

Research project investigating the needs of staff, patients and visitors at Wythenshawe Hospital regarding natural green spaces on the hospital estate

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Authors

Lucy Moore
Jon Ross
Catherine Clarke

Prepared by



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Summary

This report investigates the use of green spaces by staff, patients, visitors, and the local community at Wythenshawe Hospital in South Manchester. The report considers factors influencing the use of green spaces in the hospital by these hospital users and outlines recommendations on how to promote greater use of green spaces by them.

Green spaces can reduce stress, enhance mood, facilitate social interaction and reduce physical discomfort (Hartig et al., 2014). Evidence demonstrates that simply viewing green space can reduce patients' hospital stays and medication intake (Ulrich, 1984).

The report includes an example of the co-design of a woodland space in the hospital grounds. The key findings from our surveys were combined with focus group research to produce a concept design for this area which is known as Baguley Woodland.

This report finds that while green spaces are valued, they are underutilised by staff, patients and visitors for a variety of reasons:

- **Lack of knowledge:** Hospital users are often unaware of the location of green spaces at the hospital and how to access them.
- **Time constraints:** Staff don't have time to fully utilise green spaces e.g. within their allocated break time, or within treatment programmes.
- **Inadequate facilities:** Some green spaces lack amenities such as benches, play equipment or shelters.
- **Uninspiring green spaces:** Hospital users sometimes perceive green spaces as uninteresting, unattractive and/or poorly maintained.
- **Bad weather:** Inclement weather, such as cold, rain, or wind, is a deterrent, inhibiting staff, patients, and visitors from using green spaces.

To address these barriers, the report outlines seven main recommendations:

- **Improve signage and information:** Enhance wayfinding through better signage, maps, patient information systems, and promotional materials to increase awareness and accessibility of green spaces.
- **Enhance facilities and activities:** Provide amenities like seating, shelters, and activities to make green spaces more functional and appealing.
- **Improve staff awareness of green spaces:** Encourage staff to promote green space use to patients and visitors.
- **Improve the aesthetic quality of green spaces:** Enhance the visual appeal of green spaces with seasonal planting, water features, and other attractive elements.
- **Encourage a cultural shift in how green spaces are perceived:** Foster a hospital culture that values and normalises the use of green spaces for breaks, meetings, and patient care.
- **Integrate green spaces with hospital communications:** Incorporate green space promotion and opportunities into existing hospital communications like newsletters, training programmes, and events.
- **Designate spaces and co-create with the local community:** Create separate green areas for different user groups (e.g. staff, patients, and visitors) and involve the community in the design process to ensure inclusivity and to meet diverse needs.

Introduction

This report investigates how staff, patients, visitors, and the local community use green spaces at Wythenshawe Hospital. It examines the barriers that staff, patients, and visitors face which limit their usage, and explores how these can be reduced. Complementary qualitative and quantitative data were collected through surveys, focus groups, and interviews with staff, patients, visitors, and the local community of Wythenshawe Hospital. During the focus groups and interviews, we gathered insights on how to enhance these green spaces to meet everyone's needs, through the co-creation of the hospital's green spaces.

Baguley Woodland

This research has been developed in parallel with a project to create an accessible woodland area at Wythenshawe Hospital called Baguley Woodland (see Figure 1). Sow the City aims to increase the accessibility, usability and biodiversity of an existing pocket of semi-ancient woodland in the south of the hospital. Extensive work has been undertaken to manage the invasive species *Rhododendron ponticum*, which grows vigorously, outcompetes native plants, and significantly reduces biodiversity. Sow the City has been facilitating woodland management volunteer sessions to manage the woodland and make it more accessible for patients, staff, visitors and the local community.



Figure 1 Baguley Woodland

As shown by Appendix 1 and 2 the woodland is located right next to the staff car park, which helps its exposure and visibility for staff members. This location may encourage staff members to walk around the woodland after work or before their shift. The woodland is also accessible for patients and visitors (e.g., the maternity unit and chronic pain unit) and with further work on visitor infrastructure and interpretation, a wider use from across the hospital could be enabled. The relatively substantial extent of the woodland means it has significant potential for increasing biodiversity within the hospital's estate.

These woodland improvements are the start of a wider project called 'Sawyer's Saunter', a plan to make Wythenshawe Hospital greener and more biodiverse. This project is named in memory of Richard Sawyer, a dedicated radiologist who passionately improved the green areas of Wythenshawe Hospital. Sawyer's Saunter will create a seamless and accessible walking route around the entire hospital site, connecting key outdoor areas.

This report has been funded by Natural England through the Bollin to Mersey Nature Recovery Partnership, as part of their national Nature Recovery Programme.

Research questions

We curated the following five research questions to aid our data collection:

RQ1: What green spaces are staff currently using? How and why are they using them? What are the barriers to using them more?

RQ2: What green spaces would staff like to see at the hospital?

RQ3: What green spaces are patients and visitors currently using? How and why are they using them? What are the barriers to using them more? What new green spaces would patients and visitors like?

RQ4: How might staff consider using the greenspace on hospital grounds to provide patients and service users with a greater connection to nature? How could staff enable patients to use green spaces more?

RQ5: How could the hospital co-create and provide access to its green spaces within the wider community? What are the benefits of this?

Literature Review

The benefit of green spaces on mental and physical health

Theories suggest that humans have an inherited, genetically determined affiliation to interact with nature and living things, this affiliation is referred to as 'biophilia' (Grinde and Patil, 2009). This affiliation is instrumental in the positive impacts of the natural environment on physical and mental health outcomes (Li Q. Forest, 2012,). 21st-century research has since substantiated the case for urban green space in policy and practice (World Health Organisation 2016). Studies show a correlation between viewing nature and reduced physiological symptoms of stress and that green spaces facilitate socialising, boost endorphins, and enhance mood (Grahm and Stigsdotter., 2010). The Health Foundation (2024) outlined that exposure to natural environments is linked with higher life expectancy. Many life-threatening noncommunicable diseases, such as obesity, cardiovascular diseases, and type 2 diabetes are linked to chronic stress and lifestyle factors (Shortt et al., 2014). Green spaces help to prevent these problems, 'upstream', which is considered a more efficient approach than simply dealing with the 'downstream' consequences of ill health (Morris et al., 2006). Green spaces also reduce air pollution and the 'heat island effect' contributing to multiple physical health benefits (Kuo, 2015).

Green spaces in hospitals: patients

Green spaces have been recognised as vital in illness recovery and prevention (Centre for Sustainable Healthcare, 2024). But this knowledge is not new. The first hospitals in Europe were infirmaries in monastic communities, where gardens were considered essential (Grinde and Patil, 2009). However, since then the connection between nature and healthcare has been outmoded, partly due to the advancement of medical science (Grinde and Patil, 2009).

Ulrich's 1984 study triggered the resurgence of nature in the medical sphere. Ulrich's study demonstrated the restorative impact of viewing green space, illustrating that patients' hospital stays and medication intake, were reduced when viewing nature (Ulrich, 1984). There is now abundant evidence that exposure to green and blue spaces is associated with the reduction of physical discomfort and stress and enhanced mood; green spaces have been determined as healing environments (Hartig et al., 2014).

Health-promoting hospital gardens are being established globally (Battisto & Wilhelm, 2019). White et al.'s (2020) research showed that patients express a desire for accessible gardens which offer a variety of sensory experiences. For example, Chase Farm Hospital in London has a Dementia Garden, with a diverse planting scheme which triggers different aspects of patient's memory (NHS, Royal Free London, 2025). Staff play a crucial role in encouraging patients to engage with green spaces, healthcare providers can promote the use of outdoor areas by integrating green spaces into treatment plans and supporting patient mobility where needed (Hartig et al., 2014). The benefits of green spaces can also be used as a 'green social prescription' to encourage

people to engage in nature-based interventions and activities to improve their mental and physical health (NHS England, 2025).

However, research on hospital green spaces has indicated that patients are not using these amenities to their fullest capacity (Pasha et al., 2013). The nature of large hospitals means that there is a range of patients with a variety of needs. More mobile patients, notably, rehabilitation patients would benefit more from green spaces than those who have been advised not to leave their wards e.g. those who are heavily immunocompromised (Marcus & Barnes, 1999). Tsokani et al., (2023) highlighted that safety concerns of natural environments, inadequate infrastructures, and accessibility issues prevent patients from using green spaces in healthcare settings.

Green spaces in hospitals: staff

Research shows that green spaces in healthcare settings contribute to staff members' emotional, mental, and physical health. The Centre for Sustainable Healthcare (2020) study showed that there was an appetite from staff to spend time in green spaces during the working day, as many staff members chose to take their break time outside, either to go on a walk, eat their lunch or socialise with colleagues.

Many staff members expressed that they chose to go outside to have some time to themselves, away from the stress of the wards, to switch off, and relax (The Centre for Sustainable Healthcare, 2020). Brown et al. (2015) demonstrated that hospital employees who regularly engage with natural environments report higher job satisfaction and reduced burnout. These green spaces are very important as staff wellbeing and the impact of stress are critical issues for the health service. In 2019, an NHS staff survey found more than four in ten staff had experienced work-related stress in the previous year (The Centre for Sustainable Healthcare, 2020). Pati et al.'s (2008) study demonstrated that window views of natural settings could help reduce caregivers' work pressure. Kaplan and Kaplan's (1989) study showed that mental fatigue is one of the main factors affecting people's performance at work, whereas green spaces have been shown to reduce attention fatigue and increase working memory span (Berman, et al., 2008).

The Centre for Sustainable Healthcare (2020) study showed that barriers persist, preventing staff members from accessing green spaces. Staff members said they felt like they shouldn't go outside but they should stay close to the wards in case they were needed, or that they were unsure which green spaces they were allowed to use.

Over the last few decades, research has assessed the types of green spaces that would benefit staff members. Kaplan & Kaplan's (1989) study showed that hospital staff value spaces that offer privacy, quietness, and natural aesthetics. Whereas Beck's (2014) study outlined that staff are looking for green spaces that promote calmness and mental rejuvenation such as sensory gardens.

Green spaces in hospitals: visitors

Regardless of whether you are a patient, or a visitor, spending long hours in a hospital is a stressful experience (Marcus, 2007). Introducing nature to large hospitals can humanise the otherwise institutional environment (NHS Oxford Health, 2025). Evidence from studies of several healthcare facilities suggests that walking in nearby nature is restorative and helps to reduce stress for hospital visitors (Levine, 2006). Marcus' (2007) studies show that viewing nature and plants increases patients' family satisfaction.

Research demonstrates that visitors value seats, benches and picnic tables, Pasha's (2013) study illustrated that the greater the quality and quantity of seating areas the higher the frequency and duration of visits to green spaces. Townsend et al. (2019) outlined that it is beneficial for family members and visitors to interact with patients in a comfortable, relaxing environment such as therapeutic or sensory gardens.

Green spaces in hospitals: community

Successful green spaces in healthcare settings often involve collaborative design processes, through co-creation with the community, staff members and local stakeholders. Co-creation promotes inclusive and creative change, with communities as equal partners (Groundwork, 2025). This process helps ensure that the needs and values of those who will use the space are met. Lomas (2016) outlined that engaging the local community in the design and maintenance of hospital green spaces can promote a sense of ownership. Research has shown that communal green spaces in healthcare settings help to deliver greater positive outcomes for disadvantaged groups, reducing health disparities (Public Health England, 2020).

Community engagement has been engendered by hospital rangers, who work with NHS partners at healthcare sites to improve the quality of green spaces and help integrate nature into patient care, staff well-being, and community engagement (NHS Forest, 2025). These rangers aim to maximise the role that green spaces play in the prevention of health issues, support recovery, and create healthier environments (NHS Forest, 2025). For example, the nature recovery ranger in Liverpool has written a biodiversity action plan – helping to improve the biodiversity in the hospital grounds and engaging with the community, for example planting 15,500 spring bulbs with local community volunteers (NHS Forest, 2025).

Community involvement can also create opportunities for shared gardens and volunteer programmes. For example, Guild Lodge, a secure mental health hospital in Preston, launched a 'grow your own' project in 2013 (NHS Forest, 2025). This project has provided fresh produce for the hospital kitchen and has provided a green space for service users and staff to spend time in. The site also provides a growing space for community members to grow their food and participate in gardening activities (NHS Forest, 2025).

Methodology

The study used a mixed-methods approach, combining surveys with both qualitative and quantitative questions with qualitative focus groups and interviews with community representatives. This triangulated approach helps to strengthen the validity of the findings, providing a richer and more nuanced understanding of how green spaces at Wythenshawe Hospital are being used by staff, patients, and the wider community and how we can enhance these spaces to meet everyone's needs.

Surveys

We surveyed 102 members of staff across two days, in two different locations, outside the cafeteria and in the Education and Research Centre. Both surveys were conducted between 11 am and 2 pm, aiming to talk to staff on their lunch break, see Figure 2. These locations were chosen to provide a diverse sample of hospital staff across various departments, including clinical, administrative, estates and management teams.



Figure 2 Sow the City collecting staff surveys

We also intended to collect patient and visitor data at these locations; however, across the two days, we only surveyed seven people. On reflection, these spaces are used more frequently by staff. Therefore, we added a third data collection day at 'entrance 6'. Most of the individuals surveyed at this entrance were 'outpatients' or visitors rather than those receiving inpatient care or on an emergency visit, we could have facilitated a

greater variety of patients by interviewing at a range of entrances, e.g., A&E. However, we surveyed 31 patients and visitors, providing a good sample size.

The survey included a range of quantitative questions, asking if staff agreed that green spaces in the hospital grounds are important, how frequently they use these spaces (if at all), and which green spaces they use. We also asked a range of questions with ranked answers, about how we can encourage staff to use green spaces at the hospital. We asked if staff would benefit from having more information about the green spaces or if the green spaces needed to be safer, more appealing, more accessible, more private, and have improved facilities or outdoor activities to encourage staff to utilise them. We then asked two qualitative, open-ended questions, firstly, do you face any barriers preventing you from using the green spaces and if they had any suggestions for the hospital to encourage staff to use them?

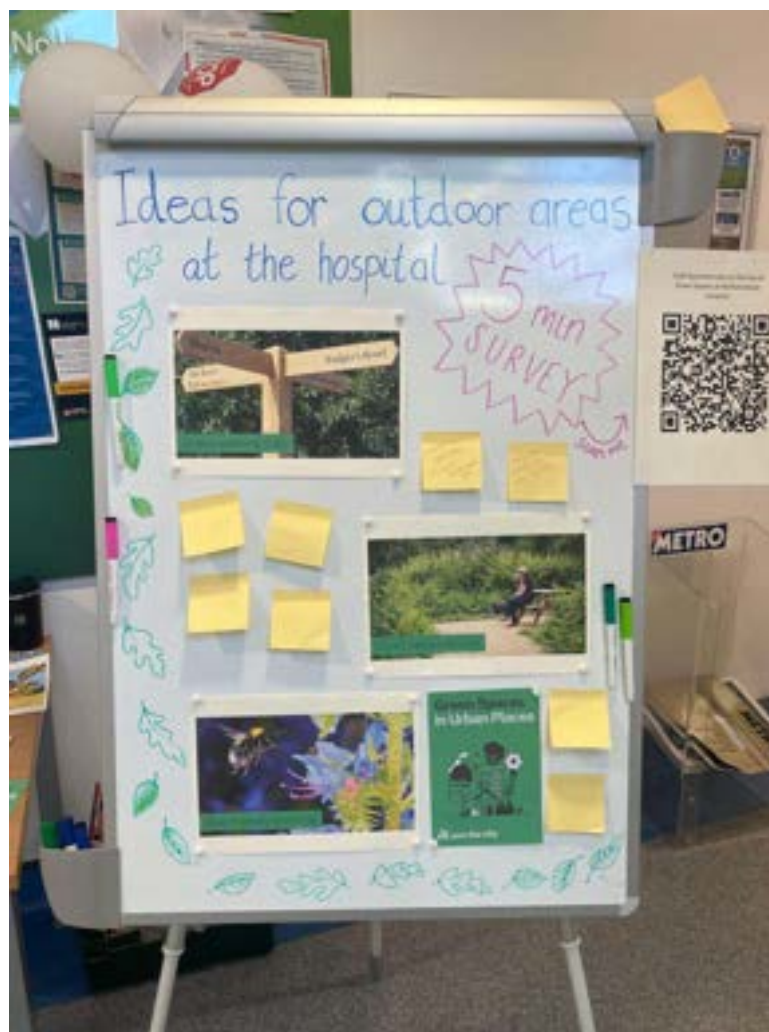


Figure 3 Stand to promote data collection

Focus groups

We used convenience sampling* to determine the focus group participants, asking those who answered the survey if they would like to get involved. Twelve individuals signed up, and we split this sample into two groups, considering variations in job roles. We had a range of staff attend the focus group, including those from the legal team, oncology nurses, and an anaesthetist.

We outlined the aims of the focus group and the wider project, explained that it would be recorded and asked if the participants would sign a consent form, permitting us to use their data in the report.

We asked questions to gain a deeper insight into the types of green spaces that staff would like to see at the hospital and how the hospital could encourage staff, patients and visitors to use the green spaces more often. We asked a few follow-up questions to help facilitate discussion.

The second half of the focus group was centred on the co-creation of Baguley Woodland. We introduced the woodland, our plans for the space and its location in the hospital, showing them the images in Appendices 1 and 2. To spark conversation and interest, we printed off images of different design ideas for the woodland, see Appendices 3-6, and asked the staff members to vote on which designs they liked. We also asked the staff members, how they could imagine themselves using the woodland, and how they could envision patients using the woodland.

* Convenience vs purposive sampling

Convenience sampling selects participants based on their availability and ease of access. Purposive sampling, on the other hand, focuses on selecting participants with specific characteristics or knowledge relevant to the research question(s).

Community interviews

We conducted three semi-structured interviews with members of the community of Baguley, Wythenshawe. Purposive sampling was undertaken to determine the interviewees. We interviewed the Hub Manager at Hall Lane Day Centre, a community hub in Wythenshawe, that provides respite for adults with severe learning difficulties. We also interviewed a teacher at Piper Hill School, a specialist support high school in Wythenshawe. As well as Sow the City's Operations Manager who works on the Friends of the Earth's Post Code Gardener Project in Wythenshawe. In these interviews, we asked the community representative how we could work with them and their group at the woodland, considering their group's requirements, e.g. health and safety, transport, and service user needs.

The second half of the interview focused on the design of Baguley Woodland at Wythenshawe Hospital. We showed the images from appendices 1 and 2 to show the location of the woodland at the hospital. We then showed them the design ideas in

appendices 3 – 6 and asked the community representative to comment on the design ideas and suggest any new design ideas that would benefit their service users.

Summary

This mixed-methods approach provided comprehensive insights into the current and potential use of green spaces at Wythenshawe Hospital. We also addressed the needs of staff patients, visitors and the local community through the co-creation of the woodland with the community. The combination of surveys, focus groups and interviews ensured that the study would capture a range of perspectives and actionable recommendations for green space developments.

Data analysis

RQ1 A: What green spaces are staff currently using? How and why are they using them?

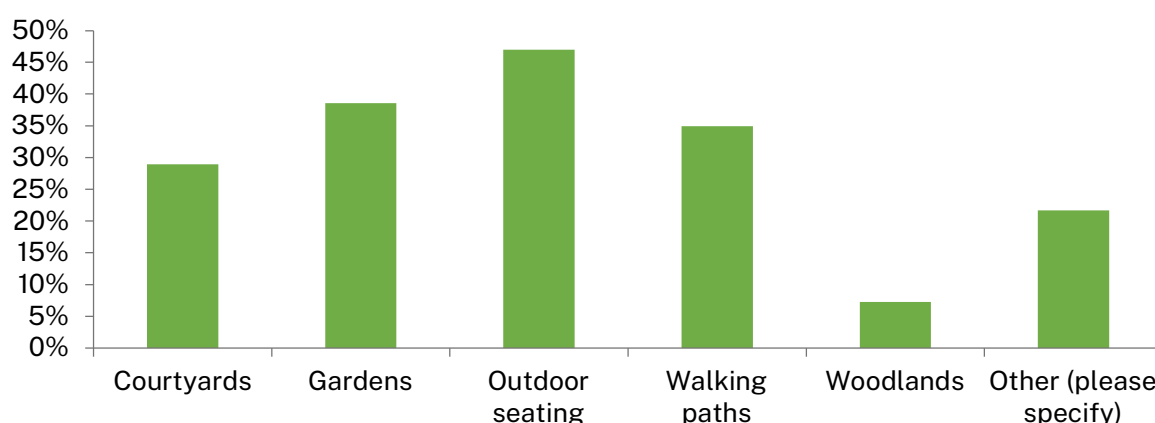
Our survey data showed that staff members use the green spaces at Wythenshawe Hospital to have time away from the wards; with 67.4% of staff surveyed using green spaces to 'take a break' and 61.8% for 'relaxation'. As demonstrated by Graph 1, the use of green spaces to take breaks, relax and socialise, was reflected in the types of green that staff members used: outdoor seating (46.9%), and gardens (38.6%). The focus group participants expressed:

"I go to the wellbeing garden every day when it is sunny, as I need the fresh air"
Oncology Nurse

"I love the Pearce Garden, especially when it is sunny, it is lovely, with walls stopping the wind" Patient Experience Coordinator

Our focus group discussions illustrated the benefits of staff members taking breaks outdoors, they recalled feeling *"able to concentrate better," "mentally refreshed"* and *"able to unwind"* after being outside in green spaces. A few staff members outlined that they enjoyed taking *"mild exercise"* when possible, for example, by *"walking around the perimeter of the hospital"*.

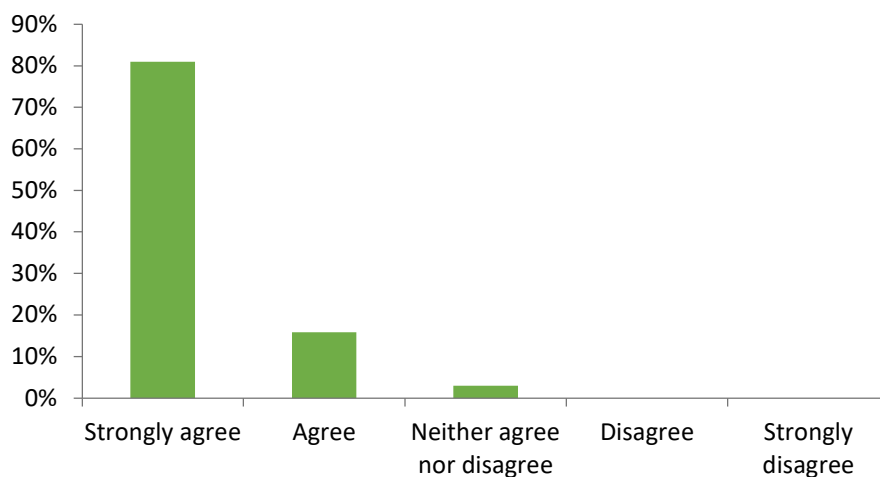
Graph 1: Which green spaces do staff use at Wythenshawe Hospital?



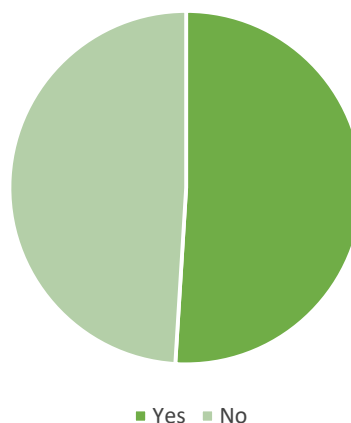
RQ1 B: What barriers prevent staff from using the green spaces more?

Graph 2 shows that 81.2% of the staff interviewed strongly agreed with the statement “do you think green spaces at Wythenshawe Hospital are important?” However, as demonstrated by Graph 3 only 51% of the staff surveyed said that they use the green spaces at Wythenshawe Hospital. This discrepancy indicates potential barriers, preventing staff from using green spaces.

Graph 2: Do staff agree with the statement "green spaces at Wythenshawe Hospital are important?"



Graph 3: Do staff currently use the green spaces at Wythenshawe Hospital?



Our surveys and focus groups illustrated four main barriers limiting the usage of green spaces. Firstly, many staff members did not know where the green space was located, or how to access these spaces:

"I haven't seen or heard of a green space since working here. So, it would be nice to get more information about them" Oncology Nurse

"It's amazing how many people do not know about the staff wellbeing garden"
Cystic Fibrosis Clinical Trials Manager

"You walk through the corridors and see the green quads... but it's not clear how to access them" Solicitor

Another dominant barrier was the lack of time to utilise green spaces, staff outlined:

"I only have a 30-minute break, factor in a 5-minute walk to and from the green space, then I'd only get 20 minutes for a break" Oncology Nurse

"If you go downstairs, queue up, get food, by the time you eat it, there is no time to go to a green space" Practice Based Educator

"Lack of time between seeing patients therefore green spaces should be in more accessible areas, such as the courtyard outside Sexton suite" Nurse

Bad weather was frequently referred to as a barrier preventing the use of green space. However, it should be noted that our data collection took place in November 2024 and January 2025, some of the coldest and wettest months of the year, and potentially 'weather' would be less of a barrier during the summer months. The survey asked the open question 'Do you face any barriers preventing you from using green spaces at Wythenshawe Hospital?' to which many staff replied: *"too cold!!"* or *"the weather"* or *"too wet"* or *"cold, wet and rainy"*.

Staff demonstrated that the low quality and aesthetic nature of the current green spaces at Wythenshawe Hospital discouraged them from using the green spaces, stating that:

"They're all just a bit rubbish" Medical Student

"More people would use the green spaces if they were nicer" Medical Student

RQ1 C: What steps could be taken to encourage staff to utilise green spaces?

Many of the suggested methods to encourage the use of green spaces echo the barriers preventing staff from using green spaces. For example, staff highlighted the need for more signage and information to increase the awareness of green space locations:

"Put flyers in the clinical areas to show where the green spaces are and have photos of the green spaces to encourage people to go" Cystic Fibrosis Clinical Trials Manager

"On the doors to the quads say who the green spaces are for" Medical Student

"Have more posters and information to encourage staff to use green spaces"
Oncology Nurse

“All of the current maps of Wythenshawe Hospital should show the green spaces”
Patient Experience Coordinator

Time is a major priority for staff; reflecting this, they recommended having:

“Signs with distances and walking times to green spaces” Anaesthetist Consultant

“Different themed routes, of different lengths, which you could pick from depending on how much time you had” Oncology Nurse

In the focus group discussions, staff discussed how pre-existing structures/methods could be utilised to disseminate information about the hospital’s green spaces. For example:

“Include information and updates about green spaces within the ‘MFT Time’ newsletter”
Oncology Nurse

“Piggy-back pre-existing days to show the staff where the green spaces are for example, at the end of a training day, then they will know how to get to these spaces and likely will use them more” Patient Experience Coordinator

“Remind senior management/ward managers about green spaces or if any activities are happening there. Then this information will be cascaded down the hospital so that every unit’s weekly or monthly meeting has green space on their agenda”
Patient Experience Coordinator

“You should incorporate the use of green space into Lime Art¹, which is already embedded into the running of the hospital... the trust is clear what lime art is used for, so adding the use of green space to it would make sense” Sustainability Officer

Staff members highlighted the need for a ‘culture shift’, where utilising green spaces during breaks and for meetings is normalised. Both the clinical staff members and the desk staff members referenced

“Lots of people work through lunch, or have lunch at their desk, meaning that [they] do not go outside into green spaces” Solicitor

“Senior management team need to set a firm understanding that taking a break outdoors is crucial” Patient Experience Coordinator

¹ Lime Art is Manchester University NHS Foundation Trust’s multi-award-winning arts and health organization with global recognition for excellence in the delivery of creative projects in hospital and community healthcare settings (Lime, 2025).

RQ 2: What green spaces would staff like at the hospital?

When addressing types of green spaces that staff would like at the hospital, key themes emerged including shelter, activities in green spaces, separate green spaces for staff and patients and improving the aesthetic quality of green spaces. Graph 4 shows that the most popular answer to the question ‘how can the hospital encourage the use of its green space’, at 77.3%, was ‘having more shelter’. The focus group discussions confirmed this with staff members suggesting:

“A roof or shelter in the wellbeing garden would be good so people use them throughout the year” Oncology Nurse

However, in the focus group discussions, staff members expressed concern that shelters may attract smokers:

“All the green spaces are already filled with smokers and shelter could just encourage them further...” Solicitor

As this discussion developed staff members suggested creating designated smoking areas and non-smoking areas, to overcome this issue.

Graph 4 demonstrates that 69.6% of staff surveyed thought that improving the facilities in green space would encourage them to use it. This notion was echoed in the focus group discussions:

“It would be nice to have little areas to sit around, with tables, benches and chairs, where, say 5-6 people could sit, this would encourage informal meetings to happen outside” Anaesthetist Consultant

“We need more benches, and picnic tables...more spaces to eat lunch outside”
Oncology Nurse

As shown by Graph 4, 63.7% of staff strongly agreed that more appealing green spaces would encourage them to use them, the focus group discussions had similar results with staff suggesting:

“We need more seasonal interest; more colourful plants that would make you want to go outside” Solicitor

“More people would use the green space if they were nicer, for example, the wellbeing garden is rather grey...” Oncology Nurse

In our survey, only 54.5% of staff strongly agreed that “private and secluded green space” would encourage them to use the green space in the hospital. However, when discussing when/why staff use green space in the focus group, a large motivation was

to have a break from the wards and the intensity of work, following this, the focus group staff expressed the importance of:

“Designated outdoor space for just staff, and then joint spaces for patients and visitors – if staff want to decompress, they won’t want patients to be there” Oncology Nurse

The lowest priority from the survey was the suggestion of “providing activities for staff”, with just 43% of the staff strongly agreeing that it could be beneficial. However, the focus group discussions were more enthusiastic about activities and even suggested some of their own, such as,

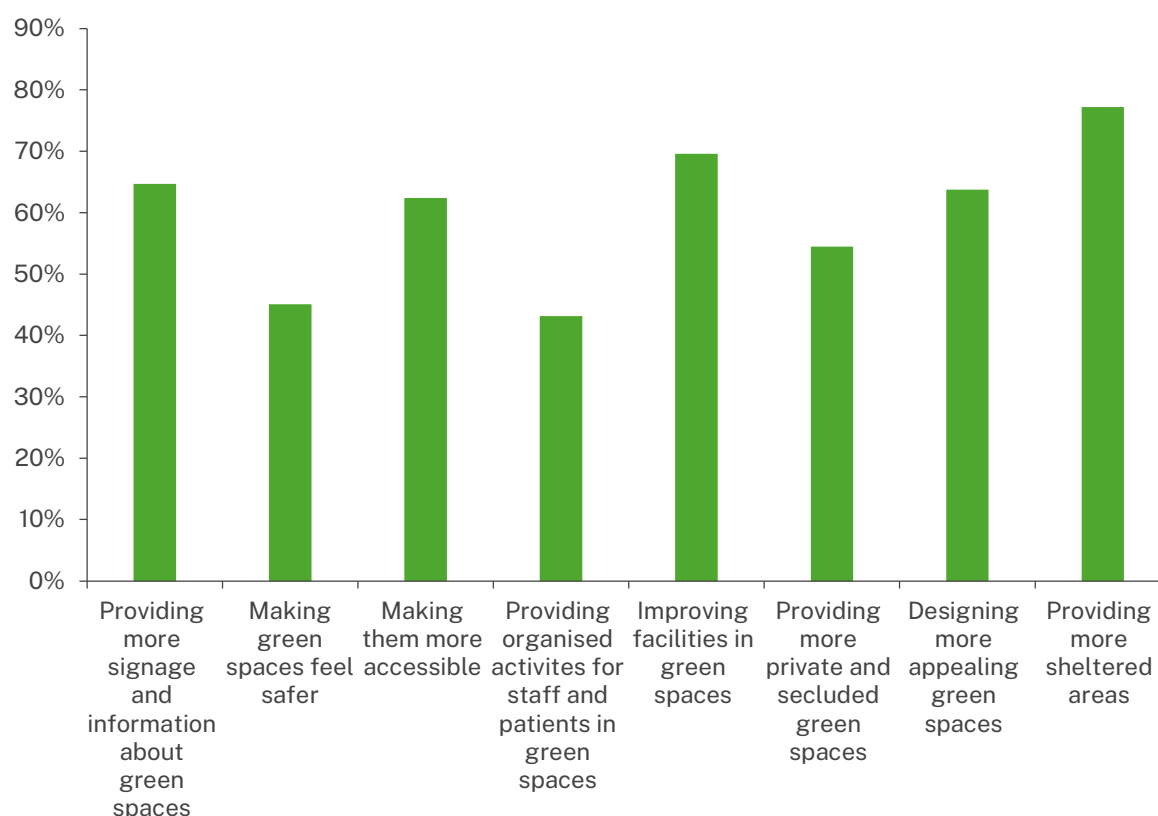
“Nature-based activities could be a good idea – sometimes you might be in the mood for them and sometimes you might not... depending on the day and mood... but the option would be good yeah” Oncology Nurse

“Structured activities are a good way of getting people out, but sometimes you just want to be alone after a long day of work, so I would like the option...” Solicitor

“We could have an outdoor gym.... or a running club around the hospital grounds” Anaesthetist Consultant

“There is a fitness group that runs fortnightly at each site, it could happen outside if it is sunny instead of inside the hall” Sustainability Officer

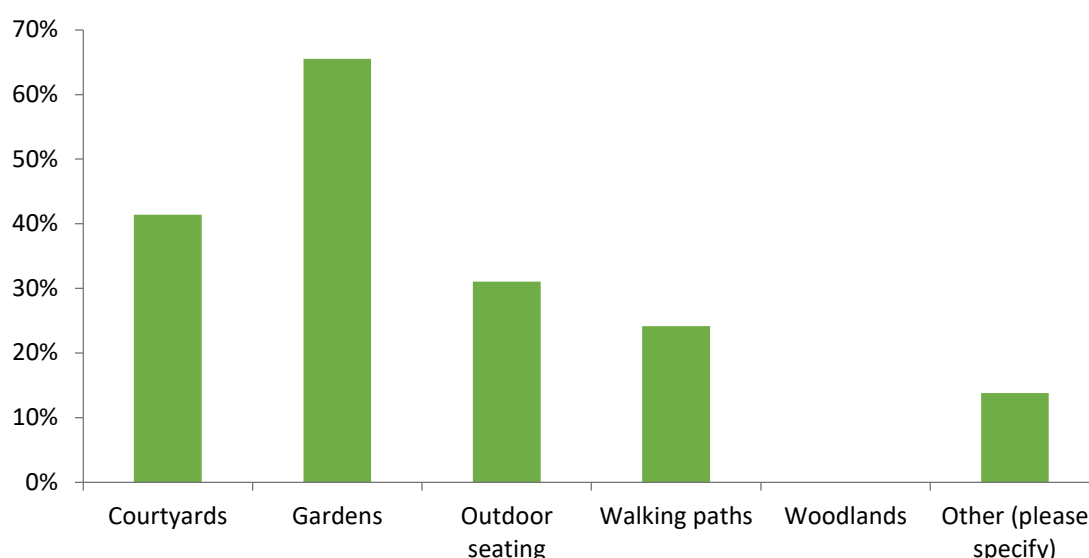
Graph 4: What do staff think the hospital can do to encourage use of its green spaces?



RQ3 A: What green spaces are patients and visitors currently using? How and why are they using them?

Graph 5 shows that hospital gardens were the most popular type of green space used by 65.5% of the surveyed patients and visitors. Courtyards were the second most popular green space, used by 41.4% of the patients and visitors. Patients and visitors used outdoor seating areas and walking paths less frequently, at 31% and 24.1% respectively.

Graph 5: Which green spaces do patients and visitors use at Wythenshawe Hospital?



Our in-person survey collection facilitated short conversations with the patients and visitors. During these interactions, patients/visitors spoke about green spaces more generally, whereas staff members referred to places by their name, such as the 'Well-being Garden' or the 'Pearce Garden'. These conversations also illustrated that patients and visitors held memories and attachments to areas, for example,

"When I came here to visit my mum when she was recovering from an operation, I'd always look out the courtyard by her ward, I'd watch the birds" Visitor

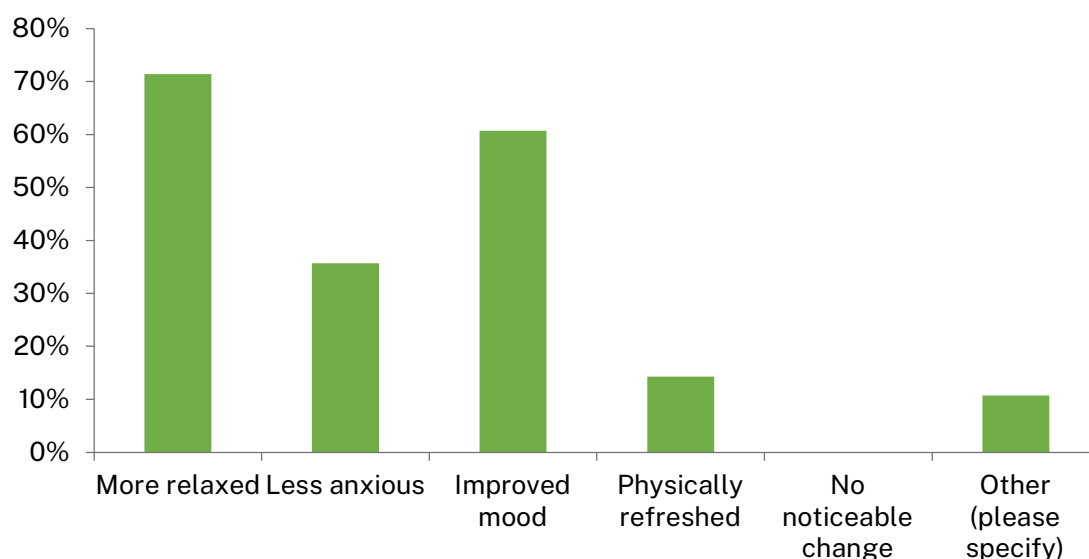
"Every time I visit my partner here, I get a coffee afterwards and sit on one of those benches under the trees, for a quick breather before I head home" Visitor

The most common answer to the question, what are your primary reasons for using green spaces, was for "relaxation", at 72.4%. This was a popular answer for staff members also, at 61.8%. However, the most common reason staff would use green space at, 67.4%, was to "take breaks". This variation most likely reflects the different reasons why these groups are at the hospital; with staff wanting to take breaks from their intense work, and patients/visitors wanting to relax and get some respite from the

intensity of the hospital. Other motivations for patients and visitors to use green spaces included ‘exercise/walking’ at 20.7%, ‘viewing nature’ at 20.7%, ‘socialising’, at 17.2%, and ‘taking breaks’ at 17.2%.

Graph 6 shows that green spaces generated positive well-being for patients and visitors; 71.4% of individuals said they felt more relaxed and 60.7% said their mood improved from spending time in green spaces.

Graph 6: How do patients and visitors feel after spending time in green spaces at Wythenshawe Hospital?



RQ3 B: Do any barriers prevent patients and visitors from using the green spaces, if so, what are they?

77.4% of the patients and visitors surveyed said that they use green spaces at the hospital. This was a much higher percentage than the staff members, of which only 51% said they use the hospital's green spaces. However, as shown in Graph 7, when asked how frequently they used the green spaces, only 13.3% of the respondents said they ‘always’ use them. The most common answer was that they ‘sometimes’, use them, at 33.7%. This is most likely a result of patients and visitors having different experiences each time they go to the hospital.

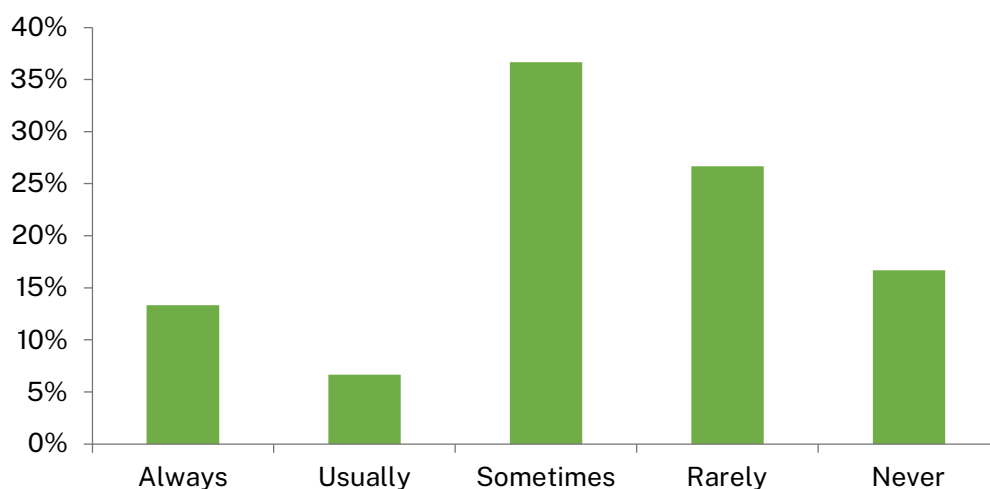
Our data showed the largest barrier, preventing visitors and patients from using green spaces, was the lack of knowledge as to where they are situated and how they can access them:

“I didn’t realise there were green spaces here at the hospital” Outpatient

“What green spaces are you talking about?” Visitor

"I sometimes see the courtyards, but I have no ideas how to access them, or if I am even allowed to go in" Outpatient

Graph 7: How often do staff use green spaces at Wythenshawe Hospital?



61.3% of the visitors and patients surveyed strongly agree that Wythenshawe Hospital can encourage the use of green space at the hospital by 'having more signage and information about green spaces'. This narrative was echoed in the longer-form survey answers when we asked how the hospital can encourage the use of green spaces:

"You need to advertise [the green spaces], if you can't see them, you do not know where they are" Outpatient

"The hospital needs to advertise what is on offer... I have no idea how to get to the green spaces" Outpatient

"If I knew where how to get to the gardens from my ward and how long it would take me to get there, I would use these spaces" Inpatient

Our survey and focus group data showed that staff members had the same requests for information and signage illustrating the locations of green space. Thus, implementing green space way-finding signage would have extensive positive impacts, encouraging a large percentage of individuals who use/work at the hospital.

RQ3 C: What new green spaces would patients and visitors like?

Graph 8 shows that 77.4% of the individuals surveyed agreed or strongly agreed that improving the facilities in green spaces would encourage them to use these spaces. The patients and visitors expressed that they would appreciate more facilities for children in the green areas:

“I think that shelters in the children's ward would be good, my child has autism and finds going outside beneficial when at the hospital, but it would be good to make that available for all weather situations!” Visitor

“More play equipment would be good... I bring my kids to see their grandma and they would benefit from being able to play... distract them from the hospital” Visitor

In line with the staff members' comments in the focus groups, patients and visitors highlighted wanting benches in green areas:

“More benches are needed outside, a space for patients to sit outside with visitors” Outpatient

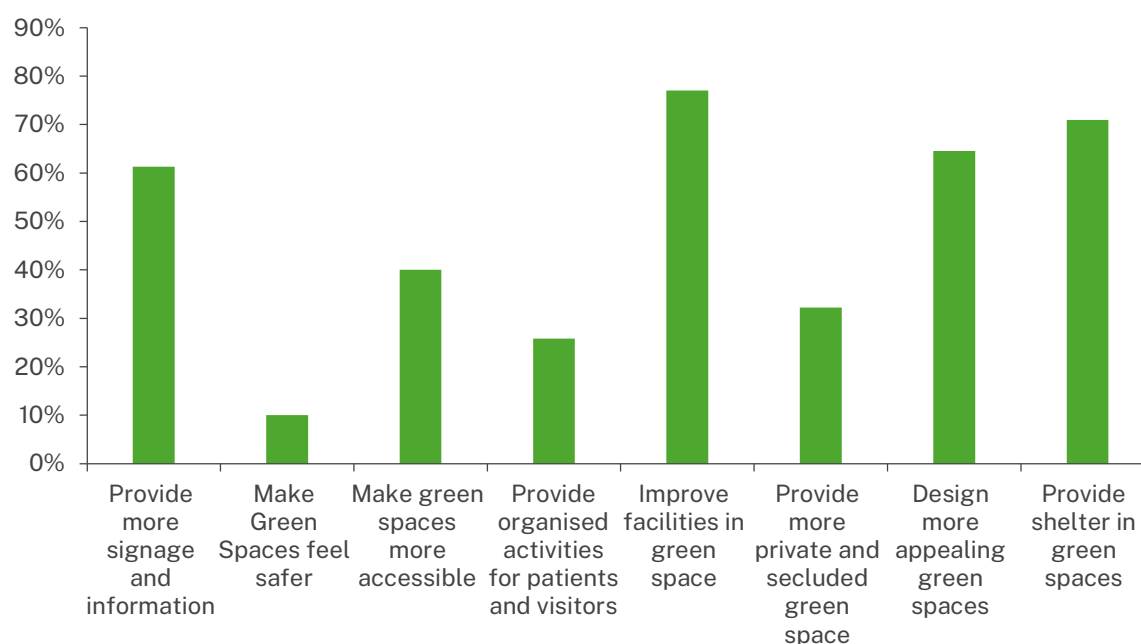
“Picnic tables and benches would be good, especially accessible ones, so I could take my mum out and sit with her while she's in her chair” Visitor

As demonstrated by Graph 8, 64% of the patients and visitors strongly agreed that designing more appealing green spaces would encourage them to use these outdoor areas. Our short discussions while surveying illustrated that adding interest to viewable green spaces could potentially entertain and distract individuals when they are at the hospital:

“It would be good if there was more to look at, for example when you are in waiting rooms it can get boring and it would be good to have interest, maybe bird feeders that would attract birds or ponds with fountains... something to distract you” Inpatient

It would be beneficial to add these sites of interest in areas that would be seen by many people at the hospital, such as waiting rooms.

Graph 8: How can the hospital encourage the patients and visitors to use its green space?



Graph 8 demonstrates that 71% of the patients and visitors strongly agreed that additional shelter would encourage them to use the green spaces. However, the addition of shelter needs to be strategically placed as patients and visitors expressed concern that green spaces are filled with people smoking and that shelters would encourage this:

“Although outdoor shelters would be good for getting people out in all weathers, they would attract smokers which is not ideal” Visitors

“All the green spaces are full of smokers, and I have a lung problem, so I do not want to go to these spaces as they are full of smoke” Inpatient

“The outdoor areas are full of smokers; it smells and is not a pleasant place to go” Outpatient

RQ4: How might staff consider using the greenspace on hospital grounds to provide patients and service users with a greater connection to nature? How could staff enable patients to use green spaces more?

In our focus groups, the staff members unanimously agreed that they need to know where the green spaces are, to be able to inform the patients and visitors where to go to connect with nature:

"It would be good to be able to tell the visitors where to take the patients out to, maybe maps or pictures of the green space would help make the visitors feel more at ease taking out their relatives" Oncology Nurse

"We need to have experience of these areas, so we know where to recommend, like where is sunny, has nice plants or a place to sit and how to get there from the ward" Consultant Anaesthetist

The knowledge of green spaces needs to go hand in hand with a 'culture shift', the staff need to feel that it is important for the patients to get outside and embed it as a suggestion to visitors.

"We need to make it part of the vocabulary when we mention where the other facilities are, we could include where green spaces are" Oncology Nurse

"It would be good to promote the benefits of green spaces, so staff know that it is important to tell visitors to take patients outside where possible!" Cystic Fibrosis Clinical Trials Manager

The focus group discussions were heavily centred on the accessibility of green spaces for those in wheelchairs; for patients to connect to green spaces, they need to be able to get there on their own (if their condition allows). Staff members highlighted that:

"The doors are too heavy; they need to have sensors or be automatic for people in wheelchairs to get through them" Patient Experience Coordinator

"We need to look at routes and accessibility, think about which door is the priority, for example, one that would open up the outdoor space to more wards" Anaesthetist Consultant

Particular patient groups were suggested to work with outside, including:

“Cardiac rehab could happen outside in the green spaces after a patient has had a heart attack, they need to do gradual exercise...this should happen outside maybe in the green triangle” Anaesthetist Consultant

“Cystic fibrosis patients, instead of walking inside down the hospital corridors, we should get them outside” Cystic Fibrosis Clinical Trials Manager

“If we could get power or sockets outside, chemotherapy could be done outside....This would be great, especially if the weather was nice, as the chemotherapy treatment takes a while” Anaesthetist Consultant

“It could be good to get rehab patients outside, for example, patients who need hand therapy could play table tennis or throw and catch a ball outside”
Occupational Therapist

“Physios will be the first port of call, they will know the people who would benefit the most from being outdoors” Anaesthetist Consultant

“Physical therapy currently occurs up and down the main road, this could be made nicer if it happened outside” Cystic Fibrosis Clinical Trials Manager

“Patients who have just had operations would benefit from getting out, for their recovery and mental health...being sat for a while in the same room is difficult!”
Oncology Nurse

Then for outpatients, staff suggested:

“Outpatients are often waiting hours and hours... sitting, waiting and getting bored, it would be amazing if there were a way the pharmacy knew their numbers and could text them saying that their medicine is ready while they enjoyed their time in the green spaces” Anaesthetist Consultant

RQ5: How could the hospital co-create and provide access to its green spaces within the wider community? What are the benefits of this?

Engaging the community is key when co-creating green spaces. Our purposive sampling of interviewees enabled a diverse range of opinions to be accounted for, to ensure that the space caters to a broad range of users. In our community interviews, we showed the interviewees our mood board and ideas for Baguley Woodland, which promoted further ideas and discussion about what they'd like to see in the space:

"We'd need access for wheelchairs...accessible paths would be the best and seating areas for those in wheelchairs as well" Teacher from Piper Hill

"Maybe when designing the green spaces, think about habitats... like ponds with frogs and newts...the guys at the centre love looking at different creatures like this!"
Assistant Hub Manager, Hall Lane Day Care centre

"It would be nice to have different information signs about the different animal and plant species that you might see in the woodland"
Project Manager for Postcode Gardener Wythenshawe

"Signage is always a good thing..." Assistant Hub Manager, Hall Lane Day Care Centre

"Engaging with the senses...and species...they love hearing sounds...see if you can't get bird songs naturally, they'd love recordings and nature sounds..."
Assistant Hub Manager, Hall Lane Day Care Centre

"The students love to look at things in detail and are open to lots of things, they love IDing nature – they like to know what is around" Teacher from Piper Hill

The methods we used, particularly community interviews, could easily be replicated for other green interventions around the hospital.

During these community interviews, we also discussed access, looking at routes, timings, and precautions needed to be taken to facilitate the community members using the woodland.

"I will need to pop down to the site and see if for myself, then I will write up a Risk Assessment, as this is our Health and Safety procedure" Teacher from Piper Hill

"Floats lane is not walkable for our students, but we could get the bus a few stops to Holly Hedge and walk around to the maternity to the woodland"
Teacher from Piper Hill

"It would be possible to take the service users to the woodland, we have got risk assessments, that would cover the activities or outing to the hospital"
Assistant Hub Manager, Hall Lane Day Care Centre

"We could do a 'walking bus' to the hospital, the staff here really do go above and beyond...they would push wheelchairs there if necessary"

Assistant Hub Manager, Hall Lane Day Care Centre

"I think it would work well, the service users could always go into the hospital to get a coffee or some food" Assistant Hub Manager, Hall Lane Day Care Centre

Both staff members at Pipper Hill and Hall Lane Day Care Centre spoke about their service users going back to the woodland independently after they have been shown where it is:

"I think after coming along to a session at the woodland, some of the pupils would then go back to the woodland independently" Teacher from Piper Hill

"If they know the space and have been with us before, then when [the service users] are back at the hospital for an appointment they may want to go explore it"

Assistant Hub Manager, Hall Lane Day Care Centre

"This project sounds great for helping to develop their independence and responsibility" Assistant Hub Manager, Hall Lane Day Care Centre

All the interviewees were very enthusiastic about the woodland project and spoke about the benefits their service users would receive from being outdoors and in a natural environment:

"This would be such a great project, as not many of our pupils spend much time outside, they are often just on their screens, but then when we do take them outside, they love it" Teacher from Piper Hill

"This would be great for the service users...they would benefit from any outdoor space. A lot of our service users just go from here to their home, they'd benefit from seeing new places" Assistant Hub Manager, Hall Lane Day Care Centre

"The service users would like any sort of activities in these green spaces, any sort of forest bathing, guided nature walks, identifying species"

Assistant Hub Manager, Hall Lane Day Care Centre

"Another accessible green space will be welcomed in Wythenshawe...being in the hospitals grounds means there's no fly-tipping, and it would be a lot less busy than public parks so easier to concentrate when hosting sessions"

Project Manager for Post Code Gardener Wythenshawe

The interviewees also discussed the social benefits of the woodland, providing a space for pupils and service users to connect with new people:

"It will be great to get (the service users) out to the woodland, to allow them to socialise with new people in new places. Sometimes they only get social interaction at this site"

Assistant Hub Manager, Hall Lane Day Care Centre

"It is great for the pupils to work with new adults, make connections in the community, and connect with other local organisations" Teacher from Piper Hill

"They do not often interact with many people, so this is a good way to diversify who they interact with" Teacher from Piper Hill

Discussion and Recommendations

Our data collection shows that staff, visitors, patients and community groups all benefit from spending time in green spaces, being outside helps them feel more relaxed, less anxious and can facilitate social interaction. However, our findings demonstrate that currently, Wythenshawe Hospital's green spaces are under-used, meaning that these user groups do not fully benefit from the positive impacts of being outdoors in green spaces.

Summary of Recommendations

Our data indicate an array of barriers preventing staff, visitors and patients from using green spaces. We have outlined seven main recommendations to overcome these barriers and encourage staff, patients and visitors to use green spaces to their full capacity:

1. Introduce signage and information about the location and accessibility of green spaces

- Use flyers, posters, pre-existing hospital maps, patient information systems and corridor signage to provide this information.
- Signage could include the average time taken to get to green space, for staff who are time poor as well as a consideration of accessibility requirements where appropriate.

2. Provide more facilities and activities in green spaces

- Additional benches, picnic tables and chairs for patients to sit with family and visitors, as well as for staff to use for their lunch breaks and informal meetings.
- Provide more play equipment for children.
- Provide shelter for individuals to use green spaces in all weathers.
- Provide activities such as fitness activities for staff and rehabilitation activities for patients who would benefit from this.

3. Mobilise staff to be able to cascade information about green spaces to patients and visitors

- Inform staff about the locations of green spaces, so they can recommend these locations to visitors to take the patients to.

4. Improve the aesthetic quality of the hospital's green spaces

- Add seasonal interest to green spaces, as well as ponds and bird feeders to provide staff, patients and visitors with interesting stuff to look at.

5. Create a 'cultural shift' to normalise the use of green spaces

- Embed green spaces into the 'language' used at the hospital, for example, telling patients where the closest green spaces are, as an equivalent to where cafés are.
- Promote the use of green spaces during lunchtime to encourage staff members to go outside during their lunch breaks rather than work through it.

6. Improve awareness of green spaces through hospital communications

- Promote green spaces via existing channels e.g. MFT Time, Lime Art, telling senior management about green spaces so they can promote them in inductions, team meetings etc.

7. Designate green spaces for different groups

- Have separate green spaces for staff and then for patients and visitors.
- Have separate green spaces for smokers and non-smokers.

Community co-creation of hospital green spaces

Qualitative data from focus groups and interviews with local community stakeholders were combined with questionnaire feedback from hospital patients, staff and visitors to inform the design of the Baguley Woodland project (see Figure 4).



Figure 4 Concept Design for Baguley Woodland

We incorporated key findings from the data collection in our design and recommendations for the woodland:

Ensure that the woodland is accessible

The woodland has been designed to ensure it is accessible, as shown in Figure 4, the entry point has a clear accessible opening and will be 1.8m to 2m wide. The dropped curb and tactile paving at the path to the woodland will ensure that the entrance woodland is accessible for wheelchair users and those who are visually impaired. The path around the woodland will also have a width of 1.8m – 2m. The current proposals for the path surface are a low-level boardwalk with deck-level edge rails. A second option, for a more cost-effective path, could be constructed with a semi-bound surface with tanalised timber edging. Both options will provide an accessible path.

Provide information about flora and fauna that you may see in the woodland

Signage such as information boards, will be positioned around the woodland with information about the types of species that have been seen in the woodland. This will support user experience and engagement with the woodland.

Provide sensory interest in the woodland

As shown in Figure 4, our design incorporates a range of habitats and distinctive features to provide interest for the local community. For example, the gateway to the woodland is a large ‘insect hotel’ archway made with log rounds of various diameters. The dead hedge will also provide diverse micro-habitats and feed opportunities for birds such as blackbirds, dunnocks, robins, and wrens.

Ensure that the woodland is aesthetically appealing

Providing more aesthetically appealing green space, with year-round interest was a suggestion of many staff members, visitors, and patients, and hence an important element of our design. Replacing the amenity grass with native wildflower verges and improving the woodland planting, as shown in Figure 4, will attract pollinators, invertebrates and improve the aesthetic quality of the space.

Ensure that there is signage for woodland in the hospital

Our research has demonstrated that signage and information about green spaces and their locations is crucial for staff, visitors, and patients to use them. Thus, it is essential that there is signage for the woodland around the hospital, e.g. on hospital maps, corridor wayfinding directions, patient information systems or through the installation of fingerpost signs to direct toward the woodland.

The staff mentioned how they often did not have enough time to get out during the working day, so it would be ideal to have the average time taken to get to the woodland on the signage throughout the hospital.

Incorporating seating

Staff members, patients, and visitors all commented on the desire for improved facilities, particularly benches. Seating has been a priority for the concept design, we have incorporated a seating area to allow individuals or groups to pause, take breaks, or even eat their lunch in the woodland.

Potential for activities in the woodland

Improving the edge of the woodland, as shown in Figure 4 helps make the secluded and feel like you are immersed in nature. This woodland oasis provided opportunities for nature-based activities, such as green social prescribing.

Conclusion

To conclude, this research has highlighted the importance of green spaces in hospital settings for staff, patients, visitors, and the community. It has provided valuable insights into how these spaces are currently used and the barriers that prevent greater use. By addressing these barriers and implementing the recommendations outlined in this report, Wythenshawe Hospital can create more accessible, appealing, and beneficial green spaces that contribute to better health and wellbeing outcomes for hospital users.

Our methodology also illustrates how hospital green spaces can be co-created in partnership with local people and groups. This co-creation can be replicated by other NHS hospitals to ensure projects are aligned with the needs of their hospital users and wider community.

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Appendices



Appendix 1 Location of Baguley Woodland, shown at focus groups and community interviews



Appendix 2 Location of Baguley woodland in reference to the rest of the hospital



Appendix 3 Co-creation of Baguley Woodland - voting on design concepts



Appendix 4 Co-creation of Baguley Woodland - voting on concepts



Appendix 5 Co-creation of Baguley Woodland - voting on concepts



Appendix 6 Co-creation of Baguley Woodland - voting on concepts