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Exploring the perceptions and acceptability of a 'Golf for Health' social prescribing scheme amongst key stakeholders and healthcare professionals

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Abstract

Aim

Physical inactivity is a major cause of premature death within the UK. Efforts must be made to increase activity rates, and pathways to opportunities must be utilised and optimised. Social prescribing (connecting inactive individuals with local health-enhancing opportunities) is increasingly encouraged by policymakers and can prove an important mechanism. A pilot social prescribing scheme, 'Golf for Health' was developed and tested in Fife, Scotland to assess the connection pathway between community health settings and golf clubs, and crucially, understanding this from stakeholder perspective.

Subject and Methods:

Following the pilot, surveys were conducted with 44 participants (Engagers, n = 23; Non-Engagers, n = 5), Healthcare Professionals (HCPs, n = 6), Community Link Workers (CLWs, n = 4), and Golf Club Staff (GC, n = 6). Questions were tailored for each group, based on their involvement and included motivations for engagement, effort required, perceptions and challenges.

Results

Participants expressed their appreciation for the opportunity and scheme. Stakeholders recognised the potential role of local physical activity programmes in improving community health and were keen to support the 'Golf for Health' scheme. There were concerns regarding the responsibilities of each stakeholder role, with suggestions made for future development, improvement and progression. The biggest barrier to engagement for all parties was perceived lack of time.

Conclusion

Participants and stakeholders of the programme were largely supportive, and stakeholders understood the vital role they played for the effective implementation of the programme. Future consideration must be given to the time expectations, and solutions to barriers that all stakeholders may experience.

Introduction

The importance of physical activity in both the prevention and treatment of numerous long-term health conditions, as well as its role in enhancing psychological well-being, is well-documented [1], [2], [3]. Despite this, rates of physical inactivity among adults continue to climb globally - a trend particularly pronounced in high-income Western countries, where physical inactivity rates have reached 36.8% [4]. Such widespread inactivity significantly contributes to global health issues, associated with 1 in 6 deaths within the UK [5], and more broadly accounting for 7.2% of all global mortality [6].

Recent public health strategies have placed additional emphasis on endorsing the enhancement and diversification of medicine and patient care plans, so that they now include more than solely those 'typical' medical procedures and pharmaceutical treatments [7], [8]. 'Social prescribing' poses one such method of diversification, whereby health and social care professionals connect patients with local community-based opportunities and/or social groups, targeting those opportunities that align with an individual's interests and needs to improve their physical, mental and/or social health and wellbeing [9]. An example of this is the opportunity for heightened physical activity promotion as a highly cost-effective approach in health behavior interventions [10], [11], integrating exercise referral and prescription by healthcare professionals into standard practice. This is now actively advocated for within national policy documents, such as that of the recent '10 Year Health Plan for England' [12] and the latest Scottish Government Population Health Framework [7], [8]. The International

Society of Physical Activity for Health highlights eight key societal investments for greater health and wellbeing, one of which is the need for Active Health & Social Care [13].

Primary care settings offer a valuable opportunity to engage diverse patient populations who may benefit from increased physical activity. Through identification and support, these settings can encourage patients to become more active, with healthcare professionals being trusted to make informed suggestions for one's health, potentially resulting in a greater motivation for change [14]. Additionally, community referral or social prescribing schemes empower healthcare providers to link individuals with various local, non-medical community resources aimed at enhancing health and wellbeing. Some avenues have already been introduced for the social prescription of physical activity [14], [15], including signposting by a primary care practitioner [16] and connection by primary care practitioners to an intermediary (e.g. link worker or physical activity professional) who then connects patients with physical activity opportunities [17].

In a similar vein, the R&A (a global governing body for the sport of golf) published a report in 2020 regarding the possible link between golf and health which encouraged the use of golf as a mechanism for health improvement [18]. Golf itself is an aerobic activity, with varying intensities, based on the use of buggies/carts, trollies or whether an individual carries their clubs, all of which are deemed to be in the realm of moderate intensity, with metabolic equivalence (MET) scores above the 3.5 threshold [19]. Furthermore, golf has been linked to physical and mental health benefits (such as cardiovascular and respiratory improvement, as well as depression and anxiety alleviation, and greater confidence and self-esteem), as well as being associated with greater life expectancy [20], [21]. However, despite this stakeholder support and research demonstrating the potential health outcomes that golf can influence across an entire lifespan, there are currently very few opportunities to get involved in golf through referral, connection or social prescription, and there is no clearly defined pathway for this.

The importance of this connection step in facilitating behaviour change has now been formally recognised and incorporated into the recently updated Behaviour Change Technique Ontology (BCTO) [14], [22]. A Golf on Prescription scheme was designed through connection with relevant industry partners for initial implementation across Fife, Scotland, to further explore the possibility of developing an effective connection pathway between primary care and local physical activity opportunities [23], [24]. As described in greater detail elsewhere [24], the scheme itself enables health and social care professionals (including GPs, nurses, community link workers etc) to connect their patients to a free eight-week golf programme, where they would receive lessons from a professional at a local golf course. Patient eligibility was broad, with the criteria being that the individual was 18 + years old, not achieving the WHO guideline of 150-minutes of activity per week [25] and had not played golf within the previous two years. The potential connection pathways to the programme involved direct connection from HCP to the programme, either through actively completing a 'Golf for Health' Prescription Pad, or by giving the patient the programme's leaflet and poster materials. Other alternatives included but were not limited to: NHS Practices (Primary Care) sharing the materials (either physically displaying them in practice buildings, or sharing them digitally on social media); CLW or Community Group signposting; and self-referral.

The programme was initially designed using a participatory approach alongside key stakeholders, representing healthcare workers, allied professionals, golf club staff and lay individuals. This participatory approach was based on the principles of the double diamond of design process model [26]. In order to design a seamless connection process that is both acceptable and feasible, it is critical that all key stakeholders actively engage in the design stage [23], [27], [28]. The participatory nature of this enabled the opportunity for all stakeholders to foresee potential issues, and work together to design a programme that could address or prevent these.

The aim of the present study was to follow-up with stakeholders after the completion of the pilot study, holistically exploring the acceptability of not only the programme itself, but also the connection pathways, from the viewpoint of all parties involved.

The research questions were:

1. What benefits did patients feel they gained from participation in the scheme?
2. Is the scheme acceptable to stakeholders?
3. To what extent can the scheme be implemented?
4. What proportion of stakeholders engage with the scheme?

Methods

This study was approved by the University of St Andrews School of Medicine Ethics Committee (MD16041), and NHS Research Ethics Committee (REC: 22/SC/0061).

Participants -

Participants of the Golf for Health programme that had consented to future contact by the researchers were approached for survey participation via the contact details provided for initial engagement with the scheme. We also contacted those who despite registration did not participate in the scheme, in order to explore why this was the case (herein referred to as 'Non-Engagers'). Stakeholders from healthcare (GPs, Practice Managers, Advanced Nurse Practitioners, etc), golf clubs (Professionals, Club Managers), and link workers who had played a role in conducting the pilot study were also invited to participate. The inclusion criteria for this evaluation were that the invited individuals had previous involvement with the scheme, were 18 years or older, and had sufficient proficiency in English to complete the survey. Each participant received a £15 voucher.

Materials, Design & Procedures –

Four distinct groups were invited to complete a survey following the cessation of both the Spring and Winter iterations of the EAGLE Golf for Health programme in 2022 reflecting the key individuals involved in each stage of the process.

Though the purpose of the survey remained constant for all groups, the nature of their experience of the process and the points of interest to the researchers from each group did differ, and therefore all four groups received a tailored survey specific to their role in the scheme. For instance, participants were asked about their motivations for joining, and their enjoyment of the programme; whereas HCPs were asked about the effort it required to connect, whether there were any significant barriers, and the methods they used for connecting patients. The questions in each survey were designed using the guidance of Ayala and Elder[29] and were informed by theoretical frameworks of acceptability [30].

Participants were given the option to have the questionnaire conducted either as a telephone interview with a member of the research team, electronically using a link to the online questionnaire (via the Qualtrics platform), or as a postal questionnaire with pre-paid return envelope provided. Responses were largely qualitative [31] and therefore were analysed through content analysis, with statistical analysis utilised for quantitative aspects of the surveys. We were unable to address research question 4 (What proportion of stakeholders engage with the scheme?) due to amendments to the study design, which meant we did not have a clear denominator across stakeholder groups. Participant responses are reported separately to the other stakeholders and split according to whether they engaged in the scheme or not. Quotes are provided alongside an acronym to inform which group they belonged to, for instance 'PW1' denotes 'Participant, Winter, #1'.

Results

In total, there were 44 responders: Participants (n = 28: Engagers, n = 23; Non-Engagers, n = 5), Healthcare Practitioners (HCPs, n = 6), Community Link Workers (CLWs, n = 4) and Golf Club Staff (GC, n = 6).

RQ1: Participants (Engagers) –

Survey responses were received from 23 participants (M_{age} = 57.8 years) across both iterations of the programme. Information regarding the demographics of survey respondents from each are demonstrated in Table 1.

Table 1 - Participant (Engagers) Demographic Information Summary

		Spring, n=15	Winter, n=8	Overall, n=23 (%)
Gender	Male	9	2	11 (47.8)
	Female	5	6	11 (47.8)
	Unknown	1	0	1 (4)
Age	Mean Years (SD)	58.0 (± 11.1)	57.4 (± 16.3)	57.8 (± 13.2)
Ethnicity	White Scottish	5	1	6 (26.1)
	White British	8	7	15 (65.2)
	White European	2	0	2 (8.7)
Long Term Illness?	Yes	12	6	18 (78.3)
	No	3	2	5 (21.7)
Golf Club	Cluny	0	2	2 (8.7)
	Dunfermline	3	1	4 (17.4)
	Dunnikier	4	2	6 (26.1)
	Elmwood	1	3	4 (17.4)
	St Andrews	7	0	7 (30.4)
Connection Pathway	GP Surgery / Doctor Referral	2	3	5 (21.7)
	Link Worker	2	0	2 (8.7)
	Third Sector (Community Groups & Charities)	4	1	5 (21.7)
	Media (Physical, Audio or Social)	4	2	6 (26.1)
	Word of Mouth	3	2	5 (21.7)

Despite the initial intentions being to introduce a connection pathway solely through primary care avenues (i.e. GPs and Community Link Workers; Carstairs et al., 2024), this did not prove as efficient as expected, with the allocation of spaces in the programme taking longer than anticipated to be filled. The introduction of additional connection routes was therefore required, with the research team approaching community groups, creating physical and social media posts and allowing word-of-mouth self-connection options.

Slow uptake was reflected in the written responses of the survey participants, who although predominantly positive about the accessibility and ease of the sign-up application, also highlighted where they felt there was room for improvement. For instance, one of their two prominent suggestions was for greater publicity, stating that they largely found out about the programme by chance, with many suggesting greater online advertising was required. Only one participant reported their GP

having any direct involvement in their connection, with two others highlighting that their GP Practice displayed posters or shared social media posts regarding the programme, which led to their involvement. A lack of forthcoming support or push from local GPs represented important feedback, given that this was one of the primary intended connection pathways, and an unforeseen issue from the initial stakeholder engagement [23].

Regarding this sign-up process, participants also noted that they wanted more information about the programme itself and more communication in the phase between the sign-up and the programme-start. A lack of publicity and awareness, and the perceived lack of communication pre-participation were noteworthy comments, which were likely to inhibit the connection process.

"I haven't received any confirmation email or phone call after I signed up for the programme, only until few days prior to the first session. It could have been nicer to get some more information in advance on the planned starting date" – PW8.

Participants were asked to share the reason why they got involved in the programme. When categorised, the most common of these was to increase physical activity, as may be expected, but the opportunity for enhanced social activity and to learn something new also proved popular. This once again shows the multifaceted nature of a physical activity-based programme and its wide-ranging benefits, and the participants seem to acknowledge this before they start too.

This is not to say that participants only had positive motivations and potential benefits in mind. The survey also asked whether the individuals had any concerns prior to their participation, prompting two prominent responses which reflected a concern for the unknown: despite receiving an information pack, and being given the opportunity to contact the researchers and programme leads ahead of time, some participants were reportedly anxious that they did not know what to expect, and this led to fear around attending something new and unknown, which was furthered by capability concerns. This may be of particular concern, given that the participants are potentially being connected to aid mental health issues, and so additional stresses and fear are counter-intuitive to the intended outcome of their participation. However, when responding to a later question, participants did also state that the professional coaches and their fellow participants created welcoming environments which alleviated most of these concerns. It is possible that not every participant would have overcome these fears to turn up at all, and so their experience would not have got to the stage where they discovered the welcoming environment.

Regarding the sessions themselves, participants were asked to rate their length, frequency and pace, with results showing that most agreed that the sessions were of the correct length (78.3%) and pace (100%), though it seems that they perhaps wanted more of them, with 60.8% of responders stating there were too few. This could be deemed a positive when considering the initial hesitation and anxiety, however, may also mean that they did not feel adequately ready to take to the course without professional supervision. Their opinions of the session content were also positive:

"*The content was perfect and helped me, who has never played golf before, grasp the foundation of it and gave me enough confidence that I now want to continue playing golf and improving my skills*" – PS1.

However, despite these positive testimonies, only five of the sample (21.7%) attended every session available to them, with work commitments, holidays and health issues proving to be unavoidable barriers, as in line with much of the literature [32], [33], [34], [35].

Despite not attending all sessions, the majority highlighted the vast number of benefits that they felt they had attained from their participation. There were four distinctly frequent responses to this multiple-choice question, which closely aligned with their initial motivations: *'I'm getting outdoors', 'I'm more active', 'I've started a new hobby'*, and *'I've made new friends'*. Whilst this question was not targeted such that participants would report any direct health benefits, it can be considered successful that they reported increased activity levels, time outdoors and social connection, as these are all factors that can lead to better physical and mental health [2], [36], [37].

When asked more directly about whether they had noticed any improvements in their health (with an open text box for response), over half responded in a positive manner, citing things such as *'brighter mood'*, '*lost weight'*, '*improved balance'* and *'more confident and motivated'*. However, despite these positive responses, when asked about behaviours in the 7 days prior to the survey, only 30.4% of the sample reported to have met the guideline of 150 minutes of physical activity – though this is not to say they were not still doing more activity than they were prior to participation.

The survey also asked participants what elements they did or did not enjoy. There was a continued representation of how the programme provided an opportunity to learn a new skill, spend time outside and meet new people, in a friendly, fun and welcoming environment.

"*The Golf for Health programme is an excellent idea. I would highly recommend it to anyone with underlying health condition who is looking for more social interaction, would like to be more active and just generally would like to learn a new skill. I had a brilliant time! I hope many more people will be able to join the program in the future*" – PW8.

Conversely, those factors that participants did not like were often focussed on the initial session(s), with multiple people again alluding to the unknown of the first session, in terms of what to expect and who would be there. Additionally, those in the 'Winter' group commented about how the weather during their programme proved to be a barrier, and in some instances, this proved insurmountable and so sessions had to be cancelled due to the inclement weather. Whilst weather issues were not mentioned at all by those in the Spring iteration, a barrier common across both groups was the problem of scheduling issues and busy lives. Exercise is regularly seen to be dismissed or lowered on people's list of priorities when other life responsibilities arise, despite the multifaceted health benefits associated [33], [34], [38], [39], [40].

The survey also asked for suggested improvements, with free-text responses highlighting comments such as asking for more sessions; course etiquette training, in addition to the golf technique/skills themselves; and more on-course experience. Furthermore, of particular note was a plea that more is made of completing the programme, to encourage a sense of achievement, as well as suggesting that there should be greater follow-on opportunities to allow them to keep playing and stay social. Whilst unlikely to be purposeful, these suggestions further align naturally to behavioural theory, with the boost in self-efficacy that may result from the sense of achievement increasing one's self-belief, and the provision of a continuation period allowing enhanced opportunity.

Participants (Non-Engagers):

Whilst it was more difficult to gain data from those who did not participate in the programme, understanding their reasons for non-participation remained important. Therefore, those who were due to participate but pulled out were contacted and asked to complete a survey regarding this. Five participants (M_{age} = 44.6 years, 4 Males) from three locations responded across both the Spring (n = 1) and Winter (n = 4) iterations.

As already discussed as a potential barrier to participation, the reasons these responding non-engagers opted to withdraw largely focussed on lack of time, with three participants citing their jobs as the reason for this. In addition, one participant was unable to take part due to a total right hip replacement meaning that they were physically unable to play golf at the time, and so no longer met the inclusion criteria. When asked if there was anything that could be done in the future to help them attend, the response concurred with the previous responses, asking for weekend or evening slots to be considered.

RQ2 & RQ3: Healthcare Professionals, Community Link Workers & Golf Club Staff -

Crucially, in addition to the participants themselves, surveys were also sent to the stakeholders involved with the early design of the project, and those who assisted with its delivery: local Healthcare Practitioners (HCPs, n = 6), Community Link Workers (CLWs, n = 4) and staff at the Golf Clubs (n = 6). In these instances, individual demographic data was not collected, other than information about the course, practice or region that they represented.

In terms of stakeholder involvement motivations, across all three sub-groups there was a sense of eagerness and excitement to be involved in something that they deemed to be novel and of potential high value to those who need it. From the HCP perspective, it was evident that they recognised the benefit of physical activity, and the importance it can have in people's lives. Similarly, the CLWs reiterated that it helped them in their roles, as this new service offered something different to the usual schemes, and so by getting involved they were not only supporting their patients' wellbeing, but also enhancing their arsenal of potential connection and referral schemes and opportunities. Additionally, the golf club staff were keen to point out that whilst they acknowledged they may not be connecting individuals, they saw the part they had to play in the bigger picture, noting the value of the project specifically, but also of the sport in general.

"The importance of physical health on MH [mental health] is paramount, the impact of isolation on MH is also a large factor for the people I speak with, so Golf for Health seemed like a logical referral for those with or without prior knowledge of the sport. Seemed like a good fit for the patients I deal with" - HCP6.

"Anyone who is referred by a doctor's surgery needs help. We can do this. Getting involved was not about getting people into golf, it was about helping people" – GC4.

In terms of the stakeholders' connection methods, this was largely through passive signposting techniques (i.e. posters and leaflets displayed on noticeboards). However, 2 HCPs and 1 CLW reportedly sat with their patient and helped them complete the registration form, thus additionally demonstrating examples of active and intermediary involvement and connection [14]. Of the present sample, only 1 HCP reported connecting 10 + patients and only 1 CLW was able to connect a patient – indicating that the process may not be as simple in practice as hoped.

When asked about pre-pilot anticipated effort vs actual effort requirement for making connections (on a subjective Likert scale where 1 was little effort and 5 was great effort), there was disparity between the responses from individuals – as shown in Fig. 1. Five of the stakeholders reported that greater effort was required in actuality, and three reporting the inverse, with the average effort rating rising from 2.33 to 2.78. When asked why, it became apparent that HCPs were concerned about how it fitted within their current protocols, partially due to the fact that there was a specific inclusion criterion. This meant that HCPs were also having to gage patient eligibility, as well as then possibly suggesting the connection opportunity, within what is already a very short consultation window. Finding time to do this, alongside traditional care methods, proved challenging, hence the reliance on posters and leaflets instead.

"People are already golfers or dislike golf. So trying to find people who want to try golf was difficult. Main thing was bringing it up in chronic disease clinics which worked, but in GP clinics it was a trainwreck and added 7 minutes, and led to additional consultation. So doctors stopped doing it, whereas nurses it worked well. Any time anything is mentioned at the end of an appointment it adds minutes which add up throughout the day. Brought up as part of lifestyle review it fit in and made sense. With GP consultations it worked only when it fit with the consultation e.g. knee pain and general fitness. Main barrier for GPs was time. – HCP5*".*

Similarly, when the question was asked of the Golf Club staff, in terms of the actual conducting of the programme sessions rather than connections, half rated it a full 5 (Great Effort), with the average effort rating reported being 4.33. When asked for more information as to why, responses were not detailed but included further comment about the connection process, including labelling it "*sluggish and slow".* Additionally, once again, the time barrier was mentioned as a primary difficulty – a factor mentioned by members of all surveyed stakeholder groups.

"Organising walks, fitting in with individual participants personal schedules, fitting in with the golf professionals and other things going on in the business just took more effort than I envisaged. Without members volunteering it would have been difficult" – GC4.

This '*sluggish and slow*' process may have been attributable to the multiple challenges reported by HCPs and CLWs in terms of connecting patients with the scheme. Whilst it was clear that time was a large barrier for GPs, it was not the only issue

that arose. For instance, the CLWs also highlighted their concerns around travel, given that many of their patients relied on public transport, and they may not have had a participating golf club in their immediate vicinity - as these were limited during these initial pilot phases. The delayed sign-up process also proved to have a problematic knock-on effect for the CLWs, one of whom was seemingly hesitant to connect any other patients due to the wait that their initial connection was experiencing. The available places at each location were filled before the programme would begin, maximising the number of people who could benefit from the opportunity. There were instances where this took longer than expected, with some individuals waiting around 3 months, highlighting a difficult situation for the CLW, as connecting a second patient would have sped up the process for them both, but they did not want to make their other patients have the same wait.

Interestingly, the change in protocols for HCPs following the COVID-19 pandemic also proved problematic, as they commented about how they now do an increased amount of telephone consultations, making it increasingly more difficult to gauge likely interest and to approach the subject. It was also emphasised by multiple HCPs that the knock-on effect of the pandemic has been particularly apparent in those with mental health issues, and the enforced social isolation has meant that many are now very wary about social environments, and do not actively look to engage in them [41]. In this context, the lack of confidence and potential presence of comorbidities amongst patients might have led to increased perceived barriers to participation. Commenting on the slow speed at which they were able to make connections, whilst alluding to the barriers patients were imposing on themselves and the reasons that they were saying no, HCP3 said that they "*thought there would be a lot of sign-ups but [there were] less than expected … Main reasons for not taking part were: 'not able', 'not for me', 'joint pain', 'perceived difficulty with health', 'too tiring'*".

Whilst there were clearly barriers to participation, there were also comments made with respect to how these were overcome. In particular, HCPs discussed the ability to connect through numerous pathways as a strength, noting that the ability for patients to self-refer through the online registration form was appreciated by younger patients, whereas the ability to still use a physical prescription pad was of value to many of the older patients. This represents a strength of the programme not only for the positive testimony it garnered, but also because the notion of having multiple routes to connection was the result of the prior work, and participatory design approach of the project [14], [23], [42]. The use of a formal prescription pad was seemingly considered more effective and appreciated than standard signposting procedures.

It was also noted that there was apprehension that the suggestion of the programme may have been viewed as trivialising the acute illnesses being presented, with patients reportedly being '*really annoyed doctors were doing something other than medicine*' (HCP5). They did however feel that having the aforementioned prescription pad, in addition to leaflet and poster signposting, was considered to legitimise the programme for some patients.

Despite the prescription pad praise, HCPs were very keen that other avenues were continued to be utilised too, and prioritised, such as advertising through community groups, and emphasising that self-referral is possible. There was a subtle delegation of connection from the role of the GP into the remit of nurses, CLWs and the individuals themselves. This was distinctly echoed by HCP5, who raised further worry over the time requirements for GPs (a point mentioned by almost all HCPs), and questioned the importance of their involvement at all, crucially again noting that all GPs in their practice stopped attempting to make connections:

"It's a great scheme but turned out to be a lot more difficult than I expected. Really evaluate if the practice needs to be involved at all, can people get it through other ways or just chronic illness reviews if available? Better ways than through doctor consultations, as they take up too much time. All doctors stopped doing the referral but nurses continued and helped people sign up."- HCP5

Another potentially important recognition was that even though there had been previous suggestion that self-referral should be emphasised, it is possible that "*patients are more likely to do something if recommended by a doctor or nurse*" (HCP5), and therefore the role of a HCP or CLW in the process cannot be understated. Conversely, the HCPs were also asked whether the programme was able to assist *them* in any way, and whilst most commented that it is beneficial to them to have

additional care options, one particular comment elaborated, identifying that the success of this programme can help them form greater levels of trust and belief in the relationships with their patients.

"If I can find something meaningful for someone which they engage with successfully they are more likely to try another option in the future, this can only enhance the relationship I have as a practitioner" – HCP6

Importantly, the majority of the HCPs themselves believed that they were helping their patients by connecting them with the programme, acknowledging the link between activity and health, with the added appreciation that introducing patients to a structured and standardised programme may be more meaningful than just being told 'increase your exercise'.

Finally, HCPs and CLWs were asked whether they foresaw any challenges moving forward, or whether there was anything they would like to see if the programme was to be conducted again on a larger scale; the results of which were relatively uniform. In terms of challenges, the HCPs reiterated their concerns about the sign-up process, stating the importance of reducing the form-filling requirements, making connection simpler, and ensuring that more effort is put into the advertisement of the programme to make for a smoother process for all. In terms of their requests for extra information, it was important to both HCPs and CLWs that they are able to be shown data around physical, mental and social health aspects, in order to bolster their own and their patient's confidence in signing up for the programme. In addition to objective health data, they also wanted participant feedback and testimonies for this reason, knowing whether they would recommend it to others and whether they believed it would have a long-term impact.

On the whole, HCPs and CLWs were pleased to have been a part of the work, and gave their support for its continuation, with the caveat that their experiences and feedback are taken on board for the development of an improved product, and that they are relieved of some connection responsibility due to the time pressures that they already face in appointments.

"I think this has been a great idea, and useful programme. A lot of people rely on medication to help them get better, but sometimes by stepping outside, getting some fresh air, regular exercise and mixing with others, that can really help people. We would be happy to continue to promote this, if the programme continues, but with reduced form filling" – HCP2

Discussion

It is apparent from the responses of all stakeholder groups surveyed that the general consensus regarding the Golf on Prescription programme was a positive one, and one which has shown the scheme to be generally accepted, and implementable amongst relevant stakeholders. For all parties involved, there were a number of components that were appreciated, welcomed and encouraged; though the feedback also clearly highlighted areas that must be addressed and improved before any larger-scale implementation can occur. The excitement shown around involvement in the scheme largely reflected the opportunity that it brings to potentially enhance the lives of many who could benefit from its roll-out.

The participants themselves reported enjoyment and perceived benefits to their health, from both a physical and mental standpoint. From an anecdotal perspective, this scheme not only gave these individuals the physical and social opportunity to substitute previous sedentary behaviour into active behaviour, but it also enhanced elements of capability. Through their participation, individuals had the chance to gain professional training to enable them to have the physical capability to succeed at the behaviour, whilst also providing them with evidence of their psychological capabilities – in terms of both the understanding of what they were doing (as provided by a PGA Professional Coach), but also the confidence that they can do it, and would enjoy it. The benefits of the programme to the participants were highlighted by those responses in the surveys that cited self-perceived improvements such as *'brighter mood'*, '*lost weight'*, '*improved balance'* and *'more confident and motivated'*, again demonstrating both physical and mental gains from their experience.

Of course, despite best intentions, barriers to participation remained. Potentially the most prominent of which, mentioned by both participant groups was that of time. This is supported by a wealth of literature in the physical activity research field where a perceived 'lack of time' is frequently highlighted as a primary barrier [33], [35], [38], [39], [40], [43]. The nature of the

partnership with the golf clubs is that the resident professional themselves has to be free, and there has to be room for the group of 8 individuals to have their lessons. Therefore, weekends and evenings are not always viable options for the sessions, which subsequently does make the programme vulnerable to participation issues due to the likelihood of sessions being weekday daytimes, when people are likely to be at work – as was reported as the reason for drop-out by the majority of our non-engaging group.

Whilst discussing 'lack of time', this was also directly labelled the main barrier for GPs by one of the HCPs surveyed. This feedback is of paramount importance for this evaluation, clearly showing that despite the input of healthcare workers in the design [23] and the initial excitement, willingness and motivation to be involved in facilitating connection to the programme, in practice this was not simply integrated into their consultations. There are two conclusions that can be drawn from this. Firstly, it is clear that we cannot rely on GP appointments as a sole connection pathway from primary care, and we must also utilise the other avenues in the primary care and community welfare bracket – as was requested by the HCPs in the sample, and discussed within the initial design stages [23]. The flexible and adaptable nature of the programme to diversify into other avenues and connection pathways aligns with the findings and pleas of previous work in the field [28], [44]. Furthermore, for continued support and the sustainability of programmes such as this, the process by which this connection is made must be streamlined, so that HCPs feel comfortable discussing this within their allotted consultation times, without fear of a knock-on effect of punctuality problems. Despite scheduling allowing 10 minutes per patient, recent data showed that almost 40% of appointments lasted for more than 15 minutes [45]. The danger of this is that patients are then in jeopardy of not receiving the high-quality level of care, attention and disease management that they expect and deserve, as GPs become forced to signpost [46].

Furthermore, the connection step itself needing development was not only mentioned by HCPs, but CLWs and participants alike. The reported 'sluggish and slow' nature of the process was likely in relation to what happened after the connection, where people were having to wait up to three months for the other places at their chosen location to be taken before the programme would begin. It could however be the case that these issues were the result of the nature of this type of small pilot feasibility studies, which perhaps would not occur in a larger-scale context. With the programme being new and novel, and restricted by location, it is possible that the slow uptake of spaces was in fact a reflection of a lack of awareness of its existence, and that the flaw lied here as much as reflecting any design limitations. An increase in locations, and greater knowledge within systems and communities that the opportunity was on offer, may have led to an increased interest and shorter times to fill the spaces in the programme. A positive from the HCPs was the aforementioned notion that enabling a person-centred approach that was both beneficial to and enjoyed by the patient could potentially improve their relationship with their patients This is something that is proving to be problematic in the UK currently, with only 24% of the public satisfied with the NHS and 13% satisfied with social care [47], with only 81% of adult inpatients surveyed in 2022 reporting to have had total confidence and trust in their doctor [48].

Overall, the pilot study and the evaluative surveys successfully enabled further learnings about how the protocol and procedures worked in practice, gaining crucial insight into the experiences of all stakeholders in the process. In the present evaluation, we gained representation from all of the groups that we sought to, from both the Spring and Winter iterations of the pilot phase, and from a range of locations across Fife. The ability to gain these insights from all involved and also understand the reasons of those who were non-engaging is a great strength, acting similarly to a form of Patient and Public Involvement (PPI) or a second-phase of participatory design and development, for the betterment of the programme moving forward. This level of stakeholder engagement has been deemed a 'fundamental principle' for the design of exercise referral schemes, and may lead to greater future sustainability and buy-in [28], [49].

However, there were also limitations, for instance it must be noted that the sample was not particularly large, with 44 responders across the groups. Additionally, there were some indications of potential social desirability bias, as when responding to open text questions, many of the participant group were reporting increased physical activity levels, and the positive impact that the programme had, yet only 30.4% actually reported to have done 150 minutes of physical activity in the 7 days prior to taking the survey. This may be a suggestion of bias, however may also be truthful. The demographic that were

eligible for participation were those who were not physically active, and so it is possible that they were indeed more active than they were before participation, but this increase is still not taking them above the 150-minute threshold. Furthermore, we were unable to fully report the attendance figures of participants, as this was poorly reported, and therefore there is limited data available regarding attendance, adherence or retention. Moreover, changes made to the design of the questionnaire within the creation phase meant that we were unable to adequately address Research Question 4 (What proportion of stakeholders engage with the scheme?), due to a lack of common denominator to assess this on.

Conclusion

The scheme is largely acceptable to the key stakeholder groups involved in the entire process, who purport to be in support of its implementation and further future engagement. The pilot has demonstrated that participants feel that they benefit as a result of their participation, therefore indicating that the scheme is going some way to working as it should. However, the feedback from all participants and stakeholders does still highlight that improvement is required for some components of the programme, as discussed. Highlighting the flaws in the current protocol is crucial for its development to becoming a self-sufficient and long-lasting programme resource for HCPs and CLWs, and therefore these will need to be addressed to ensure its future as a practically feasible connection pathway.

Declarations

Funding

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Competing Interests

KB & AMu both have employment status with the R&A, however all authors declare no competing interests in relation to this work.

Ethics Approval and Consent to Participate

This research adhered in totality to the Declaration of Helsinki, and received ethical approval from the University of St Andrews School of Medicine Ethics Committee in March 2022 (Approval Code: MD16041) and NHS REC Approval in October 2022 (IRAS Project ID: 309100). Data collection took place across 2023. All participants were fully informed, and signed consent forms accordingly before their participation in the focus groups began.

Consent for Publication

Not applicable.

Availability of Data and Materials

The research data supporting this publication can be accessed at https://doi.org/10.17630/e460b990-326c-4ba8-a8df-a0e4bf8f6738.

Author Contributions

LB made substantial contribution to the conception and design of the work, and the creation and dissemination of the surveys. FS was substantially involved in the conceptualisation, design, analysis and manuscript formation. SW completed the analysis and interpretation of the data, and subsequently drafted the manuscript. All authors contributed to conception, have commented on versions of the manuscript, and given approval of the final manuscript.

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Figures

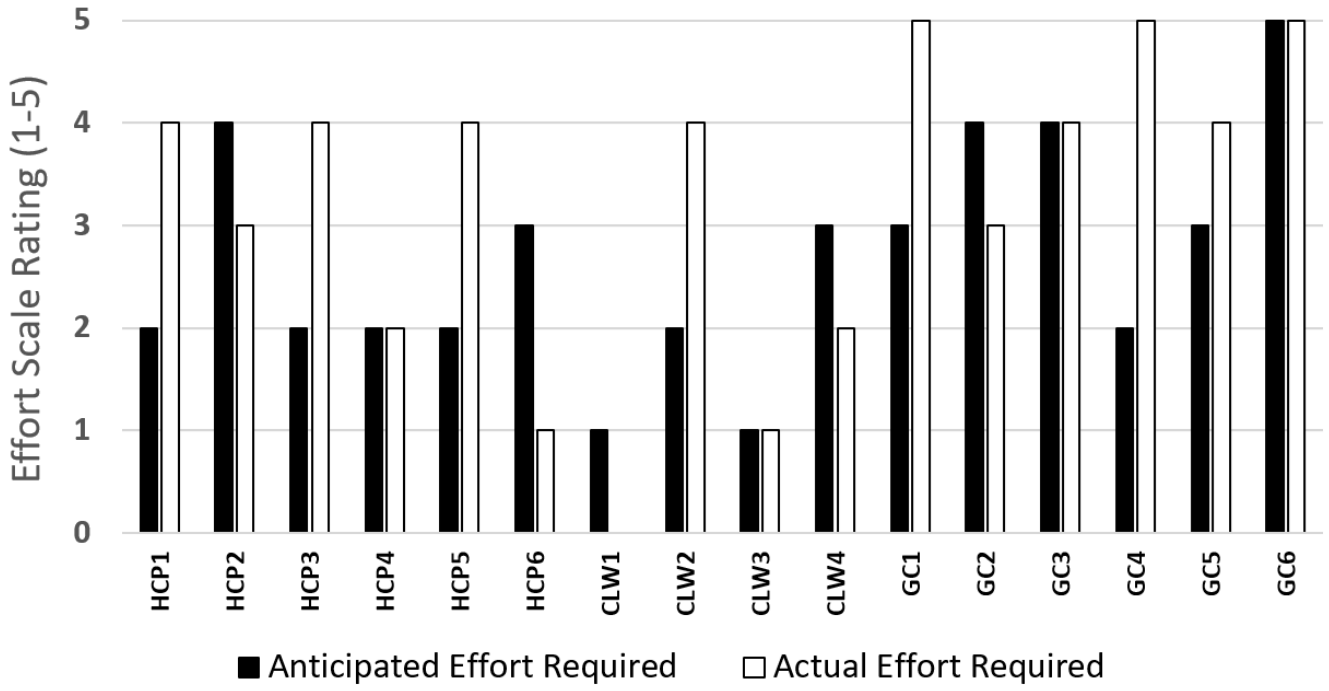


Figure 1

Perceived Effort Ratings (Anticipated vs Actual), by participant