

Institution: University of Glasgow (UofG)		
Unit of Assessment: UoA 20 Social Work and Social Policy		
Title of case study: Harnessing the draw of professional sports clubs to deliver improvements in health and wellbeing among at-risk groups		
Period when the underpinning research was undertaken: 2009–2018		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): (1) Cindy Gray (2) Sally Wyke (3) Kathryn Hunt (4) Chris Bunn	Role(s) (e.g. job title): (1) Research Fellow; Lecturer in Health Behaviour Change; Senior Lecturer; Interdisciplinary Professor of Health and Behaviour; (2) Interdisciplinary Professor of Health and Wellbeing; (3) Professor of Gender and Health; (4) Postdoctoral Research Associate; Research Fellow; Lecturer in Sociology.	Period(s) employed by submitting HEI: (1) 2011–2016; 2016–2017; 2017–2019; 2019–present; (2) 2011–present; (3) 1985–2018; (4) 2013–2017; 2017–2020; 2020–present.
Period when the claimed impact occurred: 2014–2020		
Is this case study continued from a case study submitted in 2014? Yes		
1. Summary of the impact Rising obesity levels challenge public health; men are particularly at risk but under-served by existing weight management programmes. UofG researchers developed and evaluated Football Fans in Training (FFIT), a weight management and healthy lifestyle programme delivered through professional football clubs. FFIT is effective, cost-effective and reaches high-risk groups. In 2016, UofG concluded a franchise-model agreement with the Scottish Professional Football League Trust. This franchise, UofG research and non-governmental organisation collaborations have resulted in over 10,000 men in 11 countries benefitting from healthy lifestyle programmes delivered in professional sports clubs. On average, participants have lost at least 3kg with subsequent health and wellbeing benefits including reductions in blood pressure, improvements in self-reported dietary intake and self-esteem.		
2. Underpinning research		
2.1. The problem Rising levels of obesity are a major challenge to public health. Estimates in 2011 suggested there would be 11 million more obese adults in the UK by 2030, accruing up to 668,000 additional cases of diabetes mellitus; 461,000 cases of heart disease and stroke; 130,000 cases of cancer; and up to 6.3 million Quality-Adjusted Life Years lost. Associated medical costs are set to increase by GBP1.9–2.0bn per year by 2030. Men are particularly at risk but under-served by existing weight management services. Tailored programmes that attract men, support them to lose weight and keep weight off long term are urgently needed.		
2.2. Football Fans in Training Between 2010–2013, with funding from the Chief Scientist Office, a UofG-led team developed (and holds the intellectual property for) the Football Fans in Training (FFIT) programme [3.1]. FFIT is a 12-week, group-based, weight management programme for men delivered over 12 weekly sessions in professional football clubs by trained club coaches. Each session combines an educational ‘classroom’ discussion with a group-based physical activity session; participants learn to use effective behaviour change techniques through interaction, ‘banter’ and mutual learning. FFIT works by first attracting men through their interest in football and then supporting them to lose weight by incorporating small, incremental physical activity and dietary changes into daily life to support long-term maintenance of the benefits gained. FFIT has since been successfully adapted for women [3.2].		
2.3. Long-term benefits of FFIT Between 2011–2014, with funding from the National Institute for Health Research, the UofG-led team conducted an evaluation of FFIT in the world’s first randomised controlled trial (RCT) of a healthy lifestyle programme delivered in professional sports clubs [3.3]. The rigorous RCT design eliminated any potential bias resulting from the same team developing and evaluating the programme. The RCT enrolled 747 men aged 35–65 years who were overweight or obese		

(body mass index [BMI] $\geq 28\text{kg/m}^2$). The intervention group undertook the FFIT programme in 13 Scottish football clubs, with measures of health and wellbeing assessed at baseline, 12 weeks and 12 months. The comparison group received no weight-loss intervention during this period but could participate in FFIT from month 13. The intervention group showed statistically significant improvements in weight and other measures of health and wellbeing after completing FFIT (12 weeks), which were maintained to 12 months. Key outcomes of the RCT [3.3, 3.4] and a 3.5-year follow up [3.5] are described below:

Weight loss and cardiovascular disease risk reduction: At 12 months, the mean between-group difference in weight loss was 4.94kg, equivalent to a 4.36% reduction in favour of the intervention group [3.3]. This value is in line with 2013 US guidance on management of overweight and obesity in adults, which indicates that 3–5% weight loss reduces cardiovascular disease risk. Other risk factors that improved in the intervention group included reductions in waist circumference (5.12cm), BMI (1.56kg/m²), body fat (2.15%) and blood pressure (2.27mmHg for systolic; 1.36mmHg for diastolic) [3.3].

Improvements in health behaviours and wellbeing: At 12 months, the intervention group also demonstrated improvements in self-reported physical activity, dietary intake, alcohol consumption, self-esteem, positive and negative affect, and physical health-related quality of life [3.3]. While most lifestyle programmes attract people from affluent areas, FFIT has demonstrated appeal across the socioeconomic spectrum: 262 (34%) of RCT participants lived in areas of moderate-to-high deprivation [3.4].

Cost-effectiveness: Economic modelling demonstrated FFIT is cost-effective compared to no intervention, with average gains of 0.43 life-years, 0.38 Quality-Adjusted Life Years (QALYs) and an incremental cost-effectiveness of GBP2,810 per QALY (GBP2,535 per life-year) gained [3.4].

Health benefits of FFIT extend to 3.5 years: In 2015, with funding from NIHR, 488 (65%) of men who had taken part in the RCT were followed up 3.5 years after baseline measurements [3.5]. This cohort included men from both the RCT intervention group and comparison group (who had taken part in non-trial 'routine' deliveries of FFIT after the RCT). At 3.5 years, participants had sustained a mean weight loss of 2.90kg and 2.71kg, respectively; and overall, 156 (32%) still weighed at least 5% less than at baseline. Improvements in most behavioural and psychological outcomes were also maintained at 3.5 years; and the programme continued to be highly cost-effective, with an estimated gain of at least 0.68 QALYs. The finding that routine deliveries of FFIT produce excellent long-term outcomes provided additional evidence to support the widespread roll-out of the intervention [3.5, 3.6].

3. References to the research

- 3.1. Gray C, Hunt K, Mutrie N, Anderson A, Leishman J, Dalgarno L, et al. (2013) Football Fans in Training: the development and optimization of an intervention delivered through professional sports clubs to help men lose weight, become more active and adopt healthier eating habits. *BMC Public Health*, 13(1):232. [doi:10.1186/1471-2458-13-232](https://doi.org/10.1186/1471-2458-13-232).
- 3.2. Bunn C, Donnachie C, Wyke S, Hunt K, Brennan G, Lennox J, et al. (2018) Can professional football clubs deliver a weight management programme for women: a feasibility study. *BMC Public Health*, 18:1330. [doi:10.1186/s12889-018-6255-2](https://doi.org/10.1186/s12889-018-6255-2).
- 3.3. Hunt K, Wyke S, Gray CM, Anderson AS, Brady A, Bunn C, et al. (2014) A gender-sensitised weight loss and healthy living programme for overweight and obese men delivered by Scottish Premier League football clubs (FFIT): a pragmatic randomised controlled trial. *Lancet*, 383(9924):1211–1221. [doi:10.1016/S0140-6736\(13\)62420-4](https://doi.org/10.1016/S0140-6736(13)62420-4).
- 3.4. Wyke S, Hunt K, Gray CM, Anderson AS, Brady A, Bunn C, et al. (2015) Football Fans in Training (FFIT): a randomised controlled trial of a gender-sensitised weight loss and healthy living programme for men – end of study report. Southampton (UK): NIHR Journals Library; 2015 Jan. (Public Health Research, No. 3.2.). [doi:10.3310/phr03020](https://doi.org/10.3310/phr03020).
- 3.5. Gray CM, Wyke S, Zhang R, Anderson AS, Barry S, Boyer N, et al. (2018) Long-term weight loss trajectories following participation in a randomised controlled trial of a weight management programme for men delivered through professional football clubs: a longitudinal

cohort study and economic evaluation. *International Journal of Behavioral Nutrition and Physical Activity*, 15:60. [doi:10.1186/s12966-018-0683-3](https://doi.org/10.1186/s12966-018-0683-3).

- 3.6.** Gray CM, Wyke S, Zhang R, et al. Long-term weight loss following a randomised controlled trial of a weight management programme for men delivered through professional football clubs: the Football Fans in Training follow-up study. Southampton (UK): NIHR Journals Library; July 2018. [doi: 10.3310/phr06090](https://doi.org/10.3310/phr06090).

Evidence of research quality: Output **[3.3]** was published in *The Lancet*, whose impact factor ranks it second amongst Journals in General Medicine. Citations have been high for other outputs; and the research was supported by three competitive awards from the Chief Scientist Office and National Institute for Health Research.

4. Details of the impact

4.1. Pathway to impact

The Scottish Professional Football League Trust (SPFLT) was a key partner in supporting the development of FFIT **[3.1]**, FFIT RCT **[3.3]**, and subsequently, the 3.5-year follow-up study **[3.5]**, and in evaluating FFIT for women **[3.2]**. In 2012, SPFLT took over responsibility for delivering FFIT using an easy access agreement (where anyone, not only SPFLT, could access the programme materials if they agreed to feedback results to the UofG). The early relationship and easy access agreement between SPFLT and UofG formed the basis of the case study submitted to REF2014.

Every year since 2014, SPFLT has used UofG research findings and on-going monitoring data to successfully apply for Scottish Government funding to deliver FFIT across Scotland. FFIT is promoted by club-based social media; men who are interested in taking part in FFIT sign up via their club or the [SPFLT website](#), which provides information about the programme and its benefits. On-going deliveries of FFIT are facilitated by a formal coach training programme, co-developed in 2014 by SPFLT and the UofG team. Since the 2013/14 football season, 251 coaches have been trained to deliver FFIT (confirmed by statement **[5A]**).

In 2014, following requests from female fans and clubs, SPFLT secured Scottish Government funding to pilot a version of FFIT for women. The UofG team supported SPFLT to adapt FFIT for this purpose **[3.2]** and led a pilot evaluation. FFIT-for-women is now delivered alongside the original FFIT programme. Since 2016, the UofG team has worked with SPFLT to transition from the easy access licence to a single-licence franchise-model agreement (FFIT franchise), which allows SPFLT to oversee worldwide rollout of FFIT. This franchise requires SPFLT to report monitoring outcomes from all FFIT deliveries to UofG annually (confirmed by statement **[5A]**).

4.2. SPFLT as beneficiaries of FFIT

The franchise has supported SPFLT to become an internationally recognised leader in corporate social responsibility within professional football. Since 2014, SPFLT has increased its operational capacity, including a dedicated FFIT Development Officer **[5A]**. In 2016, SPFLT won the [Football Business Award](#) for best non-match day use of a stadium for its work using FFIT.

The benefits of FFIT have also been recognised by national and international policymakers. In Scotland, FFIT was highlighted as: an example of a successful obesity intervention by the Health and Sport Committee of the Scottish Parliament (2016); an exemplar of good practice in the Scottish Government 'A Healthier Future – Scotland's Diet & Healthy Weight Delivery Plan' (2018); and an exemplar of population health and active lives in 'A Nation With Ambition: The Government's Programme for Scotland 2017-18' (2017). Internationally, FFIT was cited by the United Nations as an exemplar of how to encourage men to monitor their health (2017) and by the Public Health Agency of Canada in their Best Practices Portal (2016) (confirmed by collated evidence **[5B]**).

4.3. Benefits of FFIT for men and women in Scotland

Between the 2013/14 and 2018/19 football seasons, FFIT was successfully delivered in 38 of the 42 professional football clubs in Scotland to 3,665 men and 1,567 women (confirmed by monitoring data **[5C]**). Mean weight loss after FFIT (measured in week 12 of the programme)

was 4.6% (men) and 3.7% (women). Reductions were observed in both waist circumference (men, 6.8cm; women, 5.9cm) and blood pressure (men, systolic 8.2mmHg, diastolic 6.1mmHg; women, systolic 3.9mmHg, diastolic 3.1mmHg) both of which are associated with lower risk of cardiovascular disease. The values for men are comparable to 12-week outcomes in the RCT, which led to beneficial changes retained at 12-months [3.3] and 3.5 years [3.5]. These data suggest that the results of post-research deliveries of FFIT will lead to long-term benefits to health and wellbeing.

Participants also reported that FFIT had transformed their lives. For example, Participant A said: *“My life was a bit of a mess. 59 years old, feeling at least 10 years older, grossly overweight and gaining daily. Six months later, I have turned 60 years old and now feel at least 10 years younger, 5 stones lighter and losing daily”*. Participant B added, *“Four weeks ago I went and got some further blood tests done and my diabetes seems to have reversed itself. There was no sign of it. The doctor said it was remarkable what had actually happened.”* (quotes from report [5D]). UofG research demonstrates how the programme improves wellbeing as well as health, for example, Participant C said: *“I get such a buzz from the exercise, you see the weight is – it’s two-pronged this, you lose the weight and you feel good and you look good. But then because you’re exercising, you’ve got that extra buzz as well. And, you know, it’s just a double whammy o’ happiness.”* [3.6]

FFIT continues to attract hard-to-reach groups: 836 of 1866 (44.8%) men and 495 of 1137 (43.5%) women taking part in the routine deliveries, who provided their postcode, lived in areas of moderate-to-high deprivation. Participation in FFIT has also led to community-level benefits. A 2018 UofG survey found that, after completing the programme, participants continue to meet up to play football together (26 teams set up); continue FFIT-style sessions (6 clubs); meet socially (7 clubs); and fundraise for local charities (9 clubs) (confirmed by survey [5E]).

4.4. Benefits of FFIT for men in other countries

SPFLT, working through the FFIT franchise, has supported scale-up of the programme in England and Europe. Since 2014–2015, SPFLT has contracted with eight clubs across England to deliver FFIT to 510 participants [5F]. SPFLT has also supported the English Football League Trust to secure funding from Sport England for 10,000 men and women to take part in FFIT from 2020 onwards [5F]; with initial deliveries continuing successfully (online) despite COVID.

In Germany, in collaboration with the Institute for Therapy and Health Research, SPFLT trained coaches from 15 of the 18 clubs in the German Bundesliga to deliver FFIT to 477 men during 2017–2018. This number has now risen to 1,597 men in 21 clubs [5A]. Mean post-programme weight loss was 6.2kg, with mean blood pressure reductions of 11.1mmHg (systolic) and 4.8mmHg (diastolic). In 2018–2019, SPFLT supported the [European Football for Development Network](#) to deliver FFIT in eight European clubs to 418 men and women in the Netherlands, Hungary, Belgium, Norway, UK and Germany (confirmed by collated evidence [5G]).

In 2013, the UofG team obtained EU funding to use the FFIT model to inform the development of a football club-based programme ([EuroFIT](#)) to improve physical activity and sedentary behaviour among men in England, the Netherlands, Norway and Portugal. In 2015–2016, UofG led the evaluation of EuroFIT in an RCT involving 1,113 men aged 30–65 years, working in partnership with nine universities and three non-academic organisations, including the [European Healthy Stadia Network](#). The positive outcomes reported at 12 months (e.g. objectively measured physical activity increased by 678 steps/day) led to an agreement between the Portuguese Football Federation and the Portuguese Directorate of Health to support the roll-out of EuroFIT in Portugal (2017) (confirmed by collated evidence [5G]).

4.5. Adaptation of the FFIT programme to other sports internationally

The UofG team has collaborated with researchers and third-sector organisations internationally to adapt FFIT for delivery through other sports, including rugby, Australian Rules football and ice hockey (2015–2019). Between 2014–2020, FFIT has expanded to 11 countries and 4 sports. Published research has reported that over 500 men achieved positive weight, lifestyle and other health outcomes in these projects, which have attracted approximately GBP1.5m in research funding (confirmed by collated evidence [5H]):

- Rugby in England and New Zealand (305 men: mean weight loss 3.7kg);

- Australian Rules Football in Australia (130 men: mean weight loss 3.4kg). In addition, Curtin University (Perth, Australia) has received AUD149,503 from the Australian Heart Foundation for a 2-year project starting April 2020 to adapt this programme for delivery to men with heart disease;
- Ice hockey in Canada (80 men: mean weight loss 3.6kg).

4.6. Health economic benefits of FFIT

In 2020, UofG researchers conducted further economic modelling based on over 10,000 men who have taken part in routine deliveries since 2014 (confirmed by report [5I]). This analysis estimates that since 2014, FFIT has delivered population health impacts conservatively valued in net monetary benefits as GBP128.6 million for the FFIT participants and GBP118.3 million from an NHS perspective. In addition, the expansion of the FFIT model has prevented an estimated 101 deaths, 44 non-fatal coronary heart disease events and 38 non-fatal strokes. This impact translates to a net return on investment of 12.8% per year, which compares extremely favourably with other health promotion interventions (the median net return on investment is 2.2% per year) (all figures confirmed by [5I]).

5. Sources to corroborate the impact

[5A] (1) Statement from SPFLT; (2) Licence agreement for delivery of FFIT *[PDFs available]*.

[5B] Policy commendations: (1) Scottish Parliament Health and Sport Committee [Public Papers HS/S5/16/13/A](#) (2016); (2) Scottish Government [A Healthier Future – Scotland's Diet & Healthy Weight Delivery Plan](#) (2018); (3) Scottish Government [A Nation of Ambition: The Government's Programme for Scotland 2017-18](#) (2017); (4) UNAIDS [Addressing a blind spot in the response to HIV](#) (2017); (5) Public Health Agency of Canada [Best Practices Portal](#) (2016) *[PDFs available]*.

[5C] FFIT outcomes monitoring data 2013/14–2018/19 *[PDF available]*.

[5D] SPFLT FFIT Season 2015–2016 report *[PDF available]*.

[5E] Survey of community benefits <https://ffit.org.uk/wp-content/uploads/2020/02/After-FFIT.pdf>.

[5F] FFIT in England: (1) Hunt et al. (2020) Scale-Up and Scale-Out of a Gender-Sensitized Weight Management and Healthy Living Program Delivered to Overweight Men via Professional Sports Clubs: The Wider Implementation of Football Fans in Training (FFIT). *Int J Environ Res Public Health*. 2020 Jan 16;17(2). pii: E584. doi: 10.3390/ijerph17020584; (2) Formal announcement from the [English Football League Trust](#) (2019) *[PDFs available]*.

[5G] FFIT in Europe: (1) Pietsch et al. (2019) Short term effects of a weight loss and healthy lifestyle programme for overweight and obese men delivered by German football clubs. *Eur J Sport Science*; 1-10, doi:10.1080/17461391.2019.1660809; (2) Data Active Fans - All deliveries FFIT ICS; (3) Wyke et al. (2019) The effect of a programme to improve men's sedentary time and physical activity: The European Fans in Training (EuroFIT) randomised controlled trial. *PLOS Medicine*;16(2):e1002736, doi:10.1371/journal.pmed.1002736; (4) Roll-out of EuroFIT to [Portugal](#) (2017) *[webpage in Portuguese]* *[PDFs available]*.

[5H] FFIT adapted to other sports: (1) Maddison et al. (2019) Rugby Fans in Training New Zealand (RUFIT-NZ): a pilot randomized controlled trial of a healthy lifestyle program for overweight men delivered through professional rugby clubs in New Zealand. *BMC Public Health*;19:166, doi:10.1186/s12889-019-6472-3; (2) Quested et al. (2018) Protocol for a gender-sensitized weight loss and healthy living programme for overweight and obese men delivered in Australian football league settings (Aussie-FIT): a feasibility and pilot randomised controlled trial. *BMJ Open*;8:e022663, doi:10.1136/bmjopen-2018-022663; (3) Petrella et al. (2017) Hockey Fans in Training: a pilot pragmatic randomized controlled trial. *Med Sci Sports Exerc*;49(12): 2506–2516, doi:10.1249/MSS.0000000000001380 *[PDFs available]*.

[5I] FFIT health economic modelling report (2014–2020) *[PDF available]*.