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‘Getting back into the Swing of Things’

A Qualitative Study into Barriers and Facilitators to Golf Participation for Stroke Survivors

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## **Abstract**

This paper draws on interviews with four stroke survivors, who participated in a five week ‘Get-into-Golf’ program and four coaches with experiences of delivering disability golf sessions, to examine the barriers and facilitators to golf participation. Findings indicate a positive response from participants, who referred to the social and physical benefits of the programme that was perceived to promote independence. The results also highlight that considerations in regards to format, equipment, cost, access and overall awareness should be borne in mind for golf programmes amongst people with disabilities. Golf clubs could employ this framework to inform provision in order to facilitate the participation of people with physical limitations. It is argued that opportunities to promote golf as a lifelong physical activity among people with disabilities may be missed in clubs where personnel are unsure of the barriers and facilitators to participation outlined here.

## **Keywords**

Golf, health and well-being, stroke, disability, leisure, participation

1 'Getting back into the Swing of Things': A Qualitative Study into Barriers and Facilitators to  
2 Golf Participation for Stroke Survivors

3

4         Stroke is the most common neurological disease and a primary cause of lifelong  
5 disability in industrialized countries (Johnston, Mendis, & Mathers, 2009). After the age of 45  
6 around a quarter of all people experience a stroke, a figure which is increasing because of  
7 modern lifestyle factors including: physical inactivity, increasing diabetes, and obesity  
8 disorders (Pollock et al., 2014; Schachten, & Petra, 2015). The most frequent form of stroke is  
9 ischemic, which occurs when blood supply to certain parts of the brain is cut off, usually through  
10 a clot, and can cause a number of neuropsychological and motor deficits. These can reduce  
11 people's cognitive and emotional functions, and thus affect the way that the body works and  
12 how people think (Chen, Leys, & Esquenazi, 2013). There are, of course, individual differences  
13 and levels of severity, but common issues post stroke include memory problems, slow thinking,  
14 speech, vision, and mobility impairments (Sacco et al., 2006). After experiencing a stroke,  
15 people's lives change significantly. They can often no longer take part in activities which they  
16 previously could, and have particular difficulties taking part in something new (Mayo et al.,  
17 2015; Nicholson et al., 2013). This further compounds and impacts on their individual health  
18 and well-being, where stroke survivors often find it difficult to undertake day-to-day tasks and  
19 it has been reported that many do not like to ask for additional help (Mayo et al., 2015). The  
20 impacts of stroke are particularly concerning as the demographic of stroke survivors consists  
21 of a high number of older adults of retirement age (Korner-Bitensky, Desrosiers, & Rochette,  
22 2008), who may be particularly vulnerable to social isolation after a stroke. Additionally, one  
23 in three stroke survivors experience post-stroke depression (Hackett & Pickles, 2014) and  
24 greater engagement in valued activities has been shown to be positively associated with

1 improvement in emotional well-being after stroke (Egan, Davis, Dubouloz, Kessler, & Kubina,  
2 2014).

3

4 One of the most attractive aspects of golf is that there are few age or skill limits to  
5 participation, which, in principle, makes it one of the most/more accessible sports. Indeed, the  
6 popularity of golf amongst individuals with disabilities is increasing, and an associated rise in  
7 the amount of disability golf societies and unions available to support golfers that require  
8 adapted opportunities for participation (Stoter et al., 2017). Golf is, in origin, an accessible  
9 competitive sport for people with impairments given the adaptations and modifications  
10 available, combined with the golf handicap system, thus helping to facilitate an environment  
11 where golfers of all abilities can compete equitably (Stoter et al., 2017). In order to further  
12 accommodate golfers with disabilities, The Royal and Ancient Golf Club of St. Andrews  
13 (R&A) and the United States Golf Association (USGA) have produced a modification to the  
14 rules of golf for golfers who require provisions for adapted participation (Schachten & Petra,  
15 2015).

16 Additional benefits of golf participation after stroke may include improvements in  
17 motor control, visual imagery ability and increased opportunity to engage in physical activity  
18 (Schachten & Petra, 2015; Shatil et al., 2005). Various studies have indicated that taking part  
19 in physical activity, for example, can help aid recovery and reduce the likelihood of recurrent  
20 strokes (Marzolini et al., 2013; Sacco et al., 2006; Saunders et al., 2016; van de Port et al.,  
21 2012). Indeed there has been a rise in the number of initiatives aiming to improve health and  
22 well-being using sport. Examples in golf include, “Saving Strokes” which has been described  
23 as a “golf therapy program” ran by American Heart/Stroke Association (AHSA, 2016) and the  
24 “Get-into-Golf” programme for stroke survivors ran by England Golf and the Stroke  
25 Association UK (England Golf, 2016). Despite this, low levels of physical activity still persist

1 among stroke survivors due to barriers such as: concerns around balance and falling; lack of  
2 services, transport, and support; perceptions about physical activity prerequisites (Nicholson et  
3 al., 2013; Rand et al., 2010; Simpson & Eng, 2011). Furthermore, studies around exercise and  
4 stroke tend to focus on the physical benefits and there are few studies on emotional well-being  
5 in stroke patients (Schachten, & Petra, 2015). Despite the potential of golf, participation by  
6 disability groups remains low, and out of those who do play there is little transition into regular  
7 participation (Kenny, 2015; Piggott, Leslie, & Poller, 2011; Sandt, Flynn, & Turner, 2014).  
8 The purpose of this paper, therefore, was twofold. Firstly, to assess the barriers and facilitators  
9 to golf participation amongst people who have experienced a disability from a stroke. Secondly,  
10 we will suggest a preliminary framework in which golf clubs could encourage more  
11 involvement amongst people who have physical limitations.

12

## 13 **Methods**

### 14 **Study design**

15 The research design used is a ‘case study’ approach involving an in depth analysis of  
16 stroke survivors’ experiences of golf. Case studies are typically concerned with the particular  
17 complexities of a specific case in order to examine contextual conditions that may be pertinent  
18 to particular groups of people by exploring social phenomena in their ‘real-life’ context  
19 (Bryman, 2015; Jones, 2014). Semi-structured interviews and focus groups were, therefore,  
20 selected given the interpretive data they produce and its suitability to the case study approach  
21 adopted. Semi-structured interviews were undertaken with four stroke survivors who had  
22 completed a five week get-into-golf programme (age range = 52-68, M = 59, SD = 7), four  
23 sports coaches with experience delivering golf sessions to people with disabilities (age range  
24 = 34-37, M = 35, SD = 1.8), and a focus group conducted with two employees from the Stroke

1 Association involved in hosting golf initiatives for people with physical limitations (age range  
2 = 29-59, M = 44, SD = 21).

3

#### 4 **Participants**

5 The sample was recruited directly from the UK's leading stroke charity, the Stroke  
6 Association, who had organised a five week 'Get-into-Golf' programme for stroke survivors.  
7 Participants had originally been referred from a stroke unit in the North West, to the Stroke  
8 Association for additional support and rehabilitation following discharge. The 'Get-into-Golf'  
9 programme is a national governing body initiative to encourage beginners to take up golf, run  
10 by England Golf delivered locally by golf clubs and PGA professionals. The specific  
11 programme under analysis here was organised exclusively for stroke survivors, and lasted for  
12 five weeks at a golf club in the North West. The sessions were funded using a Stroke  
13 Association development grant but required a small contribution from each participant. The  
14 coaches and organisers were recruited from those involved in delivering the initiative.

15

#### 16 **Data collection**

17 Interviews and focus groups took place in a private area of a golf club convenient to the  
18 participant, were recorded and transcribed verbatim. Two semi-structured interview guides  
19 (one for the stroke survivors and another for the coaches) were adopted primarily so  
20 participants could elaborate without the rigidity of structured questions, with questions centring  
21 on themes including: experiences of the 'Get-into-Golf' programme, reasons for attending, and  
22 potential barriers to participation. This methodology allowed us to investigate the ways in  
23 which stroke survivors, professional coaches, and event organisers, viewed the barriers to golf  
24 from their own perspective (Bryman, 2015; Rubin, 2011). This strategy also helped the  
25 researchers to remain open-minded and follow the direction of data, which was guided by the

1 qualitative findings as they unfolded. Participants could explain the ‘reality’ of their  
2 experiences, allowing for an emotional response (Bryman, 2015; Veal & Darcy, 2014).

3

#### 4 **Data analysis**

5 NVivo 9 was utilized to code interview transcripts and organize themes. Theoretical  
6 categories were developed to a point where no new ideas or themes were being generated that  
7 challenged or refined the explanations already uncovered (Guest, Bunce, & Johnson, 2006;  
8 Jones, 2014; Veal & Darcy, 2014). Comparing responses between interviewees allowed for the  
9 findings to be corroborated between participants and thus enhance the overall validity of the  
10 study. Saturation point was determined by the quality of the analysis that was constructed in  
11 terms of its depth and ability to explain the barriers and facilitators to playing golf.

12

#### 13 **Ethical approval**

14 The project was granted ethical clearance by Myerscough College’s Faculty Research  
15 Ethics Committee (FREC). Participants were given a guarantee that all data will remain  
16 confidential. As a result, a number of pseudonyms have been used (see table 1). All participants  
17 were informed that the researcher team will be the only people to have access to the data. All  
18 sensitive files were password protected and kept on a password secured computer ensuring no  
19 unauthorised access. An important ethical consideration for this study concerned any potential  
20 harm to interviewees. It was possible participants could be vulnerable to stress given they were  
21 discussing the effects of a stroke on their lives. As such, it was important to closely analyse all  
22 conversations in order to guard against progressing down routes that may have distressed  
23 participants. The chance of adverse effects was significantly reduced given all participants were  
24 clearly briefed on what the study entailed, given an opportunity to scrutinise the participant  
25 information sheet and required to sign the consent form indicating they were prepared to take

1 part. Each participant was informed as to the nature of the study and the use of the data supplied  
2 before interviews commenced. Participants were given the assurance that they were able to  
3 contact the researcher at any time, from the details on the participant information sheet, thus  
4 ensuring their right to withdraw at any stage during or after the interview.

5

## 6 **Results**

7 The aims of this paper were to, firstly, assess the barriers and facilitators to golf  
8 participation amongst people who have experienced a disability from a stroke, and, secondly,  
9 suggest a preliminary framework in which golf clubs could encourage more involvement  
10 amongst people who have physical limitations. The findings are presented in two main themes  
11 which encompass a number of related subthemes. Firstly, we will assess participants'  
12 perceptions of the 'get-into-golf' programme, by referring to the social elements of the  
13 initiative, impacts on physical health, and perceived levels of independence. We will then  
14 analyse the provisions required to support people with physical limitations in the golf  
15 environment, including organisation of spaces, awareness of disability related issues, and use  
16 of adaptive equipment. The findings will be discussed in light of relevant literature as we go.

17

### 18 **Characteristics of participants**

19 Participants were invited to take part in the golf initiative, virtually all were experiencing golf  
20 for the first time and none were members of clubs.

21 *Table 1 Characteristics of participants*

<b>Participant Pseudonym</b>	<b>Age</b>	<b>Gender</b>	<b>Description</b>
Andrew	68	Male	Stroke survivor
Brian	62	Male	Stroke survivor
Catherine	52	Female	Stroke survivor
Deborah	57	Female	Stroke survivor

Edward	37	Male	PGA Golf Professional
Fred	33	Male	Sports Development Officer and Coach
Grace	34	Female	PGA Golf Professional
Harry	36	Male	PGA Golf Professional
Irene	59	Female	Stroke Association Employee
Jackie	29	Female	Stroke Association Employee

1

2 **Perceptions and experiences of the ‘Get-Into-Golf’ Initiative**

3 There was a positive response from participants regarding their experiences of the get-into-golf  
4 programme. For example, Andrew commented that “when I came here with this lot ... it was  
5 nice. And then next week we come back again and then again, it’s still good”. Similarly, both  
6 Brian and Deborah commented that “it was good, good yeah, very enjoyable, yeah” and “I like  
7 it all, I like it a lot. Erm, I really do like it” respectively. When probed as to why the participants  
8 felt that way, many referred to the key part that ‘social elements’ of the initiative played. For  
9 example, this included meeting new people who were in a similar situation to themselves, and  
10 the value of talking with such individuals. It was these reasons which mean that good quality  
11 on site (but off course) social areas, such as a restaurant, cafe, or bar, were cited as being very  
12 important. Indeed Irene from the focus group commented that it was important to “keep  
13 activities close to club house”. This is supported by the coaches’ views, such as Edward, who  
14 commented that often people who do not take part in golf “see it as an individual sport and not  
15 seeing the social opportunities and interaction which comes with it”. Similarly, Harry argues  
16 that the “social aspect is often really overlooked, somebody with a disability who wants to  
17 make friends, or just get out of the house and interact with people, then golf is a great way of  
18 doing that”. It appears, therefore, that that promoting the social element of golf is a key aspect  
19 of participation.

20

1 Another important factor for the positive experiences of the ‘Get-into-Golf’ initiative  
2 centred on perceptions of independence. Loss of independence is significant factor that impacts  
3 on health and wellbeing with many stroke survivors’, who have experienced a life changing  
4 event (Pollock et al., 2014). In the focus group, Jackie highlighted that a key part of planning was  
5 to help ensure the “sessions were very welcoming and encouraged being independent”. This  
6 sentiment was supported from participant evidence, which indicated that the initiative  
7 promoted an opportunity to try a new skill, outside of their home environment, with limited  
8 help. This was something they would not ordinarily consider doing for a variety of reasons,  
9 including confidence and safety (Mayo et al., 2015). As Andrew commented:

10 I have felt better yeah because today I’m doing this ... you see people, you go round  
11 everyone, and then you meet people, more and more ... then the next thing is Monday,  
12 then everyone’s gone. What am I doing? I can’t do nothing. So do this and that in the  
13 house, and get fed up with it ... If I’m on my own there’s no one to talk to .. You want  
14 to talk to someone but none [there].

15 This sentiment is also evidenced by Brian, who said that the initiative was “better rather than  
16 sitting at home or doing nothing yeah, yeah” adding that “you can socialise more and if you  
17 are tired you can have a chat”. Similarly, Catherine suggested that “if I wasn’t doing this I’d  
18 be at home. I wouldn’t go out. So it’s like getting you out, yeah... you are all in the same boat  
19 for one reason or another”. Returning to the Jackie, it was also argued that the “social side [is]  
20 very important ... the benefits are more mental health related”. Sports development officer Fred,  
21 who had experience delivering disability golf sessions, explained in more detail the important  
22 role “personal satisfaction” plays in this regard, adding that:

23 It’s the ‘I can do attitude’ ... it’s that you’ve give it a go ... that personal satisfaction and  
24 a reward built in for achieving together with others ... you listen, you try, and achieve

1           ... the attitude is generally [in wider society] that you [people with disabilities] can't do  
2           that and you can't do this, but it generates a good feeling when they can.

3   It appears, therefore, that creating an environment of independence is a key part of encouraging  
4   people with physical limitations to play golf. At the same, however, it is important that such  
5   sessions are delivered in such a way that they are not differentiated too much from 'regular'  
6   golf and include integration wherever possible. Returning to Fred, who argued that "if it's  
7   differentiated too much, however, then are they really doing something comparable? Is the  
8   activity being cheapened and are they being judged?" as participants "do not want to be defined  
9   by an impairment but rather measure themselves amongst everybody else".

10  
11   Benefits in terms of physical health were also cited by participants in this study. It was  
12   commented that the 'get-into-golf' initiative proved important to develop flexibility (via  
13   stretching), strength (via hitting golf shots), and thus helped increase confidence given the  
14   effect on their overall physical abilities. When asked about the benefits and rationale for taking  
15   part, Catherine said "I found it very good for the exercise ... to improve flexibility and  
16   confidence really ... the exercise does help to strengthen your weak side so just carry on with  
17   the exercises". Similarly, Brian identified that "the stretching, in particular at the start of the  
18   session, was useful to help with mobility". Finally, Catherine rather clearly stated that "it really  
19   does keep you fit. I have noticed the difference, yeah. So I am more and more mobile, I do  
20   more stuff, you know". Grace, a coach with experience delivering disability sessions, drew on  
21   a comparison between the physical aspects of golf and how this may promote independence.  
22   Grace acknowledged that it is "difficult to generalise and there's a such a huge spectrum" but:

23           Generally speaking, golf is fairly low impact, do it at whatever level you like, from  
24           range to course and it is informal if taught in right surroundings ... it's also inclusive

1           where a lot of people with disabilities can slot into sessions with people who may or  
2           may not have a disability ... golf is a great leveller in that respect.

3   It should be noted, however, that taking part in the initiative was not an easy process for the  
4   stroke survivors, and many actually found it physically demanding, with some of the main  
5   challenges relating to their balance and coordination. These physiological reasons have been  
6   cited as a reason that survivors may look stay indoors post-stroke (Mayo et al., 2015; Nicholson  
7   et al., 2013; Sacco et al., 2006), whereas the ‘get-into-golf’ programme provided an opportunity  
8   to exercise in a supportive environment with other people in similar situations. The coaches  
9   involved in this initiative, including Harry, identified the importance of “including warm up  
10   exercises and stretching” while also “slowly progressing onto fuller shots”. Deborah  
11   commented on the benefits of the programme, by saying “I am doing exercise that I didn’t do  
12   before so that’s healthier. I’m outside in the fresh air”. When asked if they feel better,  
13   physically, after taking part in the initiative, Deborah responded “yes I do”, adding “I don’t  
14   know why, but when I get home my husband notices. He knows I’ve been out and had a good  
15   time. He just says I’m more lively, yeah”. This corroborates with the focus group data, where  
16   Irene commented that a “client wanted to Get-into-Golf had lost his confidence ... and this  
17   programme helped that”. Irene continued to say that the initiative helped improve overall  
18   confidence and levels of well-being by “learning a skill, building confidence, and improving  
19   skill, all while meeting others not in clinical environment”.

20

## 21   **Supporting Stroke Survivors Playing Golf**

22           So far this paper has outlined some of the positive effects associated with playing golf  
23   from the point of view of people who have survived a stroke. It did, however, become clear  
24   that there were a number of barriers to participation, with interviewees also highlighting  
25   various ways to reduce the effect of such issues in future programmes. The notion of trying to

1 support independence amongst stroke survivors, in regards to undertaking basic activities on  
2 their own, has been highlighted as a key part in the overall process of rehabilitation (Mayo et  
3 al., 2015). That is, stroke survivors often struggle to undertake everyday activities without  
4 support, which they could before having a stroke, so making adaptations to the golf  
5 environment and ensuring spaces are adequately organised to promote independence was  
6 clearly very important. As Deborah highlights, “the exercise bit is difficult, but you get through  
7 it and feel good after you done it. You get a bit tired and that’s about it”. The power tees, for  
8 example, which automatically raise the ball without the need for bending down were cited as  
9 being advantageous. During the focus group, Jackie revealed that the “driving range worked  
10 well” where “clients could work in pairs” and thus splitting the amount of time spent actually  
11 hitting golf balls. It was also cited that “chairs to sit down [were] useful, [due to] balance  
12 problems do not want to stand up all the time”. Such sentiments are support by participant data,  
13 including Catherine, who described some of the difficulties by saying that “you can’t move,  
14 you can’t balance. Walking sometimes is an issue”. At the same time, it is important to  
15 appreciate that these supportive elements should be viewed as an integral part of the golf  
16 environment, and not ‘just’ for the stroke survivors in order to ensure they are “not made to  
17 feel different” and thus further contributing to feelings of independence.

18

19 The importance of considering novel approaches to help reduce amount of time spent  
20 on an intensive activity was viewed as extremely important. In this regard, considerations  
21 should also be made to the order and location in which the activities are structured. This might  
22 begin with putting before gradually moving onto the driving range and course elements. As  
23 Edward, a golf coach with experience of teaching people with disabilities, argued that  
24 considerations should be made to “promoting putting to generate early achievement” adding  
25 that the “reality of getting on the golf course itself can be tricky”. It does, of course, depend on

1 the specific nature of the individuals involved. As Edward was keen to state, sessions should  
2 be “personalised and needs led ... where a ‘pre’ conversation with customer has taken place  
3 before to get a better understanding of what is required ... to make the session more suited to  
4 their needs”. It should also be stated that the issue of independence largely relies on the golf  
5 clubs’ / professionals’ knowledge about stroke limitations. As Brian states, “he [the pro]  
6 understood well the limitations of what you can and can’t do”. Similarly, Catherine commented  
7 that “he [the pro] was good very good, and the student that was with him last week was  
8 excellent”. Indeed, the coaching staff involved in the programme under analysis here were  
9 particularly commended, however, it was also noted that more involvement of golf personnel  
10 in Stroke Association meetings, for example, would help raise awareness even further. This,  
11 according to Irene during the focus group, it would also be useful from policy point of view,  
12 given that stroke survivors “tend to have some coordination issues, so there are some health  
13 and safety and danger issues [to consider]”.

14

15         When considering the format of golf sessions for people who had survived a stroke,  
16 there was a consensus that one hour in duration, scheduled for one day per week, over a six  
17 week period was appropriate. As Brian highlighted “they work it nicely, one hour, one hour of  
18 practice that’s enough” adding that “6 weeks and that is enough”. Catherine reiterates this by  
19 saying “yeah it’s good, an hour is enough because a lot of us get tired after an hour or so. It  
20 wouldn’t be any use longer I don’t think”. There are, of course, individual differences in the  
21 nature and severity of physical disability post-stroke (Sacco et al., 2006), but the perception  
22 from this sample was that anything longer than this might have proved difficult to participate  
23 in. Participants were keen to highlight the important impact financial cost made on their  
24 decisions to take part activities. Many stroke survivors are not in full employment and may,  
25 therefore, struggle to meet any restrictive costs associated with golf initiatives, such as

1 expensive club membership and equipment (Nicholson et al., 2013; Piggott, Leslie, & Poller,  
2 2011; Rand et al., 2010; Simpson & Eng, 2011). The cost of the ‘Get-into-Golf’ programme  
3 under analysis in this paper was shared between the participants and the Stroke Association,  
4 which was identified as a positive by the participants. This was specifically highlighted by  
5 Brian, who said “half of the cost was from the Stroke Association, that was very good” and  
6 Deborah raised the important point that “at the minute, [the equipment is] provided. It’s  
7 expensive, it’s very expensive”. The cost of equipment has been regularly cited as barrier in  
8 golf participation amongst general populations (Piggott, Leslie, & Poller, 2011), but this issue  
9 is, arguably, even more relevant for stroke survivors who may require specially adapted clubs  
10 and accessories. The golf clubs involved in this particular programme were commended for  
11 offering a large selection of clubs, so that each participant could try a variety and see identify  
12 which is best for them. As Brian identified, “the pro has a selection of different items ... they  
13 can change one or two or three of the irons, yeah”. There are various pieces of equipment to  
14 help people with disabilities play golf, from specialized gloves to prosthetic attachments, in  
15 addition to teaching resources aimed to help execute a golf swing one way or another, whether  
16 from a seated position, or using just one arm to swing (Sandt, Flynn, & Turner, 2014; Stoter et  
17 al., 2017; Wood, Henrikson, & Lewis, 2016). This is not, of course, to suggest that all  
18 equipment adaptations have a large cost associated with them. Indeed, there were a number of  
19 simple things discussed the with Jackie in the focus group including that “yellow balls can be  
20 easier to see” and “lighter clubs would be useful”, due to coordination and strength limitations  
21 which are common post-stroke (Sacco et al., 2006; Sandt, Flynn, & Turner, 2014; Wood,  
22 Henrikson, & Lewis, 2016). Furthermore, it is also important to highlight that considering the  
23 cost of playing golf does not, necessarily, mean lowering the price of regular membership/green  
24 fees for people with disabilities. As Fred, a sports development officer who has worked on  
25 creating national disability initiatives, was keen to state there is a need to “move beyond the

1 perception that everything must be funded and every session must be free, rather trying to  
2 promote independence”. It was suggested, instead, that there could be more pay and play  
3 options, flexible memberships (such as points and ‘lifestyle’ based), and offerings of non  
4 traditional versions of golf (such as adventure golf and short courses) at different price points  
5 “where it fits as part of the club’s business plan” (Fred). This sentiment is also supported by  
6 Edward, who argued that a “lot of people with disabilities do not want it [playing golf] any  
7 cheaper ... they have jobs and whatever ... but don’t want disability membership and wish to  
8 be treated as an equal ... so it might be having a flexi membership, but it’s available for  
9 everybody, such as a twilight membership”.

10

11 Closely linked with cost is the issue of access and transport (Nicholson et al., 2013;  
12 Rand et al., 2010). Participants in this study identified that good transport links is an important  
13 factor in their decision to take part, with many stroke survivors not being able to drive and thus  
14 only being able to attend should they be able to get taken (Nicholson et al., 2013). As Andrew  
15 clearly states, “in all honesty the only problem is getting people to help me to get here ... if you  
16 live far away, it’s trying to get here is hard [sic]. Erm, at the moment I’m lucky as my daughter  
17 comes here, so that’s fine. But other times just couldn’t do it”. Catherine also highlights the  
18 important point that “golf courses aren’t normally on bus routes or anything, so transport can  
19 be a problem” adding that “a lot of people have people to come and pick them up, but some of  
20 us haven’t”. Golf coach Edward supported this point by saying “transportation and finance is  
21 one of the biggest issues ... to get themselves here in the first place”. The maximum distance  
22 participants were happy to travel was around 30 minutes and car sharing or taking the bus was  
23 specifically identified as a way to help minimise this issue. Similarly, awareness of the  
24 programme was cited as an important area for improvement, with the perception amongst  
25 participants that many stroke patients do not know that these sessions, firstly, actually exist,

1 and, secondly, that they are structured in such a way that stroke survivors are able to take  
2 part. There was an overwhelming view that if more stroke survivors were aware about the  
3 initiative, they would try it and enjoy it. As Brian states, “some of [the] people in group didn’t  
4 know about golf session, and what it is doing [sic], and they must tell them to come and see”.  
5 This was, however, framed with caveat that the success of these types of golf initiatives are  
6 very much weather dependent. That is, given sessions delivered in an outdoor environment,  
7 and this particular programme was during the winter months, this could very much impact on  
8 any physical conditions amongst a group of people who already have decreased mobility post  
9 stroke. As Brian rather bluntly noted, “if the weather is really bad then you can’t [play]”.

10

11

## 12 **Conclusions**

13 The central objective of this paper was to assess the barriers and facilitators to golf participation  
14 amongst people who have experienced a disability from a stroke. In particular, it sought to  
15 identify stroke survivors’ perceptions of a five week ‘Get-into-Golf’ programme, including  
16 what they found difficult about participation and ways to reduce the effect of such issues. There  
17 was an overwhelmingly positive response from participants regarding their experiences of the  
18 get-into-golf programme. It is argued that the ‘social elements’ of this type of initiative, such  
19 as meeting new people in a similar scenario to themselves, are a particular strength. At the  
20 same time, the opportunities for such initiatives to promote independence was also cited as a  
21 positive. That is, participants spoke highly about the opportunity to try a new skill outside of  
22 their home environment with limited help, something which had been difficult post-stroke for  
23 reasons such as confidence and safety. Benefits in terms of physical health were also revealed  
24 by participants, such improving strength and flexibility, and the associated impacts this can  
25 have on their overall physical abilities and confidence levels. There was a strong feeling of the

1 benefits of such sports programmes health and well-being amongst stroke survivors, but this is  
2 not to suggest participation was without its problems. Indeed, this paper has also highlighted  
3 that considerations in regards to independence, format, equipment, cost, access and overall  
4 awareness should be borne in mind when considering disability golf participation at golf clubs,  
5 many of which, it would seem, still have opportunities for improvement. We return to Grace,  
6 who argues that “sometimes clubs aren’t set up for disabilities, they are not disability friendly  
7 ... we are a very poor! Gosh, honestly, have they got the right number of disabled parking  
8 spaces? Or steps to clubhouse? Or a hearing loop? If you started looking at how many clubs fit  
9 that criteria then it would be surprisingly low ... I think less than 30%, and that’s being  
10 optimistic, are set up to accommodate a disabled person .... this is particularly worrying given  
11 the aging representation of members in our golf clubs”. It is in these areas that we suggest a  
12 preliminary framework in which golf clubs could employ in order to help aid participation  
13 amongst people who have physical limitations. Considerations should be made to:

- 14 • Independence: ways in which independence can be promoted through participation in  
15 golf. This could be, for example, strategic location of location of, and distance between,  
16 bathroom / rest facilities on course and around clubhouse areas, automatic tees on  
17 driving ranges, and considerations around use of adaptive golf carts.
- 18 • Format: the order and location that the golf activities are structured. Physical disability  
19 impacts on duration and amount of golf that can be played, so considered use of  
20 alternative playing formats (e.g. scrambles), driving range sessions working in pairs,  
21 social games, and amended course lengths is important. A confidential confidence  
22 rating could assess the most appropriate way to organise golfing tasks, and help ensure  
23 adequate levels of health and safety. This may also include individualised golf  
24 instruction offering alternative activities suitable for people with various levels of

1 readiness. For example, visual cues and coloured bands can be used to prompt foot  
2 placement or guide hand placement.

- 3 • Equipment: equipment modifications designed to help make golf more accessible. This  
4 may include readymade access to ‘traditional’ golf clubs but of various materials (e.g.  
5 regular metals, graphite, or plastic), weights (e.g., light, regulation), angles (e.g. low  
6 lie, regulation), and lengths (e.g. longer shaft), in addition to bespoke equipment  
7 designed especially for people with physical limitations, such as ‘chair’ putters, ‘zero  
8 swing’ clubs, and Velcro golf gloves.
- 9 • Cost, access, and awareness: ways to keep down costs for groups that may not be in full  
10 time employment. This is particularly important given the restrictive costs of specially  
11 adapted equipment. Closely linked is transport, where it is increasingly important to  
12 promote initiatives around golf club locality. In this study, participants were happy to  
13 travel around 30 minutes. Awareness of issues surrounding disabilities, such as  
14 modified rules and equipment, could be promoted in the golf club through training  
15 personnel.

16  
17 [ Insert figure 1 here]

18  
19 This paper supports previous research, with appreciation of the benefits of golf and  
20 physical activity for stroke survivors (Pollock, et al., 2014; Rimmer, Wang, & Smith, 2008;  
21 Saunders et al., 2016; Schachten & Petra, 2015). The present study also adds to these findings  
22 by indicating the potential barriers and facilitators to lifelong participation in golf. This said, it  
23 should be highlighted, however, that this study is limited by the small number of participants,  
24 all of which were clearly open to the idea of the benefits of sport and physical activity on their  
25 health given they originally opted to take part in the initiative. Future research could focus on

1 the views and experiences of stroke survivors who do not wish to take part in physical activity  
2 to attempt to understand why. The practical insights offered here can help build guidelines for  
3 golf clubs aiming to increase participation amongst groups of people with various levels of  
4 disability. Furthermore, such research may be used to inform industry policy and, even, aid  
5 towards producing a service quality certification mark for golf clubs that identifies and  
6 promotes safe and accessible facilities, as part of the overall England Golf ‘GolfMark’  
7 accreditation. The current handicap system, for example, does not take into account the  
8 possible challenges of playing golf with any form of physical disability. As such, Kenny et al.  
9 (2015) argue that disabled golfers are currently penalised / disadvantaged by the handicap  
10 classification rules as it does not take into consideration either the possible unique challenges  
11 of playing golf with any form of disability, or the potential effects of a disability on  
12 performance. It is argued that opportunities to promote golf as a lifelong physical activity  
13 among people with disabilities may be missed in clubs where personnel are unsure of the  
14 barriers and facilitators to participation outlined here.

15

## 16 **Acknowledgements**

17 The research team would like to thank the participants who gave their time to be part of this  
18 study.

## 1   **References**

- 2   American Heart/Stroke Association (AHTSA, 2016). *Saving Strokes - golf clinic for*  
3       *Stroke survivors*. Retrieved from:  
4       <http://scvmcrehab.org/upload/userfiles/American%20HeartStroke.pdf>  
5
- 6   Bryman, A. (2015). *Social research methods*. (5th Ed.). Oxford: Oxford University Press.  
7
- 8   Chen, C., Leys, D., & Esquenazi, A. (2013). The interaction between neuropsychological and  
9       motor deficits in patients after stroke. *Neurology*, 80 (2), 27–S34.  
10
- 11   Egan, M., Davis, C.G., Dubouloz, C.J., Kessler, D., & Kubina, L.A. (2014). Participation and  
12       well-being poststroke: evidence of reciprocal effects. *Archives of Physical Medicine*  
13       *and Rehabilitation*, 95(2), 262–268.  
14
- 15   England Golf. (2016). *Stroke survivors tee off in Crewe*. Retrieved from:  
16       [https://getintogolf.org/news-room/stroke-survivors-tee-off-in-](https://getintogolf.org/news-room/stroke-survivors-tee-off-in-crewe?returnlink=http%3A%2F%2Fgetintogolf.org%3A8080%2Fnews.aspx%3Fsiteactionid%3D208%26originalpath%3Dnews-room%252Fstroke-survivors-tee-off-in-crewe%26range%3DLatest)  
17       crewe?returnlink=http%3A%2F%2Fgetintogolf.org%3A8080%2Fnews.aspx%3Fsite  
18       actionid%3D208%26originalpath%3Dnews-room%252Fstroke-survivors-tee-off-in-  
19       crewe%26range%3DLatest.  
20
- 21   Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An  
22       experiment with data saturation and variability. *Field Methods*. 18(1), 59–82.  
23
- 24   Hackett, M.L., & Pickles, K. (2014). Part I: frequency of depression after stroke: an updated  
25       systematic review and meta-analysis of observational studies. *International Journal of*  
26       *Stroke*, 9(8), 1017–1025.  
27
- 28   Johnston, S.C., Mendis, S., & Mathers, C.D. (2009). Global variation in stroke burden and  
29       mortality: Estimates from monitoring, surveillance, and modelling. *The Lancet*, 8, 345–  
30       354.  
31
- 32   Jones, I. (2014). *Research methods for sports studies* (3<sup>rd</sup> Ed.). London: Routledge.  
33
- 34   Kenny I.C., Campbell, M.J., Surmon, S., & Bressan, L. (2015). Drive performance for able-  
35       bodied and disabled golfers. *International Journal of Sports Science & Coaching*,  
36       10(4), 757–767.  
37
- 38   Korner-Bitensky, N., Desrosiers, J., & Rochette, A. (2008). A national survey of occupational  
39       therapists' practices related to participation post-stroke. *Journal of Rehabilitation*  
40       *Medicine*, 40(4), 291–297.  
41
- 42   Marzolini, S., Oh, P., McIlroy, W., & Brooks, D. (2013). The effects of an aerobic and  
43       resistance exercise training program on cognition following stroke. *Neurorehabilitation*  
44       *and Neural Repair*, 27, 392–402.  
45
- 46   Mayo, N., Anderson, S., Barclay, R., Cameron, J.I., Desrosiers, J., Eng, J.J., Huijbregts, M.,  
47       Kagan, A., Lyons, M.M., & Moriello, C. (2015). Getting on with the rest of your life  
48       following stroke: A randomized trial of a complex intervention aimed at enhancing life  
49       participation post stroke. *Clinical Rehabilitation*. 29:1198-211.

- 1  
2 Nicholson, S., Sniehotta, F.F., van Wijck, F., Greig, C.A., Johnston, M., McMurdo, M.E.T.,  
3 Dennis, M., & Mead, G.E. (2013). A systematic review of perceived barriers and  
4 motivators to physical activity after stroke. *International Journal of Stroke*. 8:357-64.  
5  
6 O’Sullivan, C. & Chard, G. (2010). An exploration of participation in leisure activities post-  
7 stroke. *Australian Occupational Therapy Journal*. 57:159-66.  
8  
9 Piggott, D., Leslie, G., & Poller, G. (2011). *Widening participation in golf: Barriers to*  
10 *participation and golfmark*. School of Sport, Coaching and Exercise Science Research  
11 Group, University of Lincoln.  
12  
13 Pollock, A., Baer, G., Campbell, P., Choo, P.L., Forster, A., Morris, J., Pomeroy, V.M., &  
14 Langhorne, P. (2014). Physical Rehabilitation Approaches for the Recovery of  
15 Function and Mobility After Stroke. *Stroke*. 45:e202.  
16  
17 van de Port, I.G.L., Wevers, L.E.G., Lindeman, E., & Kwakkel, G. (2012). Effects of circuit  
18 training as alternative to usual physiotherapy after stroke: Randomised controlled trial.  
19 *BMJ (Clinical Research ed.)*, 344, e2672.  
20  
21 Veal, A.J. & Darcy, S. (2014). *Research methods in sport studies and sport management: A*  
22 *practical guide*. London: Routledge.  
23  
24 Rand, D., Eng, J.J., Tang, P.F., Hung, C., & Jeng, J.S. (2010). Daily physical activity and its  
25 contribution to the health-related quality of life of ambulatory individuals with chronic  
26 stroke. *Health and quality of life outcomes*. 80.  
27  
28 Rimmer, J.H., Wang, E., & Smith, D. (2008). Barriers associated with exercise and  
29 community access for individuals with stroke. *Journal of Rehabilitation Research and*  
30 *Development*. 45:315-22.  
31  
32 Rubin, H.J. (2011). *Qualitative interviewing: The art of hearing data*. UK: Sage  
33 Publications, Inc.  
34  
35 Sacco, R.L., Adams, R., Albers, G., Alberts, M.J., Benavente, O., Furie, K., Goldstein, L.B.,  
36 Gorelick, P., Halperin, J., & Harbaugh, R.. (2006). Guidelines for Prevention of Stroke  
37 in Patients With Ischemic Stroke or Transient Ischemic Attack A Statement for  
38 Healthcare Professionals From the American Heart Association/American Stroke  
39 Association Council on Stroke: Co-Sponsored by the Council on Cardiovascular  
40 Radiology and Intervention: The American Academy of Neurology affirms the value  
41 of this guideline. *Circulation*. 113:e409-e49.  
42  
43 Sandt, D.D., Flynn, E., & Turner, T.A. (2014). Promoting golf as a lifetime physical activity  
44 for persons with disabilities. *Strategies*, 27(1), 18–25.  
45  
46 Saunders, D.H., Sanderson M., Hayes, S., Kilrane, M., Greig, C.A., Brazzelli, M., & Mead,  
47 G.E.. (2016). Physical fitness training for stroke patients. *Cochrane Database of*  
48 *Systematic Reviews*. 3.  
49  
50 Schachten, T., & Petra, J. (2015). The effects of golf training in patients with stroke: A pilot

1 study. *International Psychogeriatrics*, 27(5), 865–873.

2  
3 Shatil, S., Ivanova, T.D., Mochizuki, G., & Garland, S.J. (2005). Effects of therapeutic golf  
4 rehabilitation on golf performance, balance, and quality of life in individuals  
5 following stroke: pilot study. *Physiotherapy Canada*, 57, 101–112.

6  
7 Simpson, L.A., Eng, J.J., & Tawashy, A.E. (2011). Exercise perceptions among people with  
8 stroke: Barriers and facilitators to participation. *International journal of therapy and  
9 rehabilitation*. 18:520-30.

10  
11 Stoter, I.K., Hettinga, F.J., Altmann, V., Eisma, W., Arendzen, H., Bennett, T. van der  
12 Woude, L.H, & Dekker, R. (2017). Initial steps towards an evidence-based  
13 classification system for golfers with a physical impairment. *Disability and  
14 Rehabilitation*, 39(2), 152–163.

15  
16 Wood, P., Henrikson, E., & Lewis, J. (2016). A novel method to grip a golf club for a  
17 quadruple amputee golfer. *Sports Engineering*, 19, 171–176.

18  
19  
20 *Figure 1 Barriers and facilitators of disability golf participation*

