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(2021) NPS0085 - National Plan for Sport and Recreation.
Documentation. UK Parliament.

Downloaded from: <http://ray.yorks.j.ac.uk/id/eprint/5336/>

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Dr Alexander Beaumont, Professor David Lavalley and Dr Graeme Sorbie – Written evidence (NPS0085)

Evidence submitted applies to Q1, Q3, Q7 and Q10

This call for evidence application is submitted by Drs Graeme Sorbie, Alexander Beaumont and Professor David Lavalley from Abertay University and York St John University. In recent years, we have established a dedicated multi-disciplinary research group with the aim of demonstrating the impact that golf can have on health and wellbeing, particularly within older adults. We feel our work in this field, as well as published evidence to date, provides a valuable contribution to the understanding of how people can be encouraged to lead more active lives. Together, our research group submit this application of evidence in regard to golf-related health and wellbeing, with the aim of providing a better understanding for the effectiveness of sport and recreation to support national policies and initiatives.

Key Points of Evidence Submitted

- Meeting the health needs of the older adult population is an ongoing priority for the UK government, such as optimising the health-span (ONS, 2021). This has been made more evident due to the current COVID-19 pandemic.
- Golf can provide opportunities to increase or maintain light-to-moderate physical activity (Ainsworth et al, 2011; Myers, 2003), considered to be moderate-to-high intensity for older adults (Broman et al., 2004).
- Recent research demonstrates how golf participation can impart benefits on physical health and wellbeing (Murray et al., 2017; Sorbie et al., 2020a; Sorbie et al., 2021).
- We have recently reported on the positive impact that golf participation can have on self-efficacy, social trust and wellbeing (Sorbie et al., 2020a). We have also reported similar findings for sense of belonging, enjoyment and wellbeing during the COVID-19 pandemic (Sorbie et al., 2021).
- Golf provides the added opportunities for facilitating a sense of belonging and enjoyment, which is supplementary to the contributions towards the physical activity guidelines (Sorbie et al., 2021).
- Our research group published a freely available dataset in relation to golf activities conducted in the home environment during a period of national lockdown (Sorbie et al., 2020b). These activities engaged with in the home environment were associated with a sense of belonging (Sorbie et al., 2021).
- Raising awareness regarding the health and wellbeing benefits that golf can have for an individual is crucially important and, in turn, provides a duty of care to the UK population.
- Indeed, the importance of health and wellbeing should be at the heart of policies within the national plan for sport and recreation, which is even more important due to the current COVID-19 pandemic.

Justification of Evidence Submitted

Meeting the health needs of the older adult population is a major challenge for governments around the world, including the United Kingdom (UK). This has

been made more evident due to the current COVID-19 pandemic. In addition, meeting the health needs of older adults is exacerbated by improvements in long term-survival (Beaumont et al., 2018), with the World Health Organisation (WHO) estimating that by 2050, $\geq 30\%$ of the UK population will be >60 years of age (WHO, 2015). In the UK, it is projected that by 2043 the added years for those aged over 65 years is likely to increase by 10-12% compared to 2018 (ONS, 2019). In order to effectively manage these prolonged lifespans, it is important for the older adult population to remain healthy and to maximise the health-span (the period of life absent from disability and from debilitating chronic diseases (Seals and Melov, 2014)). Currently, 45% and 42% of life spent from 60 years of age is in poor health for females and males, respectively (ONS, 2021). It is therefore of paramount importance that efforts are continued in order to focus more on health-span (GOV, 2020) and in turn, to prolong healthy living and independence.

Importantly, with advancing age, exercise and participation in sport reduces (Eime et al., 2016). This could be due to many perceived barriers that prevent individuals participating in physical activity, which may include poor health and mobility. Despite the recommendations for adults to achieve 150 minutes per week of moderate physical activity (GOV, 2019), these barriers may help to provide insight as to why older adults are often the least active group, with up to 85-90% of older adults failing to achieve worldwide guidelines in developed countries (Sparling et al., 2015). In order to overcome these challenges within the UK, opportunities for suitable and effective physical activity participation within the older adult community should be promoted.

Physical activity and functional capacity of older adults are vitally important in the prevention and/or management of health and wellbeing. Indeed, greater exercise capacity, determined by metabolic equivalents (MET) is accompanied by a reduction in the relative risk of mortality, regardless of age (Myers, 2002). Physical activity of moderate (or higher) intensity effort has shown to provide physical and wellbeing benefits, as well as contributing towards longevity of life (O'Donovan et al., 2010), yet maintenance of sufficient exercise intensity at this level can often be challenging with aging. As previously mentioned, participation in sports and recreational activities often declines with age (Eime et al., 2016). Consequently, this limits the opportunity for the older adult community to benefit from an increase in physical activity levels that sports participation can offer.

Golf continues to be a popular sport for a variety of age groups, including the older adult population (Stenner et al., 2016). Golf can be more accessible to those with varying degrees of mobility and fitness due to the option of being able to use a golf cart (Murray et al., 2017). **Golf provides individuals with opportunities to increase or maintain light-to-moderate intensity physical activity levels.** When taking into consideration walking and carrying golf clubs around the golf course, the game of golf enables individuals to increase or maintain moderate MET intensity (i.e., 4.3 x resting metabolic rate) (Ainsworth et al., 2011). Alternatively, and although less intense, using a golf cart when playing golf can offer the prospect to increase or maintain light MET intensity (i.e., 2.5 x resting metabolic rate) (Myers, 2003). Indeed, as age progresses from young to old, the percentage of time spent in high intensity activity when walking an 18-hole golf course increases from 6% to 70%, respectively (Broman et al., 2004).

A recent scoping review reported that golf has overall positive associations with physical health and wellness (Murray et al., 2017). **Golf also facilitates the opportunity to improve wellbeing** (Sorbie et al., 2021). Raising awareness regarding the potential health benefits that golf can have for an individual is crucial, due to the fact that golf can offer alternative ways to increase or maintain physical activity levels. This, in turn, can have a positive impact on public health services. In addition to the physical health benefits that golf may provide, recent research conducted by Abertay University documented the positive impact that golf participation can have on self-efficacy, social trust and wellbeing (Sorbie et al., 2020a). **Specifically, this research demonstrated that social trust and personal wellbeing were significantly higher in golfers when compared to rest of the UK population.** Given the importance of social trust in society, and as a key contributor to wellbeing, it is important to raise awareness in relation to the positive impact that playing golf can have on this measure. In addition, the positive wellbeing findings may be attributed to golfers playing the sport with friends and colleagues during their leisure time, thereby creating and nurturing social relations.

In addition to the previously outlined scientific evidence, our research group at Abertay University and York St John University have recently published research that further supports the wellbeing benefits that golf can provide (Sorbie et al., 2021). Specifically, playing golf on an outdoor golf course was positively associated with sense of belonging, enjoyment and wellbeing, following a period of closure as a consequence of the COVID-19 pandemic. **These superior perceptions of sense of belonging, enjoyment and wellbeing highlight the importance that golf can impart.** In addition to our research findings, previous evidence also supports these conclusions, reinforcing the importance of engaging with golf activities on outdoor golf courses (Stenner et al., 2016; Murray et al., 2017; Breitbarth and Huth, 2019). **Importantly, golf provides the added opportunity to improve or enhance sense of belonging and enjoyment, supplementary to the contributions towards the physical activity guidelines.**

In addition to the aforementioned positive impacts that golf participation can have on an individual's health and wellbeing, our research group at Abertay University and York St John University published a dataset in relation to golf activities that golfers were conducting during the COVID-19 pandemic (Sorbie et al., 2020b). The publicly available dataset provides insights into the golf-related activities that were performed, including their frequencies during a period of national lockdown (4–12th May 2020). In addition, the dataset can also provide insight into differences in golf-related activities between multiple occupations, specific working status' during COVID-19, and different golfer status'. This dataset displays that, even with the closure of golf courses, golfers were still able to undertake specific skill-based practices in relation to golf. Although golf activities that are engaged with in the home environment do not result in superior perceptions of wellbeing, they do provide individuals with a sense of belonging during a period of strict quarantine restrictions and with limited social interactions (Sorbie et al., 2021).

As a result of the recent scientific evidence highlighting the benefits that golf can have on health and wellbeing, it is crucial to raise awareness of these benefits, particularly within the older adult population. The enhancements in physical health, sense of belonging, enjoyment and wellbeing that golf can provide are

exceptionally important when considering challenges faced by this current society. This is particularly significant as our older generation continues to age at an exponential rate, and facilitating practices to improve the health-span are of national importance. Accordingly, the sport of golf can provide individuals with the opportunity to increase physical activity levels, as well as enhancing health and wellbeing. **The importance of golf and the contribution to health and wellbeing deserves consideration in regard to the policies within the national plan for sport and recreation.** Therefore, the research group at Abertay University and York St John University endorses the evidence presented within this call for evidence for a national plan for sport and recreation.

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28 January 2021