

Appendix 1. Updated status of research priorities identified in 2016 Scoping Review.

Research Priority relating to Golf and Health	2016 Comment from Scoping Review (Murray et al 2016)	Activity 2016-2018
Mental health and illness.	Physical activity has an overall positive impact on wellness, and mental ill health, but robust, controlled studies with objective measures are required in relation to golf. Weight of evidence low.	Randomised Control Trials. Completed. Golf and cognitive decline. Shimada 2018 Underway. Golf and dementia. Hewson et al. Cross Sectional. Completed. Golf and mental well-being. UK Active 2018. Further detailed research proposals in Australia, France and the UK have been submitted for funding or have been funded.
Systematic reviews relating to golf and health.	To explore cause and effect nature of the relationships described.	Further research to support these reviews required. Systematic review of injuries in professionals completed (Robinson et al 2018)
Muscle strengthening/ strength and balance/	Research on the contribution of golf to muscle strengthening/ strength and	Completed Small interventional (DuBois et al 2018,)

musculoskeletal benefits	<p>balance, and potential effects in relation to osteoporosis and osteoarthritis could be important to golfers, practitioners and policy makers looking to provide advice to patients and populations.</p> <p>Weight of evidence low/ knowledge gap.</p>	<p>and cross-sectional (Stockdale et al 2017) studies have been conducted.</p> <p>Underway</p> <p>Research funding has been secured by the Golf and Health team to assess strength and balance in golfers compared to controls in a RCT.</p>
Golf-carts	<p>Research is needed exploring how health effects/ relationships differ between golf played while riding a golf-cart, and golf played walking the course.</p> <p>Weight of evidence low.</p>	<p>Cross-sectional (Completed, being written up)</p> <p>Golf-carts versus walking distance, energy expenditure. Exercise intensity. Jayabalan 2018.</p> <p>Golf carts and utility for Osteo-arthritis. Jayabalan 2018.</p>
Golf Spectating	<p>Research assessing useful physical activity accrued spectating is required. Opportunities exist to shape health behaviours amongst spectators both on course, and in daily life using the experience as a 'teachable moment'.</p> <p>Knowledge gap.</p>	<p>Cross-sectional (completed) Spectators rate physical activity as important reason for spectating.</p> <p>Spectators gain HEPA while spectating (Murray 2017)</p> <p>Receiving PA messaging at golf tournaments can influence subsequent attitudes and behaviours re PA. (Murray et al 2019)</p>

Health behaviour change.	<p>Research is needed addressing how golfers and potential golfers can be influenced to take part and maintain golfing activity, and investigating and improving knowledge and behaviours related to golf injuries, illnesses and accidents.</p> <p>Weight of evidence low.</p>	<p>All completed.</p> <p>Consensus.</p> <p>Provision of action plans for golfers, the industry and policy makers (Murray et al 2018)</p> <p>Intervention</p> <p>Golf on referral studies (UK Active 2018, and other unpublished.)</p> <p>Golf and youth participation. (Go Golf Europe, unpublished)</p> <p>Intervention</p> <p>Receiving PA messaging at golf tournaments can influence subsequent attitudes and behaviours re PA. (Murray et al 2019)</p> <p>Understanding behaviours.</p> <p>Why older adults golf? (Stenner 2016, and ongoing, GoGolf Europe.)</p>
Economic effects	<p>Research investigating cost savings to health and other services associated with golf, and opportunities to make golf more accessible and</p>	<p>Cross-sectional data with basic economic analysis (UK Active 2018)</p> <p>Commitment by global golfing bodies</p>

	<p>affordable for all will inform policy.</p> <p>Weight of evidence low.</p>	<p>regarding improved access for women and girls, those with disabilities, and those new to the sport</p>
Specific populations.	<p>Research addressing associations between golf and health in a) disabled and b) older adult populations may highlight specific benefits/ dis-benefits.</p> <p>Weight of evidence low.</p>	<p>Children/ youth</p> <p>Go Golf Europe Project (publications pending)</p> <p>Older Adults</p> <p>Cross sectional- Why older adults play golf. (Stenner 2016)</p> <p>Longitudinal/ RCT- Mental and Physical health. Older adults. Golf. Funded research in Australia, USA, and UK</p> <p>Disability</p> <p>29 national organisations commit to developing golf in players with disability. Research collaborations and opportunities identified.</p> <p>Integration of elite disability players into a professional tournament 2018/ 2019.</p>

