites should explore the scope for designated outdoor staff areas that provide a degree of screening as well as weather protection – e.g. areas screened by greenery; gazebos or other types of outdoor shelter.

Well-signed and well-delineated walking routes that are not dominated by parked cars or moving vehicles can also enable staff walking about the hospital to better enjoy the benefits of green space as part of their everyday working lives. For staff to make use of such amenities requires a supportive working culture that includes, for example, encouragement from senior staff for staff to take time out in green space where feasible at times of stress, or simply for their wellbeing. In our conclusions we make specific recommendations for individual sites and suggest further areas for future research.

1. Introduction

Can gardens and greenery help combat stress for NHS staff? This evaluative research explores this question, examining the potential for improving workplace wellbeing through the use of attractive green space at health sites. It reviews work at three NHS Trusts that have actively encouraged their staff to spend time in green space during the working day.

Staff wellbeing and the impact of stress are critical issues for the health service. Even before the Covid-19 crisis, work-related stress affected more than 40% of staff across the year (NHS England, 2020). Anxiety, depression, stress and other psychiatric illness are a leading cause of staff absence (Copeland, 2019).

Meanwhile, growing evidence points to the role of natural environments in supporting wellbeing (Maxwell and Lovell, 2017). Exposure to green space has been linked with positive outcomes for both mental and physical health. Contact with nature is associated with lower heart rates and blood pressure (Pretty et al., 2011), lower negative emotions (Bowler et al., 2010), higher self-esteem and better mood (Barton and Pretty, 2010). Many studies highlight benefits linked to living close to green space. Despite controlling for a range of confounding factors, access to green space is related to lower mortality from cardiovascular disease (Gascon et al., 2016), lower rates of obesity (Lachowycz and Jones, 2011), and lower levels of type 2 diabetes (Bodicoat et al., 2014). People moving to greener areas go on to have better mental health (Alcock et al., 2014) and higher levels of wellbeing (White et al., 2013). Moreover, among populations whose exposure to green space is greater, health inequalities related to income are smaller (Mitchell and Popham, 2008).

While these benefits can be partly ascribed to higher levels of physical activity in greener areas, activity in natural outdoor spaces rather than indoor ones appears especially therapeutic and is associated with feelings of revitalization, positive engagement and increased energy (Thompson Coon et al., 2011). Links have also been made between green space and social contact (Van Dillen et al., 2012), suggesting further pathways to wellbeing.

This remarkable evidence base has many implications for the design of healthy towns and cities where everyone can enjoy the benefits of gardens, parks and woodlands close to home. But such findings also suggest that our current healthcare system overlooks the potential of the natural environment in clinical settings. This points to an important role for NHS Estates. The NHS occupies 8,253 sites across England on 6,500 ha of land (Health Foundation, 2019). Many hospitals stand on green space, which, if valued and creatively managed, could play an active part in the care they offer, providing a resource for rehabilitation and recuperation. These therapeutic aspects of green space have important potential for patient treatment and recovery and could also contribute to staff wellbeing.

The three sites that took part in this study are members of the NHS Forest and Green Space Network, an alliance for health sites that are working to improve the therapeutic use of green space, for the benefit of patients, staff and the wider community. Each site is different, allowing us to explore the value of green space for staff in contrasting settings. While each has a relatively generous amount of green space, much of their experience in making the most of this is transferable to other sites, including more urban ones, working within different constraints.

Broomfield Hospital in Chelmsford, run by Mid and South Essex NHS Foundation Trust, provides acute and community-based services, and has more than 5,000 staff. The hospital's natural landscapes include woodlands and open spaces, green courtyards, a Wellbeing Terrace available for staff, a fruit orchard, raised beds of vegetables and a sunken dell garden. The Trust's Natural Health Service Project is a community-based initiative, bringing in volunteers, including staff, to assist with creating and maintaining these spaces.

Guild Lodge is a medium secure mental health care hospital on the edge of Preston, run by Lancashire and South Cumbria NHS Foundation Trust, with 500 staff and 164 service users. The hospital's Grow Your Own Project supplies the hospital kitchens with organic produce and enables both service users and staff to learn horticultural skills. The hospital's 'Guild in Bloom' competition fosters pride in ward gardens across the unit. Staff have adopted an ethos of informal workspace walking to combat staff stress and promote wellbeing.

Mount Vernon Cancer Centre in Northwood, West London, is a regional specialist centre with 500 staff, run by East and North Hertfordshire NHS Trust. The centre has a large focal green space, as well as woodlands and gardens, though some have fallen into neglect. In the last three years the hospital has piloted outdoor lunchtime activities for staff and volunteers, with a view to improving health and wellbeing. At the time of this study the centre was also refurbishing several green spaces for patients and staff.

Each of these sites historically saw outdoor space as integral to their healthcare. Both Broomfield and Mount Vernon were built as TB hospitals, with outdoor terraces offering 'open air treatment'. Guild Lodge was once a Victorian asylum with farms, where patients were expected to work for both economic and therapeutic reasons (Hickman, 2014).

Through their green space initiatives these three trusts are rediscovering the restorative potential of nature. This study explores the experience of their staff, assessing the benefits to this group from spending time in green space at work and the barriers to this in a service under acute pressure from staff stress and understaffing. It considers how these issues can be addressed and what more can be done to ensure that the therapeutic benefits of green space are valued in the NHS.

2. Study context

This evaluative study explores the potential of green space for improving the mental and physical wellbeing of NHS staff during the working day. In this section we set the context for the research. We begin by considering the impact of staff stress in the NHS. We then outline evidence on the benefits of green space for both physical and mental health, including studies that focus on its potential for improving workplace wellbeing. We also review evidence on the effects of nature-based interventions designed to enhance wellbeing and consider the scope for these to be used in a workplace context. At each of the hospitals in the study there have been efforts to encourage staff to spend more time in green space. We outline a specific behaviour change framework that can help in interpreting the findings from this study and in taking these strategies forward.

2.1 Wellbeing and stress in the NHS workplace

Staff wellbeing and the impact of stress are critical issues for the NHS. In the 2019 NHS staff survey, even before the Covid-19 crisis, more than four in 10 staff reported feeling unwell as a result of work-related stress in the last 12 months – a result that has worsened across five years (NHS England, 2020).

Absence due to sickness is higher in the NHS than it is in the rest of the economy (Copeland, 2019). Staff absence is a major cost to the health service, estimated by Public Health England to amount to one in £40 of its total budget (NHS England, 2015). This figure is before the cost of agency staff to fill workforce gaps, as well as the cost of treatment, is taken into account. Healthcare assistants and other support staff are the staff group with the highest sickness absence rate (NHS Digital, 2017). Copeland's analysis for the Kings Fund shows anxiety, depression, stress and other psychiatric illness to be the leading cause of staff absence, accounting for nearly a quarter (24.7%) of all days lost to sickness, and more than double the percentage of sick days taken for musculoskeletal problems (10.4%), the next most common cause of absence. Apart from the personal cost to the staff concerned, reduced staff cover worsens staff stress further by generating heavier workloads for those remaining. Pressures identified as contributing to mental health problems for staff include rising staff shortages in the face of growing demand as well as bullying and harassment from colleagues, experienced by 20% of staff. These issues have prompted calls for a stronger focus on staff health and wellbeing, for example, through the development of the NHS People Plan (NHS, 2019), which aspires to make the NHS "the best place to work".

2.2 Health and wellbeing benefits of green space

An expanding body of evidence points to the importance of green space as a determinant of health and wellbeing. Population studies investigating the prevalence of green space in local neighbourhoods have found links to a range of positive health outcomes, despite controlling for confounding factors such as socio-economic status. These include lower levels of type 2

diabetes (Bodicoat et al., 2014), obesity (Lachowycz and Jones, 2011), and cardiovascular disease (Gascon et al., 2016); higher birth weights (Dadvand et al., 2012) and enhanced cognitive development in schoolchildren (Dadvand et al., 2015). A study in the Netherlands which looked at physician-assessed levels of illness for 24 disease clusters in 196 Dutch general practices, found that the more green space there was in a 1km radius, the lower the prevalence of disease (Maas et al. 2009a). Moreover, for populations with greater access to green space, health inequalities related to income are reduced (Mitchell and Popham, 2008) suggesting that green space has a protective effect for those living in poorer districts.

Experimental studies have also identified specific physical health benefits from exposure to nature. People recovering from surgery have been found to have shorter post-operative stays and less need of analgesic drugs if their hospital window looks out on a natural setting, as opposed to a brick wall (Ulrich, 1984).

Green space is also beneficial for mental health and wellbeing. Experiencing nature has been shown to lower heart rate and blood pressure (Pretty et al., 2011) and to have benefits in aiding recovery from stress (Ulrich et al., 1991). Spending time in natural environments is also effective in restoring the capacity for focused attention (Hartig et al., 2003).

Population studies offer further evidence for these benefits. It has been found that access to green space within 3km of where you live attenuates health impacts from stressful life events (Van den Berg et al., 2010). People moving to homes with more green space experience comparatively better mental health (Alcock et al., 2014) and higher levels of happiness and subjective wellbeing (White et al., 2013). Spending more time in green space is associated with higher scores for mental health and vitality (Van den Berg et al., 2016).

The relationship between neighbourhood green space and health can be attributed in part to the role of areas such as parks and other natural areas in facilitating more active lifestyles. Department of Health guidance (2005) states that increasing physical activity levels could prevent over 20 health conditions and diseases. Studies show that good quality green space can have a positive impact on residents' activity levels (Bird, 2004; Coombs et al., 2010; Owen et al., 2004). It has been found that people walk more in tree-lined streets than in more urban landscapes (Sarkar et al., 2015; Vich et al., 2019).

Yet, as many experimental studies show, the benefits of time spent in nature extend beyond those of physical activity alone. People who exercise in green space rather than other outdoor environments report better mood and self-esteem (Barton and Pretty, 2010). For people with depression, walking in nature rather than an urban setting is associated with greater improvements in mood and memory (Berman et al., 2012). People running or walking in natural environments, as compared to more synthetic ones, report lower negative emotions – such as anger, fatigue and sadness (Bowler et al., 2010). Activity in

natural outdoor spaces rather than indoor ones is associated with feelings of revitalization, positive engagement and increased energy (Thompson Coon et al., 2011). Yuen and Jenkins (2020) in a study of visitors to urban parks, found visits led to better self-reported emotional wellbeing, regardless of the activities undertaken there. Such findings imply that simply being in green spaces is of itself beneficial for mental health, as well as encouraging healthier lifestyles. Studies also suggest that green space has a role in facilitating social contact (Maas et al., 2009b; Van Dillen et al., 2012), a further important pathway for improving wellbeing. More broadly it has been argued that exposure to a diversity of bacteria in natural areas helps to boost immunity (Rook, 2013). The practice of forest bathing, developed in Japan, has been found to result in improved immune function (Li, 2010) as well as having therapeutic effects on hypertension (Mao et al., 2012).

Theoretical frameworks put forward to explain our psychological responses to nature focus on its role in recovery and restoration (Bragg and Atkins, 2016). Psycho-evolutionary Stress Reduction Theory (Ulrich, 1981) holds that having evolved in natural environments we are able to draw on them as a resource for rapid recovery from stressful events and that this in turn leads to positive emotional responses to natural content. Attention Restoration Theory (Kaplan and Kaplan, 1989) argues that the demands of giving directed attention lead to mental fatigue, while the effortless act of giving involuntary attention or experiencing 'soft fascination' in the context of natural environments, has a restorative effect, allowing people to regain focus and concentration. Both of these theories suggest that encouraging people to spend time in nature could be especially helpful in a working context, where there is a need to find effective ways of dealing with stress and for breaks that help staff re-focus. Even a five-minute interaction with nature has been found to have a significant effect on both mood and self-esteem (Barton and Pretty, 2010). In a UK study, participants completing a short lunchtime walk in a natural environment (1.8km) experienced better quality of sleep (Gladwell et al., 2016). Such findings indicate that relatively short interventions with a minimal impact on the working day could help to improve staff wellbeing.

2.3 Workplace wellbeing and benefits from green space

A small number of studies have focused specifically on the benefits of greenery in a workplace context. A view of nature through a window has been linked with lower stress and greater job satisfaction (Shin, 2007) and with less intention to quit in the face of stress (Leather et al., 1998). Other research has shown that simply increasing the number of plants in a workplace setting can lead to improvements in performance and better mood (Shibata and Suzuki, 2002). A Norwegian study found that office workers in windowless offices were five times more likely than those with windows to bring in plants, and three times more likely to bring in pictures of nature – suggesting they craved visual contact with outdoor landscapes (Bringslimark et al., 2011).

A Scottish study of employees in the knowledge sector found that both use of green space and views of vegetation were positively associated with self-reported wellbeing (Colley et al., 2015). A survey in Sweden (Lottrup et al., 2013) found employees who had physical access to workplace greenery had a more positive attitude to their workplace in terms of finding it pleasant, while those without either visual or physical access had the most negative attitudes. This study found physical access to greenery correlated with lower levels of stress, though for male respondents only. A nationwide survey conducted in 2011 (Gladwell, 2019) found that while only 10.5% of workers visited green space once a week or more during their working day, those that did reported an improvement in performance. An evaluation of self-led walking interventions in green space during a lunch hour found positive effects for participants including a reduction in stress levels and improved mood (Brown et al., 2012; 2014).

Research has also looked at barriers to spending time in nature at work. In a qualitative study, Hitchings (2013) explored the experience of city professionals and their attitudes towards visiting green space near their offices. He found habitual routines militated against small excursions into green areas during the day. In some cases interviewees felt that relaxing this way was undesirable as it would cause them to lose focus. They deliberately chose to postpone contact with nature until the end of the working day.

Although limited, the evidence outlined above suggests that, in practice, leaving the workplace to spend active time in nature is likely to be good for both productivity and wellbeing. NICE based guidelines (2008) have already calculated impressive cost savings from work-based physical activity programmes. For example, if a company with 100 employees invests in such a programme then they could make a net saving of £10,941. Interventions that combine physical activity and green space can therefore be expected to be both beneficial for staff and cost effective.

2.4 Benefits to mental health from green space interventions

Numerous interventions have sought to improve health and quality of life through activities that encourage people to spend time in green space. Bragg and Atkins (2016), in a report for Natural England, provide a comprehensive review of research evaluating such programmes that includes social and therapeutic horticulture; environmental conservation activities and care farming (the therapeutic use of farming practices). The review focuses on those services where the primary goal was to improve an individual's mental health and where the service was offered as treatment for existing mental health problems. It finds that the three approaches often involve similar activities and share a similar ethos, with mental health benefits derived from a combination of three key ingredients: the natural environment, meaningful activities and the social context provided. The authors identify an impressive range of positive outcomes, which are similar for the three interventions. These include: psychological restoration and increased general mental wellbeing; a reduction in depression,

anxiety and stress; improved self-esteem, confidence and mood; increased attentional capacity and cognition; improved happiness, satisfaction and quality of life; and a sense of peace, calm or relaxation. Social and therapeutic horticulture are identified as having the largest and most established evidence base.

A study for Mind (Bragg et al., 2013) evaluates the benefits from the organisations' 'ecotherapy' projects, which support people in being active outdoors, for example through gardening, food growing or environmental work. The study concludes that ecotherapy can be effective in raising wellbeing to average levels, in enhancing social inclusion, in increasing contact and connection with nature, in equipping participants with useful coping skills, and in encouraging the development of healthy lifestyles and more environmentally friendly living. Eleven different therapies are listed as being beneficial to mental health including wildness therapy, gardening or growing foods in allotments, and nature arts and crafts. The study finds that such activities can help change how a person feels, reducing feelings of depression, anger, anxiety and stress as well as elevating mood and self-esteem.

Other studies have sought to evaluate the benefits of green space interventions in the context of social prescribing. In a pilot project, involving primary care referrals in South West England, 48 patients completed a programme of nature-based activity over 10-12 weeks. Participants showed an average increase of 69% in self-reported wellbeing, measured using the Warwick-Edinburgh Mental Wellbeing Scale (Bloomfield, 2017). Noticing nature in urban settings also appears to be good for mental health. In a randomized controlled trial McEwan et al., (2019) used a smartphone app to prompt adults to notice good things about either urban nature or built spaces. They found statistically significant and sustained improvements in wellbeing at one month follow up. For those participants with a common mental health problem, these improvements were more pronounced in the green space intervention than the built space control. The researchers argue that this points to the potential for developing the app as a clinical intervention in the context of social prescribing. Swinson et al., (2020) reviewing mental health outcomes of green walking groups for adults with mental health problems identified evidence of improvement in mood, self-esteem, reflection on life tasks, and symptoms of depression.

In short, there is considerable evidence that nature-based health interventions can have benefits for their participants, including improvements in mental wellbeing. The studies reviewed here focus primarily on patients and the use of nature interventions in the context of treatment. Nevertheless, some activities – such as a gardening sessions or a group health walk – could be well suited to a workplace context, particularly where they do not require the input of a care provider.

2.5 Behaviour change

This study sets out to understand why people do or do not engage with green space as part of their working day; and where they do not, what could be done to change this. Many models of behaviour change focus on the individual and the factors that influence their choices and actions (Morris et al., 2012). The Theory of Planned Behaviour (Ajzen, 1985; 1991), for example, argues that individual behaviour is best explained by intention, which is shaped by attitudes together with the influence of social pressures or behavioural norms. The theory also encompasses the role of perceived behaviour control – meaning individual beliefs about the ease or difficulty of taking a given course of action, which in turn affect behaviour (Ajzen and Madden, 1986). As the behaviour change field has developed many other models have been put forward, with different emphases accorded to different factors.

In the current research we have made use of the Behaviour Change Wheel. Developed by Michie et al. (2014), as a tool for designing interventions, this synthesizes 19 existing behaviour change frameworks. Michie et al. suggest that those developing strategies for behaviour change should begin by identifying the behaviour they are trying to change, and collect data from different sources (e.g. focus groups, interviews and observation) to reach a better understanding of people’s existing choices and the issues around these. These findings can then be used to explore how far the barriers to change relate to capability, opportunity or motivation: categories that appear in the central ring of the Behaviour Change Wheel (see Figure 1).

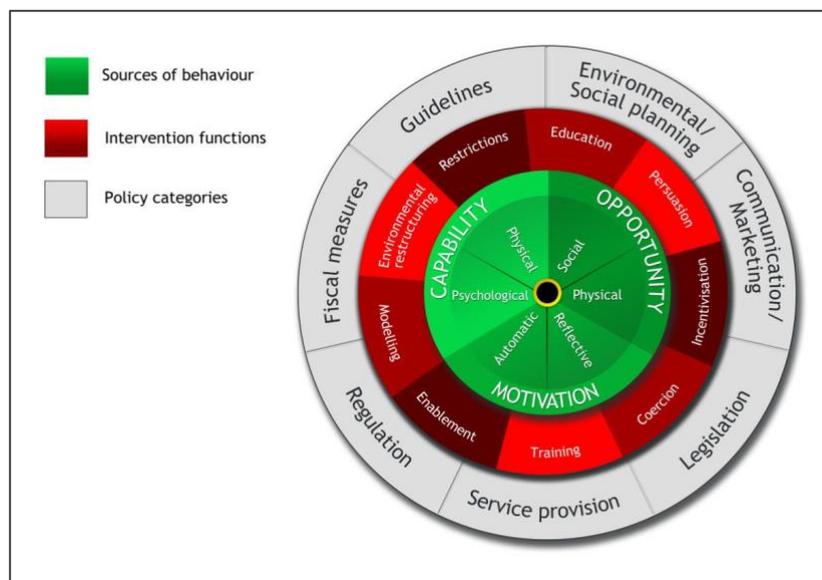


Figure 1: The Behaviour Change Wheel (Michie et al., 2014)

Capability refers to the individual having the physical and mental capacity to engage in a behaviour. Opportunity relates more to the social and physical context of the behaviour: social opportunities include cultural norms and influences while physical opportunities

include the possibilities afforded by a given environment. Motivation includes people's desire to engage in a behaviour and their beliefs about the likely results of this. Having determined the nature of existing barriers, it is easier to consider what changes could be helpful in addressing these. The Behaviour Change Wheel suggests the range of interventions available, categorized according to their function – e.g. persuasion; environmental restructuring; modeling. These options appear on the edge of the middle wheel. Meanwhile, the outer ring of the wheel shows the types of policy instrument that are available – for example, legislation, service provision, guidelines and communication/marketing. The authors explain that the wheel does not provide a detailed blueprint for designing interventions but offers a systematic and theoretically guided approach for identifying which interventions and supporting policies would be expected to be effective. The model has proven valuable to health professionals in evaluating policies and interventions and is referenced by NICE (2014) in their guidance on recommended approaches to individual behavior change.

2.6 Conclusion

Workplace wellbeing is a critical issue within the NHS, one of the employers with the most significant levels of documented stress and, as a result, a huge cost in staff absenteeism. Meanwhile, there is growing evidence documenting the physical and mental wellbeing benefits of spending time in, and being physically active in, green space. In relation to the NHS, many hospitals have green space in or near to their buildings and more could be done to facilitate staff in accessing this.

There is also a good deal of insight into the factors that influence behaviour change. The Behaviour Change Wheel offers a useful process for considering potential interventions. Often used in public health, it provides a framework for understanding the factors affecting the use of green space at work, the barriers that prevent this, and the interventions likely to be effective in achieving positive change.

3. Study outline

3.1 Research questions and study format

The study focuses on three healthcare sites to explore the potential of green space for combatting staff stress and promoting staff wellbeing, through the following research questions:

1. *What proportion of staff regularly spend time in green space in the course of the working day?*
2. *In what ways do they spend time in green space at work?*
3. *What are the perceived benefits of spending time in green space at work?*
4. *What are the perceived barriers to spending time in green space at work and how might these be addressed?*
5. *Is spending time in green space at work associated with better health and wellbeing?*

As Michie et al. (2014) recommend, data about staff use of green space were gathered through a variety of methods. At each site the study followed three phases:

1. Case study interviews with green space leads and site tour
2. Semi-structured interviews with staff
3. Site-wide staff surveys.

At all three sites interviews and survey work were supplemented with site observations. In addition, at Mount Vernon Cancer Centre, we held a series of consultative workshops and monitored the use of a specific area of the site in the summer.

3.2 Interviews with green space leads and site tour

The study began with detailed interviews with those leading green space work at each of the case study sites, with a view to understanding what initiatives had taken place, what had been learnt from these and what information had already been collected on their impact. At each site several members of staff were involved in 'telling the story' of their green space work and discussing their aspirations for these projects. Each of these visits involved a site tour. Further information was collected in follow up emails, including some updates as new initiatives developed. In the course of the research we made additional site observations that helped in understanding the circumstances of each hospital. The three resulting case studies are outlined in Chapters 4-6 of this report.

3.3 Staff interviews

In the next stage of the research we held one-to-one interviews with 34 staff across the three sites – 11 at Broomfield, 11 at Guild Lodge and 12 at Mount Vernon. Interviewees were identified with help from the green space leads, who were asked to find five staff who regularly made use of green space and five staff who did not. We specified that we would

like to include staff from a range of occupations, and ideally to interview staff of the same occupation who did and did not use green space. In the event, interviewees included nurses, healthcare assistants, theatre staff, doctors, a psychologist, a pharmacist, occupational therapists, clinical scientists, radiographers and administrative staff. Although the green space leads tried to identify staff as we had asked, it was sometimes unclear prior to the interview whether or not the participant regularly spent time in green space. In the resulting sample there were 15 staff who did and 19 who did not.

Interviews were carried out face-to-face in late March and April i.e. at the start of spring. They were typically around 25 minutes in length, but varied from as little as 14 to as long as 50. Using a semi-structured questionnaire, we explored with staff their experience of green space at the site and its effect on their day-to-day working lives. Topics covered included their usual working environment and their feelings about it; break patterns, where they would normally go for a break and why; whether they regularly spent time in green space; what activities led them to do this and how they found the experience when they did; whether they would like to spend more time in green space than they currently did; any issues that made this difficult and any changes they thought would help in addressing these.

The interviews were recorded and transcribed and the interview transcripts subject to a thematic analysis. For this, key information from each interview was captured in a summary table, which identified and located material related to the study's key areas of enquiry – for example, all specific benefits from being in green space as identified by the interviewee. Guided by this we were able to look across the data and map the key themes to emerge within each of these topic areas, whilst also returning to the transcripts to ensure the analysis provided a nuanced understanding of these conversations and the experiences described. The findings from these interviews are presented in Chapter 7.

3.4 Consultative workshops and observational survey at Mount Vernon

At the Mount Vernon site, where there was a programme to enhance green spaces at the time of the project, we also conducted two consultative workshops to help inform this process. These explored the support needed to enable staff at the site to spend time in green space during the working day, using the Service Template Process, originated by Williams, Saunders and Staughton (1999). A key strength of the approach is that, although led by a facilitator, it is participant-driven: the group itself determines what matters and their language in defining each characteristic is closely reflected in the resulting template. Two initial workshops were held – one with staff and one with those working to encourage use of green space.

In addition, at Mount Vernon we carried out an observational survey, recording use of the site's focal green space. The primary purpose of this was to gain baseline monitoring data to

assist in evaluating the impact of subsequent changes. However, it also provided some further insights into the way in which staff use this space.

Results from the consultative workshops and insights from the observational work were included in a presentation to the hospital's health and wellbeing group, together with findings emerging from interviews and surveys. Using these sources of information, and also informed by the Behaviour Change Wheel (Michie et al., 2014) the health and wellbeing group deliberated on the options for further interventions to encourage the use of green space at the site. Findings from the consultative workshops are presented in Chapter 8.

3.5 Site-wide staff surveys

Building on the earlier qualitative work, particularly the analysis of staff interviews, site-wide electronic staff surveys were devised to further explore, at each site, staff's existing use of green space, the benefits, the barriers and associations between regular use of green space and indicators of wellbeing.

While most survey questions were the same for each hospital, some were customized to the individual sites, enabling us to explore the use of specific outdoor areas; uptake of specific outdoor activities the hospital had run; and interest in future activities based on a list of options agreed with the site's green space leads.

As an outcome measure, staff were asked to complete questions from the short version of the Warwick-Edinburgh Mental Wellbeing Scale, designed to measure mental wellbeing. They were also asked to report from memory the number of days they had been absent from work in the previous three months.

The surveys were distributed by email at each site in August, September and early October, when use of green space was expected to be at its highest. To avoid attracting a disproportionate response from staff with special enthusiasm for outdoor greenery, the survey was badged as being about wellbeing and the site, and the covering email did not explicitly mention green space. Paper alternatives were also made available. In addition, at the two smaller sites – Guild Lodge and Mount Vernon – a staff member helped in collecting additional responses by taking the survey around offices and wards on a laptop or i-pad. The results from the site-wide surveys are presented in Chapter 9.

3.6 Synthesis of findings

Finally, in Chapter 10, we draw on findings across the study to give conclusions and recommendations.



Broomfield Hospital

4. Green space initiatives at Broomfield Hospital

4.1 Context

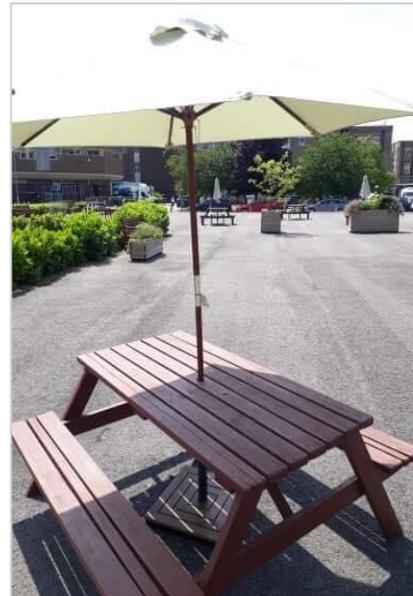
Broomfield Hospital – an acute district general hospital on the edge of Chelmsford with 5,000 staff – has plentiful green space. Run by Mid and South Essex NHS Foundation Trust¹, the complex retains an Edwardian manor house, Broomfield Court, now used for offices, whose expansive lawn gardens remain part of the grounds, and two areas of woodland to the north and south of the hospital buildings. Opened in 1940, Broomfield was historically a tuberculosis centre, and part of its south-facing sanatorium buildings are still incorporated into the site. The hospital has expanded piecemeal across the decades, and a major new wing, funded as a private finance initiative (PFI) opened in 2010. This includes the hospital's airy atrium, whose shops, cafes and waiting areas are a central hub for staff and patients, and also connect to two well-planted and spacious outdoor courtyards.

¹ Mid Essex Hospital Services NHS Trust at the time of the research

4.2 Key initiatives

The Trust's **Natural Health Service Project**, begun in 2013, invites both hospital staff and the wider community to gain skills through hands-on volunteering and education in a natural environment. With co-ordination from the sustainability and grounds and gardens teams, volunteers have helped to develop a series of garden areas for the benefit of patients, staff and community members.

In 2015 an area of disused tarmac was regenerated as a **Wellbeing Terrace** - a relaxation area, primarily for the benefit of staff. This space had become available when a hospital canteen was demolished to rationalize the site. The terrace has large planters, picnic tables, parasols, seating, and a sound sculpture and is well used in good weather. Two painted labyrinth designs are intended as a walking meditation. Swing ball, table tennis and badminton are provided in the summer giving opportunities for games and exercise. Work to convert the area was undertaken by volunteers, including health staff and Chelmsford Mencap.



Close to the terrace, the hospital has recently restored an attractive **sunken garden**, open to both patients and staff. Restoration started in September 2017 and included professional brickwork and metalwork to create semi-circular seating areas with gazebos for climbing plants, giving it an intimate, welcoming feel. Volunteers, including some staff and service users, undertook digging and planting. Other volunteers came from local companies, and 'Good Gym', a scheme in which participants run to a location for an evening and give an hour of their time to an activity. Since 2014, a **vegetable garden and fruit orchard** have been cultivated and cared for by Mencap students, who learn communication skills and organic farming techniques through the project.

Within the main hospital buildings there are five spacious, well-kept **courtyard gardens** with planting and seating areas. Two of these are accessible from the hospital atrium, while a third is next to a respiratory ward, and can be reached by its staff, patients and visitors via its dayroom. The other two are dementia gardens, both in enclosed courtyards and only accessible from adjacent care of the elderly wards. Opened in 2015 and 2017, both offer safe, secure and therapeutic space for patients, families and staff. Dementia leads at the hospital were part of a steering group for these projects and specified the needs of the therapeutic environment – for example, the provision of sensory plants and avoidance of sharp edges. The first garden was designed by landscape design students and the second by a therapeutic landscape designer, free of charge. While contractors put in place the hard

construction, volunteers, including healthcare assistants and nursing staff, were responsible for the overall garden creation, from soil removal to plant-laying.

By the hospital's main entrance there is a landscaped path that curves alongside a windowed concourse. There are now plans to turn this into a more inviting space with seating, a colourful planting scheme, inspired by the gardens of Anglesey Abbey in Cambridge, and willow sculptures by a local artist. The main pieces will symbolize the Trust's efforts to become more sustainable and the caring relationship between staff and patients. Smaller sculptures will highlight the native wildlife found on the hospital grounds and there will be interpretation to celebrate the history of the site.

The site has **two small areas of woodland**: Long Shapely Belt, a strip of deciduous woods with two ponds on the southern edge of the grounds; and Pudding Wood, an area of semi-natural deciduous woodland to the north of the site that dates back to 1777. Both woods are freely accessible to the public and volunteers have helped with tree planting there. In 2019 a 'big woodland walk' was held to promote the space to staff and the wider community.

There is a bat roost on the site, and since 2016, the sustainability coordinator has led a series of popular twilight **bat walks**. Around 90 people took part in 2018 of which about half were staff.

4.3 Staff engagement

Volunteer days are widely publicised to staff using social media, staff screen savers, an event calendar and a newsletter. Information about the site's green space is available on the staff intranet and in leaflet and poster form. The Trust's "pocket guide to the hospital woodlands, gardens and green spaces" marks out a walk across the whole site that takes in both woodlands, and highlights plants and wildlife in different seasons, with information about the history of the gardens and the volunteer programme. When new green spaces – such as the Wellbeing Terrace – are completed the Trust holds a launch event and invites volunteers who have helped with construction. On activity days volunteers are usually offered a tour of the site, which raises awareness of its green areas.

4.4 Management support and perceived benefits

The Sustainability Coordinator, David Jackson, says that the main motivation for their green space work is to enable people to enjoy the natural surroundings and to have the opportunity to relax and de-stress. Proposals for the Wellbeing Terrace were developed in 2014 following concerns about stress identified through a staff wellbeing survey, which found 28% of employee participants suffered from less than good general health, and a further 11% from stress or depression. The project gained further momentum following 'Get healthy... Stay healthy', a successful 2014 health and wellbeing campaign for Trust staff,

where a survey indicated that 89% of respondents would like to use outdoor recreational areas if these were provided.

The Trust's leaflet on the Natural Health Service Project includes endorsement from the Chair of the Trust and the Chief Estates and Facilities Director: "The Natural Health Service Project is our inspirational initiative, offering all ages and abilities the opportunity to develop confidence through hands-on volunteering and education in a natural environment." Green space initiatives have received demonstrable support from senior management: the two chairs of the Trust have spoken at green space launch events and push the importance of the initiatives at senior level meetings.

4.5 Associated costs

The Trust reports that all the garden projects have been completed with charitable funds. These include the Sunken Garden at £8,000, the Wellbeing Terrace at £13,000, and the two Dementia Gardens, each at £42,000. The PFI company is covering the £12,000 cost of the hospital entrance scheme. The sustainability coordinator estimates that he spends between 30 and 40% of his time on green space activities, including supervising volunteers, raising awareness, organising wildlife surveys and collecting biodiversity records. The grounds are managed by a team of five FTE staff, comprised of three gardeners and two grounds people. Time donated by volunteers in one year is calculated to be 1,900 hours, worth £18,600 in staff time.

4.6 Monitoring and feedback

From April 2017-March 2018, the hospital ran 51 volunteer days devoted to one-off gardening activities. During this period 251 volunteers (including those who attended more than once) took part, of which an estimated 10-20% were staff.

Monitoring of the Wellbeing Terrace – the initiative most specifically intended to benefit staff, shows it is well used: during a six week watch in summer 2017 around 30 people were there at any one time. A 2017 survey of people using the terrace showed high levels of satisfaction: 100% of the 50 respondents either agreed or strongly agreed that the Wellbeing Terrace was a relaxing and peaceful area to enjoy; 68% said they used the terrace 'near enough everyday' in the summer months, and 30% used it once or twice a week; 80% said they used the activities provided once a week or more. Comments included descriptions such as *relaxing, therapeutic, positive fresh atmosphere, peaceful, content, happy, positive mood*. The Wellbeing Terrace also featured in a Health and Wellbeing Survey of the whole Trust in Spring 2017. Around 15% of respondents said they had used the area themselves and would recommend it; while around 6% said they had used the area and would not recommend it.

4.7 Learning from the initiatives

David says the mantra “communicate, communicate, communicate” has been critical to the success of the project and many people are aware of the initiatives. He recommends reaching out to the community to find volunteers and talking to staff face to face to find out what would encourage them to take part. The constant push to make improvements shows staff that the Trust is taking green space and its conservation seriously. He believes that the project has met its objectives in that the green space programme is providing therapeutic benefits and relaxation space to those people engaging with it.

The green space may be a five-minute walk away for some staff, so accessibility can be an issue. Staff turnover is relatively high and this can be a barrier to communication about green space. Continued development on the site can create pressure to build over greenery. Plans for a new seating area had to be suspended because of expansion. Looking forward, the sustainability team would like to grow the initiative with greater staff participation and use. They want to make sure the green space is well managed, promote the woodlands more fully and introduce green space awareness into staff induction.



Broomfield's sunken garden and manor house



Grow Your Own area at Guild Lodge

5. Green space initiatives at Guild Lodge

5.1 Context

Guild Lodge, on the edge of Preston, is a secure mental healthcare hospital, run by Lancashire and South Cumbria NHS Foundation Trust², with 500 staff and 164 service users. Set in rural surroundings, the unit provides separate services for men, women, and men with Acquired Brain Injury. Each service has facilities which are medium secure, low secure and 'step down', with the last of these referring to a step down in security for patients in the last stage of recovery and preparing for independent living. The hospital's more secure wards are within a high perimeter fence, while others are located outside this. Opened in 1999, the site was historically occupied by a Victorian asylum, and was once the largest mental hospital in Britain with three farms, a church and a railway station. Some of the original green spaces, such as an orchard, remain part of the present hospital grounds. Staff describe the site as "wrapped around in greenery": there are thickets of trees at its edges and deer and rabbits are frequent visitors.

² Lancashire Care NHS Foundation Trust at the time of the research

5.2 Key initiatives

Guild Lodge's flagship **Grow Your Own Project**, launched in 2013, offers both service users and staff a chance to learn horticultural skills and also supplies the hospital's kitchens with fresh organic produce at a reduced price. There are poly tunnels, raised beds, a chicken coop, an aviary, a pond and a covered training area. The site also has an aquaponic growing system for producing salads without soil, acquired with the proceeds from making and selling willow sculptures at Christmas markets, using home grown cuttings. The site offers growing space for 'Green Hug', an adult community growing group from the nearest village. The Grow Your Own Project regularly takes part in local flower and vegetable shows and has won many awards. Around 95% of the work is done by service users, including four residents who are employed for eight hours a week on fixed-term contracts. In all, 18 service users are involved in the programme on an ongoing basis. Over the last four years the project has supported around 10 service users in gaining a City and Guilds qualification in horticulture.

Staff are involved in Grow Your Own in the course of escorting service users to sessions and some also take part as volunteers. Over the last three years the programme has generated additional income by running team-building days for groups of staff across the Trust, and around 100 staff have attended in this period.

There is a second horticultural area with a greenhouse within the hospital's secure area. This is part of a Skills Learning Centre run by Occupational Therapy and has a technical instructor and four to six service users coming in daily, with additional support from ward staff. There is also a further garden area with raised beds, which is part of a Therapeutic Resource Centre, another facility run by Occupational Therapy within the secure area.

Each of the wards at Guild Lodge has its own garden. In some of the newer wards outside the secure perimeter, these are designed-in as spacious curved courtyards, equipped with awnings, seating areas and other features such as garden games. In 2018 and 2019 the hospital ran **Guild in Bloom**, a competition between the wards to improve their gardens. Some of these had become run down and overgrown and the initiative encouraged a transformation over a three-month period. Change was recorded with 'before and after' photographs and both staff and service users worked together and became more protective of these spaces as they developed. All wards took part and the scheme was successful in generating interest while building a sense of community and shared ownership.

Since 2016 there have been efforts to encourage **Workspace Walks** for staff – a Trust-wide health and wellbeing initiative led by an occupational therapist, Hilary Bell, who also acts as a health and wellbeing champion. To publicise the idea she produced a list of benefits, entitled 'Workspace Walks are brilliant'. This includes: 'Away from computers, phones and

other distractions meaningful conversations can take place'; 'It is a 'thinking space' to discuss ideas and find solutions'; 'Feeling free to take a workspace walk when needed increases appreciation and commitment to the Trust'; and 'There is no financial cost!!' The initiative is less about organised walks than creating an ethos that allows staff to go for a walk at their own discretion, taking time out in green space to clear their heads. It is ad hoc and not confined to lunch breaks. Some staff take walks as a team, for example, agreeing by email to walk at lunchtime or taking a 10-15 minute break during the day. One member of staff explained: "What is good about the walks is that it just takes one person to email / ring around the office to get a few people to go out for some fresh air (usually between two and six of us). We do try **not** to talk about work whilst we are walking, as it is a good break from our desks, but it is also a good opportunity to de-stress or vent a little if you have been having a particularly bad day." While informal walks have been popular with staff in finance, admin and psychology, it has proved more difficult for ward staff to get away, especially when there are staff shortages or an immediate crisis with a patient.

A **regular walking group** for service users and staff was set up two to three years ago by a clinical nurse specialist who is the hospital's physical health lead. The programme of three walks a week is promoted through posters. Participation varies with the weather, but around 12-15 people take part in summer including three to four staff, who are generally there to lead or escort service users. The level of restriction that applies to individual service users determines the scope of the walk, but in summer they tend to go a bit further and will sometimes go off site. Patients are generally keen to spend time outdoors and most go out on a daily basis within the grounds, if only to ward gardens. Those from more secure areas must be escorted if accessing the grounds beyond the fence, meaning that those staff accompanying them routinely spend time in green areas in the course of their work.

In 2015 a **picnic area** with table and benches was created within the grounds at the request of a patient after his family had nowhere to sit and eat when visiting. This was constructed with charitable funding, including money raised by staff. Staff regularly make use of this. In Autumn 2018 another picnic area was created in the skills Learning Centre, for use by service users and staff in the secure part of the hospital.

5.3 Staff engagement

Channels for communication with staff include email, screensavers, intranet, a weekly electronic Trust newsletter and clinical supervision sessions. The Guild in Bloom campaign relied on posters, twitter and occupational therapists going into wards to promote the idea with posters and packs. There is a feeling that word of mouth works best for this kind of campaign. The hospital's 'tactical meetings' offer a forum for cascading information verbally.

5.4 Management support and perceived benefits

In the early stages of the site's development, staff visited the Netherlands and brought back learning about the benefits of open green space and horticulture for mental health – giving an initial impetus to green space work, which makes the most of the site's rural setting.

In launching Grow Your Own in 2013 the project manager focused on the opportunities it provided for social interaction, promoting healthy eating and healthy living, and allowing participants to build self-confidence and gain transferrable skills and qualifications. Anticipated achievements included changing lives; building community through gardening; and bringing partners together to share ideas and problem solve. Plans also encompassed sustainability goals such as adapting to climate change and encouraging conservation for the future. The experiential aspect of the Grow Your Own Project is especially valued, since it can be difficult to find opportunities for patients to be involved in community work as they prepare to leave Guild Lodge. The current employment of service users on the project fits well with the hospital's aim of providing recovering patients with work opportunities. The programme's team-building days for staff are seen as a cost-effective means of promoting team wellness, using on-site resources and expertise.

The Workspace Walks initiative has been well received and supported by the Trust as a whole, which gave its champion a staff award for innovation. The importance of staff wellbeing has risen up the agenda at the Trust in recent years. Across the Trust there are 352 voluntary health and wellbeing champions who advocate important messages and lead by example. At Guild Lodge each ward has its own champion. Joanne Smith, the Trust's health and wellbeing strategic lead, sees green space initiatives as encouraging the 'five ways to wellbeing' identified in Government guidance¹: connect with the people around you; be physically active; take notice of the world around you; keep learning; and give to others. Promotion of health and wellbeing assumed greater precedence following concern about the cost of sick days caused by musculoskeletal disorders, calculated to be £950,000 across the Trust in 2015/16 (based on 6,648 employees and 2014 figures from the ONS).

Action to tackle staff absenteeism and improve recruitment and retention is viewed as a particular priority at Guild Lodge. At the time of the case study interview (early 2019) absenteeism at the unit was reported to be running at 8.5%, well above the Trust target of 4.5%, and the average for the Trust as a whole of 6% (though in March/April/May 2019 the Guild Lodge absence figure had come down to 5%). Stress, anxiety and depression were given as the most common reasons for absence. Lack of staff is a recurrent problem for the existing workforce. Staff shortages were highlighted as an issue affecting work conditions in a 2018 staff retention survey of 140 employees at Guild Lodge. Recruitment difficulties have been exacerbated by the site's remote location and poor public transport access.

In addition to the green space initiatives a number of indoor health and wellbeing initiatives have taken place at the site, including a staff Zumba class (2015/16) and a mindfulness-based therapy course (2016/17) attended by staff, and also accessible to service users.

5.5 Associated costs

Much of staff engagement with green space takes place in the context of working with patients and is consequently funded as part of the hospital's daily therapeutic practice. Investment in seeding and planting for the Grow Your Own Project is recovered through the sale of produce, which is bought by the hospital kitchens. Additional income is generated through participation in local markets and delivery of team-building days. Funding for the Grow Your Own manager's role is shared equally between the Estates Department and Occupational Therapy. Promotion of Workspace Walking has been undertaken on a voluntary basis and is cost free.

5.6 Monitoring and feedback

It is thought that action to promote physical activity (including Workspace Walks) may have contributed to a 5% reduction in self-reported 'obesity/overweight' recorded in the Trust NHS Staff Survey between 2015 (when the first champion was recruited) and 2016. Since 2015 the Trust has conducted an annual Health and Wellbeing Survey, which shows that general health improved between 2015 and 2016. In 2017, 80.74% of employees reported that the Trust takes positive action on health and wellbeing (Lancashire Care NHS Foundation Trust, 2018).

Feedback from staff collected by the Grow You Own Project emphasises benefits to individual participants. A member of staff attending a gardening group with patients reports developing their physical health, learning new things, increasing confidence and enjoying being in green space. A staff member who took part in a team-building day says the session was good fun and informative and reduced their stress levels, with positive impacts for their mental wellbeing. Another staff member who took part in Grow Your Own sessions for several years lists benefits that include physical exercise, relaxation, de-stressing, fresh air/connecting to nature and increased knowledge of horticulture and business. This participant commented that the session was one of their favourite times in the week.

Feedback has also been collected on the Workspace Walking initiative. An administrator explains how joining a Workspace Walk gave her support in giving up smoking: "To my surprise three and half months later I am now smoke free and do two laps of Workspace Walks with enjoyment! I chat to people in the kitchen and along the corridor; the walks make me freshened up during a busy day and I come back to my desk with a clear mind and ready to go. This is a fantastic project and the best thing is, it's part of your work day and honestly makes your working life a happier one!"

5.7 Learning from the initiatives

Grow Your Own, Guild in Bloom and Workspace Walks are all regarded as very successful initiatives. It is widely accepted that front line ward staff have greater difficulty in taking a break from work to spend time in other parts of the site, particularly when a service user is unwell. The issue is partly driven by staff shortages but also by a sense of vocation. Ward staff do have the option of spending time in ward gardens and some say they do this.

A related issue is the need for places on site where staff can congregate. There has been discussion about making an existing social centre within the hospital available to staff for this purpose. The garden area in the Therapeutic Resource Centre within the secure area of the site offers another possible retreat, though not currently used for this purpose. Nurses can often be seen sitting in their cars, suggesting that when they do take a break this offers a way of taking time out from patients.

Hilary Bell says of Workspace Walks, “The key to success is that it is not a ‘must’ or a ‘have to’. It is about when you feel or need to have a workspace walk and ultimately being healthier and happier at work.”



Ward garden in Guild in Bloom competition



6. Green space initiatives at Mount Vernon Cancer Centre

6.1 Context

Mount Vernon Cancer Centre, Northwood, run by East and North Hertfordshire NHS Trust (ENHT), has 500 staff and treats 5,000 new patients a year. The hospital was originally built as a tuberculosis sanatorium offering open air treatment, and its Edwardian facade remains a defining presence on the site. The Grade 2 listed building is now mostly used for administration, with clinical services delivered in adjacent and newer facilities. The sanatorium balconies and terraces, though no longer safe for use, look out on to an expansive area of lawn that is edged by trees and shrubbery. Around the site the Cancer Centre has a number of other green spaces, including a hospice garden, gardens attached to its chemotherapy unit, and several small planted courtyards and terraces linked to a complex of wards in low-rise buildings. While some of these areas are well tended, others have fallen into disuse and are now overgrown. This, and the presence of several derelict buildings, gives parts of the hospital site an air of decay.

Aspirations to develop Mount Vernon's outdoor space have been complicated by the fact that ENHT is a tenant on the site, which is managed by Hillingdon Hospitals NHS Foundation Trust (HHT) as landlord. The site is shared with other health providers, including a diagnostic

treatment centre run by HHT. At the time of writing there is also uncertainty around long term plans for the management and location of the Cancer Centre: in May 2019, in the light of its aging buildings and limited support facilities, the NHS in the East of England and North London began a review of the Centre's services, to develop proposals for meeting the needs of local people. Options put forward involve replacement of some or all of the Cancer Centre's services with new build at an acute District General Hospital site, though under one proposal radiotherapy and chemotherapy services will remain at their existing location (NHS England and NHS Improvement East of England, 2019).

6.2 Key initiatives

In the last three years the hospital has piloted **outdoor lunchtime activities** for staff and volunteers, with a view to improving health and wellbeing. The idea of using the site's outdoor areas took hold when a member of staff suggested that an on-site gym would help nurses stay healthy. Ginnie Abubakar, the Centre's Community Engagement Manager, attended a talk about green gyms and realised that what their site lacked in indoor space, it more than made up for in outdoor space.

Staff preferences have been identified through a staff working group which was set up to explore priorities for health and wellbeing. This identified that activities should meet key criteria: staff wanted a 20-minute activity that could be completed in a half-hour lunch break, that was easily accessible, low or no cost and did not make them sweat. Walking was identified as a suitable and easy choice. The idea was also inspired by an existing on-site walking route, promoted to patients by the hospital's cancer support and advice centre.

Between 2016 and 2018 the Community Engagement team worked to instigate a **walking group**. Staff and volunteers met at 1pm for a 20-minute walk led by a volunteer staff member. Four walks of a mile long took place on site and were quite well attended and well received, but the group has not since been sustained. Feedback revealed that people did not like walking through car parks. Though there are pleasant paths in nearby woods off-site, these are inaccessible because of traffic danger on the main road.

In 2017 the Trust offered staff and volunteers similar walking sessions in National Walking Month but there was no uptake. Staff have continued to express interest and other walking initiatives were tried but have proved unsuccessful. Walking is also encouraged by an Active Ten app, which prompts 10-minute bursts of physical activity and has been promoted to staff as a health and wellbeing initiative.

In July 2017 the Community Engagement team introduced free outdoor **taster sessions in Qigong**, a system of movement, breathing and meditation. Led by a qualified instructor, these took place on sunny days in the site's outdoor green spaces including the main lawn. Following on from this, weekly indoor sessions were established after work throughout the

year at a cost of £5 a class. An estimated 20 staff have taken part and the sessions are now judged to be self-sustaining though they require ongoing publicity.

At the time of this research the Cancer Centre was working in partnership with the Centre for Sustainable Healthcare on a programme of green space enhancements, with specialist input from a landscape architect, and charitable funding. The first of these was the restoration of the **chemotherapy suite garden**, scheduled to start in 2020. The garden will have a ramp, circular path and new planting scheme. Outdoor power points and sheltered seating are being included with the intention that chemo patients can choose to be treated outside. While patients and their families are expected to be the main beneficiaries, it is hoped that staff will also enjoy the space.

A second project due to take place in 2020 focuses on the large green space in front of the sanatorium building. Staff regularly use this area in summer to take walks or sit out, with some eating lunch on benches and picnic tables in front of the terraces. In the past the green has also been used for staff events, including rounders and a bake off competition. To improve the scope for walking there are plans for **creation of a Woodland Walkway**, by making a mown path around the main lawn, and clearing a route through woodland at the edge of the site. The scheme includes new or refurbished seating and signage.

A third project involves **refurbishment of several green courtyards and terraces** attached to wards. However, this element is reliant on additional funding, and now seems unlikely to go ahead in the light of the NHS review process and plans for relocation.

The green space enhancement plans are being taken forward with the help of teams of volunteers. While HHT, as landlord, is responsible for basic site maintenance, the condition of the individual gardens and ward courtyards depends on the efforts of around 20 volunteer gardeners – who include former patients or their friends and relatives. Teams of corporate volunteers have also been involved and have taken on activities such as refurbishing benches. Volunteers are recruited through links with local community groups including a mosque.

6.3 Staff engagement

Staff are made aware of activities through staff email, posters, leaflets, internal staff mail and a staff newsletter. Health and wellbeing days are also promoted by the Community Engagement team, health and wellbeing leads and two volunteers, who talk to staff in wards and offices, and gain informal feedback. A strong emphasis on face-to-face communication has been necessary because the Trust blocks the use of social media sites.

Take up of activity sessions has come from staff in non-clinical occupations and it has proved very challenging to engage clinical staff, who may have no lunch break, or whose breaks are

later in the day. A further issue is that clinical staff are often on their feet all day, and so less interested in physical activity. To promote the wellbeing of this group, the Community Engagement team has offered different types of activity, in clinical areas at a later time. Massage and health checks (BMI, blood sugars, cholesterol) have both been popular.

6.4 Management support and perceived benefits

The Community Engagement Manager says the impetus for promoting the site's green space to staff initially came from the Divisional Director of Cancer Services within the Trust, who saw it as a priority that staff should enjoy working at the Centre and emphasised the importance of health and wellbeing. This leadership was reinforced by a strong interest from staff in the cancer support and information centre. Re-structuring and the rapid turnover in senior management then led to a loss of momentum, and no one in the executive team has responsibility for health and wellbeing. Nevertheless, the current leadership supports the green space improvement programme.

Across the Trust, health and wellbeing champions are supported by Occupational Health, including two champions at the Cancer Centre who have helped to promote green space on the site, contributing to sessions and leading walks.

Countering stress and improving mental health have been very important motivations for green space initiatives. Staff stress has come up as an issue in staff working groups and in informal face-to-face discussions with staff about the difficulty of participating in activities when they have no lunch break. Results from the NHS Staff Survey show that at the Trust as a whole, the percentage of staff feeling unwell due to work-related stress in the last 12 months was 40% in 2018 and 2019, up from 38.5% in 2017. In 2019, 28.2% of staff said their organization definitely took positive action on health and wellbeing, up slightly on 24.8% in the previous year. Both of the current figures are in line with national levels. Disaggregated figures for the Cancer Centre are not available.

6.5 Associated costs

The green space enhancement programme relies on charitable funding, including a grant of £47,281 from the Heathrow Community Fund. This covers £21,767 for capital items, including hard works, plants and gardening materials, and outdoor furniture; £2,000 for signage and publicity materials to support activities, and £23,514 for the services of a landscape architect and external project management. Only a small proportion of capital costs are allocated to the Woodland Walkway, the main initiative designed to promote staff wellbeing, which is being constructed through volunteer efforts. A further £10,000 for additional items, is being sought for the chemo-garden scheme from hospital charities.

The Community Engagement Manager estimates that the amount of her time spent on green space initiatives is 0.1 (FTE). Additional volunteer time has been donated by staff running the 20-minute activity taster sessions who do this on a voluntary basis.

6.6 Monitoring and feedback

Feedback was collected from the walking group and was largely positive, e.g. “Good to get out and about and see the site and history”; “Really enjoyed it. Nice to chat to different people you don’t get a chance to see in your working day”. However, as mentioned above, some participants disliked walking through car parks: “Greener walk would be good. Nicer for the mind to recharge/clearer head”.

The engagement team also used a questionnaire in 2018 to gain broader feedback from staff about their use of the site’s outdoor space. In this survey of 165 people: 82% said they knew where green space was located at Mount Vernon (165 respondents); 50% said they used green space at their workplace and 50% said they did not (161 respondents); 76% said they used green space for rest and 7% for exercise (122 respondents). Asked what was stopping them spending more time in green spaces at work (156 respondents), 66% said time, 12% that they didn’t know where green spaces were, 7% access and 4% better things to do. Asked what would help them to access green spaces more (158 respondents), 54% said seating areas, 23% said health walks, 9% said sports activities, 8% said gardening, and 6% said yoga.

6.7 Learning from the initiatives

Staff being unable to take a lunch break is a particular issue, and the Community Engagement Manager feels senior management support is needed to overcome this. Minimum staffing levels in clinical areas prevent senior nursing managers from releasing staff. Running some events later in the day can help with this but the numbers who can attend are not sufficient for a full activity session. Differing shift patterns can also prevent participation.

Seeking and responding to staff feedback has helped in defining the kind of activities that are likely to be popular. It is important to refresh awareness about outdoor space. In communicating with staff the Trust’s prohibition of social media presents a particular challenge because face-to-face awareness-raising is time consuming.

The involvement of volunteers, including the health and wellbeing champions, has been essential both in maintaining communication with staff and delivering activities. A larger volunteer pool would be helpful in growing initiatives.

An issue highlighted by some clinical staff is that they would like activities/space to offer respite from time spent with patients. Because staff build up long-term relationships with their patients, they can be anxious about whether there will be any requirements of them in activities where patients are involved. Since clinical staff are readily identifiable by their lanyards, they may be stopped multiple times with questions even on a short walk to the restaurant, so that a half hour lunch break is taken up by helping patients other than their own. In some cases staff find it difficult to get to the door to use the toilet, let alone access outdoor space. Consequently, staff often prefer activity classes to be held in spaces that are not overlooked by clinical areas, and it could be beneficial to identify an outdoor space for dedicated staff use. Wet weather is also a potential deterrent and identifying covered open space for activities might help in encouraging participation.

The Community Engagement Manager thinks that there is a better chance of successfully involving staff if the initiatives are seen as an authentic engagement around health and wellbeing, rather than a corporate engagement aimed at cutting sick days to cut costs. She believes initiatives need to genuinely appeal to staff interests; to be “more carrot and less stick.”



Conscious Walking leaders at launch of green space enhancement project

7. Findings from face-to-face staff interviews

In this section we report on the findings from 34 face-to-face interviews with health staff about their everyday experience of green space during their time at work. As outlined in Section 3, green space leads at each of the three hospitals were asked to identify, in equal numbers, participants who did and did not regularly make use of green space at work. In the event, this was not always clear at the outset of the interview, and among those recruited to the study were 15 staff who did and 19 who did not regularly spend time in their hospital's green areas. Participants included both clinical and non-clinical staff, from a range of occupations.

7.1 Activities that lead staff to spend time in green space at work



Figure 2

Note: Size of clouds indicative of size of response.

The importance of walking

In exploring their daily experience of green space at the hospital site, interviewees described a wide variety of ways in which they engaged with the outdoor environment through the working day (shown in Figure 2). Activities mentioned included noticing nature on their journey into work, taking patients out on escorted activities, eating lunch outside in good weather, appreciating the view through a window or opening a door to do so, taking a short break for 'a brew' in a ward garden and holding outdoor meetings with colleagues. A few interviewees had taken part in organised outdoor activities at work, including volunteer gardening and bat walks at Broomfield, outdoor Qigong at Mount Vernon and team building days with the Grow Your Own Project at Guild Lodge. Notably however, walks around the

site or beyond it emerged as one of the most consistent ways in which staff engaged with green space during the working day, especially since, unlike outdoor eating, this was not restricted to the summer months. Among participants who regularly spent time in green space there were some at each site that made walking a habit. Several interviewees described eating lunch at their desk before heading out for a walking break, with some completing a circular route:

At lunch time I do try and go for a walk around the grounds where I have a sort of lap that I do.

Health improvement practitioner, Mount Vernon, regularly uses green space

It's just a habit that I've kept up because I don't do much walking on the ward at all. It's just nice to get out and about a bit.

Staff nurse, Guild Lodge, regularly uses green space

More incidental walking *in the course of work* was also a popular and valued part of interviewees' experience of green space on site. Several interviewees, including some who did not regularly spend time in natural areas at work, nevertheless enjoyed walking through them for errands, deliberately taking 'the long way round', or choosing an outdoor route to 'make the most of it'. Interviewees emphasised the importance of this in winter especially, when staff on long shifts might otherwise arrive and leave darkness.

If the weather's nice and dry, and even if it's cold but bright out, I will walk outside rather than inside because I think it's just nice to get a bit of fresh air. Nice to see a bit of sunshine, I think it does boost people up.

Play specialist, Broomfield, does not regularly use green space

If I pop out to the pharmacy and I go the green way I always feel a lot better ... I mean really genuinely I feel like I've had a walk ... that was nice, where if I go ... through the corridors, it's the same, possibly, the same distance, but I don't feel like I've had a walk ... it's hard to describe ... even though it's possibly about five minutes, you know, it's nicer, it is nicer.

Clinical support worker, Mount Vernon, does not regularly use green space

At Guild Lodge, efforts to create a culture of informal workspace walking appeared to have been especially successful. An allied health professional at the hospital explained how he and staff in his team frequently took walks together on an ad hoc basis, which he felt were positive for wellbeing and building relationships. He valued this as a means of connecting authentically with colleagues, rather than meeting a work goal.

it's allowing ourselves time to be able to reflect as a team or just have a walk and ... the productivity of that is that actually it is about my wellbeing, but it's

also about just connecting with other people, other human beings in a different way, other than just about an objective.

Allied health professional, Guild Lodge, regularly uses green space.

Green space rich or green space poor?

At each of the sites there were some interviewees who made time in green space integral to their working lives, and spoke enthusiastically about these daily routines.

- At Mount Vernon, a clinical scientist said she ran or walked for her 2.7km journey to work on a route that took her through woodland and parkland and was almost entirely green. In summer she took a walk round the site during the day, two or three times a week. If she and a colleague were trying to troubleshoot problems they would walk together to talk them through. She had also spent time exploring the site with a friend in a wheelchair, and enjoyed discovering “all sorts of areas” she had never found before. She explained: “I just love outside”.
- At Guild Lodge, an allied health professional described a day that was mostly spent outside, with many opportunities to be aware of nature. She enjoyed walking around the site in the course of completing her daily rounds for work, and noticed the scent from blossoming bushes next to the walkways. Her supervision meetings were held outdoors, walking and talking. She ate lunch outside with her team in warm weather and would take ‘five outside’ if there was time to spare while waiting for a delivery. She emphasised how much she valued the outdoor aspects of working at the hospital, explaining: “My other job didn’t even have a window, so it’s absolutely stunning; get to see all the wildlife and stuff like that, the changing of the seasons.”
- At Broomfield, an administrator explained that she usually took a 20-minute walk during her half-hour lunch break, either spending time in the hospital’s woodlands or taking an off-site route on a country lane through fields. She had taken part in a guided bat walk, helped with volunteer gardening and joined an organised lunchtime walk. She spoke appreciatively about the beauty of the site and the surrounding area: “Just the way the road winds with the light falling on it or the trees out there are just beautiful ... and the new sunken garden is lovely.”

In contrast, there were interviewees at each site who described being unable to access green space, despite appreciating its benefits.

- At Mount Vernon a chemotherapy nurse said she spent most of her 10-hour day in a room with no windows and would eat in the staffroom, another windowless area a few steps away. She said she would like to spend time in green space but the need to get on and the lack of a garden close by prevented her. In an ideal world, she said,

she would like an area where staff could relax uninterrupted: “sit and enjoy sights, smells, sounds – water always sounds good just even for 5 or 10 minutes. Just be.”

- At Guild Lodge, a matron said he normally ate lunch at his desk and did not understand the concept of a break. He felt taking time to himself was “just not realistic” and explained that while staff looked after each other at times of stress this usually took the form of quick interventions: “if you’re a quarter of the staff on the ward you can’t have two of them go for a walk to talk about their issues ... whereas they can sit on a radiator and have five minutes and still be part present for work. It’s a lot about resources.”
- At Broomfield a staff member who worked mainly in operating theatres said she loved her job, but her usual working environment, with no natural light could “feel a bit like a prison”. Rules against going outside in scrubs prevented her from spending time in green space. She saw this as partly driven by objections from patients, that staff should not be seen outside in scrubs, and wanted managers to clarify that this was acceptable if wearing a protective gown. She described how, on one occasion, during a planning meeting, members of her team could see through a small window that other staff were outdoors playing table tennis, and looked on this with envy. She argued that a lack of proper breaks and ‘thinking time’ was a major factor in her team’s high levels of sickness.

7.2 Personal benefits from spending time in green space at work

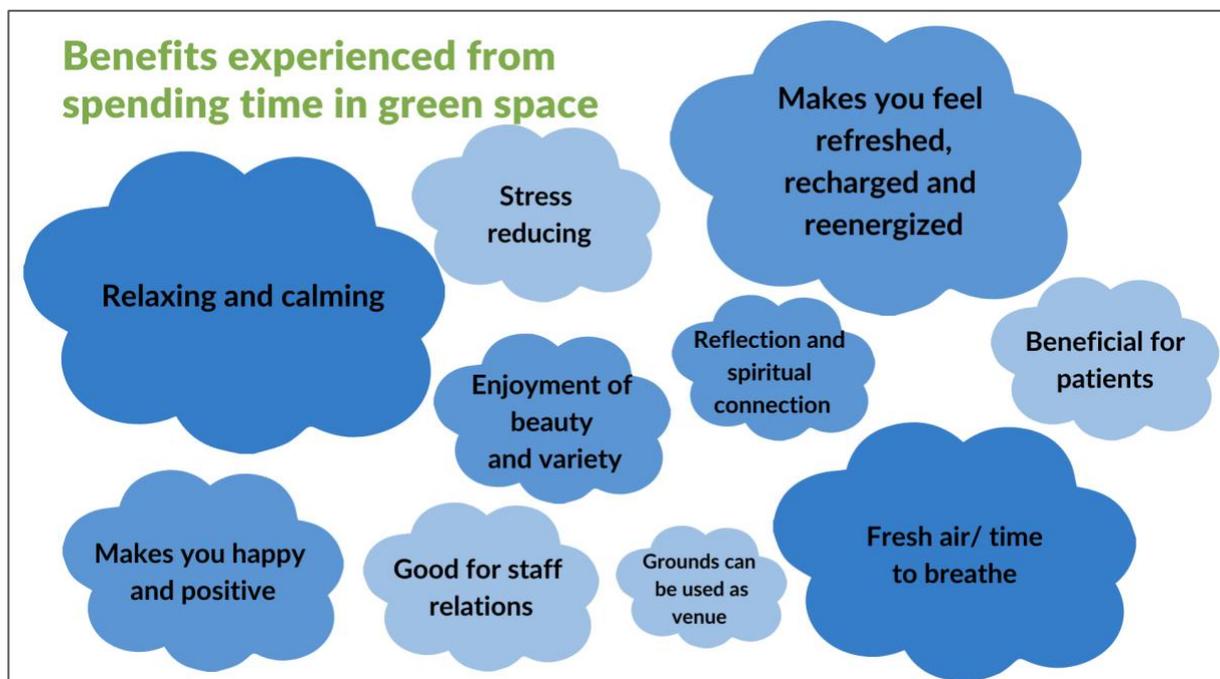


Figure 3

Note: Size of clouds is indicative of size of response.

Both staff who regularly spent time in green space at work and staff who did not were enthusiastic about the benefits of this (shown in Figure 3). When asked how they found the experience, the most common response was 'relaxing' or 'calming'. Those who *did* regularly spend time especially, connected this in visceral terms to breathing deeply or freely, fresh air, a sense of space and a clear head. This group particularly also talked about enjoying the beauty and variety of nature.

when you're outside you're breathing differently, your body relaxes, you're not looking at the screen in front of you, you're looking way across the fields to sunshine, or where you can see birds or squirrels.

Finance officer, Broomfield, regularly uses green space

Interviewees from both groups said being in green space made them feel happy and positive and helped to reduce stress. A great many interviewees described restorative effects, such as feeling refreshed, re-charged or re-energized and thought they worked better on returning to work.

I just feel like everything just melts away and it's, yes, very relaxed, very sort of refreshed and even if I have half an hour and I go and sit on the picnic table and I come back, take a deep breath and I think, right, 'what have we got this afternoon?' you know, and I feel like I've just recharged my batteries really.

Ward support worker, Guild Lodge, regularly uses green space

Several interviewees compared their own site favourably with other more urban hospitals, and some saw this as a motivation for working where they did, suggesting that attractive green space can play a role in recruitment and retention.

A site like Basildon, it's like a concrete city ... I would not want to work in a place like that where all I saw was concrete and grey so I definitely prefer here because of the green spaces.

Administrator, Broomfield, regularly uses green space

There were Interviewees from both groups who saw time spent in nature as time to themselves, and an opportunity for reflection, with some connecting being in nature to spirituality.

my spirituality is wrapped in wooded glades, you know, that's where I find the presence of a greater being. And so that's where I would say I get unprompted happiness

Matron, Guild Lodge, does not regularly use green space

Almost all of the interviewees said they regularly spent time in green space *outside of work*, suggesting that those who did not regularly do so at the hospital were nevertheless engaging with nature in other parts of their lives. Green space was widely viewed by participants as good for wellbeing, with a stronger emphasis on mental wellbeing than physical wellbeing, though some interviewees mentioned counting their steps at work to keep fit. Almost all interviewees said in an ideal world they would like to spend more time in green space at work - though some felt this was simply 'unrealistic' in their current job.

Benefits sought from breaks

Asked what they wanted from a break, many interviewees talked about wanting time to themselves in which to collect their thoughts, 'switch off', have some 'me time', or do personal tasks such as making phone calls. More people focused on relaxing alone than on social opportunities such as catching up with colleagues. People also talked about wanting to get away from various kinds of stress – from the ward; from the demands of patients and staff; from their screen or from having to concentrate. Despite this, eating at your desk was a common choice, as was eating in a small staffroom or kitchenette for staff in clinical areas. At all of the sites however there were interviewees who sometimes ate outside when it was warm. At Guild Lodge some interviewees drove to destinations off site (including home), and some ate in their cars in the car park.

7.3 Work-related benefits from spending time in green space

At all three sites there was an appreciation of the therapeutic benefits of green space for patients. This was especially the case at Guild Lodge, the mental health unit, where service users were routinely involved in horticultural projects with a therapeutic purpose. Indeed, interviewees at this site often began by answering questions about the effects of green space on their daily experience in terms of effects on their patients and it was often hard to persuade them to consider these issues from their own perspective. Several commented that service users enjoyed being outside and became more relaxed in outdoor space. Simply seeing service users in an outdoor context was considered normalizing and positive, and some interviewees thought this altered power relations between staff and patients for the better.

You see the odd service user that's on their grounds leave and they're always in a good mood when they're on their grounds leave so you get to see them in a different light, and they see you in a different light actually, just walking and taking your time speaking to somebody.

Allied health professional, Guild Lodge, regularly uses green space

It doesn't feel quite as forced as if you're on the ward in a one-to-one. It kind of takes a bit of that clinical edge away, which is good for, you know, actually engaging with people, 'cause it's not like a power thing. ... Yeah, it breaks down some of those kind of power things and control elements that are in place between staff and service users.

Occupational Therapist, Guild Lodge, regularly use green space

This last comment especially suggests that in a secure mental health setting, the outdoor environment provides an important respite, not just from indoor constraints, but from the power disparities implicit in these restrictions. Interviewees also suggested that the shared experience of observing nature together was beneficial in reducing tensions. One interviewee described a positive experience of standing with a service user and watching the leaves on the trees: “just talking about, sort of admiring nature”. Walking outdoors with a service user could set the tone for a conversation that was “relaxed and open”. A healthcare assistant explained how he had acted to defuse impending conflict on the ward by taking a troubled service user out for a walk in the grounds, a change that enabled new conversations to open up between them. In being outside, he explained, he also felt more confident of his own safety, despite being further away from other staff, and so less able to summon help in a crisis.

you could just sense the tenseness in the atmosphere. So, when I was going outside, I felt a lot safer, even though I was with a service user that could potentially cause me harm, I thought it was much better.

Healthcare assistant, Guild Lodge, does not regularly use green space

Perversely, however, safety considerations in a secure ward routinely frustrated patients' access to green space. A ward support worker explained that in order to leave a door open to a ward garden staff must be present at all times, in case, for example, there were incidents involving intrusion from service users from other wards.

All last year there were two or three service users who would regularly ask for the garden door to be opened ... I won't wait until someone asks me to open it. I will go and open it, but then I have to stay down where the door is open because of safety and security.

Ward support worker, Guild Lodge, regularly uses green space

One interviewee commented that the relative isolation of a rural site gave service users freedoms that would not be possible in a more densely populated area, comparing Guild Lodge positively with his earlier experience in a district hospital:

if somebody left the ward and wanted to scream at the walls, you pretty much had to bring them back, because you were disturbing the neighbours. Here if someone wants to scream at the trees, that's fine.

Matron, Guild Lodge, does not regularly use green space

At other sites, interviewees pointed to the benefits of garden areas as private places for holding more sensitive conversations with patients, for instance, when imparting news or talking through anxieties.

a lot of the doctors feel that this [ward garden] is a nice area to give news, 'cause it's completely away from the ward, nobody can hear you, so actually it's quite a nice space and it's quite peaceful and you haven't got interruptions.

Ward sister, Broomfield, regularly uses green space

From a different perspective, another Broomfield interviewee emphasised the value of garden spaces as a kinder and less constraining setting for conversations with grieving relatives considering a charity donation.

We can use that space as somewhere that they're not confined in four walls. They're out in the open ... It just makes it a little bit more friendly, a little bit more familiar. It gives them a little bit of headspace.

Fundraiser, Broomfield, regularly uses green space

Outside areas were also seen by some as a helpful context for holding difficult conversations between colleagues, and a good place to talk through issues. Interviewees that spent a large amount of time in green space were enthusiastic about the potential for solving problems on the move:

We'll set off as a pair, whoever's delivering, whatever we're doing, and we'll talk about whatever the issue is and come to a resolve and sometimes just stay finishing the conversation before we break off to go to the separate wards. And then it's resolved and it's sorted and when you come back to the office you know what answer you needed and couldn't think of before you left to wherever it was. The day just flows that bit smoother.

Allied health professional, Guild Lodge, regularly uses green space

One interviewee pointed out that walking together allowed colleagues to avoid eye contact, and that this could be helpful when discussing a difficult or exposing topic.

I would rather be walking with someone rather than sitting ... if I was slightly distressed or didn't maybe want you to see my facial expression, actually going for a walk means you can't see my facial expression. You can hear what I'm saying and you can listen to me, but you're not looking at me, and so ... there's a bit of a privacy element.

Clinical scientist, Mount Vernon, does regularly use green space

Conversely, another participant felt being outside would be inappropriate if his conversation was 'a bit more stern', as was often required by his job. Again then, there is an implication here that, for better or worse, workplace hierarchies and their power gradients become less salient when stepping outdoors: that green-space acts as a social leveler.

7.4 Issues affecting the use of green space at work

Interviewees described a variety of inter-related issues that constrained their ability to use green space at work. Of these, pressure of work was the most fundamental, and affected frontline clinical staff especially. This intersected however with a series of other factors (shown in Figure 4).

Proximity

Shortage of time made the proximity of green space critical. Several clinical staff explained that they had to take their break close to the ward or the theatre in case they were needed quickly in an emergency.

As you go off on your break you say 'come get me if you need me' so if you went to sit, say, on the lawn somewhere, they wouldn't be able to get you, you know? So we do stay handy.

Clinical support worker, Mount Vernon, does not regularly use green space.

Several interviewees said that in the context of a half-hour break, by the time they had travelled to a desirable area in a different part of the site they would be 'almost coming back', especially if expected to first change their clothes for reasons of hygiene.

The issue of distance was also highlighted by staff who recalled past situations where they had been easily able to enjoy green space simply by opening doors to a garden or terrace. A nurse at Mount Vernon said that she had at one time worked in a hospice on the site where garden space was immediately next to the building:

Our staffroom actually led on to the garden so you could just have a door open or you could actually pop out and sit in the picnic bench, you know, table and

chairs, so you can actually sit and have your lunch outside. So it was kind of encouraged because the door was always open and you just went out.

Staff nurse, Mount Vernon, does not regularly use green space

The value of having garden space within very short reach was made especially clear at Broomfield where an interviewee explained that her ward had recently moved from an upstairs floor to a ground floor, meaning that staff and patients now had access to a large dedicated courtyard garden from their day room.

Because we've got the garden we can just go out there, and sit out there with a patient or just to collect your thoughts. But on the previous wards ... actually getting the time and going out is quite difficult.

Sister, Broomfield, regularly uses green space

Charity funding had recently been made available to redesign and replant this area, a prospect this interviewee viewed with excitement. She described her plans to prioritise wellbeing, turning a large shed into a dedicated area for staff with bean-bags, low lighting and music, designed to relieve stress:

somewhere they can just chill out, like really quiet time, if they can't get off the ward, and we've had quite a distressing situation, and they just need to come away and it's a safe place for them.

Privacy and protection from patients

The Broomfield interviewee above especially valued the fact that the new garden was not much overlooked in the way that some of the hospital's other courtyards were. For frontline staff especially, privacy and protection from patients during a break was an important issue. This was not so much because requests from patients were resented, but because staff found it difficult not to respond at times when they were off duty.

The issue of privacy was sometimes in tension with that of proximity, since a space very close to the ward might also be very accessible to patients. At Mount Vernon some of the wards had access to green interior courtyards, but an interviewee explained she was unwilling to take a break there because multiple windows made them 'like a goldfish bowl':

you want to be somewhere private that you are not going to get interrupted, because they never understand when you are on your break If they want something obviously you want to help, you're not going to say 'no sorry, I'm having five minutes' ... so we don't use them, no.

Staff nurse, Mount Vernon, does not regularly use green space

Other concerns raised were that staff talking about their day in an outdoor space might compromise patient confidentiality; or that patients might object if they saw staff relaxing. In the light of these issues, several staff argued in favour of dedicated staff-only areas.

Permission / promotion

The role of permission was most apparent where interviewees currently enjoyed a positive ethos around walking, and felt free to take a walking break when they wanted – with explicit support from senior staff. One interviewee recalled the encouragement she had received from a past manager to spend more time outside and to set a walking target for herself. She explained how she in turn now supported the staff she worked with to do the same, adding: “It does need managers to be flexible ... and be prepared to go and work outside.”

There was also however the related issue of personal work ethos and giving *oneself* permission despite the workload. A senior member of nursing staff at Guild Lodge said green spaces made him happy but he was ‘here to work’. Conversely, an occupational therapist felt she *should* spend time in green space, but would have to work on her own mindset to do this in order to break an existing ‘bad habit’ of working through lunch at her desk:

It’s something that I need to change. It’s not other people, it’s me, that I need to, you know consciously change myself.

Occupational therapist, Guild Lodge, does not regularly use green space

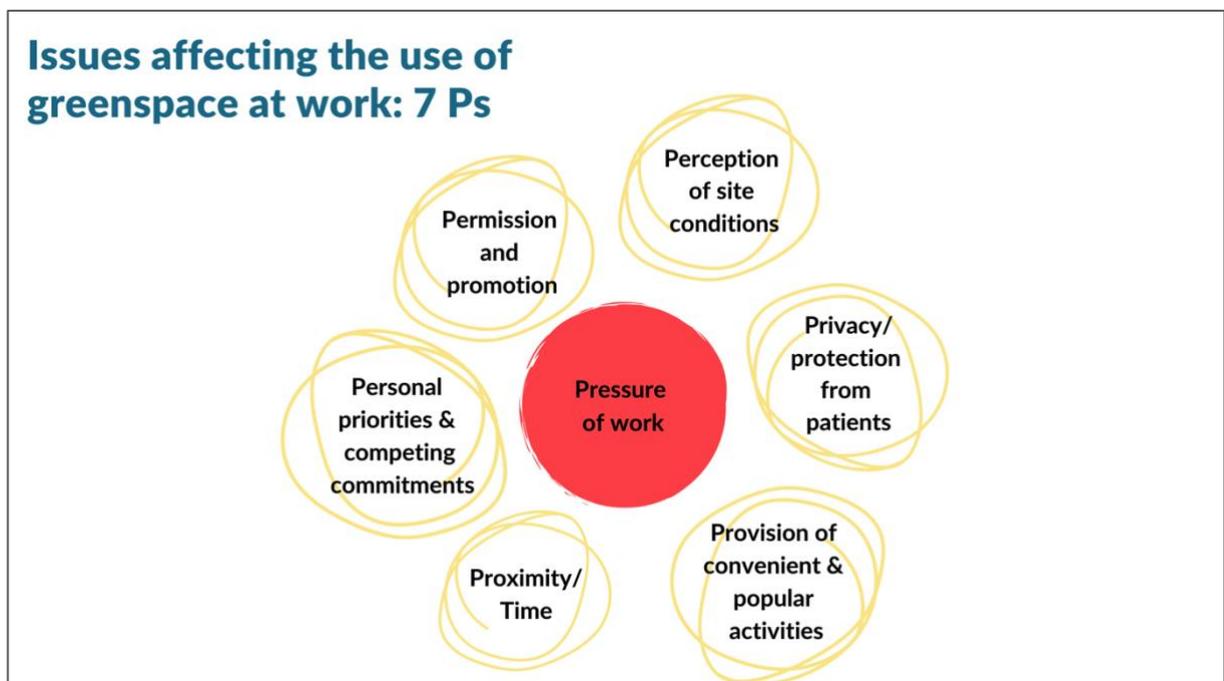


Figure 4

The role of permission was also raised in relation to perceptions of specific seating areas, with the suggestion from some interviewees that signage or other forms of promotion would be helpful in making clear whether staff were allowed to use them.

I do see places and I think, oh, I wonder what that's for? ... Is that only for patients? Is it only for staff who work in that building or is it open to everybody?

Medical secretary, Mount Vernon, does not regularly use green space

Personal priorities and competing commitments

Some staff said they felt free in principle to spend time in green space but chose not to, as this would mean getting home later. As one put it: "Half an hour out is half an hour at the end of your day, so best just keep going." Several interviewees mentioned competing commitments that discouraged them from taking advantage of green space activities at the hospital. These included family and pets to care for and off-site exercise classes to go to. At Guild Lodge for instance two separate interviewees usually drove home at lunchtime to be with their dogs. At Mount Vernon a matron said she chose to condense her working week to four days to spend time with her young family, leaving her little opportunity to access green space at work. Nevertheless she often spent time in fresh air with her children. Some participants then, traded time in green space at work for time in green space at home.

Perceptions of site conditions

A number of issues discussed as barriers related to site conditions. At all three sites there were interviewees who favoured sheltered outdoor seating structures with protection from light rain or sun, making it easier to go outside in cooler weather. All sites also yielded suggestions for dedicated staff-only outdoor spaces, with the possible inclusion of some kind of screening for privacy.

Other issues were more site-specific. At Mount Vernon interviewees expressed concern about the dilapidated and overgrown condition of the grounds, though there were also appreciative comments about the efforts of volunteer gardeners. Some mentioned Mount Vernon's history as a TB hospital and spoke with sadness about the deteriorating state of its open air terraces and the loss to staff and patients:

They can't have those doors open and people sitting outside because it's not structurally safe. And it's a waste, it's such a waste of a good opportunity to let people get some fresh air and a really lovely view.

Health improvement practitioner, Mount Vernon, regularly uses green space

Several Mount Vernon participants looked back with nostalgia to a time when the grounds had been better kept and better used – remembering games and social events on the large lawn, or sitting out in areas that had now been deemed unsafe.

We would sit out on those balconies ... there were benches on the patio there on the green fields. But now none of those are there and the balconies are off limits. They are too dangerous as they are crumbling.

Chemotherapy nurse, Mount Vernon, does not regularly use green space

Interviewees wanted to see better maintenance to the grounds, including the development of garden areas. Suggestions included a designated circular walking route and improvements to paths.

At Guild Lodge, staff often made use of the site's picnic area – a table and seats located close to the main building – but there was competition for this and several interviewees mentioned the need for more tables. Nursing staff often took their breaks in their cars, and it was suggested that more outdoor furniture, including away from the main building, might encourage them to sit out instead. One participant proposed a woodland seating-area with tree stumps. Other ideas put forward included the extension of wi-fi to one of the gardens, so that staff could work outside in good weather. In general there were many positive comments about the rural nature of the site and its wildlife, though it was apparent that the site's position made public transport problematic. Most interviewees drove to work while one who did not faced a protracted journey by bus.

At Broomfield staff were especially appreciative of the quality of the garden areas and the plentiful green space, including their amenity value in supporting events and activities. However, as already touched on, the geography of the site meant that some of the most attractive green areas were relatively distant from the main hospital building. In conducting the interviews, it was observed that these issues were exacerbated by the fact that, despite the large number of staff, the hospital was without any sizable staff canteen. Notices in the main hospital atrium also prohibited staff from making use of public seating there to eat their lunch. Instead, at one end of the atrium a screened windowless area with tables and chairs had been dedicated as a staff-only eating area, but this lacked either visual or physical access to greenery.

Provision of activities

Several suggestions for encouraging use of green space related to organised outdoor activities. At Mount Vernon especially there was enthusiasm for therapeutic outdoor classes such as yoga, mindfulness and meditation, as well as an interest in making greater use of the hospital's large green area for team games such as rounders and football, and fund raising events such as fairs and 'bake offs'. Broomfield interviewees suggested tournaments, weekend team-building events involving games and sports and outdoor yoga sessions. At Guild Lodge suggestions included a regular walking group for staff – supplementing existing opportunities for ad hoc walking – and team away days involving country walks.

7.5 Conclusions

In summary, among staff at all three sites there was enthusiasm for spending time in green space, and the idea had appeal for both those who did and those who did not currently do this on a regular basis. On the evidence of these accounts, time spent in green space at work offers a range of experiential benefits. Staff descriptions emphasise its effects in facilitating relaxation and calm, in making them feel happy and positive and in leaving them more refreshed on their return to work. Those who regularly spend time in nature particularly, convey these effects in visceral terms, connecting the feeling of breathing freely and deeply to gains in time and space and mental clarity. Exposure to nature at work appears to be both stress-reducing and restorative, with most interviewees considering it to be positive for wellbeing, and for mental wellbeing especially. This suggests that, whether or not they currently spend time in green space at work, staff generally have an interest in doing so.

In addition to describing personal benefits, several interviewees point to occupational benefits and ways in which garden areas are a valuable resource for their work. Participants' observations about the value of green space in facilitating sensitive discussions and reducing power gradients between individuals, suggest that outdoor settings have important effects on social dynamics that are relatively underexplored in the research literature, but which may have been thrown into sharper relief by the workplace context of the current study.

In terms of the ways in which staff spent time in green space at work, the interviews point to the importance of walking as the most consistent way in which staff engaged with the site's natural surroundings. This could mean either taking a recreational walk as a refreshing break, or enjoying walking in the course of work errands, and making this an opportunity to notice the outdoor world and breathe fresh air. Notably, in participants' accounts there was much less mention of organised outdoor activities than of walking. This suggests that interventions to encourage staff to walk more on a habitual basis, either as a break from work or in the course of work, could have good potential in encouraging positive behaviour change. Indeed, the Workspace Walking initiative at Guild Lodge appears to have built on this insight with success.

This is not to say that organised activities have no place. Participants on the Grow Your Own Project at Guild Lodge were especially appreciative of the skills they had learnt, and such activities could be considered doubly beneficial since they also help to enhance the green space itself. There was also considerable enthusiasm for outdoor wellbeing activities, and we explore staff preferences for these further in the next phase of the study. However, if it is desirable for staff to spend time in green space on a frequent basis, then encouraging behaviours that make this integral to their everyday lives and routines is clearly important.

Interviewees' accounts indicate a series of inter-related issues that prevent them from spending time in green space at the site, which we have called the '7Ps'. Not surprisingly,

pressure of work is the most fundamental of these, but the interviews show that this intersects with other key factors. Hard-pressed clinical staff, especially, report that with limited time for a break and a necessity to stay close at hand in case they are needed, the proximity of green space to their workspace is critical. This group also raise concerns about their own privacy from patients, and the extent to which outdoor spaces offer a genuine break or give them the freedom to talk with colleagues without compromising patient confidentiality. Conversely, several interviewees with positive experiences of enjoying green space mention the supportive role of senior colleagues and the wider work ethos in general in helping them to feel comfortable about taking spontaneous breaks. A sense of permission is therefore important. It is worth noting here that perceptions of site conditions and the provision of organised outdoor activities, both of which are also discussed by interviewees, are likely to have the additional effect of demonstrating management support for staff use of outside areas and promoting a positive ethos around these options. It was also apparent that personal priorities and competing commitments had a role to play in influencing these decisions.

Findings from this qualitative work were used to inform the design of quantitative surveys conducted at each site, allowing us to test their applicability at scale.

WHAT SUPPORT IS
NEEDED TO ENABLE
STAFF AT THIS SITE
TO SPEND TIME IN
GREEN SPACE DURING
THE WORKING DAY?

8. Findings from consultative workshops at Mount Vernon

At Mount Vernon Cancer Centre a two-year programme to enhance some of the site's existing green spaces was underway at the time of the study, and there were obvious synergies between this and the current research project. To better understand staff views on their own use of the site's green space, we held two consultative workshops. These used the Service Template Process, originally developed by Williams et al. (1999) as a means of exploring perceptions of service quality from the perspective of both services users and service providers.

8.1 The Service Template Process

In a Service Template workshop, participants are invited to suggest the key characteristics of a service that they consider to be important. In each case they are then asked to define that

characteristic more closely by describing what would be 'ideal' and what would be the 'worst case'. They go on to rate the service's performance on that characteristic on a horizontal scale, in which 10 is ideal and 1 is worst. They are asked to give two scores – one to indicate their perception of current performance (P) and one for what they consider would be a reasonable expectation (E). Where necessary – because there is disagreement in the group or because performance is considered to be very variable – the score can be recorded as a range. In this way a 'template' is constructed in the course of the workshop. This is built up as a grid, on paper taped to a wall, so that all participants can see it taking shape. Once all the characteristics have been named, described and scored, the group is asked to weight each one in terms of its overall importance.

Typically, separate workshops take place with the service users and the service providers. Differences between the templates produced in this way can highlight differences in perceptions between those providing a service and those making use of it, though the process may equally demonstrate that there is broad consensus between the two groups. Typically, the two groups are then brought together to discuss each other's templates and deliberate on the findings.

8.2 Outcomes at Mount Vernon

In the case of Mount Vernon the question the workshops were asked to consider was: *What support is needed to enable staff at this site to spend time in green space during the working day?* Two workshops were held – the first with staff in general, as 'users' of green space at the site, and the second with staff who had been involved as 'providers' in that they were, in various ways, working to encourage the use of the green space. The user group included a range of occupations e.g. a nurse, a radiographer and a doctor. The provider group included a variety of staff/volunteers who had been involved in delivering health and wellbeing initiatives, including, for example, a complementary therapy coordinator. Each workshop had six participants. Subsequently the results from these two workshops were presented to the hospital's Health and Wellbeing group, alongside other results from the current study.

The templates developed by each of the two groups are shown in the following pages. In both templates the provision of seating was accorded top priority with concerns about both its quality – clean and well maintained with adequate shade – as well as its quantity/availability around the site. In describing their 'ideal' scenarios both groups put forward suggestions for seating improvements, such as parasols or awnings.

Staff concerns about the quantity of seating were at first surprising, as there is a line of benches in front of the terraces, which are rarely fully occupied. However, site observations showed that there is competition in summer for seats attached to tables that can be used by groups. People also tend to spread themselves across the green so that is space between them – for example, making use of steps in the middle of the lawn as places to sit.

Both templates convey that some basic standards need to be met in the first instance, and that more innovative ideas can then follow. The user group, especially, sets out a first tier of priorities that includes the provision of adequate site infrastructure such as seating, bins and signage, and then builds on this with a second tier of priorities, all given equal weighting. Ideas put forward in this second tier include a walkway; heritage awareness raising, for instance through an interpretation trail; external facilities, such as an outdoor café that could be an outpost of an existing canteen and green gym equipment; and outdoor events, such as a bake off competition, organised games and activities. For all of these elements, perceptions of what is currently provided were felt to fall well short of reasonable expectations – indicating that the group did not feel that their proposals were excessive demands.

The pattern is somewhat similar with the provider group, except that these participants give consideration to the wider working culture, specifically, the role of staff cover, including recognised lunch breaks, and encouragement from senior management in allowing staff to spend time in green space for health and wellbeing. Since this aspect was not discussed at all in the other group it is difficult to know whether they assumed it to be outside the remit of the discussion, and how far it they would have considered it important if it had been raised as an issue.

Other than this there is considerable overlap between the two templates. The provider group also envisage ‘pop up’ food stalls, and a ‘rolling programme’ of outdoor activities. In addition they suggest creating planted outdoor ‘spill out’ space for the existing canteen and the provision of beautiful therapeutic green spaces with fountains and herb gardens, a walkway through trees and staff-only areas. Both groups suggest signage to highlight the whereabouts of green spaces – though this received somewhat higher priority in the user group, which saw it this as part of initial infrastructure improvements, while the provider group saw it as part of a wider package of promotion.

In short, both groups put forward detailed proposals for making the hospital’s green space more inviting to its staff, while also indicating that there is a need to meet reasonable expectations of outdoor provision, before moving on to more elaborate schemes.

WHAT SUPPORT IS NEEDED TO ENABLE STAFF AT THIS SITE TO SPEND TIME IN GREEN SPACE DURING THE WORKING DAY?

Workshop 1 – Staff group using green space

CHARACTERISTIC	Wt	IDEAL											WORST CASE		
			10	9	8	7	6	5	4	3	2	1			
Quality of seating	Tied 1st	Seating in good condition, appropriately treated, clean and movable, with shade available from trees or parasols.	E	E									P	P	Broken chairs; deteriorating; overgrown and unloved. Unsafe and in poor surroundings.
Quantity of seating	Tied 1st	Choice of seating with quieter and busier areas. Covered area near gardens where chairs can be stored and borrowed. Enough tables & chairs for 40-50 people.	E	E							P				No seats
Provision of bins	Tied 1st	Covered bins, available near seats and entrances to areas.	E	E									P		No bins.
Provision of signage	Tied 1st	Signs show where open space is, and are inviting and encouraging. There is promotion through signs in control areas; A4 posters & screen savers. Maps for staff and patients show spaces and are well distributed and welcoming. They include permission and times of access.	E											P	No signing. Unwelcoming. Unloved appearance to grounds.

Provision of walking route	Tied 2 nd	Attractive walking route e.g. green pathway with flower beds on edges – could also take you round other gardens. Well maintained (could be by volunteers, including staff). Non-muddy (could be rubber surface). Seating at the bottom.	E E P	Overgrown, unmaintained. Featureless and uninspiring.
Heritage awareness raising	Tied 2 nd	Trail with information plaques linked to map and walking route, e.g. using seats to advertise our heritage.	E E P	No trail and no outdoor information. Nothing to raise awareness.
External facilities 1	Tied 2 nd	Outpost for tea bar e.g. shed selling ice cream and snacks.	E P	Nothing.
External facilities 2	Tied 2 nd	Green gym equipment helps to promote health.	E E P	Nothing.
Events	Tied 2 nd	Games e.g. football & rounders. Garden events e.g. Bake Off Outdoor classes e.g. walking meditation.	E P	No events.

WHAT SUPPORT IS NEEDED TO ENABLE STAFF AT THIS SITE TO SPEND TIME IN GREEN SPACE DURING THE WORKING DAY?

Workshop 2 – Provider group aiming to encourage use of green space

CHARACTERISTIC	WT	IDEAL											WORST CASE				
			10	9	8	7	6	5	4	3	2	1					
Provision of seating	1 st	Pleasant seating areas including round picnic tables with seating. Areas with shade e.g. sails or an awning. Covered areas offering protection from sun or light rain, e.g. geo-dome. Provision is spread across the site, creating opportunities for sitting out close to where staff are working, e.g. you open the door and the green space is immediately there.															Dilapidated seating. Gives you Splinters. Covered in pigeon mess. Not regularly treated. No shade or cover and close to dangerous structures.
Extent of cover for staff	Tied 2 nd	Recognised lunch break: someone comes up to you and says, 'I'm covering for you". Sufficient staff in clinical areas to make this possible in terms of patient safety															Insufficient staff. Existing staff unable to leave, and if they were to leave, patient safety would be compromised.
Permission/ encouragement	Tied 2 nd	Managers encourage staff to take 10 minutes for a break at times of stress and for health and wellbeing. A culture of encouragement.															People feel it is just not acceptable to take a break - managers roll their eyes. You feel you are not doing your job; letting the team down.

<p>Promotion of green space</p>	<p>3rd</p>	<p>Promotion of green space includes education: Health and Wellbeing is included in training. 'Active 10' is promoted. There is promotion through signposting, newsletters and email.</p>	<p>E</p>	<p>P P</p>	<p>No promotion</p>
<p>Provision of activities</p>	<p>Tied 4th</p>	<p>Rolling programme of activities 5 days a week, before work and after work, with short sessions available. Activities include led walks and Qigong. Signs mark out no. of steps. There are social activities e.g. Big Tea Party.</p>	<p>E</p>	<p>P</p>	<p>Nothing organised</p>
<p>Provision of food in green space</p>	<p>Tied 4th</p>	<p>Pop up café, caravan or mobile van selling healthy street food, even if just last Friday of the month. Canteen has spill-out space that is planted out.</p>	<p>E</p>	<p>P</p>	<p>No pop up café.</p>
<p>Provision of therapeutic space</p>	<p>Tied 4th</p>	<p>Beautiful space to walk in: contemplative space; fountains; herb gardens. Trees with walkway. Inclusion of 'staff only' area.</p>	<p>E</p>	<p>P</p>	<p>No therapeutic spaces available.</p>

9. Findings from site-wide surveys

Our site-wide surveys explored staff experience of spending time in green space at work, including staff perceptions about the benefits of doing so and their views on the barriers to this, and the changes that would help to overcome these. We also explored the relationship between engagement in green space at work and two outcome measures: wellbeing and absenteeism.

The surveys elicited a substantial response at all three sites. At Broomfield (5,000 staff) there were 626 respondents, while at Guild Lodge and Mount Vernon (both 500 staff) there were 114 and 241 respectively. In the analysis below lower numbers are reported in some cases, owing to lower response rates for some questions.

9.1 Characteristics of survey respondents

Agenda for Change bands

Table 1: Agenda for Change bands by site

	Broomfield		Guild Lodge		Mount Vernon		Total	
	Count	Proportion	Count	Proportion	Count	Proportion	Count	Proportion
1-3	149	31.3%	26	33.3%	25	13.3%	200	27.0%
4-6	206	43.3%	33	42.3%	94	50.0%	333	44.9%
7 or above	121	25.4%	19	24.4%	69	36.7%	209	28.2%
Total	476	100%	78	100%	188	100%	742	100%
Missing	150		20		53		223	

As Table 1 shows, at all three sites responses were obtained from staff with a spread of pay bands. However, there was a higher percentage of respondents from higher bands at the Mount Vernon site. A chi-squared test found that Agenda for Change band (health service pay band) was significantly differently distributed between the three sites [$\chi^2 (8) = 27.52$; $p < .001$].

Occupational group

As Table 2 shows, at all three sites responses were obtained from staff in a range of occupations. However, the Mount Vernon survey elicited fewer respondents who worked in administration or management or as nursing professionals/healthcare assistants/social workers. Conversely this site had more respondents described as health professionals (e.g. doctors or allied health professionals) or healthcare scientists. A chi-squared test revealed that the distribution of occupational groups (simplified for the purposes of this test) was significantly different between the three sites [$\chi^2 (10) = 54.04$; $p < .001$].

Table 2: Occupational Group by Site

	Broomfield		Guild Lodge		Mount Vernon		Total	
	Count	Proportion	Count	Proportion	Count	Proportion	Count	Proportion
Administration / Management	176	33.5%	28	32.6%	55	26.7%	259	31.7%
Health professionals	108	20.5%	26	30.2%	75	36.4%	209	25.6%
Scientists	31	5.9%	1	1.2%	30	14.6%	62	7.6%
Nursing professionals / healthcare assistants / social workers	174	33.1%	27	31.4%	36	17.5%	237	29.0%
Maintenance staff	13	2.5%	2	2.3%	1	0.5%	16	2.0%
Other	24	4.6%	2	2.3%	9	4.4%	35	4.3%
Total	526	100%	86	100%	206	100%	818	100%

Age

As shown in Figure 5, the most common age group at all sites was 45-54 years. The median age group was 45-54 at the Broomfield site, 45-54 at the Guild Lodge site, 35-44 at the Mount Vernon site, and 45-54 in the overall sample.

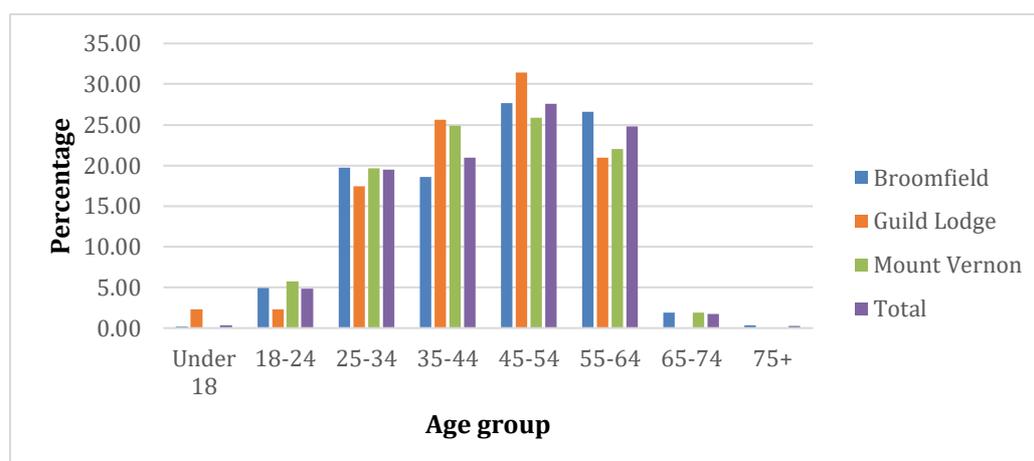


Figure 5: Distribution of age groups across sites

Sex

As Table 3 shows, at all three sites survey respondents were predominantly female, accounting for 65-77% of the sample. Self-reported identification was not significantly differently distributed between the sites [$\chi^2(12) = 16.73$; $p = .16$].

Table 3: Self-reported sex by site

	Broomfield		Guild Lodge		Mount Vernon		Total	
	Count	Proportion	Count	Proportion	Count	Proportion	Count	Proportion
Female	408	77.4%	56	65.1%	156	74.6%	620	75.4%
Male	99	18.8%	26	30.2%	46	22.0%	171	20.8%
Non-binary gender identification	3	0.6%	0	0.0%	1	0.5%	4	0.5%
Other-please specify	2	0.4%	2	2.3%	0	0.0%	4	0.5%
Prefer not to say	15	2.9%	2	2.3%	6	2.9%	23	0.2%
Total	527	100%	86	100%	209	100%	822	100%
Missing	99		12		32		143	

9.2 Staff engagement in green space activity

To ascertain whether staff regularly spent time in green space at work they were asked to say which of a series of eight statements were true for them. Table 4 shows these answer options. The first of these was a general statement that the respondent regularly spent time in green space during the working day, while the remainder focused on more specific ways of doing this.

Table 5 shows the frequency of the answers. The item that most participants selected was item 2 ('When taking a break from work I regularly take a walk outdoors through the site and notice the garden areas or other green spaces'), accounting for 25.4% in whole sample, followed by item 3 ('When taking a break from work I regularly sit out in one of the site's gardens, terraces or other green spaces') and item 4 ('In the course of my work duties, I regularly take a walk outdoors through the site and notice the garden areas or other green spaces'), both 20.4% in the whole sample.

Table 4: Regularity of spending time in green space at work - answer options

Thinking about the [name] site in the warmer months of the year (i.e. April to October) which of the following statements is true for you? Please tick all that apply.

1	In the course of the working day I regularly spend time in the site's gardens, terraces or other green areas
2	When taking a break from work I regularly take a walk outdoors through the site and notice the garden areas or other green spaces
3	When taking a break from work I regularly sit out in one of the site's gardens, terraces or other green spaces
4	In the course of my work duties, I regularly take a walk outdoors through the site and notice the garden areas or other green spaces
5	I regularly take part in work-related meetings with colleagues outdoors in the site's gardens, terraces or other green spaces
6	In the course of working with patients and visitors, I regularly spend time in the site's gardens, terraces or other green spaces
7	During my working day I regularly take part in an organised recreational activity in the site's gardens, terraces or other green spaces
8	I regularly take an outdoor cigarette break during the working day
9	Computed item: No green space exposure (i.e., did not report any of the above)

Table 5: Regularity of spending time in green space at work - frequencies of answers

Item	Broomfield		Guild Lodge		Mount Vernon		Total		X ²
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	
1	53	8.5%	15	15.3%	32	13.3%	100	10.4%	7.21*
2	140	22.4%	38	39.2%	67	27.8%	245	25.4%	13.49**
3	122	19.5%	13	13.4%	62	25.7%	197	20.4%	7.45*
4	120	19.2%	31	32.0%	46	19.1%	197	20.4%	8.81*
5	8	1.3%	3	3.1%	6	2.5%	17	1.8%	2.57
6	8	1.3%	18	18.6%	6	2.5%	32	3.3%	78.82***
7	2	0.3%	8	8.2%	2	0.8%	12	1.2%	43.39***
8	52	8.3%	5	5.2%	5	2.1%	62	6.4%	11.52**
9	317	50.6%	33	33.7%	99	41.1%	449	46.5%	13.64**

Note: Percentage refers to percentage of respondents selecting this option at the respective site. Multiple answers were possible, with the exception of option 9, which functioned as a "None of the above" option. * p < .05, ** p < .01, *** p < .001.

Item 2 was also the most common choice at each of the individual sites (Broomfield: 22.4%; Guild Lodge: 39.2%; Mount Vernon: 27.8%). The least common choice across the whole

sample and at both Broomfield and Mount Vernon was item 7 ('During my working day I regularly take part in an organised recreational activity in the site's gardens, terraces or other green spaces').

We also calculated the percentage of participants not checking any of the answer options (i.e. the equivalent to a 'none of the above' answer) as a post-hoc response option. This computed item was the most popular response in the whole sample (46.5%) and at each of the three sites (Broomfield: 50.6%; Guild Lodge: 33.7%; Mount Vernon: 41.1%) indicating that in each location, a substantial number of people do not regularly come into contact with green space at work in the ways described. Nevertheless, at Guild Lodge and Mount Vernon the majority do while at Broomfield almost half do.

It is noticeable that the percentage of staff selecting option 1 – that they regularly spend time in gardens, terraces and other green areas during the working day – is lower than the percentage selecting more specific items such as regularly walking outdoors when taking a break. This apparent contradiction suggests that people who do not think of themselves as regularly spending time in green space realise that they do in fact do this when they are asked about more specific instances.

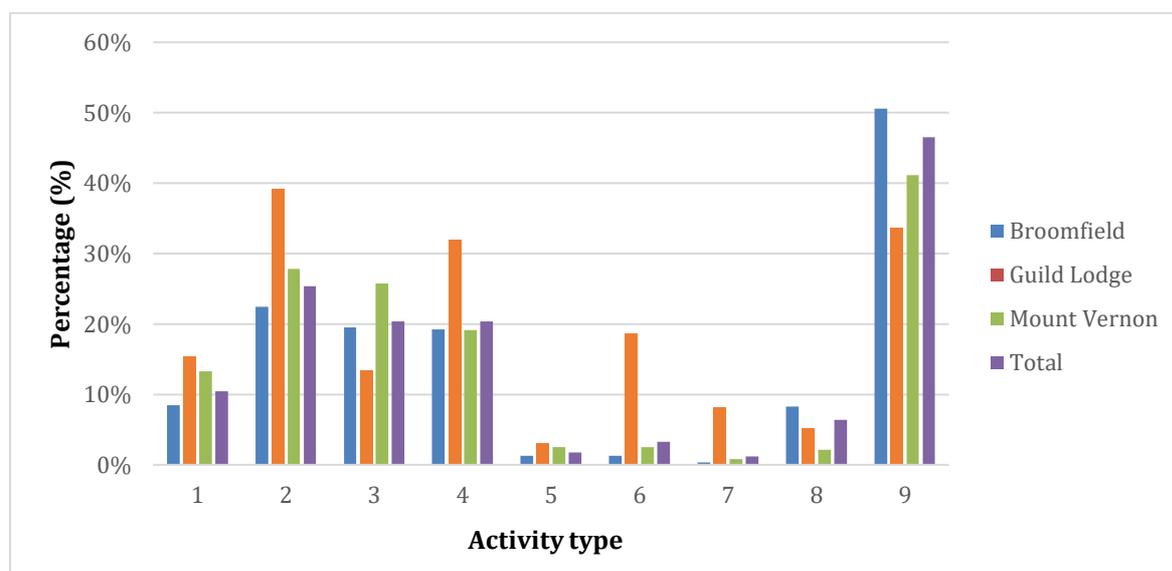


Figure 6: Distribution of green space activities across sites

As shown in Table 5, there was considerable variation between sites in terms of the percentage of participants that reported engaging in green space activities during their working day. Chi-squared tests showed significant differences in the distribution of answers on items 1-4, and 6-9. On five of the eight significantly differently distributed items, the Guild Lodge site had the highest percentage of participants reporting green space exposure. On six of the eight significantly differently distributed items, the Broomfield site had the lowest percentage of participants reporting green space exposure. The Broomfield site also

had the highest share of participants who reported going outside for a cigarette break. As compared to other sites, Guild Lodge had an especially high share of participants (18%) who reported spending time in green space when working with patients and visitors (item 6).

Time spent in green space outside work

The survey also explored the extent to which staff spent time in green space outside of work. In assessing the relationship between time spent in green space at work and variables such as wellbeing, exposure to green space outside of work could potentially act as a confounding factor. The responses and data from this question are presented in Tables 6 and 7. Notably at all three sites more than 40% of staff said that they spent time in green space outside work three times a week or more. This suggests that this could indeed be an important factor for health and wellbeing, and one that potentially compensates for a lack of time in green space during the working day. Green space exposure outside working hours was not significantly differently distributed between the three sites [$\chi^2(10) = 11.14$; $p = .35$]. We return to this issue in section 9.6.

Table 6: Time spent in green space outside work - answer options

Outside working hours and away from this site, about how often do you spend time in green spaces? Please tick only one.

1	Never or almost never
2	Less than once a month, but occasionally
3	Less than once a week, but at least once a month
4	Once a week
5	Twice a week
6	Three times a week or more

Table 7: Time spent in green space outside work – frequency of answers by site

	Broomfield		Guild Lodge		Mount Vernon		Total	
	Count	Proportion	Count	Proportion	Count	Proportion	Count	Proportion
1	67	10.8%	8	8.3%	21	8.7%	86	9.0%
2	36	5.8%	5	5.2%	12	5.0%	53	5.5%
3	48	7.7%	10	10.4%	21	8.7%	79	8.2%
4	79	12.7%	14	14.6%	35	14.5%	128	13.4%
5	96	15.4%	9	9.4%	51	21.2%	156	16.3%
6	296	47.6%	50	52.1%	101	41.9%	447	46.6%
Total	622	100%	96	100%	241	100%	959	100%

Choice of location for taking a break

As another means of exploring staff exposure to green space respondents were asked: ‘In the warmer months of the year (i.e. April to October) where do you usually go to take a break?’ For this question answers were customised to individual sites and respondents were able to tick all options that applied.

As can be seen in Table 9, the Mount Vernon site had a relatively high percentage of people (39%) who went to an outdoor space within the hospital grounds (option 4) while Broomfield, with many more staff, had a relatively low percentage (5%), despite the provision of its well-used Wellbeing Terrace. The relatively low numbers at Broomfield using a hospital cafeteria or canteen (4%) reflects the lack of these facilities at the hospital. A relatively high proportion of people at Guild Lodge (16%) go to their cars in the hospital car park, something that interviewees had commented on in the qualitative research, and which is likely to reflect both the high level of car travel to the site as well as its limited provision of outdoor seating. At all three sites a sizable proportion of people (30-41%) remain at their desks. It is worth noting here an insight from the qualitative research, that people who remain at their desk to eat lunch may nevertheless go on to take a walk around the site, making it important to avoid interpreting this data in overly binary terms.

Table 8: Usual location for taking a break - answer options

In the warmer months of the year (i.e. April to October) where do you usually go to take a break? Please tick all that apply.

1	Remain at my desk
2	To a staff room close to where I work
3	To a hospital cafeteria or canteen
4	To an outdoor space, e.g. garden or terrace, within the hospital grounds
5	To my car in the hospital car park
6	To an outdoor green space, off the hospital site
7	To a shop/cafe/pub off the hospital site
8	Home
9	To the hospital atrium staff area (Broomfield only)
10	To the hospital atrium (not staff area) (Broomfield only)
11	Other – please specify

Table 9: Usual location for taking a break - frequencies of answers

Option	Broomfield		Guild Lodge		Mount Vernon		Total	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
1	240	38%	34	30%	98	41%	372	38%
2	252	40%	5	4%	69	29%	326	33%
3	26	4%	23	20%	77	32%	126	13%
4	32	5%	22	19%	95	39%	149	15%
5	37	6%	18	16%	14	6%	69	7%
6	32	5%	15	13%	11	5%	58	6%
7	10	2%	9	8%	3	1%	22	2%
8	7	1%	5	4%	7	3%	19	2%
9	78	12%	-	-	-	-	78	8%
10	49	8%	-	-	-	-	49	5%
11	47	8%	10	9%	12	5%	69	7%

Note: Percentages refer to percentage of survey respondents choosing each answer at the respective site. Percentages are rounded. Multiple answers were possible. Options 9 and 10 were specific to the Broomfield site.

Use of specific green areas at each site

To ascertain the popularity of specific green areas at each site, respondents were asked: 'Which if any of the following areas are places where you have sat outdoors to relax or eat? Please tick all that apply.' Options were customized to each site. The results are shown in Figure 7. They highlight the relative importance, at Broomfield, of the Wellbeing Terrace and the lawn near Broomfield Court, and at Mount Vernon, of the seating areas around the large green lawn. In contrast at Guild Lodge none of the individual areas scores especially highly in proportional terms. At both Broomfield and Guild Lodge, 'none of these' is the most popular option, whereas at Mount Vernon it appears that the majority of staff have sat outdoors around the large green lawn.

Uptake of specific activities at each site

To ascertain the importance of specific activities in encouraging staff to use green space, respondents were asked: 'Which of the following activities have led you to spend time outdoors at this site? Please tick all that apply.' Again, options were customized to each site. The results, shown in Table 10, indicate the relatively low numbers of staff involved in organised activities. At Broomfield the activity with the greatest participation was the bat walks (19 participants; 3% of all survey respondents). At Guild Lodge the most common activity was spontaneous site walks arranged with other staff (30 participants, representing 26% of all respondents), confirming the success of this initiative. Some respondents at Broomfield also commented that they had taken part in informal staff walks.

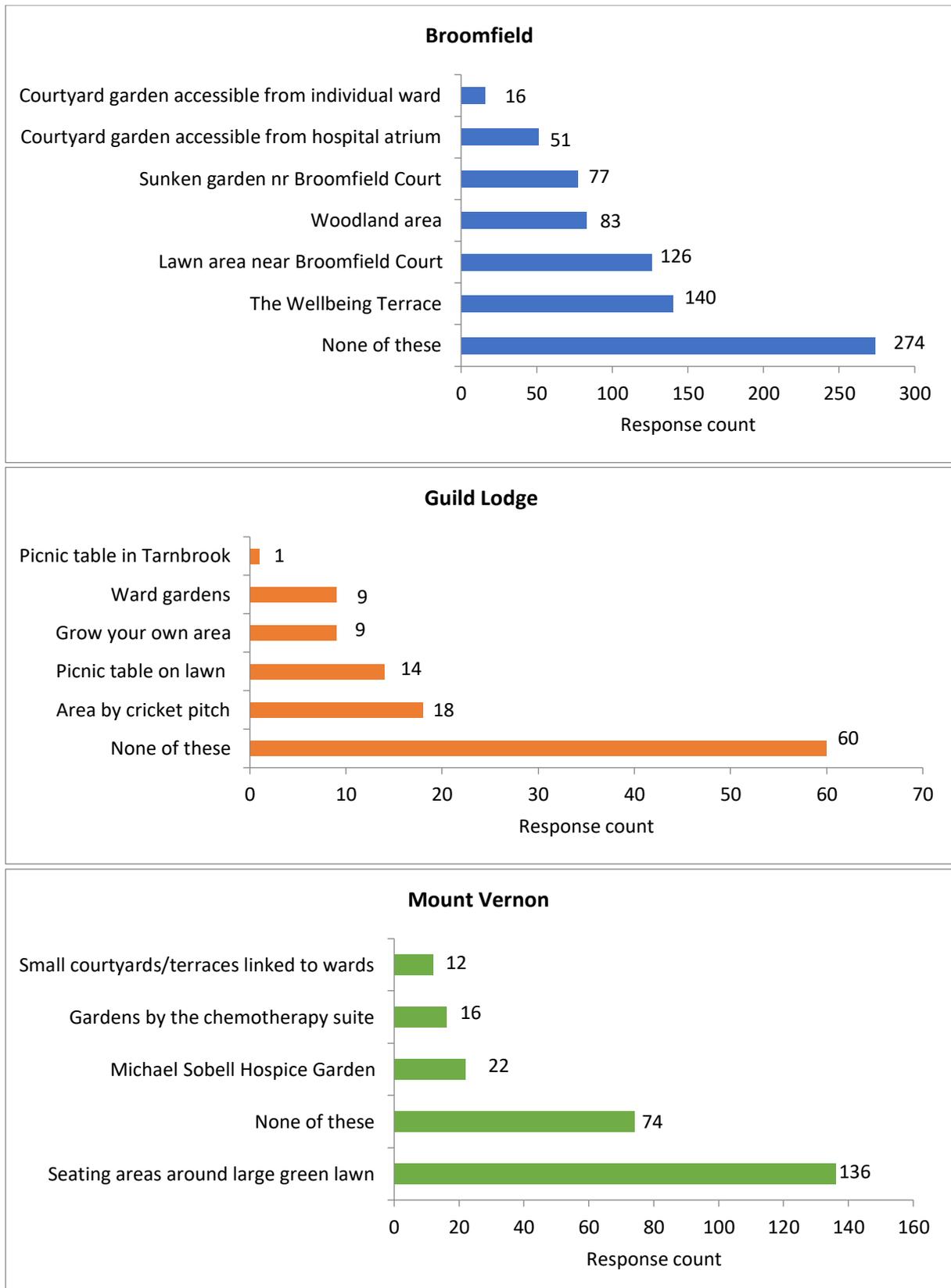


Figure 7: Places where staff have sat outdoors to relax or eat at each site

Table 10: Activities that have led staff to spend time outdoors at each site

Activity	Broomfield		Guild Lodge		Mount Vernon	
	Count	%	Count	%	Count	%
Volunteer gardening at the site's gardens	5	1%				
Volunteer conservation work at one of the site's woodland areas	2	0%				
Group games on the green by Broomfield Court	10	2%				
Games on the Wellbeing Terrace	8	1%				
Taking part in a bat walk	19	3%				
Attending a woodland open day	7	1%				
None of these	492	79%				
Other – please specify	65	10%				
Informal/spontaneous site walks arranged with other staff			30	26%		
Regular walking group run for staff and service users			6	5%		
Ward-based gardening activities with service users including Guild in Bloom activities			12	11%		
Gardening activities with service users at Tarnbrook			7	6%		
Gardening activities with service users at the Grow Your Own site			6	5%		
Team building activity with other staff at the Grow Your Own site			8	7%		
Escorting individual services users on walks on or off grounds (as distinct from regular walking group)			28	25%		
None of these			28	25%		
Other – please specify			9	8%		
Outdoor Qigong sessions					13	5%
Volunteer gardening activities					8	3%
Walking group activities					15	6%
Team organised step challenge					5	2%
Organised social event					37	15%
None of these					155	64%
Other – please specify					17	7%

Note: Percentages refer to percentage of all survey respondents choosing each answer at the respective site. Multiple answers were possible. Percentages are rounded.

9.3 Perceived benefits of spending time in green space at work

A series of questions explored participants' perceptions of the subjective benefits of green space. Table 11 shows the percentage of respondents at each site to either agree or strongly agree with each of the statements put to them. From this it is apparent that there was broad consensus around the positive effects of spending time in green space. The great majority of staff at all three sites said they enjoyed the beauty of the site's green spaces and garden areas, and would like to spend more time in these areas than they currently did. There was also considerable consensus that spending time in these areas was calming and relaxing, and good for wellbeing, mental wellbeing especially. The majority of respondents agreed that they found the site's green areas helpful in meeting the needs of patients, though agreement was notably greater at Guild Lodge, the mental health unit, where outdoor activities with patients take place in the context of therapy and rehabilitation.

Between 44% and 52% agreed that the availability of garden areas and green spaces at a hospital site was important to them in considering where to work – suggesting that this could have an impact on recruitment and retention. In contrast, respondents appeared less convinced that having work meetings with colleagues in garden areas and green spaces helped them to communicate more effectively, with only 21% - 32% in agreement.

A statement that the gardens and green areas of the site were well maintained met with somewhat less support at Mount Vernon, a likely reflection of the problems with site maintenance experienced there, though there was nevertheless 63% agreement. Satisfaction with maintenance appeared highest at Broomfield.

However, as can be seen in Table 11, consensus around perceived benefits from green space at work was generally lower at Broomfield than the other two sites. To investigate this further we created a mean score to reflect average reports of subjective benefits of green space usage. These scores were based on items 1-9 below together with an additional item from the survey, 'Spending time in the site's garden areas or green spaces has little effect on how I feel' (reverse-scored). We then conducted a one-way ANOVA to compare whether there were any significant group differences on this variable. There was a significant main effect for site [$F(2, 879) = 10.33, p < .001, \text{partial } \eta^2 = .02$]. Planned contrasts indicated that this was due to significant differences between the Broomfield site and each of the other sites (Guild Lodge: contrast estimate = 0.21, $p = .01$; Mount Vernon: contrast estimate = 0.23, $p < .001$). Thus, employees at Broomfield reported significantly less subjective benefits of being in green spaces than the other two sites. The results from this are shown in Table 12.

The same analytical approach was used to investigate differences in agreement on items 10-12 in Table 11. The one-way ANOVAs revealed significant effects for site on item 11 [$F(2, 829) = 3.33, p = .04, \text{partial } \eta^2 = .01$] and item 12 [$F(2, 838) = 40.11, p < .001, \text{partial } \eta^2 =$

.09]. Planned contrasts indicated that these significant main effects were due to a significant difference between the Broomfield and the Mount Vernon site on item 11 (contrast estimate = 0.21, $p = .01$); and due to significant differences between the Broomfield and each of the other sites on item 12 (Guild Lodge: contrast estimate = -0.31, $p < .01$; Mount Vernon: contrast estimate = -0.59, $p < .001$).

Table 11: Perceived benefits of time in green space – agreement with statements

Statement	Percentage agreeing/strongly agreeing		
	Broomfield	Guild Lodge	Mount Vernon
1. Spending time in the site's garden areas or green spaces makes me feel calmer and more relaxed.	65%	72%	78%
2. Spending time in the site's garden areas or green spaces makes me feel refreshed and re-energized	54%	64%	68%
3. I enjoy the beauty of the site's green spaces and garden areas	74%	79%	80%
4. If I spend some time in the site's garden areas or green spaces I feel I am more effective when I return to work	48%	55%	59%
5. Spending time in the site's garden areas or green spaces is beneficial for my mental wellbeing	66%	77%	75%
6. Spending time in the site's garden areas or green spaces is beneficial for my physical wellbeing	58%	66%	67%
7. Spending time in the site's garden areas or green spaces is beneficial for my relationships with others	40%	53%	56%
8. I find the site's garden areas and green spaces helpful in meeting the needs of patients/service users	51%	70%	57%
9. Having work meetings with colleagues in the garden areas and green spaces at this site helps us communicate more effectively	21%	26%	32%
10. I would like to spend more time in the garden areas or other green spaces at this site than I currently do	83%	89%	86%
11. The availability of attractive garden areas and other green spaces at a hospital site is important to me in considering where to work	44%	51%	52%
12. The garden areas and other green spaces at this site are well maintained	86%	80%	63%

Note: percentages shown are rounded.

Table 12: Subjective benefits of green space - mean score by site

	Broomfield		Guild Lodge		Mount Vernon		Total	
	M	SD	M	SD	M	SD	M	SD
	3.58	0.71	3.80	0.64	3.81	0.71	3.67	0.71

Note. $N_1 = 560$; $N_2 = 93$; $N_3 = 229$.

Thus, in considering where to work, the availability of attractive garden areas and other green spaces at a hospital site was significantly less important to the Broomfield employees

than the Mount Vernon ones. Broomfield respondents nevertheless rated garden areas and other green spaces at their site as significantly better maintained than did Guild Lodge and Mount Vernon respondents.

Table 13: Descriptive statistics for items 10-12 by site

Item	Broomfield			Guild Lodge			Mount Vernon			Total			F
	M	SD	N	M	SD	N	M	SD	N	M	SD	N	
10	4.21	0.84	541	4.18	0.65	90	4.24	0.79	217	4.21	0.81	848	0.21
11	3.35	1.04	528	3.49	1.07	89	3.56	1.03	215	3.42	1.04	832	3.33*
12	4.14	0.72	536	3.83	0.77	89	3.55	1.09	216	3.95	0.87	841	40.11***

Note. * $p < .05$, *** $p < .001$.

9.4 Perceived barriers to spending time in green space at work

To explore the barriers to spending time in green space at work staff were asked: 'Do any of the following issues discourage you from taking a break from work in the site's garden areas or other green spaces during the working day? Please tick all that apply.' The options given were identified through the qualitative work. Results are presented in Table 14.

Table 14: Issues that discourage staff from taking a break in green space at work

Issue	Broomfield		Guild Lodge		Mount Vernon	
	Count	%	Count	%	Count	%
1. Pressure of work makes it difficult to take a break	347	55%	44	39%	121	50%
2. During my break I need to remain close by in case I am needed	176	28%	12	11%	54	22%
3. The garden areas and green spaces are too far from where I work for me to get there within the time allocated for my break	193	31%	6	5%	24	10%
4. There is not enough seating available in the outdoor area where I would choose to sit	154	25%	32	28%	98	41%
5. I am expected to change my clothes before going outdoors, which would take too long	98	16%	1	1%	2	1%
6. I choose to keep my breaks short so I can finish work sooner	22	4%	6	5%	16	7%
7. Taking a break in an outdoor area would not give me enough of a break from responding to patients	23	4%	9	8%	10	4%
8. I am not familiar with the whereabouts of garden areas or other green spaces at this site	34	5%	4	4%	14	6%
9. I don't want to get muddy	16	3%	4	4%	9	4%
10. I am not interested in taking a break in the site's garden areas or other green spaces	25	4%	3	3%	7	3%
11. Another issue discourages me from using garden areas or other green spaces at this site – please specify	80	13%	16	14%	34	14%

Note: percentages shown are percentage of all survey respondents choosing answer. Multiple answers were possible. Percentages are rounded.

As might be expected, at all three sites pressure of work was the most commonly cited issue to discourage staff from taking a break in green space at work.

Other than this there are some variations in the issues most commonly chosen at each site. At Broomfield the top three issues appear to be green spaces being too far away to get to in the time available; followed by the need for staff to remain close by in case they are needed; and then a lack of seating in places where staff would choose to sit. At Guild Lodge the top three issues appear to be lack of seating; followed by the need to remain close by; followed by concern that taking a break in an outdoor area would not give enough of a break from responding to patients. At Mount Vernon the top three issues appear to be lack of seating; the need to remain close by; and green spaces being too far away to get to.

At each site a considerable number of respondents gave 'other' issues that discouraged them from using gardens and green spaces at work. At both Broomfield and Mount Vernon, those recurrently mentioned included poor weather; lack of shade in hot weather; wasps; and susceptibility to allergies such as hay fever or asthma. At Mount Vernon several respondents highlighted poor maintenance of the site or site furniture. At Broomfield especially there were comments about a lack of breaks or a lack of long enough breaks. At all three sites there was also mention from several respondents of the desire to avoid contact with patients outdoors, disruptive patients especially. Thus although this item was included in the original list and not accorded very high priority in the results shown in Table 14, it appeared to be a live concern.

9.5 Changes that would encourage staff to spend time in green space at work

In order to explore how to address the barriers that prevent staff spending time in green space at work, the survey asked: 'Which of the following, if any, would help to encourage you personally to spend time in garden areas or other green spaces on the site? Please tick all that apply.' Again, the options given were identified through the earlier qualitative work. The results are shown in Table 15.

From this we can see that there are considerable numbers of staff at each site who consider the suggested measures would encourage them to spend time in green space at work. The three most commonly selected ideas at both Broomfield and Mount Vernon are 'a sheltered outdoor structure providing protection from sun and rain'; 'encouragement from senior staff for staff to take five minutes outdoors where feasible at times of stress', and 'more outdoor seating generally'. At Guild Lodge, there was also particular enthusiasm for 'a new, conveniently located outdoor seating area specifically for staff', alongside 'more outdoor seating generally' and a sheltered outdoor structure.

Further ideas put forward in the 'other' field included a garden café for staff (Broomfield) seating by the pond (Guild Lodge) and a gazebo and umbrellas (Mount Vernon). At all three

sites respondents also suggested changes to reduce pressure of work such as better staffing and longer breaks.

Table 15: Changes that would encourage staff to spend time in green space at the site

Change	Broomfield		Guild Lodge		Mount Vernon	
	Count	%	Count	%	Count	%
1. Encouragement from senior staff to ensure all staff take breaks as planned	188	30%	21	18%	95	39%
2. Encouragement from senior staff for staff to take five minutes outdoors where feasible at times of stress	220	35%	34	30%	99	41%
3. Encouragement from senior staff for staff to make use of garden areas and other green spaces for work meetings and professional conversations with colleagues	204	33%	39	34%	90	37%
4. Encouragement from senior staff for staff to regularly take short walks on site for the sake of their wellbeing	210	34%	37	32%	91	38%
5. More outdoor seating generally	217	35%	48	42%	122	51%
6. A sheltered outdoor structure providing protection from sun and light rain	275	44%	44	39%	124	51%
7. Signs and promotion to encourage use of green space and garden areas on site	123	20%	27	21%	71	29%
8. A new, conveniently located, outdoor seating area specifically for staff	203	32%	42	28%	93	39%
9. New outdoor gym equipment	101	16%	11	10%	49	20%
10. Organised outdoor activities and events	87	14%	28	25%	61	25%
11. Other – please specify	64	10%	4	4%	26	11%

Note: percentages shown are percentage of all survey respondents choosing answer. Multiple answers were possible. Percentages are rounded.

Participants were asked to say what outdoor activities if any they would be interested in attending. The options given were customized to each site in consultation with green space leads and reflected the activities they felt they could provide if there were sufficient interest. Results for each site are shown in Figures 8-10. Because the activities put forward for each site are different they are not entirely comparable, but outdoor mindfulness was the most popular choice at all three sites, while outdoor yoga was the second most popular at two of the sites.

A considerable range of other activities were put forward as free text. At Broomfield these included outdoor classes in art and photography, fitness, Tai Chi, boules, picnics and a slimming club. Mount Vernon respondents suggested a running group, tennis, badminton and general keep fit, while Guild Lodge respondents proposed woodland craft and volunteering to help maintain the grounds. Staff were also asked what time of day would be best for them for attending an organised outdoor activity on site. The response differed by

site with 55% at Guild Lodge and 51% at Mount Vernon favouring lunchtime; whereas at Broomfield, after work was the more popular option, preferred by 31%.

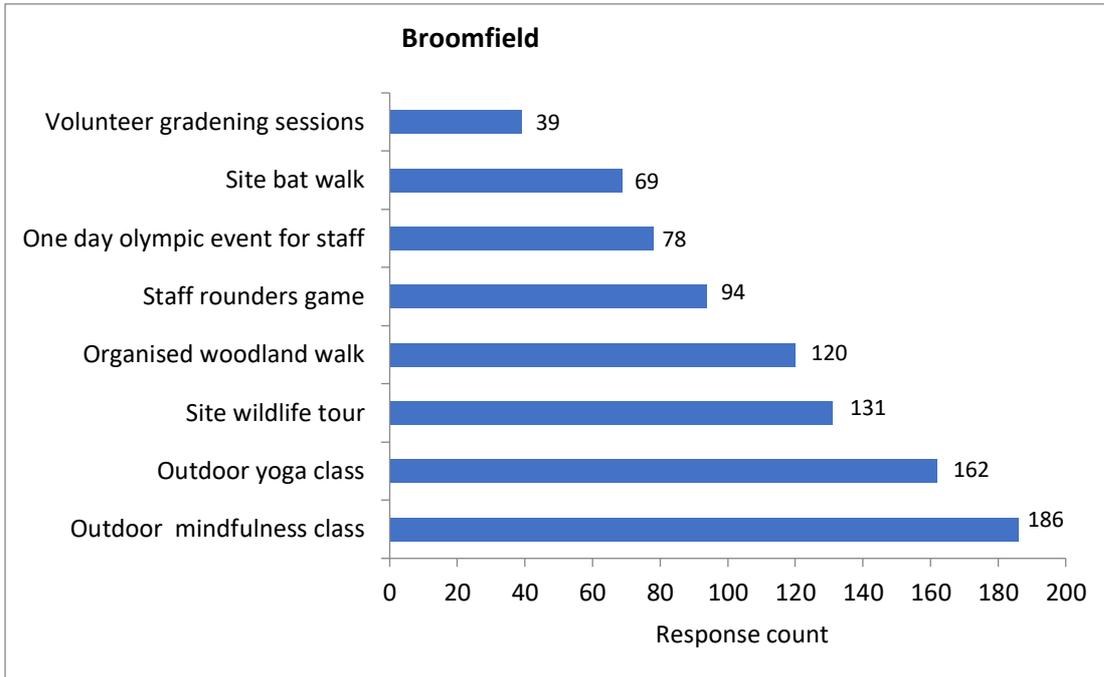


Figure 8: Outdoor activities that staff would be interested in attending at Broomfield

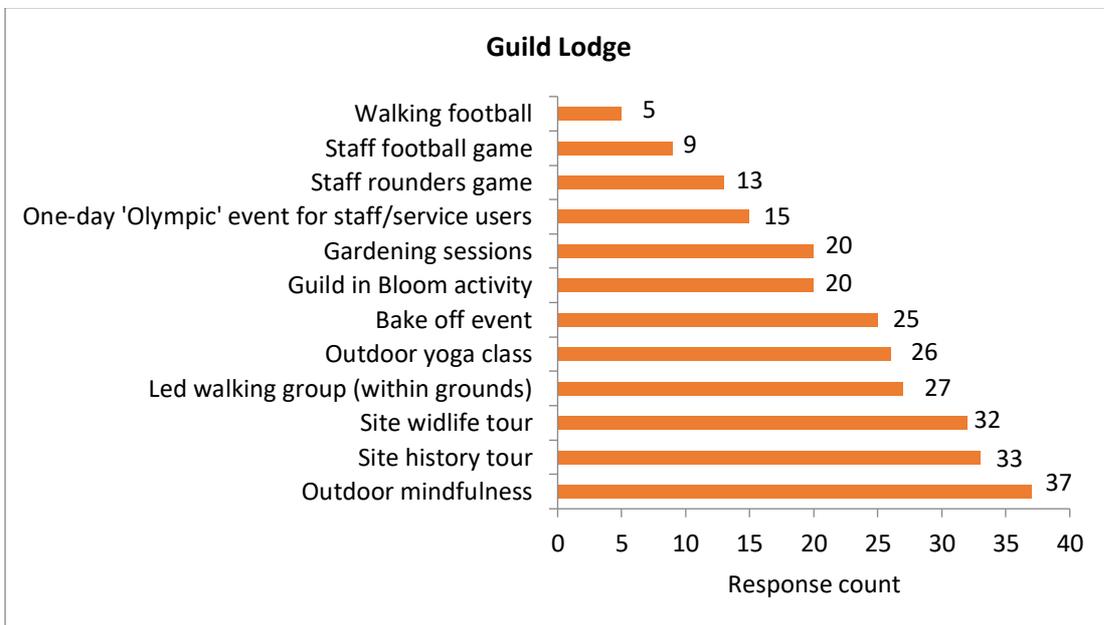


Figure 9: Outdoor activities that staff would be interested in attending at Guild Lodge

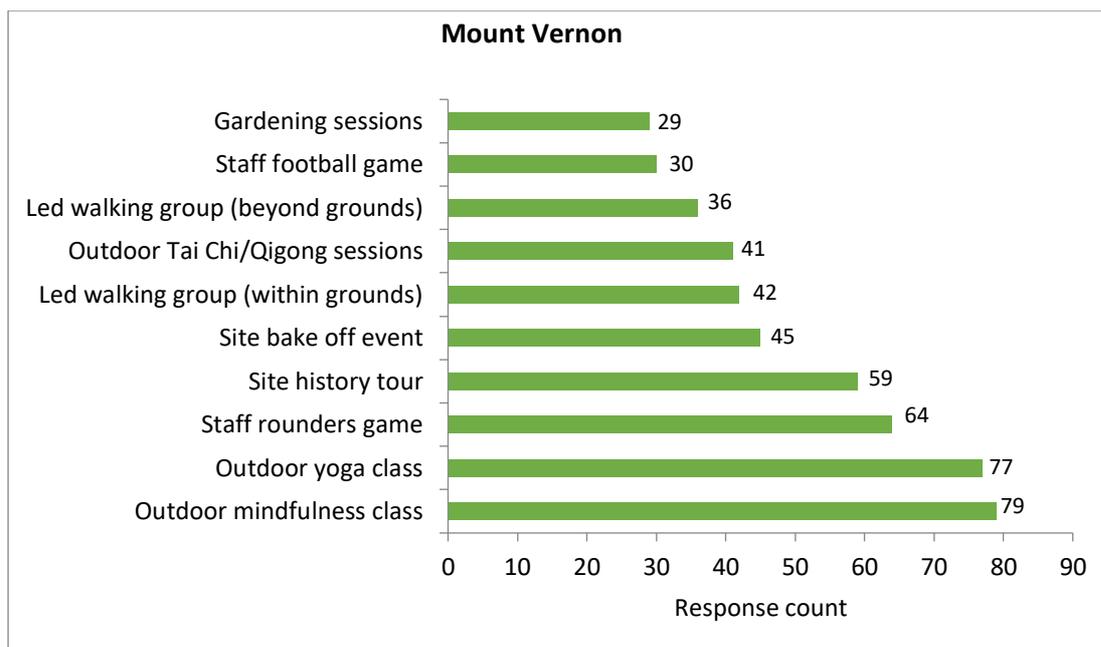


Figure 10: Outdoor activities that staff would be interested in attending at Mount Vernon

9.6 Staff wellbeing and engagement in green space activity

As a measure of staff wellbeing the surveys included a series of seven questions taken from the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWS).³ To obtain scores for wellbeing individual item scores for the relevant questions were summed and then converted into metric composite scores (in accordance with Stewart-Brown et al., 2009).

Wellbeing scores were significantly different between the three sites [$F(2, 815) = 9.14, p < .001, \text{partial } \eta^2 = .02$]. Planned comparisons revealed that on average, the Guild Lodge (contrast estimate = 1.42, $p < .001$) and the Mount Vernon respondents (contrast estimate = 0.99, $p < .01$) reported significantly higher wellbeing than the Broomfield respondents.

Table 16: Average wellbeing scores by site and nationally

Broomfield		Guild Lodge		Mount Vernon		Total		National Average	
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
21.09	3.61	22.52	3.80	22.08	3.75	21.49	3.70	23.61	3.90

Comparing the total sample mean against the national wellbeing norm score showed that the present sample reported significantly lower wellbeing than the national average [$t(7836) = -14.79, p < .001, d = -0.55$].

³ Short Warwick Edinburgh Mental Well-Being Scale (SWE<WBS) ©NHS Health Scotland, University of Warwick and University of Edinburgh, 2008, all rights reserved.

A number of comparisons were used to explore whether there was a relationship between green space activity and wellbeing. A two-way ANOVA compared participants who selected option 1 in Table 4 ('In the course of the working day I regularly spend time in the site's gardens, terraces or other green areas') with those who did not select this option, on the outcome of wellbeing composite scores. There was a significant effect indicating that participants who reported regularly spending time in the site's gardens, terraces, or other green areas reported higher well-being than participants who did not report this [$F(1, 815) = 5.27, p = .02, \text{partial } \eta^2 < .01$].

An ANOVA was conducted for mean wellbeing scores with each possible response shown in Table 4 (i.e. items 1 to 8) included as a dichotomous predictor. There were no significant effects, although the effect for option 7 ("During my working day I regularly take part in an organised recreational activity in the site's gardens, terraces or other green spaces") was marginally significant [$F(1, 809) = 3.83, p = .05, \text{partial } \eta^2 < .01$]. Mean comparisons indicated that individuals who selected this option reported higher wellbeing scores ($M = 24.50$) than those who did not select this option ($M = 21.80$).

A sum score was created to reflect the number of affirmed options for the same question on activity in green space – i.e. the number of options selected from those listed in Table 4. A multiple linear regression and an ordinal regression analysis were conducted with wellbeing mean scores as the dependent variable. The analyses included the green space sum score and option 8 (outdoor cigarette break) as a control variable, as predictors. The multiple linear regression found a significant effect for the green space sum score ($B = 0.43, p < .001, sr^2 = .02$), indicating that as participants checked more options on the question about green space activity they also tended to report higher wellbeing scores. The effect for option 8 was marginally significant, indicating that participants who reported going on outdoor cigarette breaks also tended to report lower mean wellbeing scores ($B = -1.00, p = .06, sr^2 < .01$).

This significant effect for the sum score was followed up with exploratory ANOVA analyses comparing the group means between those who reported no green space activities and those who reported one, two, and three or more green space activities, respectively. This again showed significant differences in each case (see Table 17 below). These analyses again controlled for outdoor cigarette breaks.

Table 17: Green space activity: simple comparisons on metric wellbeing composite scores

No. options selected indicating time spent in green space at work (see list in Table 4)	Mean	Standard Deviation	Probability
0	20.97	3.70	
1	21.84	3.68	< .001
2	21.91	3.58	.02
3 or more	22.17	3.68	.02

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Exposure to green space outside of work

The analysis also explored whether spending more time in green space *outside of work* predicts higher wellbeing. To do this an ANOVA and an ordinal regression analysis were conducted. The ANOVA found a significant effect for green space exposure outside of work [$F(5, 812) = 4.37, p < .001, \text{partial } \eta^2 = .03$]. This significant effect was further examined with planned comparisons using the highest response option (*time spent in green space outside work* three times a week or more) as the reference group. These comparisons showed that participants who said they never or almost never spent time in green space outside work (contrast estimate = $-1.17, p < .01$); those who did so less than once a month, but occasionally (contrast estimate = $-1.81, p < .01$); and those who did so less than once a week, but at least once a month (contrast estimate = $-1.54, p < .01$) reported significantly lower wellbeing than those who did so three times a week or more.

To answer the question of whether the relationship between time in green space at work and wellbeing becomes stronger if we control for spending more time in green space outside work, we need to include the interaction between green space time during work and green space time outside of work in the analysis. To do this, we used the sum score of green space activities (listed in Table 4) as a marker of how much green space exposure employees had during work. Responses (listed in Table 6) were used as a marker of green space exposure outside work. An ANCOVA analysis examined the main effects for and interaction between the two predictors described above.

The ANCOVA analysis found significant main effects for green space exposure outside working hours [$F(5, 806) = 2.84, p = .02, \text{partial } \eta^2 = .02$] and during the work day [$F(1, 806) = 7.09, p < .01, \text{partial } \eta^2 = .01; B = 0.20$], but did not find a significant interaction between the two predictors [$F(5, 806) = 1.34, p = .25, \text{partial } \eta^2 = .01$]. As above, the main effect for green space exposure outside working hours showed that participants who reported going into green space never or almost never; less than once a month, but occasionally; and less than once a week, but at least once a month reported significantly lower wellbeing than those reporting green space exposure three times a week or more. The main effect for green space exposure during the working day indicated that more green space activities during the working day were associated with higher wellbeing scores.

9.7 Staff self-reported absence and engagement in green space activity

As a further outcome measure, the survey collected information about self-reported absence. Staff were asked to say, from memory, how many days they had been absent through sickness in the last three months. The data produced in this way were heavily clustered in the lower options – thus across all sites 77% of staff reported that they had been absent a day or less, and a further 11% that they had been absent 2-3 days. As a result there was less differentiation on this measure than might have been expected, with only low numbers of staff reporting that they had been absent for periods of more than three days. This meant that there was doubt about the validity of self-reported absence as an outcome measure. We have nevertheless reported the findings for the sake of completeness.

An ordinal regression analysis compared self-reported absenteeism of participants who checked option 1 in Table 4 (i.e. those regularly spending time in the site's gardens, terraces or other green areas during the working day) with those who did not check this option. There was no significant difference between them. However, if all the options were included (i.e. any way of spending time in green areas during the work day), and an ordinal regression analysis was conducted, there were marginally significant effects for option 3 (sitting outside during break; $B = -0.43$, $p = .04$) and option 8 (outdoor cigarette break; $B = -0.66$, $p = .03$). Both effects indicated that participants who said they did this reported on average higher absenteeism than those who did not. No other significant differences were found with other options ticked. As all options were included in the analysis then the effect of sitting outside leading to higher absenteeism cannot be explained by individuals who smoked as the effect reported for sitting outside during the break is over and above that for those that smoked.

When exploring green space activity sum score the ordinal regression analysis found no significant effects related to absenteeism. The analogue comparison to the sum score for green space activity did not show any significant differences (in self-reported absenteeism) between participants reporting no green space activities and those reporting one, two, or three or more activities respectively.

9.8 Staff type and engagement in green space activity

The analysis also explored whether certain categories of staff engaged in more green space activity than others. Again, activity engagement was measured through the green space sum score indicating the number of options selected from responses shown in Table 4. We investigated whether exposure differed for staff on higher Agenda for Change pay bands; for staff who had more face-to-face contact with patients; and for staff in certain types of working environment. Ordinal regression models were used to test the effects of answers to

questions on each of these issues (categorical predictors) on summed green space activities (the outcome variable). Taking a regular outdoor cigarette break was included in the analysis as a control variable.

The analysis found:

- Agenda for Change pay bands were not significantly associated with the green space activity sum score.
- People who reported taking cigarette breaks scored significantly higher on the green space activity sum score variable ($B = -1.04$, $p < .001$).
- Level of patient contact was significantly negatively associated with the green space activity sum score. In particular, both those participants reporting no ($B = 0.99$, $p < .001$) and occasional patient contact ($B = 0.90$, $p < .001$) scored higher on the green space activity sum score than participants with frequent patient contact.
- Place of work was also associated with the green space activity sum score. In particular, the locations 'in a clinical consulting room' ($B = -0.95$, $p < .001$), 'in a ward' ($B = -0.89$, $p < .001$), and 'in an operating theatre' ($B = -2.88$, $p < .001$) featured lower green space activity sum scores than 'in an office'. There was a marginally higher score for individuals working 'in a laboratory' (compared to 'in an office'; $B = 0.70$, $p = .06$).

Overall then, it would appear that staff working in clinical areas and staff working directly with patients engage less in green space activity during the working day. Both contact with patients and exposure to green space appear to be positively related to wellbeing. However, staff who come into more contact with patients have less opportunity to benefit from time in green space and the higher levels of wellbeing associated with this. As might be expected, people who take cigarette breaks spend more time outdoors.

9.9 Staff comments in free text

Several survey questions invited staff to suggest 'other' options, for instance, for places on site where they had spent time in green space, issues that discouraged them from doing so and changes that would help in overcoming these. Respondents at each site, but at Broomfield especially, used these free text fields to air frustrations about their conditions and the difficulty of having a break at all.

often it is impossible to take a break from the place of work due to no cover being provided. If I chose to leave the work environment with a patient on the table I am potentially jeopardizing my professional registration if a catastrophic event were to happen in my absence

Broomfield respondent

our staff room seats max 4 people with no windows & no ventilation it is very hot, however leaving the ward is barely an option as nowhere to prepare hot food & eat when hot, also often required on the ward so don't leave the ward for breaks

Broomfield respondent

9.10 Summary and discussion

The large-scale survey builds on the insights of the earlier qualitative work. The results again highlight the importance of walking outdoors during a break, in that this was the most common way for staff to regularly engage in green space activity at work. Again it is apparent that staff uptake of organised recreational activities, though a key strand of the green space initiatives taking place at each site, is relatively modest, though higher at Guild Lodge. Levels of participation detected through the survey are in keeping with the attendance of sessions reported by sites' green space leads.

The surveys also confirm that there is a considerable appetite for spending time in green space, with the majority of staff at all sites agreeing/strongly agreeing on a variety of subjective benefits from this. These include feeling calmer and more relaxed; feeling refreshed and re-energized; and positive effects on physical and mental wellbeing. A sizable proportion of staff at each site (44-52%) say the availability of attractive garden areas and other green spaces at a hospital site is important to them in considering where to work – suggesting that this could have a role in recruitment and retention. The vast majority of staff (83-89%) say they would like to spend more time in the gardens and green spaces at their site than they currently do.

The main barriers to spending time in green space at work include pressure of work; green spaces being too far away to get to in the time available; the need for staff to remain close by in case they are needed; a lack of seating in places where staff would choose to sit; and concern that taking a break in an outdoor area would not give enough of a break from responding to patients. Problems in having to change clothes and the time involved in this is an issue for some staff but is largely specific to Broomfield.

The main changes that staff say would encourage them to spend more time in green space at work are: a sheltered outdoor structure providing protection from sun and rain; more outdoor seating generally; a new, conveniently located outdoor seating area specifically for staff; and encouragement from senior staff. The last of these includes encouragement for staff to take five minutes outdoors where feasible at times of stress; for staff to make use of garden areas and other green spaces for work meetings and professional conversations with colleagues; and for staff to regularly take short walks on site for the sake of their wellbeing. At each of the sites there is considerable interest in organised outdoor activity sessions,

with particular enthusiasm at all three for outdoor mindfulness. Taken together, the barriers and desirable changes identified by staff in the surveys confirm our earlier qualitative findings, as summarised in the '7Ps' in section 7.4.

Analysis of wellbeing scores at the three sites shows a predictive relationship between wellbeing and regular engagement in green space. First, participants who say they regularly spend time in green space at work have significantly higher wellbeing scores than those who do not. Secondly, participants reporting that they regularly engage in more types of green space activity at the site have higher wellbeing scores, such that the more types of activity they engage in, the higher their wellbeing score.

In each case, we cannot infer a direct causal relationship between exposure to green space and wellbeing, and other explanations are possible. It may be, for instance, that staff who are under more pressure at work, and consequently experiencing lower wellbeing, spend less time in green space. However, our findings are at least consistent with a cumulative wellbeing benefit to staff from regularly engaging with green space in different ways. It is worth noting here that wellbeing is also associated with patient contact. Thus, although there was often an assumption in interviews that staff with more patient contact were under greater stress, this does not appear to translate into lower levels of wellbeing for these staff, suggesting that, overall, the personal rewards of working with people outweigh the adverse effects. It is however apparent that on average, staff with more contact with patients have less engagement in green space activity. This implies that staff with higher levels of patient contact enjoy greater wellbeing in association with this but would enhance their wellbeing further if they spent more time in green space.

Our analysis did not find higher wellbeing scores to be positively associated with any specific type of green space engagement, with the exception of taking part in an organised recreational activity where there appeared to be a marginally significant effect. This finding suggests that, in the context of encouraging staff use of green space, it is worthwhile persisting with offering such activities, since for those staff who *do* attend, the associated benefits may be more marked than for other forms of green space engagement.

Analysis of wellbeing scores and time spent in green space outside of work revealed a significant relationship, by which those reporting green space exposure outside of work three times a week or more had significantly higher wellbeing scores. However, there was no interaction between green space exposure outside of work and green space exposure at work: both measures independently predicted wellbeing.

The survey reveals that, of the three sites, Guild Lodge has the highest staff engagement in green space and Broomfield the lowest, and that this difference was mirrored in the sites' average staff wellbeing scores. One explanation for the greater engagement in green space

at Guild Lodge is that at this site, these activities are more integrated into the day-to-day work of staff with service users, in the context of its mental health remit. Thus 18.6% of staff respondents said they regularly spent time in the site's green spaces in the course of working with patients and visitors, and 32% said they regularly took a walk outdoors and noticed the green spaces in the course of their work duties – both of which were much less common at the other sites. A focus on therapeutic practice is also reflected in the relatively high proportion of respondents at Guild Lodge who, when asked about activities that have led them to spend time in green space at the site, report that they have escorted service users on walks on or off the grounds (25%). In general this supports our observation above, that staff who have contact with patients *and* contact with green space enjoy a dual wellbeing association. A further explanation of the higher exposure to green space at Guild Lodge is the success of the site's workspace walking initiative, in which 26% of respondents have participated.

Despite the generally higher engagement with green space activity at Guild Lodge, the percentage of staff there that said they regularly sit out in the site's gardens and green spaces when taking a break from work (13.4%) was lower than at Broomfield (19.5%) or Mount Vernon (25.7%). This is likely to be due to the lack of outdoor seating areas in the external grounds of Guild Lodge. In contrast, at Broomfield, the provision of the staff Wellbeing Terrace has been effective in encouraging 22% of all respondents to sit out there, though staff concerns about the site's green spaces being too far away to get to in the time available suggest that the terrace's appeal is limited by its location. At Mount Vernon, 56% of all respondents said they had used seating areas around the large green lawn to sit outdoors to relax or eat, showing the strong attraction of this focal area. This was not withstanding staff concerns about inadequate seating.

The finding that sitting outside for a break predicted higher self-reported absenteeism was unexpected. This needs to be interpreted with caution because of the skew in this measure towards lower levels of absence and the small number of staff showing differentiation on the variable. In addition the finding was only of marginal statistical significance. Nevertheless, further exploration could be helpful in understanding possible reasons for such a relationship. We could, for instance, examine people's reasons for sitting out for a break. For example, do people sometimes sit out because they have been experiencing poor health?

The issue of work pressure discouraging staff from spending time in green space appeared most pressing at Broomfield, where 55% of all survey respondents said pressure of work made it difficult to take a break, compared to 38% at Guild Lodge and 50% at Mount Vernon. A further explanation for the lower engagement in green space activity at Broomfield relates to the sheer size of the hospital, and the relative challenge for any initiative in reaching larger numbers of staff. Broomfield staff also appeared, comparatively

speaking, less persuaded of the subjective benefits of spending time in green space at work. This was not withstanding a widespread appreciation there that the gardens were well maintained. This appreciation was in some contrast to the lower consensus around this issue at Mount Vernon where there were many comments about the neglected state of the site.

10. Conclusions and recommendations

This research explored the experience of NHS sites in encouraging staff to spend time in green space at work. It examined the subjective benefits of this to staff and investigated the relationship between time spent in green space at work and wellbeing, as well as self-reported absenteeism. It considered the nature of staff engagement with green space at work, the barriers that discouraged staff from spending time in green space, and the ways in which these could be addressed. Findings are summarised below, together with recommendations.

10.1 Perceived benefits of spending time in green space at work

At all sites there was an appetite from staff to spend time in green space during the working day. In both the qualitative and quantitative research they reported a wide variety of subjective benefits. They perceived it to be positive for mental and physical wellbeing, mental wellbeing especially, and said that it made them feel relaxed and calm, refreshed and re-energised. At all sites the majority of staff (83-89%) said they would like to spend more time in the gardens and green spaces at their site than they currently did. A sizable proportion of staff – between 44-52% – said the availability of attractive garden areas and other green spaces at a hospital site was important to them in considering where to work – suggesting that this could have a role in recruitment and retention.

In qualitative research staff discussed the value of spending time in green space in the context of relationships between colleagues and relationships with patients. Individual interviewees described how, as colleagues, outdoor walking and talking could facilitate more difficult conversations and help with problem-solving; and how spending time outdoors with patients could be helpful in communicating difficult news or defusing tensions. Some interviewees discussed the social effects of outdoor environments in making power disparities less salient.

10.2 Green space exposure at work and wellbeing

In line with the findings of the wider research literature outlined in Chapter 2, in this study, staff exposure to green space predicted staff wellbeing. Staff who said they regularly spent time in the site's gardens, terraces and other green areas in the course of the working day, on average, reported significantly higher levels of wellbeing. Moreover, the more ways in which staff reported spending time in green space during the working day the higher on average was the level of wellbeing they reported.

10.3 Green space exposure at work and self-reported absence

Self-reported absence data collected through the study was heavily clustered towards lower levels of absence, with the result that there was only a small population of staff with more

differentiated levels of absence, diminishing the validity of this variable. This said, the study found no significant differences in self-reported absence between those who regularly spent time in green space and those who did not, with the exception that those who regularly took an outdoor cigarette break and those who regularly sat out in green space both reported slightly higher levels of absence. The second of these findings is surprising and warrants further investigation.

10.4 Type of green space activity

At all three sites the most common way in which staff reported spending time in green space in the course of the working day was taking a walk around the site during a break. This indicates that in encouraging more staff to spend time in green space it is important to include strategies that facilitate and promote self-guided walking as part of an everyday routine. At Guild Lodge, management support for ad hoc walking during the day, in the interests of staff wellbeing, had successfully fostered an informal walking culture. It was noticeable that staff themselves had taken ownership of this initiative, to the point where it had become staff-led. Moreover, at the other two sites, there was evidence of similar small-scale initiatives having had some success.

While all of the sites had run organised recreational activities in green space the proportion of staff that had engaged in these activities was quite low. Nevertheless, there was a marginally significant difference in the average wellbeing scores of staff reporting that they had done so, indicating that they had higher wellbeing scores than those who had not. Moreover, 14-25% of survey respondents at the three sites said such activities would encourage them to spend time in green space.

Although a majority of staff across the sites agreed/strongly agreed that their site's garden areas and green spaces were helpful in meeting the needs of patients, regularly spending time in green space with patients and visitors was much more common at Guild Lodge than at the other two hospitals. This may help to explain comparatively higher wellbeing scores found at Guild Lodge. Alongside green space exposure, face-to-face contact with patients was found to predict wellbeing, suggesting that staff spending time with patients in green space can be expected to enjoy a dual wellbeing benefit.

10.5 Barriers to spending time in green space at work

In the qualitative research staff identified a range of issues that affected their capacity to spend time in green space at work, which we have called the '7Ps'. While *pressure* of work was critical, their accounts pinpoint further related factors, namely: the *proximity* of green space to where staff work and the time available to get there; *perceptions* of site conditions; concerns about whether a break in green space will afford a 'protected' break with sufficient *privacy* from patients; the extent to which spending time in green space at work is perceived to be *permitted and promoted* within the organisation; *personal priorities* and

competing commitments; and the *provision* of convenient and popular recreational activities.

The quantitative research confirmed the importance of these barriers. Looking across the sites, the main deterrents identified were green spaces being too far away to get to in the time available; the need for staff to remain close by in case they were needed; a lack of seating in places where staff would choose to sit and, to a lesser extent, concern that taking a break in an outdoor area would not give enough of a break from responding to patients.

10.6 Encouraging staff to spend time in green space at work

Michie et al. (2014) recommend that in designing behaviour change interventions we consider how far barriers to any specific behaviour relate to capability, opportunity or motivation. From our research at these sites we can say that staff do not lack motivation to spend time in green space. While this could be reinforced with awareness raising – especially at Broomfield, where motivation was slightly lower – motivation cannot be seen as the main barrier. In general staff also have the physical and mental capacity to spend time in green space. The barriers highlighted relate instead to opportunity. This includes physical opportunities, in terms of the site environment and its constraints, and social opportunities, in terms of the organisations' cultural norms and influences – for example the expectation that staff remain close by during a break. It follows that the most effective interventions to encourage use of green space at work will focus on improving the physical opportunities afforded by the site, while building a supportive working culture to facilitate staff use of green space.

This accords directly with the measures proposed by staff in this research. Asked about changes that would encourage them to spend time in green space, key improvements in site facilities were especially popular, with strong support for a sheltered outdoor structure providing protection from sun and light rain; more outdoor seating generally; and a new, conveniently located, outdoor seating area specifically for staff. In parallel there was also strong support for measures to improve on social opportunity through changes in working culture. These included encouragement from senior staff for staff to take five minutes outdoors where feasible at times of stress; encouragement from senior staff for staff to regularly take short walks on site for the sake of their wellbeing; and encouragement from senior staff for staff to make use of garden areas and other green spaces for work meetings and professional conversations with colleagues.

Recommendations for encouraging staff engagement with green space at NHS sites

On the evidence of this research we recommend that NHS sites wishing to encourage staff to spend time in green space focus on both physical and cultural issues.

- **Green space close to work** To maximize opportunities for a green break, it is important to create gardens and green spaces that are close to where people work – ideally providing all buildings with easily accessible garden areas. In this research staff especially valued outdoor areas close to staff rooms or offices. In new-build hospitals such access should be designed in from the outset.
- **Green space close to restaurants and rest areas** Hospital canteen facilities and rest areas should have access to outdoor space with chairs, tables and adequate shade (e.g. parasols or awnings) so that staff can spend time in green space in the warmer months and look out on green views throughout the year. None of the restaurant areas in the study had such direct access.
- **Privacy for staff outdoors** In locating green outdoor seating areas close to work areas, it is important to consider staff privacy and to avoid locations that are readily overlooked or where staff feel that their conversations cannot be private. Sites should explore the scope for designated outdoor staff areas that provide a degree of screening as well as weather protection in sun and shade – for example gazebos or other types of outdoor shelter, or seating with tables and umbrellas or awnings in areas effectively screened by greenery.
- **Green walking routes** To encourage staff to take walks in the hospital grounds – either during a break or more incidentally in the course of their work – sites should develop attractive, well-signed and well-delineated green walking circuits, enabling those moving about the hospital to experience a pleasant green route, that is not dominated by parked cars or moving vehicles. Careful planting and signage will further encourage staff to enjoy green space and its restorative effects in passing.
- **Supportive working culture** Encouraging staff to make use of such amenities also requires a supportive working culture, in which staff feel permitted to take time out in green space, either alone or together, as opportunities arise, for instance, to reduce stress or to talk through an issue with a colleague. To achieve this it is recommended that senior staff explicitly endorse such activity and promote the benefits of workspace walking, including by their own example.
- **Outdoor activities** Offering more formally organised recreational activities – such as a led walking group or Qigong – not only creates an opportunity for staff to engage in green space, but helps to communicate organisational support for this. The interest in specific options for activities shown in Figures 8-10 offers a guide to those that could be popular at each site, and highlights a common enthusiasm for outdoor mindfulness sessions.

- **Green space for patient care** Staff should be encouraged to find more opportunities to help patients enjoy the therapeutic benefits of their site's green spaces, an activity that could also enhance their own wellbeing.
- **Guidance on clinical clothing outdoors** Management should clarify whether there are conditions in which it is permissible for staff to sit in scrubs in an outdoor space, providing they also wear a protective plastic gown. If infection control requires that staff moving from their immediate surroundings for their lunch break must change out of clinical clothing, then this change should be accommodated within their work time.

In addition, our research points to site-specific recommendations to encourage further staff engagement with green space at each of the hospitals – as detailed in the boxes at the end of this chapter. While our case study sites each enjoyed a relatively generous amount of green space, we believe that their experience in making the most of this is transferable to other sites, including more urban ones. The work of the NHS Forest network shows that even small areas in urban settings can offer great potential for creating attractive and restorative green spaces (Shackell and Walter, 2011).

10.7 Future research

We now need to know more about the kind of strategies that can overcome the barriers faced by health staff, and by clinical staff especially, in accessing the benefits of green space at work for their wellbeing. Future research could usefully focus on the impact of specific interventions. For example, at Broomfield, the plans described by one of our interviewees to develop a wellbeing retreat for staff as part of the refurbishment of a courtyard garden adjacent to her ward, offers a potential 'natural experiment' whose effects could be monitored over time. In our surveys, the strong interest from staff at all sites in the provision of an outdoor structure providing protection from sun and light rain suggests a further area for action research, to develop and pilot an effective design for this.

As well as assessing the impact of work in situ, there is a need for more experiments using randomly controlled trials. This would be beneficial in further exploring the comparative effects of different types of green space activity at health facilities, for example, recreational activities as against sitting out to eat, relax or work. Such studies would further strengthen the evidence base and support many more NHS sites in realising therapeutic benefits.

Finally, it must be acknowledged that providing and using attractive grounds and gardens will not of itself address inadequate levels of staffing in an overstretched service. However, as this study confirms, green space should be seen as a vital and valued aspect of the NHS estate, with a critical role to play in staff wellbeing.

Broomfield – site-specific issues

The need to support staff wellbeing appears especially pressing at Broomfield where average wellbeing scores were comparatively low. The high consensus that the grounds were well maintained shows that staff appreciated the exceptional quality of its gardens, though there was less agreement than at the other sites about the benefits of spending time in these green spaces. The Wellbeing Terrace has been very successful in engaging staff with outside space. However, this study confirms the view of green space leads, that the location of the Wellbeing Terrace and other attractive garden areas is a barrier to use for many staff. Alongside pressure of work, the distance needed to reach such spaces in the time available and the need to remain close by both emerge as priority issues.

To address these there is a strong case for developing an equivalent green area for staff use that is closer to wards and theatres. The green courtyards accessible from the main hospital atrium offer possible candidates and could be equipped with tables and parasols, or a gazebo and actively promoted to staff as an outdoor alternative, for example, with complimentary cold drinks or snacks in summer. It is important to consider screening to avoid staff feeling that they are in an all too visible 'goldfish bowl'. Comments in our survey also suggest ways in which the Wellbeing Terrace itself could be improved – with more planting to make this area greener and more consistent access to equipment for games, which respondents said was sometimes locked away at times when it could have been used.

Notices in the public areas of the atrium warning staff not to use this as their rest area, and to go instead to the designated staff area, suggest a problem with unmet staff need. The decision of the hospital not to replace its canteen (which formerly stood on the site of the Wellbeing Terrace) seems surprising and detrimental for staff wellbeing. A further recommendation from this research is that the designated staff area – a screened and windowless section of the atrium – be re-located to an area with windows that provides staff eating their lunch with pleasant green views and greater restorative benefit.

Guild Lodge – site-specific issues

At Guild Lodge several green initiatives – including the ward garden competition and the Grow Your Own team building days – have successfully engaged staff in green space activity. The workspace walking initiative appears to have had particular impact – since 26% of survey respondents said they had taken part in informal/spontaneous site walks arranged with other staff.

However, the wider grounds at Guild Lodge have very limited provision of outdoor furniture, and in summer there is often competition for the existing picnic bench. Only 13% of respondents said that when taking a break from work they regularly sat outdoors, a lower percentage than at the other sites in the study. The issue is also reflected in the survey where more outdoor seating generally and a sheltered outdoor structure providing protection from sun and light rain, were popular options. The common sight of nurses sitting in cars for a break is a further sign of unmet need.

To expand green options for staff the hospital should explore the scope for new seating areas in attractive green spaces, both close to and further away from the main building, including next to the cricket pitch and the pond, and in woodland. A further recommendation is to extend Wi-Fi into garden areas at the site to make it easier for staff to take work outdoors in good weather.

Mount Vernon – site-specific issues

At Mount Vernon staff interviews about green space focused especially on the large green area in front of its historic sanatorium building. An astonishing 56% of respondents had sat in this space to relax and eat, emphasising its importance to the site and its identity.

The staff consultation in Chapter 8 outlines a raft of proposals for the whole site, that would enliven this space, with outdoor events and activities, and the introduction of a seasonal ‘pop up’ café or tea bar – as an outpost of the hospital restaurant. There was also interest in celebrating Mount Vernon’s heritage with interpretation attached to a walking route – a theme further endorsed in the survey, with support for a site history tour. To encourage staff use of green space these proposals should be explored further.

A strong caveat in the staff consultation however was the need to achieve a good standard in basic infrastructure such as seating and signing ahead of implementing more innovative plans. The call for more seating generally seems at first surprising as there are many benches to be found across the site. Summer observations of the large green space however showed that, while not every seat there was taken, there could be competition for seating grouped around tables, and that while seating was concentrated in one area, staff preferred to spread out across the space. Comments throughout the research emphasised problems with lack of shade and the dilapidated state of outdoor furniture. This in turn is likely to be symptomatic of dissatisfaction at the site’s wider neglect and decay. The qualitative research highlighted staff concern and sadness about the state of the buildings, and particularly the loss of the sanatorium’s terraces and balconies, once enjoyed, but now unsafe and inaccessible.

At the time of writing plans are underway to make targeted improvements including refurbishment of existing benches, and clearance of a pathway through woodland, adjacent to the large green space. However, restoring the Grade 2 listed balconies and terraces of the sanatorium building so that staff or patients can once again sit out there is well beyond the budget of the green space programme and its charitable funding. In the long-term, the future of both the site and its garden areas depends on the outcome of the NHS review process, now expected to reconfigure the hospital and its services. It is recommended that the NHS takes this crucial opportunity to integrate attractive green space into the redevelopment plans for the entire centre, both at the present site and at the new locations where services are to be delivered.



Big Woodland Walk at Broomfield

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Appendix 1

Wellbeing at Work – semi-structured interview schedule

Working environment

1. Can you describe for me your usual working environment and your feelings about it?
[*Prompt*] Are there any aspects of your working environment you particularly like or dislike?

Engagement with green space

We are interested to know about how staff at this hospital experience the site's green spaces. By green space I mean its gardens, lawns, woods, and any areas with planting such as terraces. [*adapt to site*]

2. Do you feel that the green spaces on this site have any effect on your day-to-day experience of working at the site? [*If yes*] In what way?
3. So would you say you regularly spend some time in the green spaces on this site in the course of being here for work?
- [*If yes*] Which green spaces on the site would you mainly spend time in and why? What initially brought this about?
- [*If no*] Can you think of *any* occasions when you have spent time in green space on the site? [*If yes*] What might be an example of that?
4. When you take a break during work, where would you normally go and why?
[Explore timing and reasons]
5. Are there any times of day when would you be more likely to be aware of the site's green spaces and natural areas?
6. Are there times of the year when you would be more likely to be aware of the site's green spaces and natural areas?

Experience of being in green space

7. When you do spend time in green spaces on the site how do you find the experience?

[*Prompts:*]

- Do you think spending time in green space at the site affects how you feel?
- Do you think spending time in green space at the site affects your wellbeing?
[Physical / Mental?]

- Do you think spending time in green space at the site affects how well you work when you return to work afterwards?

8. In an ideal world, would you like to have more opportunities to spend time in the site's green spaces? [*If yes*] What form might that take? [*If no – explore reasons.*]

9. Outside of work, do you regularly spend time in green space?

Barriers to spending time in green space and ways of addressing these

10. [*For those who DO regularly engage with green space:*] Are there any particular issues that can make it difficult for you to spend time in green spaces at the site? [*Explore*]

[*For those who DON'T regularly engage in green space:*] Are there any particular issues that make it difficult for you to spend time in green space at the site? [*Explore*]

11. Are there any changes you can think of, big or small, that would help in overcoming these issues and making it easier for you to spend time in green space at work?

[*Prompts:*]

- Changes to the site and facilities?
- Changes to working practices?
- Changes to working ethos?
- Changes to your understanding about the whereabouts of green spaces on the site?
- Introduction of new activities on site?
- Changes to your personal circumstances?

12. [*For those who regularly spend time in green space*] Are there steps the hospital has already taken that have helped to encourage you to spend time in green space? [*Please say what*]

[*For those who do not regularly spend time in green space*] Are you aware of any steps the hospital has already taken to encourage you to spend time in green space? [*Please say what*]

Thank you – we'd be very grateful if you could also take a few moments to fill in this form.

Appendix 2 Sample electronic survey questions

(There are differences in format between electronic survey and that shown below.)

Workforce wellbeing and the Mount Vernon site

1 We would like to invite you to take part in a survey about workforce wellbeing and the Mount Vernon site.

The aim of the survey is to gather information about your experience of this site and its amenity value. The findings from the survey will help to inform your organisation in improving staff wellbeing at this site. National organisations, such as NHS England, will also be able to learn from the survey findings.

Who is conducting the survey?

The survey is being conducted by the independent charity the Centre for Sustainable Healthcare and the University of Essex. It is part of an evaluation project funded by the Health Foundation, also an independent charity, committed to bringing about better health and healthcare for people in the UK.

Your answers will be treated in confidence. No one in your organisation will be able to identify individual responses.

The results will be presented in a summary report in which no individual can be identified. There is no obligation to take part in this survey and you are free to stop at any time.

Are you happy to take part in this survey?

Yes

2 Thinking about the Mount Vernon site in the warmer months of the year (i.e. April to October) which of the following statements is true for you? Please tick all that apply.

- In the course of the working day I regularly spend time in the site's gardens, terraces or other green areas
- When taking a break from work I regularly take a walk outdoors through the site and notice the garden areas or other green spaces
- When taking a break from work I regularly sit out in one of the site's gardens, terraces or other green spaces
- In the course of my work duties, I regularly take a walk outdoors through the site and notice the garden areas or other green spaces
- I regularly take part in work-related meetings with colleagues outdoors in the site's gardens, terraces or other green spaces
- In the course of working with patients and visitors, I regularly spend time in the site's gardens, terraces or other green spaces
- During my working day I regularly take part in an organised recreational activity in the site's gardens, terraces or other green spaces
- I regularly take an outdoor cigarette break during the working day

3 Outside working hours and away from this site, about how often do you spend time in green spaces? Please tick only one.

- Three times a week or more
- Twice a week
- Once a week
- Less than once a week, but at least once a month

Less than once a month, but occasionally

Never or almost never

4 In the warmer months of the year (i.e. April to October) where do you usually go to take a break?
Please tick all that apply.

Remain at my desk

To a staffroom close to where I work

To a hospital cafeteria or canteen

To an outdoor space, e.g. garden or terrace, within the hospital grounds

To my car in the hospital car park

To an outdoor green space, off the hospital site

To a shop/cafe/pub off the hospital site

Home

Other- please specify _____

5 Which if any of the following areas are places where you have sat outdoors to relax or eat? Please tick all that apply.

Seating areas around large green lawn

Michael Sobell Hospice garden

- Gardens by the chemotherapy suite
- Small courtyards/terraces linked to wards
- None of these
- Other green area- please specify _____

6 Which of the following activities have led you to spend time outdoors at this site? Please tick all that apply.

- Outdoor Qigong sessions
- Volunteer gardening activities
- Walking group activities
- Team organised step challenge
- Organised social event
- None of these
- Other- please specify _____

7 Thinking about occasions when you have spent time in garden areas or green spaces at the site, how far do you agree with the following statements?

Spending time in the site's garden areas or green spaces has little effect on how I feel.

- Strongly agree

- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

8 Spending time in the site's garden areas or green spaces makes me feel calmer and more relaxed.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

9 Spending time in the site's garden areas or green spaces makes me feel refreshed and re-energized.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

10 I enjoy the beauty of the site's green spaces and garden areas

- Strongly agree

- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

11 If I spend some time in the site's garden areas or green spaces I feel I am more effective when I return to work

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

12 Spending time in the site's garden areas or green spaces is beneficial for my mental wellbeing

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

13 Spending time in the site's garden areas or green spaces is beneficial for my physical wellbeing

- Strongly agree

- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

14 Spending time in the site's garden areas or green spaces is beneficial for my relationships with others

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

15 I find the site's garden areas and green spaces helpful in meeting the needs of patients/service users

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- Not applicable

16 Having work meetings with colleagues in the garden areas and green spaces at this site helps us communicate more effectively

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

17 I would like to spend more time in the garden areas or other green spaces at this site than I currently do

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

18 The availability of attractive garden areas and other green spaces at a hospital site is important to me in considering where to work

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

19 The garden areas and other green spaces at this site are well maintained

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

20 Do any of the following issues discourage you from taking a break from work in the site's garden areas or other green spaces during the working day?

Please tick all that apply.

- Pressure of work makes it difficult to take a break
- During my break I need to remain close by in case I am needed
- The garden areas and green spaces are too far from where I work for me to get there within the time allocated for my break
- There is not enough seating available in the outdoor area where I would choose to sit
- I am expected to change my clothes before going outdoors, which would take too long
- I choose to keep my breaks short so I can finish work sooner
- Taking a break in an outdoor area would not give me enough of a break from responding to patients
- I am not familiar with the whereabouts of garden areas or other green spaces at this site

- I don't want to get muddy
 - I am not interested in taking a break in the site's garden areas or other green spaces
 - Another issue discourages me from using garden areas or other green spaces at this site – please specify
-

21 Which of the following, if any, would help to encourage you personally to spend time in garden areas or other green spaces on the site?

Please tick all that apply.

- Encouragement from senior staff to ensure all staff take breaks as planned
- Encouragement from senior staff for staff to take five minutes outdoors where feasible at times of stress
- Encouragement from senior staff for staff to make use of garden areas and other green spaces for work meetings and professional conversations with colleagues
- Encouragement from senior staff for staff to regularly take short walks on site for the sake of their wellbeing
- More outdoor seating generally
- A sheltered outdoor structure providing protection from sun and light rain
- Signs and promotion to encourage use of green space and garden areas on site
- A new, conveniently located, outdoor seating area specifically for staff
- New outdoor gym equipment

Organised outdoor activities and events

Other – please specify

22 Which of the following outdoor activities if any would you be interested in attending? Please tick all that apply.

Outdoor yoga class

Outdoor mindfulness class

Led walking group taking a route within the grounds

Led walking group taking a route that extends beyond the grounds

Outdoor Tai Chi/Qigong sessions

Staff football game

Staff rounders game

Gardening sessions

Bake Off event

Site wildlife tour

Site history tour

None of the above

Other-please specify

23 In general, what time of day would be best for you for attending an organised outdoor activity on site?

- Before work
 - Lunchtime
 - After work
 - None- would not attend an activity at any time
 - Other time of day-please specify
-

24 From memory, how many days have you been absent from work through sickness in the **last three months**?

- 0-1 days
- 2-3 days
- 4-5 days
- 6-10 days
- 11-15 days
- 16+ days

25 Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each **over the last 2 weeks**

I've been feeling optimistic about the future

- None of the time
- Rarely
- Some of the time
- Often
- All of the time

26 I've been feeling useful

- None of the time
- Rarely
- Some of the time
- Often
- All of the time

27 I've been feeling relaxed

- None of the time
- Rarely
- Some of the time
- Often
- All of the time

28 I've been dealing with problems well

- None of the time
- Rarely
- Some of the time
- Often
- All of the time

29 I've been thinking clearly

- None of the time
- Rarely
- Some of the time
- Often
- All of the time

30 I've been feeling close to other people

- None of the time
- Rarely
- Some of the time
- Often
- All of the time

31 I've been able to make up my own mind about things

- None of the time
- Rarely
- Some of the time
- Often
- All of the time

32 What is your Agenda for Change band?

- 1-3
- 4-6
- 7 or above
- Not applicable

33 Do you have face to face contact with patients/service users as part of your job?

- Yes, frequently
- Yes, occasionally
- No

34 Where do you primarily spend your time during the working day?

- In an office
- In a ward
- In an operating theatre

- In a clinical consulting room
- In a vehicle
- In a laboratory
- On the move between different facilities around the site
- Other-please specify _____

35 What is your occupational group? Please tick only one.

- ALLIED HEALTH PROFESSIONAL OR SUPPORT TO ALLIED HEALTH PROFESSIONAL (e.g. occupational therapy, physiotherapy, radiography, pharmacy, clinical psychology, psychotherapy, arts therapy, speech and language therapy, dietetics)
- HEALTHCARE SCIENTIST OR SUPPORT TO HEALTHCARE SCIENTIST (e.g. haematology, clinical biochemistry, microbiology)
- MEDICAL DOCTOR/DENTIST, FULLY QUALIFIED (e.g. consultants/staff and associate specialists/non-consultant career grade)
- MEDICAL DOCTOR/DENTIST IN TRAINING (e.g. Foundation Y1 & Y2, StRs [incl FTSTAs & LATs], SHOs, SpRs / SpTs / GPRs)
- AMBULANCE (OPERATIONAL) (e.g. emergency care practitioner, paramedic, emergency care assistant, ambulance technician, ambulance control staff, patient transport service)
- PUBLIC HEALTH/HEALTH IMPROVEMENT
- REGISTERED NURSE/MIDWIFE
- HEALTHCARE/NURSING ASSISTANT
- SOCIAL CARE (including social workers, social care managers and social care support staff)
- ADMIN/CLERICAL, CENTRAL FUNCTIONS AND CORPORATE SERVICES (e.g. HR, finance and information technology)

- MAINTENANCE/ANCILLARY (e.g. housekeeping, domestic staff, maintenance, facilities, estates)
- COMMISSIONING MANAGER OR COMMISSIONING SUPPORT STAFF
- GENERAL MANAGER (if you are a manager and can choose an occupational group elsewhere, please select the other occupational group)
- Other-please specify _____

36 I would define myself as

- Female
- Male
- Non-binary gender identification
- Prefer not to say
- Other-please specify _____

37 My age is

- Under 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 - 74

75 +

Thank you for completing the survey! If you have any questions, comments, or concerns please contact Carey Newson at carey.newson@sustainablehealthcare.org.uk

This survey is being conducted by the Centre for Sustainable Healthcare.
Please visit our website for more information about our organisation.
