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Evaluation of the South Yorkshire Tackling and Preventing Mental Health Through Green Social Prescribing Project: Summary of Key Findings

Year 4 (2024/25)

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Evaluation of the South Yorkshire Tackling and Preventing Mental Health Through Green Social Prescribing Project: Summary of Key Findings

Year 4 (2024/25)

Prepared for NHS South Yorkshire Integrated Care Board

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1 Introduction

NHS South Yorkshire Integrated Care Board (ICB) is one of seven national green social prescribing 'test and learn' sites. During phase 1 of the project (2021-24) each site received funding from the HM Treasury Shared Outcomes Fund alongside additional local investment to develop approaches to tackling and preventing mental ill-health through green social prescribing. The Green Social Prescribing Project (GSP Project) aimed *'to establish what is required to scale up green social prescribing at a local system level and take steps to increase patient referrals to nature-based activities'*. This included four key objectives: improving mental health outcomes; reducing health inequalities; reducing demand on the health and social care system; and developing best practice in making green social activities more resilient and accessible.

In 2024/25, an additional year of extension funding was provided to enable South Yorkshire to advance learning in support of their overall vision *'to achieve a health and care system that embraces nature for wellbeing, with an embedded and sustainable green social prescribing offer within the social prescribing landscape'.*

What is Green Social Prescribing?

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Green Social Prescribing refers to a set of pathways which enable people with a need identified by the individual or a health professional to access nature-based activities and services. These can be based in or using the natural environment and are typically provided by the voluntary and community sector. They are designed or intended to benefit mental, emotional, physical or social health. This is often facilitated by social prescribing link workers who build relationships with people based on a 'what matters to you' conversation and an offer of practical and emotional support. However, other referral sources and pathways, including community and self-referral, are also recognised as important.

Year 4 evaluation findings

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The South Yorkshire GSP project has been evaluated by researchers at Sheffield Hallam University and the University of Sheffield since 2021. It employs a 'Developmental Evaluation' methodology to identify and share learning about the project on an ongoing basis through several cycles of activity. Developmental Evaluation is designed for systems and settings where innovation and adaptation are ongoing, and where both the operating context and the potential solutions are complex. This summarises the main findings from the Year Four evaluation of the project. It focussed on three main priorities identified by the project Task Group: data tracking of individuals accessing GSP activities; assessing value for money (social return on investment); and evaluating the impact on mental health waiting lists.

3.1. Individual level data

Participation and Providers

- **736 people** engaged with the programme through **29 provider organisations**, ranging from specialist nature activity groups to broader community services.
- Engagement varied: some providers supported only a few individuals, while others engaged up to **80 people**. This reflected the variety of activities offered in terms scale, scope and intensity of support.
- Nearly half (42.3%) were already receiving support from the organisation, 38% were new, and 19.6% had previously engaged.

Participant Characteristics

- GSP primarily supported **adults**, with only **1.8% under 18**.
- **54.3% were female**, and **44.5% male**.
- **69.1% were White**, but **30.9%** came from **minority ethnic backgrounds**, a significant success compared to other nature programmes.
- **14.8% were Refugees/Asylum Seekers**, notably higher than the national average.
- **25.6% spoke English as a second language**.
- **9.5% were carers**, and **13.5% had a carer**, indicating GSP was supporting people with complex needs.
- A majority (**59.9%**) lived in the **20% most deprived areas**, showing strong reach into disadvantaged communities.

Health and Wellbeing Needs

- **81.7%** had **mental health needs** affecting daily life; over half (51.7%) had moderate to severe needs.
- **23%** were on a **waiting list for mental health services**, suggesting GSP provides interim support.
- **67.7%** had a **physical health condition or disability**, and most (65.8%) reported that their daily life was impacted.
- **67.6%** had **both physical and mental health needs**.
- **46.2%** were **clinically vulnerable to COVID-19**.

3.2. Referrals and Access

People accessed GSP through several routes:

- Self-referral (38.7%).
- Internal organisational referrals (16.1%).
- Link Workers (15.5%).
- Friends/family (8.1%).
- Most self-referrals were people who already attended the organisation (46.3%) or heard through word-of-mouth (20.4%).

3.3. Engagement and Attendance

- **93.9%** received support, with most attending **less than 10 sessions** (84.4%).
- **20.8% attended only one session**, highlighting the need to explore barriers to continued engagement.

Upon finishing support:

- **41.7% continued attending the activity.**
- **31.1% were referred to other activities delivered by the same provider.**
- **16.2% were referred to external organisations.**

3.4. Barriers to Attendance

Only a small number (n=75) stopped attending early. Main reasons included:

- **Life issues** (family, health).
- **Access challenges** (transport, timing).
- **Only 8% found the activity unhelpful**, suggesting overall satisfaction.

3.5. Types of Nature-Based Activities

Most common types of activities were:

- **Nature-connection (61.9%).**
- **Craft-based (46.1%).**

- **Horticulture (37%).**

Others included exercise, mindfulness, and talking therapies in natural settings. Many activities combined multiple components, so the percentage is more than 100%.

3.6. Wellbeing Outcomes

- **Providers reported that 95.4% of people accessing GSP experienced improved wellbeing.**
- Statistically significant improvements were observed using **ONS-4 wellbeing measures**:
  - **Life satisfaction:** +1.0 (from 5.0 to 6.0)
  - **Feeling life is worthwhile:** +1.3 (from 5.0 to 6.4)
  - **Happiness:** +1.4 (from 5.0 to 6.3)
  - **Anxiety:** Small, non-significant change (-0.2), though the proportion reporting high anxiety levels dropped from 52.5% to 40%.
- **Nature connectedness** improved significantly (mean score increased from **3.1 to 4.3** out of 7).

3.7. Healthcare utilisation and impact

Service Use Changes

- **Primary care usage** (GP appointments) slightly decreased (median remained 1, but fewer frequent users).
- **Emergency service use** dropped significantly (p=0.001). However, usage was generally low, so any change may be purely temporal.
- **No significant change** in hospital inpatient stays or counselling/psychological therapy usage.

3.8. Value for money – social return on investment

The national GSP evaluation has used the HM Treasury endorsed WELLBY (Wellbeing Year) approach to value the benefits of wellbeing outcomes experienced by individuals who participated in nature-based activities. In South Yorkshire, this approach was adopted to assess the value for money of their investment in nature-based providers between 2021/22 and 2023/24. This showed that the value of WELLBYs created through the TL2 GSP project was £5.6 million (central estimate). Based on a £484,000 investment in nature-based providers, and mean wellbeing improvements of 5.2-6.5, the social return on investment (central estimate) was £11.49 for every £1 invested. The ICB has been able to proactively use these figures to develop a business for future investments in nature-based activities provided by VCSEs. These figures have been updated for 2024-25 drawing on data collected during the GSP project extension. An overview of the key figures is provided in Table 1.

Table 1: Overview of data and values for WELLBY calculation Estimated number and value of WELLBYs created through the TL2 GSP project

Stage	Estimate		
	Lower	***Central***	***Upper***
Key variables:			
Number of participants	736		
Value of investment	£172,800		
Change in life satisfaction	0.8	1.0	1.2
Total value of a WELLBY	£10,827	£14,076	£17,324
Time discount	0.12	0.17	0.23
WELLBY estimates:			
Number	70.7	125.1	203.1
Value	£764,993	£1,761,189	£3,519,128
ROI	£4.43	£10.19	£20.37

This shows that the value of WELLBYs estimated to have been created during year 4 was £1.8 million (central estimate). Based on a £160,000 investment in nature-based providers, grant management of costs of £12,800, and mean wellbeing improvements of 5.0-6.0, the social return on investment (central estimate) was £10.19 for every £1 invested. This is relatively consistent with the preceding period, providing confidence that the WELLBY methodology can be used to reliable estimate the value for money of GSP and nature-based activities.

These findings demonstrate the high rate of social return on investment provided by nature-based providers as a key component of green social prescribing pathways and systems. It also suggests that the WELLBY methodology can provide a reliable and consistent measure of value for money for social prescribing interventions.

3.9. Mental health waiting lists

Mental ill health (MIH) affects one in four UK adults, with services unable to meet growing demand—especially among vulnerable groups (LGBTQ+, Black communities, young women). We undertook a deep dive to explore how GSP providers support individuals on mental health waiting lists to identify the individual and system wide benefits of GSP.

Interviews were conducted with 4 GSP organisations and 1 service user. Participants had been referred to GSP via GPs, link workers, or self-referral. Most had mild-to-moderate mental ill-health.

Overall, we found that GSP offers early, flexible, and personalised support while people wait for statutory MIH care. Participants reported improved mental and physical health, reduced isolation, increased confidence, and a sense of purpose. Successful engagement was associated with welcoming environments, skilled staff, small group sizes, and consistent support. Our research suggests that GSP helps individuals prepare for therapy, build life skills, and, in some cases, re-engage with education or employment. Although GSP should not be considered a substitute for clinical mental health care, this study suggests it could play a vital role in prevention, recovery, and relapse reduction.

In summary, GSP is a valuable, non-clinical support pathway that complements mental health services by empowering individuals, improving wellbeing, and enhancing readiness for statutory care. Its broader social benefits – such as community engagement and personal development – suggest GSP could play a meaningful role in addressing the mental health crisis if implemented at sufficient scale and with significant reach.

Conclusion

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Overall, the Green Social Prescribing (GSP) programme was **effective in meeting the original objectives** of improving mental health outcomes, reducing inequalities, and strengthening system resilience. The programme engaged 736 individuals across 29 providers, **successfully reaching diverse and often marginalised groups**. These included people with complex mental and physical health needs, those from deprived areas, and ethnic minorities. Most participants reported improved wellbeing, with **statistically significant gains in life satisfaction, happiness, and stronger nature connectedness**. The programme provided **vital interim support for individuals on mental health waiting lists**, offering flexible, non-clinical interventions that fostered confidence, social connections, and readiness for further care. A social return on investment analysis using the WELLBY framework estimated a **return of £10.19 for every £1 invested**. This demonstrates **GSP's value as a cost-effective, preventative approach to supporting health and wellbeing** through nature-based activities.

Appendix 1: Individual level data for GSP participants (Year 4 – 2024/25)

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A1.1. Providers of GSP Activities

A range of organisations were funded to deliver nature-based activities. Some were organisations that specialised in delivering nature-based activities whilst others were community organisations who offered nature-based activities to support communities to engage with GSP. Providers supported different numbers of people, reflecting the different types of support they provided.

Table 1: Number of people supported by organisation

Name of provider (n=736)	Number	Name of provider (n=736)	Number
Action for Autism Barnsley	10	GROW	52
Activate Rawmarsh	18	Growing Together	3
Barnsley healthcare federation	25	Heeley Trust	10
Bloom Sheffield	33	Manor Castle Development Trust	26
Casting Innovations	20	Oasis- Grimethorpe	20
Cortonwood Comeback	42	Oasis- Terminus	13
Changing Lives	73	Sage	14
Creative Recovery	74	The High Street	11
Doncaster Mind	12	The Learning Community	80
Darnall Wellbeing	38	Wildings and Wellbeing CIC	36
Education Learning Support Hub	38	YAWR Services	38
Flourish	34	ZEST	16

Footnote: Please note percentages are not reported as each organisation was providing different amounts of support and had different funding so did not want to directly compare organisations.

A1.2. Engagement with the organisation

A similar number of people were new to the provider organisation as were already accessing support with the provider: 42.3% of people (n=311/735) were already receiving support from the provider; 38% of people (n=280/735) were new to the organisation. A further 19.6% of people (n=144/735) had previously accessed support from the organisation. These findings indicate that GSP reaches both new people while also building upon prior relationships organisations have with people, helping them engage in nature-based activities.

Table 2: Engagement with the organisation

Accessed support previously (n=735)	Number	Percentage
Has not previously received support from the organisation	280	38.0
Has previously received support from the organisation	144	19.6
Currently receiving support from the organisation	311	42.3

A1.3. Characteristics of people accessing GSP

GSP is supporting people across the age spectrum including people of working age and older people. Less than 2% of people supported were under 18. This is less than the previous GSP project, indicating that the focus of the Y4 initiative is on adults.

Just over half of people supported were female (54.3%, n=397/731). This indicates that GSP is reaching both men and women.

SY GSP is supporting people from a variety of ethnic groups. Whilst the majority of were White, over a quarter of people were from minority ethnic backgrounds. Providers supported a significant number of people from different ethnic groups including people of Asian/British Pakistani ethnicities. The data indicates that GSP is engaging people from different ethnicities This is a strength of the GSP programme as nature-based programmes have sometimes been unsuccessful at engaging people from non-White British ethnicities.

14.8% (n=104/704) of people supported are Refugee/Asylum Seekers. This is considerably greater proportion than the UK rate of less than 1%. Most people were from three organisations. This indicates that funding existing organisations who have specialist skills and trust with Refugees/Asylum Seekers is a useful way of engaging with the population group. Three further organisations each worked with less than 5 people each who are Refugee/Asylum Seekers.

25.6% (n=183/715) of people spoke English as a second language.

9.5% (n=36/385) of people identified as being a carer; this is equivalent to the national average which is estimated to be around 9% (Key facts and figures | Carers UK).

13.5% of people reported having a carer (n=52/385). This is relatively high and indicates that GSP is supporting people who have mental and physical health needs.

GSP is supporting people living in the most socio-economically deprived neighbourhoods. Over half of people accessing support lived in the 20% most socio-

economically deprived neighbourhoods (59.9%, n=281/469). This is a strength of the programme and indicates that GSP is reaching people experiencing health inequalities.

Table 3: Characteristics of people accessing GSP

Characteristic	Number	Percentage
Age (Years) (n=731)		
< 18	13	1.8
18 – 24	129	17.7
25 – 29	58	8.0
30 – 34	53	7.3
35 – 39	76	10.5
40 – 44	66	9.1
45 – 49	66	9.1
50 – 54	67	9.2
55 – 59	47	6.5
60 – 64	41	5.6
65 – 69	49	6.7
70 – 74	37	5.1
75 – 79	19	2.6
80 – 84	9	1.2
≥ 85	1	0.1
Sex (n=731)		
Female	397	54.3
Male	325	44.5
Other	9	1.2
Ethnicity (n=727)		
White	502	69.1
Asian or Asian British	85	11.7
Mixed or Multiple Ethnic Groups	57	7.8
Black, Black British, Caribbean or African	43	5.9
Other Ethnic Group	40	5.5
Refugee/Asylum Seeker (n=704)		
Is a Refugee/Asylum Seeker	104	14.8
Is not a Refugee/Asylum Seeker	600	85.2
English as a Second Language (n=715)		
Speaks English as a second language	183	25.6

Table 4: Caring status

Destination following support (n=385)	Number	Percentage
Has a carer	52	13.5
Is a carer	36	9.5
Does not have a carer / Is not a carer	297	77.1

Table 5: Socio-economic deprivation

IMD decile (n=469)	Number	Percentage
1 (Most Deprived)	191	40.7
2	90	19.2
3	63	13.4
4	30	6.4
5	19	4.1
6	23	4.9
7	17	3.6
8	17	3.6
9	18	3.8
10 (Least Deprived)	1	0.2

A1.4. Mental Health Needs of people accessing GSP

GSP is reaching people who consider themselves as having mental health needs that affect daily life. Over 80% of people accessing nature-based activities were categorised as having mental health needs which infringe on daily life (81.7%, n=592/725). This included diagnosed conditions such as depression, as well as people experiencing pre-determinant risks to mental ill-health, including loneliness and stress.

Just over half of people accessing GSP were recorded as experiencing moderate/severe mental health needs (51.7%, n=375/725). This will include depression, anxiety and severe mental illness such as schizophrenia. The proportion is considerably higher than the national average, where 1 in 6 people experience mental health issues at any time. This highlights that GSP is reaching people who may benefit from engagement in nature-based activities to improve their mental health.

Almost a quarter of people were on a waiting list for mental health services (23%, n=114/495). The Y4 extension is the first time we have collected information on this issue. The proportion indicates that GSP has a function in supporting people experiencing mental health issues whilst they are waiting to access mental health services.

The finding could have implications for staff training, as it suggests that GSP may act as a ‘safety net’ for people awaiting mental health services. It also indicates that there could be scope for GSP to work with mental health services to develop pathways for people waiting to receive mental health services to access nature-based activities.

Table 6: Mental Health Needs of people accessing GSP

Person has mental health needs which infringe on daily life (n=725)	Number	Percentage
No mental health needs	133	18.3
Early/pre-determinants of mental health needs	237	32.7
Moderate mental health needs	266	36.7
Severe mental health needs	89	12.3
Mental Health Needs		
Yes	592	81.7
No	133	18.3

A1.5. Physical Health Issues

In Y4, we collected information on people's physical health conditions. Over two thirds of people accessing GSP were experiencing a physical health condition/disability (67.7%, n=321/474).

Over two-thirds of people felt their physical health needs had a detrimental impact on ability to live their daily life (65.8%, n=288/438). Almost half of people that their physical disabilities caused them some problems with daily activities (46.6%, n=204/438). Almost a fifth of people felt their daily activities were affected a lot by their physical health (19.2%, n=84/438). It may be useful for providers to reflect on how they may need to be adapting activities to take account of people's physical health needs.

Over two-thirds of people accessing GSP experienced both mental health issues and physical health difficulties (67.6%, n=320/473). This highlights the inter-relation between physical and mental health needs and the complexities for GSP of supporting people with a range of needs.

Table 7: Extent people are affected by their physical health/disabilities

Extent physical health/disabilities impact on someone doing their usual activities? (n=438)	**Number**	**Percentage**
A lot of problems doing usual activities	84	19.2
Some problems doing usual activities	204	46.6
No problems doing usual activities	150	34.2

A1.6. Clinically Vulnerable to COVID

Almost half of participants considered themselves clinically vulnerable to COVID-19 (46.2%, n=162/351). This is reflective of how GSP is supporting people with physical as well as mental health needs.

Table 8: Clinically Vulnerable to COVID

Clinically Vulnerable to Covid-19 (n=351)	Number	Percentage
Yes	162	46.2
No	189	53.8

Referrals

People accessed GSP through a variety of referral routes. Referrals from another part of the organisation, self-referrals and Link Workers were the most common sources. The range of referral routes including through formal services and self-referral/ community engagements highlights how people will access GSP in different ways and that having a plethora of routes maximises reach.

The most common referral source was self-referral (38%, n=277/706).

Referrals from another part of the organisation delivering the nature-based activity was also common (16.1%, n=115/706). Referrals from within an organisation highlights how several grant recipients were organisations that were funded to deliver nature-based activities with client groups they already had a rapport with.

15.5% of referrals were from Link Workers (n=111/706) (based in primary care or in the voluntary sector). This indicates that Link Workers are an important component within the GSP pathway especially in terms of reaching new people who may not already be engaged with nature-based providers.

Referrals from family and friends indicates the importance of word of mouth and community trust in encouraging engagement.

Few referrals came directly from mental health services. This indicates that GSP referral routes are with social prescribing services rather than other types of healthcare services.

Table 9: Source of referral

Source of Referral (n=706)	Number	Percentage
Self-Referral	277	38.7
Referral from another part of the organisation	115	16.1
Friends or Family	58	8.1
Voluntary, Community or Social Enterprise Organisation	57	8
Primary Care based Link Worker/Social Prescriber	57	8
Voluntary/Community/Social Enterprise Based Link Worker/Social Prescriber	54	7.5
Local Authority	18	2.5
Other NHS Service	16	2.2
Other Primary Care Professional	15	2.1
Community Mental Health Team	15	2.1
GP	15	2.1
Other	9	1.3
NHS Talking Therapies/IAPT	2	0.3

Source of self-referral

In Y4, we asked how people found about GSP specifically for self-referrals. The numbers are greater than people who were recoded as self-referrals because of cross-over between people who were already attending an organisation.

Almost half of people said they found out about an activity because they were already attending the organisation (46.3%, n=186/404). This highlights how GSP funds organisations who deliver a range of services to support people to access nature-based activities because people already have trust with the provider.

Almost a quarter of people found out about the activity through word of mouth such as through friends (20.4%, n=282/404). This indicates the importance of working with service users in building trust and sharing their experiences with friends/family members to reach other people.

A small number of people were signposted through social prescribers such as being given leaflets (12.7%, n=31404). This is a smaller proportion of people compared to those who had been formally referred by social prescribers. This indicates that social prescribing services are primarily utilising formal referral methods.

A small proportion of people found out about the activity through social media or advertising.

The different routes people utilise to find out about nature-based activities highlight the importance of organisations using a mixed approach to recruit people.

Table 10: Source of self-referral

Type of self-referral (n=404)	Number	Percentage
Already attend the organisation	186	46.3
Word of mouth e.g. friends attend	82	20.4
Signposting by social prescriber	51	12.7
Social media	36	9
Advertising	25	5.7
Other	24	6

A1.7. Referrals appropriate

Most people were recorded as an appropriate referral (88.8%, n=639/720). This indicates that the majority of people supported are considered suitable for the GSP project.

A1.8. Nature of support received

93.9% (n=675/719) received support. A small number of people (n=16) were awaiting support and 28 people did not receive support.

Whilst data is more likely to have been recorded for people that accessed support, the high numbers indicate that GSP does support most people who express interest in nature-based activities to access them.

A1.9. Number of Sessions Attended

The data indicated that GSP is a relatively short-term intervention with the vast majority of people attending less than 10 sessions (84.4% n=556/658).

A fifth of people attended one session (20.8%, n=137/658). Some of these people may have attended one-off sessions, whereas other may not have engaged in further activity. Further consideration is needed about the cohort of people who attended only one session, and how to engage them further in nature-based activites.

Given the relatively short nature of the funded nature-based activities, it will be important to be realistic about what difference they can make to longer-term outcomes such as mental health service use. It also highlights that it is important for GSP to consider how to support people to access other nature-based activities or connect with nature themselves to help sustain nature-based engagement and improvements in wellbeing.

Table 11: Number of sessions attended

Number of sessions (n=658)	Number	Percentage
1	137	20.8
2-5	246	37.3
6-10	173	26.3
11-15	49	7.4
16-20	26	3.9
Over 20	27	4.1

A1.10. Finishing Support

Almost half of people were continuing to attend the nature-based activity (41.7%, n=204/491). It is unclear how the organisations will continue supporting attendance when the funded GSP programme finishes.

A third of participants were supported to access further activities with the same organisation (31.1%, n=152/491). This highlights the role of GSP as a catalyst for helping service users access further support.

A small percentage of participants stopped attending before the planned ending (6.7%, m=33/491). This relatively small proportion indicates that organisations generally succeeded in supporting people to engage in the nature-based activities.

Table 12: Destination following support

Destination (n=491)	Number	Percentage
Continuing to attend the activity	204	41.7
Accessed further activities within the same organisation	152	31.1
Finished in the organisation with no onward referral	23	4.3
Dropped out of the activity before completing planned support	33	6.7
Finished in the organisation and referred to other organisations	79	16.2

A1.11. Reasons for stopping attending the activity

The variable was only completed by 75 people, as few had an unplanned ending. People stopped attending GSP for various reasons, usually related to personal circumstances such as caring responsibilities or ill health.

Just over 10% (n=8/75), stopped attending due to access issues, such as transport or inconvenient session times. Transport was reported as a barrier within the previous national evaluation so consideration of the logistics of activities are important. It is not possible though for a nature-based activity to be run at a time and location that suits every potential attendee, so there will always be some people who stop attending because of logistics.

Less than 10% (8%, n=6/75) of people stopped attending because they did not find the activity helpful or had issues with it. This is a relatively small number and indicates that most people stopped attending activities due to personal circumstances rather than anything related to GSP.

Table 13: Reasons for stopping attending the activity

Reason Not Completed (n=75)	Number	Percentage
Stopped attending because of issues outside of the activity (e.g. family commitments)	14	18.7
Other	11	14.7
Not able to make activity (e.g. transport, not the right time)	8	10.7
Ill health	7	9.3
Moved out of the area	7	9.3
Moved into employment/education	6	8
Stopped attending because of physical health issues	6	8
Not finding the activity helpful	5	6.7
Stopped attending because of mental health issues	4	5.3
Did not start attending activity	4	5.3
Family issues	2	2.7
Issues with the activity	1	1.3

A1.12. Type of nature-based activity

There was a diverse range of nature-based activities delivered through GSP including nature-connection activities, craft-based activities and horticultural therapies. The wider evidence base does not indicate that some types of activities are more 'effective' than others but rather many will share similar components irrespective of the specific activity. Given this, GSP's approach of funding a range of nature-based activities which have been designed on a local basis to meet the needs of target population is key.

Table 14: Type of nature-based activity

Activity	Number	Percentage
Nature connection activity	457	61.9
Craft	340	46.1
Horticulture	273	37
Exercise	103	14
Alternative therapies e.g. mindfulness activities, spiritual retreats	95	12.9
Talking therapies delivered in a natural setting	63	8.5
Wilderness focused	56	7.6
Conversation focused	54	7.3
Sport	8	1.1
Other	3	0.4
Care Farming	3	0.4

Footnote: People may be attending a GSP activity which has more than one nature-based component. So percentages add up to more than 100%. So, the percentage is the percentage of people that attend a nature-based activity with the specific component.

A1.13. Improvement in wellbeing

People experienced an improvement in wellbeing when accessing GSP. There was an optional yes/no report variable for organisations to report whether they felt someone had experienced an improvement in wellbeing. Whilst this was not a validated approach and was poorly completed, it indicated that organisations felt that the majority of people accessing nature- based activities experienced some improvement in their wellbeing (95.4%, n=287/301). Interestingly, there was also 14 people who providers did not feel had experienced an improvement. It is unknown why this is, but it would be interesting to explore qualitatively about why this may be as could shape future provision such as shaping delivering to meet people's needs.

In terms of life satisfaction (measured by ONS-4), 58.9% of people experienced improved life satisfaction between their pre and post measure (n=122/207). The mean score changed from 5. 0 (SD: 2.0) to 6.0 (2.2) out of 10 with a mean change of 1.0 (P Value= <0.001). This indicates that the change is statistically significant and not due to chance. The UK national average score is 7, indicating that GSP is supporting people with lower wellbeing than the general population. This is not surprising given that the GSP programme is focused on people experiencing mental health issues and health inequalities.

Over two-thirds of people experienced an improvement in feeling their life is worthwhile (68.2%, n=137/201) (measured by the ONS-4). The mean score changed from 5 to 6.4 with a mean change of 1.3 (P Value= <0.001). This indicates that the improvement was statistically significant and not due to chance. The UK national average is 7.3, indicating that GSP is supporting people with lower wellbeing than the general population. This is not surprisingly given the GSP programme is focused on people experiencing mental health issues and health inequalities.

Almost two-thirds of people experienced an improvement in happiness (68.2%, n=131/201) (measured by the ONS-4). The mean changed from 5 to 6.3. The mean change was 1.4 (P Value=<0.001). This indicates that the improvement was statistically significant and not due to chance. The UK national average is 7, indicating

that GSP is supporting people with lower wellbeing than the general population. This is not surprisingly given the GSP programme is focused on people experiencing mental health issues and health inequalities.

40.6% of people experienced an improvement in their anxiety (n=65/160) (measured by the ONS-4). Anxiety is scored the other way than the other ONS-4 constructs in that a decrease in score indicates an improvement in anxiety. The score changed from 5.4 to 5.2 with a mean change of -0.2. The P Value was 0.216, which means we cannot trust that a change did occur. The P value coupled with the small mean change of -0.2 indicates that we have less evidence that GSP is having an impact on people's anxiety. The people accessing GSP has higher levels of anxiety than the UK population average score of 3.9. This is reflective of GSP being aimed at people experiencing mental health issues.

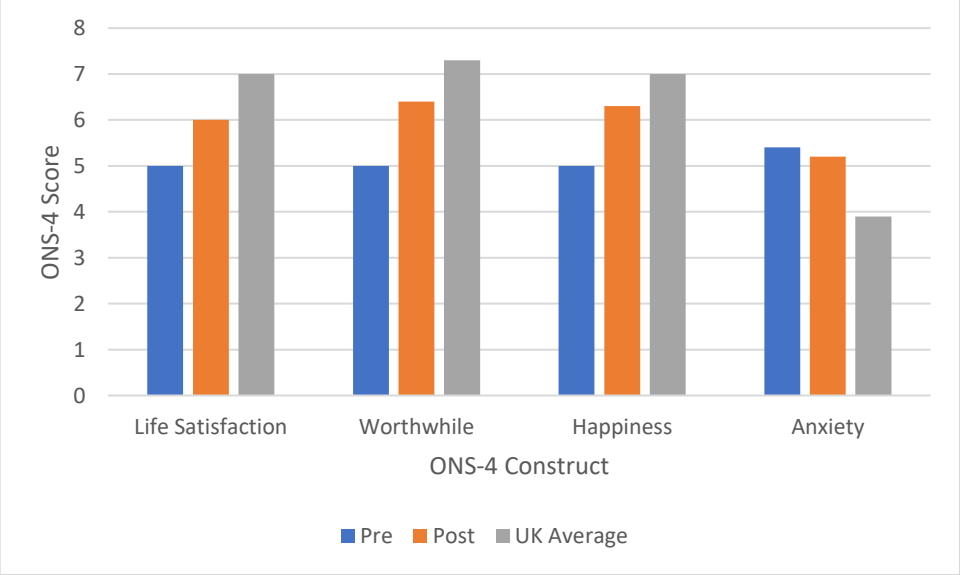
Whilst there was not necessarily a significant change in mean anxiety score across the GSP population, there was a statistically significant change in terms of a reduction in the number of people who measured as experiencing high anxiety. 52.5% (n=84/160) had high anxiety and this reduced to 40% (n=64/160) after accessing GSP (P value=0.016). This indicates that for some people, their anxiety did reduce when accessing GSP.

Table 15: Change in wellbeing measured by the ONS-4

		Pre		Post		Mean Change	95% CI	P-Value[1]
	N	Mean	SD	Mean	SD			
Life Satisfaction	207	5.0	2.0	6.0	2.2	1.0	0.8 to 1.2	<0.001
Worthwhile	201	5.0	2.2	6.4	2.0	1.3	1.1 to 1.5	<0.001
Happiness	201	5.0	2.2	6.3	1.9	1.4	1.2 to 1.6	<0.001
Anxiety	160	5.4	2.1	5.2	1.9	-0.2	-0.6 to 0.1	0.216

Key:
1Paired samples t-test- a statistical test.
SD (Standard Deviation)- How wide the scores ranged from. The smaller this is the less variance there is amongst the population.
95% CI (Confidence interval)- 95% of people have a mean change in their ONS-4 score in the range. If the range does not cross '0' then it indicates most people are experiencing an improvement.
P-Value- If this is under 0.05 then it is likely that the change happened and was not due to measurement issues or chance. So if it is less than 0.05 it indicates that there has been an improvement in wellbeing.

Figure 1: Change in wellbeing measured by the ONS-4



A1.14. Nature Connectedness

There was an improvement in people's nature connectedness. Of the 127 people that completed the measure, there was an increase in mean score of 3.1 to 4.3 (out of 7). The change was statistically significant, indicating that it was not due to chance. The finding highlights that GSP is supporting people to feel more connected with nature and there is a documented benefit of how improving connectedness to nature improves mental health (Nejade RM, Grace D, Bowman LR. What is the impact of nature on human health? A scoping review of the literature. J Glob Health. 2022 Dec 16;12:04099. doi: 10.7189/jogh.12.04099. PMID: 36520498; PMCID: PMC9754067).

A1.15. Healthcare service use

In Y4, information was collected from 128 people accessing GSP about their use of healthcare services. This enables us to explore how the use of healthcare services may change when people access GSP.

Prior to engagement in GSP, people generally had a relatively low use of healthcare services. Data was collected before and after information on 128 people. The sample is small but provides some learning on collecting the information in respect of GSP.

Change in the number of appointments at GP Practice

There was a small reduction in the use of primary care appointments when people were accessing GSP. In the three months before accessing GSP, the median was 1 but the interquartile range was 1-3 and this range reduced to 0-2, so one appointment less. It is unknown what types of primary care appointments potentially changed and how any change in use was connected to GSP o whether this change was a coincidence.

Table 16: Change in primary care use

	Pre			Post			P-Value
N	**Median**	**IQR***	**Range**	**Median**	**IQR**	**Range**	
128	1	1 – 3	0 - 20	1	0 – 2	0 - 20	<0.001

*IQR - This stands for interquartile range. It means that if the data was put in order, the middle half of data falls in this range. It can be more representative than the full range which can include outliers. In terms of primary care use, the IQR avoids including people who may have had a much higher number of appointments than other people.

Change in service users receiving counselling, psychological therapy, CBT or similar

Only a small proportion of people accessing GSP were currently receiving counselling, psychological therapy, CBT or similar. Less than a quarter of people were receiving psychological support before beginning GSP (21.5%, n=65/302). This is a relatively small proportion given that the programme was aimed at people who may be experiencing mental health issues. It may also be indicative of the long waiting lists which currently exist for mental health services, with GSP potentially having a function of supporting people in the absence of therapeutic services which could put burden on staff/volunteers to fulfil this need. The combination of the high proportion of people with mental health needs and relatively low numbers of people receiving psychological therapy has implications for GSP in terms of the support needs people may have.

There were 20.1% (n=26/129) of people accessing counselling/psychological therapies before accessing GSP compared to 13.2% (n=17/129) after. This was not a statistically significant reduction, indicating that the change may be a measurement issue rather than a genuine change (*P*=0.151). There was no change in the number of

psychological therapy sessions people had when receiving GSP. The median remained 0 with an interquartile range of 0-4.

Table 17: Change in counselling or psychological therapy

	Pre			Post			P-Value
N	**Median**	**IQR**	**Range**	**Median**	**IQR**	**Range**	
129	0	0 – 0	0 – 4	0	0 – 0	0 – 4	0.159

Use of emergency services

We explored whether people experienced a reduction in their use of ambulances or emergency departments when accessing GSP. There was a reduction in the interquartile range from 0-1 to 0-0. However, usage was generally low so any change may be purely temporal.

Table 18: Use of emergency services

	Pre			Post			P-Value
N	**Median**	**IQR**	**Range**	**Median**	**IQR**	**Range**	
129	0	0 – 1	0 – 3	0	0 – 0	0 – 2	0.001

Inpatient hospital use

There was no change captured in the number of nights service users stayed in hospital between starting in GSP and when follow-up data was collected. This was because the median for most people was '0'. The low number of people who have inpatient stays indicates that this variable is not valuable to collect generally within GSP but may be valuable if the project was targeted at a specific cohort who may have inpatient hospital stays, for example people with serious mental health issues or respiratory conditions.

Table 19- Change in nights in hospital

	Pre			Post			P-Value
N	**Median**	**IQR**	**Range**	**Median**	**IQR**	**Range**	
128	0	0 – 0	0 – 20	0	0 – 0	0 – 20	0.052

A1.16. Summary

SY invested considerable financial and time resource is supporting GSP providers to develop their data monitoring processes. Consequently, there is now a valuable dataset that enables greater understanding of who accesses GSP, their journey through the programme and the impact of GSP.

Appendix 2: Year 4 qualitative evaluation – Understanding the impact of GSP activities for individuals on mental health waiting lists

Author: Lucie Nield

A2.1. Background

Around 1 in 4 adults in the UK are living with mental ill health (MIH) such as depression and anxiety, yet only 1 in 3 are reported to have access to support with it. Some groups are particularly affected by MIH, such as those who identify as LGBTQ+, Black or Black British people and young women aged 16-24 years old.

In addition, the overall number of people reporting MIH has been increasing in both men and women, with a worrying increase in the number of reported suicides also.

As a result, the demand for mental health (MH) services is rising in adults, and worryingly even faster in children and young people. Services cannot keep up with the demand of this MH 'crisis' (The Independent, 2025) and as such, alternative therapies and provision are being explored to alleviate pressure on front line MH services. One such option is social prescribing, and specifically green (and blue) social prescribing (GSP).

GSP enables people experiencing MIH to receive a referral via a healthcare professional, link worker, or self-referral to a nature-based activity such as walks, woodland activities, allotment sessions or stargazing. There is now a large evidence base that suggests that engaging with nature helps to reduce stress (even in exposures as low as 20 minutes), improve mental wellbeing, reduce psychological distress and improve physical activity levels (de Bell *et al*., 2024; Elliott *et al*., 2023). Additionally, GSP activities may also foster social connectivity and a sense of community and belonging.

A2.2. Aims and objectives

The aim of this work was to take a 'deep dive' into the way that GSP providers supported those individuals on MH waiting lists. Specifically, the research aimed:

- To explain the impact of GSP activities on participants on MH waiting lists who access the GSP activity programme.

- To understand the system and individual benefits of GSP for this population group, and to try and draw out what the enabling factors for those have been.

A2.3. Methodology

From the quantitative data, 10 GSP organisations were identified who had received referrals from participants who were already on a MH waiting list. These organisations had received between 1 and 26 of these referrals.

Organisations were initially contacted by the GSP programme coordinator who introduced the organisations to the researcher and explained the purpose of the research. These e-mails were then followed up by the researcher. Short (max 1 hour) online or telephone interviews were then arranged with the individuals at a time that was convenient to them. The interviews were conducted by one researcher (LN) using a semi-structured interview questionnaire designed with input from the academic (LN &CD) and practice (CT & KS) teams (see Appendix 01). The interviews took place in March 2025. The interviews were recorded and transcribed.

A2.4. Results and discussion

In total, 5 interviews were carried out which included 4 organisations and 1 service user currently attending GSP activities.

Participant profile

All the organisations knew that they were accepting people who were on MH waiting lists and felt that they were often the first port of call for many of these individuals as they were faster to respond. They felt that the GP would often see a patient and send out multiple referrals to statutory provision and GSP activities for support with MIH while people waited for counselling, therapy or other provision. Alternatively, it may have been that patients had self-referred to IAPT and were therefore not on any specific MH waiting lists. One organisation reported that they ran school holiday and community activities which generated new referrals to services and accounted for 30-40% of referrals. In some cases, additional MH support was provided in the GSP organisation, so participants were allocated to the most appropriate service to suit their need. Generally, participants were deemed to have mild-moderate MIH conditions which could be managed effectively and safely within the GSP activities and the GSP activities helped with both mental and physical health conditions.

Organisations and individuals interviewed described their typical days before becoming involved with GSP organisations as sedentary and at home, with ‘too much time on their hands’, and very little time spent on interests or hobbies.

Facilitators

Common factors which facilitated people with MIH to access and engage with services that were discussed included:

- Flexible referral pathways and open-door policies.
- Fast response rates to address the referral promptly, while the participant was receptive and building on the momentum.
- Medically trained and experienced staff and volunteers who can dynamically assess individual’s needs.
- Individualised, well-tailored service provision, receptive to the participants’ changing needs and nuance.

- Formation of relationships with staff-participants, and participant-participant
- Dedicated and regular volunteers.
- Consistency of staff and group members across a project, and small group sizes to prevent overwhelm.
- Ex-service users giving people “hope” for their future.
- Friendly, welcoming environment which was paced and tailored to individual need.
- Frequent contact and ‘check ins’.
- Enjoying being outside, learning new skills, doing something different.
- Participants already known to the service due to use of previous programmes.

Service provision and adaptation for individuals with MIH

In general, services were set up in a manner which meant they were able to see most of the referrals that they received. A few individuals were unable to be accepted into services where their needs could not be appropriately met by the service or when their MIH condition meant that they could be a risk to themselves or others (e.g. psychosis with violent outbursts). However, most organisations felt that they could confidently accommodate the needs of most individuals who were referred to the services. One organisation reported that some participants had more complex needs such as drug and alcohol recovery, but they were often already known to the service.

Where participants were in need of additional support e.g. those who were particularly anxious, with more severe depression or social exclusion, organisations provided a ‘safe space’ which was quiet and private to enable people to take some time to acclimatise and meet staff members individually before joining group activities. Other strategies included sending e-mails and texts, or telephoning participants on the morning of the activities to encourage their attendance and alleviate their worries, or concerns.

The role of GSP in the Mental Health pathway

In general, staff were all Mental Health First Aid (MHFA) trained but not all volunteers had MHFA training as cost was a perceived barrier (£200/pp) and so in house training was provided. This varied across organisations. One organisation reported that they provide 2-day MHFA training for all staff as well as suicide prevention and PREVENT safeguarding training (at levels 1-4 depending on staff grade). However, organisations were clear that they were there to support participants, but they are not MH experts and should not be expected to deliver care that people are on statutory waiting lists for. They would also be encouraging people to see healthcare professionals alongside the support they were providing as they felt a ‘blended approach’ to MH management led to better outcomes. However, whilst organisations were not directly removing people from MH service waiting lists, where organisations felt they had a key role was in preparing individuals to better receive the care provided by statutory services and to make the most of help offered. One organisation explained that they were aware that for individuals, ‘until they [I] decide to help themselves [myself], nobody can help them [me]’ was key to access and benefit of services and so organisations worked to achieve better engagement and motivation with individuals so they were more receptive to care.

Benefits of GSP provision for individuals living with MIH and case studies

GSP activity provides wider benefits such as friendships and alleviation of social isolation and loneliness (Participant quote, ‘Just being around others is doing wonders’) within and outside of the groups; a sense of belonging and purpose (Participant quote,

'Definitely makes life a bit more sunshine') and that they are 'not alone'; a new and developing interest/skillset/knowledge and importantly improved confidence. Respondents reported that participants often brought along a new member such as a friend or family member who had seen the benefits that the GSP activities had offered and so improved the lives of others within the participants' direct networks, and through word-of-mouth referrals.

The GSP activities allowed people to make their first steps into a new way of living and provided hope, support and encouragement that life could be better or different. This positivity and improved outlook led to further transformation such as engaging in volunteering, education or employment after years or months or being economically inactive. One organisation described how after working with GSP providers, many of their participants, particularly females, went into further education and trained to be online counsellors. Other participants engaged in multiple groups including cooking on a budget where produce from the GSP allotment was used. As a result of this new interest, they went on to complete Food Hygiene certifications with the GSP organisation and piqued their interest in working within the hospitality sector.

Case Study 1: 38 y.o. female

Lily described having been "stuck at home" for 12 years, feeling let down by statutory services and waiting to see counsellors. She found out about the GSP group via word-of-mouth and built herself up to attending.

She has now been attending groups for 18-24 months and is learning about gardening but is really enjoying craft activities. She attends for 2 hours/week (although would like more!) and is beginning to take ownership of the group and has delivered some activities herself. She has found the routine beneficial.

She reports having previously felt scared, but now has more confidence. She was petrified of being outdoors but now loves being outside and "being able to breathe".

Lily described how the social connections she has developed through GSP activity has been rewarding as she struggled to make friends previously. She now feels welcome in the group and that people are enjoying spending time with her. She now also takes her mum to group with her which has meant they are also spending more time together. Lily tries to introduce herself to new members of the group and feels she is chatting to people and opening up to them in a way she would never have done before.

Aside from the short-term MH benefits, Lily has begun developing ideas and plans for the future. The gardening skills have enabled her to start thinking about growing food in her own garden to eat more healthily and feel proud of these achievements.

She now has the confidence and motivation to "push through scary things" and to use her freedom. She has recently taken herself on a daytrip to Scarborough, and is planning her next trip. Despite being 38, she feels that she has "only just started to feel like an adult" and is now able to really enjoy life again and is considering options for study and work.

Organisations were able to think of case studies of individuals who had benefitted from the MH support provided by their organisations such as people who had physical health conditions (e.g. amputees), learning disabilities (e.g. Down's syndrome) and those who had been in contact with the criminal justice system, showing that their reach is very inclusive and widespread, and often deals with people with multiple levels of deprivation and complexity. One organisation reported that recent analysis showed

that two-thirds or participants lived with MIH, and two-thirds had a long-term health condition.

A2.5. Lessons learnt

GSP is not going to solve the current MH crisis, but it can be effective when used as early prevention, recovery and prevention of relapse.

It teaches individuals to recognise that they are mentally ill and help them to identify their own symptoms. This increased confidence, self-empowerment and strategies for self-management enable people to live better with MIH and without returning to the GP for every relapse. This is difficult to measure.

Additionally, the GSP programme allows participants to access support which builds their skills and confidence to be more prepared and receptive to statutory MH services which they may go on to access. Again, such benefits are difficult to measure based on currently collected data but may be worthy of future exploration.

A2.6. Conclusion

GSP activities are well-designed and curated to cater for people living with MIH. Whilst these organisations are not specialist MH provision, they are an effective part of the MH care pathway including prevention or relapse of MH conditions, preparing people to access and attend MH services, and supporting people who access MH statutory services to optimise their treatment. The confidence, knowledge and tailored support that is offered to individuals via GSP activity allows people to develop skills for further volunteering, education or employment opportunities.

A2.7. References

The Independent (2025). *Five years after lockdown, child mental health is still in crisis.* www.independent.co.uk/voices/lockdown-pandemic-child-mental-health-crisis-b2718557.html

Elliott, L.R., Pasanen, T., White, M.P., Wheeler, B.W., Grellier, J., Cirach, M., Bratman, G.N., van den Bosch, M., Roiko, A., Ojala, A., Nieuwenhuijsen, M., & Fleming, L.E. (2023). Nature contact and general health: Testing multiple serial mediation pathways with data from adults in 18 countries. *Environ Int.178*:108077. doi: 10.1016/j.envint.2023.108077.

de Bell, S., Alejandre, J.C., Menzel, C., Sousa-Silva, R., Straka, T.M., Berzborn, S., Bürck-Gemassmer, M., Dallimer, M., Dayson, C., Fisher, J.C., Haywood, A., Herrmann, A., Immich, G., Keßler, C.S., Köhler, K., Lynch, M., Marx, V., Michalsen, A., Mudu, P., Napierala, H., Nawrath, M., Pfleger, S., Quitmann, C., Reeves, J.P., Rozario, K., Straff, W., Walter, K., Wendelboe-Nelson, K., Marselle, M.R., Oh, R.R.Y., & Bonn, A. (2024). Nature-based social prescribing programmes: opportunities, challenges, and facilitators for implementation. *Environment International*, 190. https://doi.org/10.1016/j.envint.2024.108801