

<b>Institution:</b> University of Edinburgh		
<b>Unit of Assessment:</b> 24 (Sport and Exercise Science, Leisure and Tourism)		
<b>Title of case study:</b> Football Fans in Training – walking towards increased physical activity and weight loss for football fans		
<b>Period when the underpinning research was undertaken:</b> 2013 – 2019		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e.g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Professor Nanette Mutrie	Chair in Physical Activity for Health and Director of Physical Activity for Health Research Centre (PAHRC)	07/2012 – present
<b>Period when the claimed impact occurred:</b> 1 August 2013 – 31 December 2020		
<b>Is this case study continued from a case study submitted in 2014?</b> No		
<b>1. Summary of the impact</b>		
<p>In high-income countries, obesity is more prevalent among men than women. Despite this being a significant public health issue, men are still less likely than women to attend weight management programmes. Mutrie's research has been instrumental in developing the physical activity elements of the Football Fans in Training (FFIT) programme which addresses this issue. The Scottish Professional Football League (SPFL) Trust delivered the programme with the researchers in 2013 and is now solely responsible for delivery. Since then, the FFIT programme in Scotland has been supporting approximately 1,000 participants per year to become more active and lose weight. Now 125 professional clubs in football and other sports (ice hockey, Aussie rules football and rugby) are using the FFIT programme and engaging several thousand men and women worldwide to increase step counts and to lose weight.</p>		
<b>2. Underpinning research</b>		
<b>The FFIT programme</b>		
<p>A multidisciplinary team of psychologists, health social scientists, a nutritionist and a men's health nurse designed FFIT to harness the personal connection men feel to the professional football club they support, with the purpose of engaging them in an evidence-based weight loss and physical activity programme.</p> <p>Working in partnership with the SPFL Trust, which aims to deliver social change through community engagement with SPFL professional football clubs, the researchers developed the free FFIT programme for men aged between 35 and 65, who are obese or at risk of obesity. The World Health Organisation classifies a person with a Body Mass Index (BMI) of more than 25 as overweight and someone with a BMI above 30 as obese. The men involved in this research each had a BMI of more than 27.</p> <p>FFIT consists of 12 weekly 90-minute sessions for groups of 30 men, delivered by specially trained football club coaching staff at their home stadium. Each meeting involves classroom time to teach participants useful skills and techniques to become more active and improve their diet, followed by a "pitch-side" physical activity session. The multidisciplinary team of researchers was led by the University of Glasgow, with Mutrie from the University of Edinburgh advising on all aspects of physical activity and designing the rigorous, incremental walking programme that</p>		

supported participants to use a pedometer and meet goals to take more steps each week, during and after the 12-week FFIT programme.

### **FFIT development and results**

The researchers followed the Medical Research Council's guidance on developing complex interventions with phase one being a pilot and feasibility trial and phase two being a fully-defined trial. Scotland's Chief Scientist Office (CSO) funded the first phase of FFIT's development. The 2013 (GBP218,197) pilot and feasibility trial involved 103 male fans of two SPFL clubs. It demonstrated the programme could recruit overweight men and support them to increase their step counts and their overall physical activity, which helped them to lose weight (3.1).

The UK's National Institute for Health Research (NIHR) funded phase 2 of the research. The GBP808,980 research project with 748 male fans of 11 SPFL premier league clubs produced 3 critical outputs:

1. A 2013 process evaluation of the pilot study with participants and coaches demonstrated men's enthusiasm for both the classroom and physical activity components, including the walking programme Mutrie designed. The research also showed the value men placed on the camaraderie and peer-support they received, and it found that coaches appreciated the simplicity of FFIT's key messages on healthy eating and physical activity (3.2).
2. A qualitative study based on semi-structured interviews with a representative sample of 29 participants evidenced the success of Mutrie's pedometer-based walking programme in motivating and empowering men to self-monitor and progress to self-defined goals. The 2013 research found participants responded enthusiastically to the speed at which the programme helped them regain fitness to begin other forms of physical activity, and it helped bolster their masculine identity (3.3).
3. A pragmatic, randomised control trial divided the 748 men into an intervention group (who began FFIT immediately) and a control group (who started it 12 months later). The 2014 research found fans in the intervention group lost an average of 5kg more than their control group counterparts after 12 months. They also self-reported an average increase in physical activity equivalent to walking for 4 hours each week (3.4).

### **FFIT sustained results**

It is always important to determine long-term changes in lifestyle interventions. Therefore, a follow-up study of 488 men who took part in the original, randomised control trial found they were still an average of 3kg lighter 3.5 years after starting the programme. This subsequent GBP338,161 NIHR-funded project also found participants' self-reported, sustained improvements in total physical activity were equivalent to more than 2.5 hours of extra walking each week (3.5).

This 2018 research also evidenced FFIT's cost-effectiveness (3.5). The National Institute for Health and Care Excellence (NICE) measures the cost-effectiveness of health interventions based on the cost of providing a person with a year of good health they otherwise would not have had – known as Quality-Adjusted Life Years (QALYs). Based on the 3.5 years of results, the researchers calculated FFIT had a QALY cost of between GBP10,700 and GBP15,300, which is significantly lower than NICE's guideline of GBP20,000 to GBP30,000 for determining the upper limit for cost-effective interventions.

### **FFIT international results**

A 2016 randomised control trial involving 1,113 male fans from 15 professional football clubs in England, the Netherlands, Norway and Portugal found more than 25% of men who took part in European Fans in Training (EuroFIT) sustained more than 5% weight loss 12 months after starting the programme. Developed by the original FFIT multidisciplinary team in collaboration with European partners, the EUR5,957,158 European Commission-funded EuroFIT project is

based on the Scottish programme's framework and includes Mutrie's walking programme. Published in 2019, the research also indicated participants continued to walk an average of 678 more steps per day 1 year later (3.6).

### 3. References to the research

3.1 Gray, C. M., Hunt, K., **Mutrie, N.**, Anderson, A. S., Treweek, S., & Wyke, S. (2013). Weight management for overweight and obese men delivered through professional football clubs: a pilot randomized trial. *International Journal of Behavioral Nutrition and Physical Activity*, 10:121. <https://doi.org/10.1186/1479-5868-10-121>

3.2 Gray, C. M., Hunt, K., **Mutrie, N.**, Anderson, A. S., Leishman, J., Dalgarno, L., & Wyke, S. (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*, 13:232. <https://doi.org/10.1186/1471-2458-13-232>

3.3 Hunt, K., McCann, C., Gray, C. M., **Mutrie, N.**, & Wyke, S. (2013). "You've got to walk before you run": Positive evaluations of a walking program as part of a gender-sensitized, weight-management program delivered to men through professional football clubs. *Health Psychology*, 32(1), 57-65. <https://doi.org/10.1037/a0029537>

3.4 Hunt, K., Wyke, S., Gray, C. M., Anderson, A. S., Brady, A., Bunn, C., Donnan, P. T., Fenwick, E., Grieve, E., Leishman, J., Miller, E., **Mutrie, N.**, Rauchhaus, P., White, A., & Treweek, S. (2014). A gender-sensitized weight loss and healthy living programme for overweight and obese men delivered by Scottish Premier League football clubs (FFIT): A pragmatic randomised controlled trial. *The Lancet*. 383(9924). 1211-1221. [https://doi.org/10.1016/S0140-6736\(13\)62420-4](https://doi.org/10.1016/S0140-6736(13)62420-4)

3.5 Gray, C. M., Wyke, S., Zhang, R., Anderson, A. S., Barry, S., Boyer, N., ... **Mutrie, N.**, Hunt, K. (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. <https://doi.org/10.1186/s12966-018-0683-3>

3.6 Wyke, S., Bunn, C., Andersen, E., Silva, M. N., van Nassau, F., McSkimming, P., **Mutrie, N.**, ... van der Ploeg, H. P. (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), 1-25. [e1002736]. <https://doi.org/10.1371/journal.pmed.1002736>

### 4. Details of the impact

The research has had a significant impact on policy and practice to improve health and wellbeing in Scotland and internationally, as shown below.

#### Impact on football fans in Scotland

The SPFL Trust continues to run the FFIT programme Mutrie and her colleagues developed [5.1A] through their research (3.1, 3.2, 3.3, 3.4), through a licencing agreement with the researchers. The University of Edinburgh agreed to allow Mutrie's contribution to be licensed under the University of Glasgow's licencing agreement. Since then, participants have lost over 3,800kg in 2016-17 [5.1B, p. 15] and over 3,300kg in 2018-19 [5.1C, pp. 11-12].

The SPFL Trust's 2016-2017 annual report states that the programme "is well established as the SPFL Trust's flagship project" with 79 programmes running and a 72% completion rate for participants [5.1B, pp. 14-15]. FFIT continued to have a high retention rate of 74% with 1,067 participants completing FFIT in 2018-19 across 27 SPFL clubs [5.1C, pp. 11-12]. In 2020, the SPFL Trust described FFIT as "Europe's most successful sport intervention programme" [5.1D].

### Impact on Scottish Government policy

In July 2018, the Scottish Government published its Active Scotland Delivery Plan setting out the actions it and its partners were undertaking to encourage people in Scotland to be more active. The plan included a commitment to “*continue to support the delivery and development of healthy living interventions as a treatment through the NHS and the third sector, such as the innovative Football Fans in Training programme*” [5.2, p. 16]. Furthermore, Action 3.8 of the Scottish Government’s 2018 Diet & Healthy Weight Delivery Plan stated: “*the Scottish Government will continue to fund healthy weight interventions designed and delivered by the third sector, such as Football Fans In Training (FFIT)*” [5.3, p. 24]. The funding is given to the SPFL trust annually.

### Impact on football fans and other sports fans internationally

In January 2020, FFIT project members published an evaluation of the programme’s implementation beyond the scope of the original research. The research in partnership with the SPFL Trust evidenced several international applications of the FFIT approach, including the walking programme Mutrie designed, in football and beyond [5.4]. Highlighted examples include:

- In 2016, the SPFL Trust worked with FFIT researchers and German coaches to adapt the programme for Bundesliga teams. Between December 2016 and July 2018, more than 934 men registered for the “Fussball” Fans in Training programme across 15 clubs. Among a sample of 477 participants, after 12 weeks, more than 50% lost at least 5% of their body weight [5.4, p. 17].
- Following the trial of EuroFIT in 15 professional football clubs in England, The Netherlands, Norway and Portugal (3.6), EuroFIT project partner and licence holder the European Healthy Stadia Network has overseen the programme’s roll-out to clubs across Europe [5.5]. The European Healthy Stadia Network launched a suite of online resources for coaches based on the research on its website in English, Dutch, Norwegian and Portuguese [5.5, 5.6] although coaches must register to be able to access these resources. EuroFIT was embedded as a core component of the Portuguese National Physical Activity Programme and the European Healthy Stadia Network has been agreeing legal frameworks and collaborative structures to upscale EuroFIT across Europe [5.7]. As of September 2020, 29 football clubs facilitated EuroFIT and the Executive Director of the European Healthy Stadia Network wrote: “*Feedback from programme coaches and participants alike has always been extremely positive about the step count programme [designed by Mutrie] owing to its simplicity, and the sense of control participants have over the goal-bound nature of step increments, and this is unquestionably a keystone to the EuroFIT programme’s success*” [5.8].
- Between 2018 and 2020, the SPFL Trust collaborated with the European Football for Development Network in an Erasmus+ project to train coaches from nine European clubs to deliver FFIT, including the pedometer-based walking programme. The Active Fans & Healthy Football League programme has been open to men and women in the UK, the Netherlands, Belgium, Germany, Hungary and Norway [5.9A]. Active Fans has produced wellbeing and social benefits for participants, including: increased physical activity, improved body mass index, blood pressure, nutrition, and social inclusion [5.9B].
- The FFIT project has also inspired independent research teams in Canada, New Zealand and Australia to develop similar programmes in collaboration with professional teams in their respective national sports, Ice Hockey, Rugby and Australian Rules Football [5.4]. These programmes have now engaged over 1,400 participants in total across 40 Canadian Hockey teams [5.10A], 3 New Zealand Rugby clubs [5.10B], and 2 Australian Rules Football clubs [5.10C].

Across all of the aforementioned examples, FFIT and related programmes have supported several thousand participants across 125 sports clubs worldwide to increase step counts and to lose weight.

## 5. Sources to corroborate the impact

### 5.1 FFIT evidence from the Scottish Professional Football League (SPFL) Trust

- A) FFIT programme website: <https://spfltrust.org.uk/projects/football-fans-in-training/>
- B) SPFL Trust Annual Report 2017 (pp. 14-16): <http://spfltrust.org.uk/report17/>
- C) SPFL Trust Annual Report 2019 (pp. 10-15): <https://spfltrust.org.uk/annual-report-more-than-90-minutes/>
- D) FFIT & Focused Update, 28 Aug 2020: <https://spfltrust.org.uk/its-back-ffit-focused/>

### 5.2 Active Scotland Delivery Plan, The Scottish Government 2018

<https://www.gov.scot/publications/active-scotland-delivery-plan/pages/6/>

### 5.3 A Healthier Future – Scotland’s Diet & Healthy Weight Delivery Plan, The Scottish Government 2018:

<https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2018/07/healthier-future-scotlands-diet-healthy-weight-delivery-plan/documents/00537708-pdf/00537708-pdf/govscot%3Adocument/00537708.pdf>

### 5.4 Hunt, K., Wyke, S., Bunn, C., Donnachie, C., Reid, N. and Gray, C. M. (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). *International Journal of Environmental Research and Public Health*, 17(2), 584. <https://doi.org/10.3390/ijerph17020584>

### 5.5 EuroFIT: Developing the EuroFIT implementation plans, Deliverable no 6.2, European Health Stadia Network, 31st October 2018

### 5.6 EuroFIT resources from Healthy Stadia for registered coaches (registration required): <https://healthystadia.eu/EuroFIT-resources/>

### 5.7 Final Report Summary - EUROFIT (Social innovation to improve physical activity and sedentary behaviour through elite European football clubs: European Fans in Training): <https://cordis.europa.eu/project/id/602170/reporting>

### 5.8 Testimony from Executive Director, European Healthy Stadia Network

### 5.9 Evidence of Active Fans & Healthy Football League

- A) Active Fans programme website: <https://www.activefans.eu/delivery-of-the-active-fans-programme/about/>
- B) Health and Social Impact of Active Fans: <https://www.activefans.eu/news/health-and-social-impact-of-active-fans/>

### 5.10 Evidence of FFIT-inspired weight loss and physical activity programmes around the world

- A) Hockey Fans in Training, Western University, Ontario, Canada: <https://www.hockeyfansintraining.org>
- B) Rugby Fans in Training New Zealand (RU FIT NZ), Universities of Otago and Auckland, New Zealand: <https://nihi.auckland.ac.nz/node/606>
- C) Aussie Fit, Curtin University and Edith Cowan University in Perth, University of Newcastle, Australia and University of Glasgow, Scotland: <http://www.aussiefit.org>