Watching Football as Medicine: Promoting health at the football stadium

KEITH D. PARRY, EMMA S. GEORGE, JESS RICHARDS, and ANDY STEVENS

Keith D. Parry

Department of Sport, Exercise and Health, University of Winchester, Sparkford Road, Winchester, SO22 4NR, United Kingdom

Emma S. George

School of Science and Health and Translational Health Research Institute (THRI), Western Sydney University, Locked Bag 1797 Penrith

NSW 2751, Australia

Jessica Richards,

School of Business, Western Sydney University, Locked Bag 1797 Penrith

NSW 2751, Australia

Andy Stevens

Department of Sport, Exercise and Health, University of Winchester, Sparkford Road, Winchester, SO22 4NR, United Kingdom

Abstract

This chapter assesses the potential that *watching* football at stadia holds for health promotion. Football matches serve as a release for fans from their everyday life and resultantly becomes a site where they can engage in indulgent behaviour by eating and drinking to excess. However, the European Healthy Stadia Network provides a variety of initiatives that are designed to encourage healthier practices at stadia. The chapter critically examines the food provided at

stadia, highlighting those attributes that may result in it being healthy or unhealthy and the measures needed to move towards healthier stadia.

Away from food, we also detail a number of evidence-based programmes that encourage football fans to be more physically active. The first of these is the Football Fans in Training programme, which used sports clubs and their stadia to target men, a hard-to-reach population group. A variety of subsequent programmes from Europe, New Zealand, and Australia are also analysed. The potential for stadia to increase physical activity is then discussed, providing evidence for the activity levels that are associated with attending stadia in person. Stadia-based initiatives are not without their challenges, particularly due to the abundance of 'unhealthy' sponsors that are evident at many venues. Health promotion messages at stadia can become lost within these more glamorous advertisers. Furthermore, sports fans are also highly routine in their match day behaviours and resistant to engage with non-football-related messages. Despite these challenges, the case of Forest Green Rovers, the world's first vegan football club, provides evidence that established patterns of behaviour can be changed, promoting healthier alternatives.

Keywords

Healthy stadia, health promotion, stadium design, health eating, sports fans

Figures and Tables

Figure 1 – Timeline of Forest Green Rovers' food journey

Introduction - Stadium-based health

French Neo-Marxist sociologist Jean-Marie Brohm (1978) claimed that the Olympic Games acts as an 'opiate' for the people, keeping them enthralled and pacified. He went on to argue that the televising of sports events allows the ruling class to reduce the population to "a servile mass" in a move that is eerily similar to the use of "bread and circuses" to appease and distract the citizens of Ancient Rome. Although such a view may sound alarmist, spectator sport is contradictory and is indeed based on large numbers of the population passively engaging in mass entertainment. The majority of those involved in the sporting spectacle is largely inactive and sedentary watching a minority expend energy and effort for their amusement.

Citizens of many nations are now, more than ever, spending copious amounts of time 'enthralled' by watching sport on television and live at venues. Perhaps as a result of this obsession with watching sport, in the United Kingdom, less than 40 per cent of men and 30 per cent of women are achieving the recommended for an active lifestyle (Parnell & Pringle 2016). As previously documented (Parry et al. 2018), rates of sport participation are far lower than rates of sport spectatorship, both in terms of watching sport at a stadium or from home via the media. Indeed, watching sport is one of the most popular leisure choices in many countries, but the prolonged periods of sedentary behaviour that are associated with modern sport consumption can have a detrimental impact on health (Grøntved & Hu 2011). Physical activity and sedentary behaviour guidelines have been established in many countries with the aim of minimising both the amount of time that populations are spending in front of screens and overall sedentary behaviour (see, for example, Department of Health 2017). Therefore, it is important that health promotion is encouraged with regard to fans attending live sport, specifically through the provision of healthier eating options and physical activity initiatives, and with a particular focus on young people to encourage lifelong healthy lifestyles. Moves

aimed at encouraging stadia to adopt healthy initiatives that benefit fans and staff alike, such as the introduction of a meat-free menu by Forest Green Rovers (as will be discussed later), have resulted in the concept of Healthy Stadia, which are defined as:

> those which promote the health of visitors, fans, players, employees and the surrounding community…places where people can go to have a positive healthy experience playing or watching sport. (Philpott & Seymour 2010, 69).

This chapter will assess the potential that *watching* football holds for health promotion. We commence by critically examining the state of stadium food and highlight recent moves towards healthier eating. We will then discuss a number of evidence-based programmes that encourage football fans to be more physically active and the potential that stadium design holds for increasing physical activity. After acknowledging the challenges that stadium-based health promotion activities are faced with, we will provide an instructive case study on Forest Green Rovers, the world's first vegan football club. We finish by detailing the way forward for health promotion through football stadia.

Healthy eating at stadia

> The game day activities many fans relish are undoubtedly unhealthy…poor eating and drinking habits may extend beyond game day.
>
> (Woods 2012, 1)

The consumption of food and drink plays an important role in the stadium experience (Parry, Hall & Baxter 2017) but, as indicated in the above quote, football stadia are not associated with healthy eating. Excessive alcohol consumption and unhealthy fast food have been equated to what Ireland and Watkins (2010) termed the 'football fan diet'. In their study of fast food sold

at an unidentified Premier League football club, they explored how attending football matches was a 'release' for football fans from their everyday life where fans typically engaged in indulgent behaviour. This indulgence is encouraged by the presence of all-you-can-eat food promotions by teams such as the Detroit Tigers (Rector 2010) and the Washington Cardinals (Carman 2012), which only added an extra US$15-20 onto the price of a ticket.

An ethnographic study on the match day experiences of Everton Football Club fans found that consuming fast food also had symbolic meanings attached to it. Meanings tied to particular types of food were reflective of and attached to match day memories, experiences and traditions (Richards 2016). For example, the smell of fast food and the sizzling sounds of burgers outside of the football stadium remains tied to what Gaffney and Bale (2004, 33) have described as "sensing the stadium". The smells that fans experience en route to and once inside a stadium evoke responses that familiarises them with sport. Smells, like familiar landmarks, anchor fans spatially within a sports stadium, evoking feelings of routine, comfort, and familiarity. Whilst eating at home symbolises intimacy and family, eating while watching a sports match symbolises festivity, excitement, and builds atmosphere for the upcoming fixture – encouraging excessive eating.

However, studies by Ireland and Watkins (2010, 684) and Parry, Hall and Baxter (2017, 210) also highlight the dissatisfaction that fans feel with the choice and quality of the food on offer with comments such as "awful", "atrocious", "terrible food choices (no fresh/healthy food at all)" and "exorbitant prices" used to describe the typical offerings. Worryingly, some fans go to great lengths to avoid purchasing food and beverage once inside the stadium. These lengths reportedly involve binge eating on food and beverages *before* they enter a venue (Martin &

O'Neill 2010, 14). These practices are contrary to healthy eating guidelines that encourage smaller, balanced, and regular meals (National Health and Medical Research Council 2013).

In the absence of a clear definition of healthy eating options, we turn to discussions such as those offered by the World Health Organisation (WHO), who identify the high levels of fat, sugars and cholesterol in unhealthy foods (WHO 2015). Stadium food has typically been high in levels of saturated fat and sugar (Philpott & Seymour 2011), similar to the offerings found in fast food restaurants (Sukalakamala, Sukalakamala & Young 2013) and would thus be considered unhealthy. Furthermore, European stadia have frequently been situated in less affluent areas, with a high density of low-quality housing. The inhabitants of these neighbourhoods are often accustomed to eating fast food-style offerings as they typically either have poorer health literacy (being unaware of the health implications of their food choices), or are happy to eat offerings that are less healthy and of lower quality as they are cheaper (Drygas et al. 2013). Yet even those fans who have a better understanding of the implications of food choices may also eat unhealthily at sports matches. Indeed, it has been reported that some fans see football matches as "a place for an occasional unhealthy pie" (Ireland & Watkins 2010, 685).

Whereas few stadia have, hitherto, had a healthy eating policy (Drygas et al. 2013), recent moves by the European Healthy Stadia Network have seen the "implementation of robust, evidence-driven policies and practices" (European Healthy Stadia Network 2019) along with a series of guidance documents and toolkits to facilitate the development of stadia as health-promoting environments. In addition to issuing guidance on achieving a tobacco-free stadium and promoting active travel, they have developed a new benchmarking tool for healthy matchday catering, which is supported by the British Heart Foundation. Their 'Healthy Match

Mark' focusses on the sale of healthier food options; food preparation and healthier cooking techniques; the control of portion size and condiments; the supply of healthier beverages; pricing; and the promotion of healthier options.

Therefore, it is possible to use venues to promote and even encourage healthy lifestyles and choices. The aforementioned contradictory nature of spectator sport also opens up an important discussion around the social obligation of professional sporting bodies to encourage fans to be more active and not only to use sport as a lucrative spectacle for television. Furthermore, given that the location is crucial for delivering health interventions, particularly those aimed at men, stadia are uniquely placed to promote physical activity to some population groups.

Football Fans in Training and other programmes

Men are a hard-to-reach population group for the promotion of healthy lifestyles (Department of Health and Ageing 2010; Pagoto et al. 2012). There are limited programmes designed specifically for men, however, evidence suggests that when gender-specific approaches are used to shape the development and delivery of health promotion programmes, men may be more likely to engage (Bottorff et al. 2014; George et al. 2012; Gray et al. 2009; Morgan et al. 2011).

Sporting organisations are perfectly positioned to deliver important health and social messages and researchers are increasingly using sport as a vehicle for health promotion (Hunt et al. 2014; Pringle et al. 2009). The Football Fans in Training (FFIT) programme (Hunt et al. 2014; Gray et al. 2013) demonstrates the potential for professional sporting organisations to engage with their fans in a way that truly contributes to the health and wellbeing of the community. This 12-week programme, developed in collaboration between the Scottish Professional Football

League Trust and the University of Glasgow, involved gender-sensitised group-based education and physical activity sessions and was delivered across 13 Scottish professional football clubs (Hunt et al. 2014). Significantly, this intervention was staged at the clubs' home stadia, capitalising on the importance of the stadium to fans. The programme successfully recruited male football fans with a body mass index of 28kg/m^2 or over who were aged between 35 and 65 years. FFIT was delivered by Scottish Premier League Community Coaches according to a defined protocol and educations sessions focused on topics relating to weight management, including increasing physical activity and improving dietary intake. The intervention also comprised an incremental walking programme, where men were encouraged to monitor their daily step counts using pedometers (Gray et al. 2013).

Results from a two-group, pragmatic randomised controlled trial with 747 participants (Hunt et al. 2014) demonstrated a significant treatment effect for absolute weight and percentage weight loss ($p<0.0001$), after adjusting for club and weight at baseline. Significant treatment effects were also observed for waist circumference, body mass index, body fat percentage and blood pressure, demonstrating that a gender-sensitised weight loss intervention could be effectively delivered at the stadia of professional football clubs (Hunt et al. 2014).

This innovative approach to men's health and recruitment capitalises on sport fandom and uses the inherently masculine context of a football stadium to deliver health messages. The effectiveness of FFIT has led to the development of an additional football-based programme in Europe (Wyke et al. 2019), and spin-off programmes in rugby union in New Zealand (Maddison et al. 2019), rugby league (see below) and Australian Rules football in Australia (Quested et al. 2018) and ice hockey in Canada (Caperchione et al. 2017; Petrella et al. 2017).

The EuroFIT randomised controlled trial recruited 1,113 overweight men aged 30-65 years with a body mass index of 27kg/m^2 or above across 15 professional football clubs in England, the Netherlands, Norway and Portugal (Wyke et al. 2019). EuroFIT extended FFIT by incorporating an app (MatchFIT) and physical activity and sedentary behaviour monitoring device (SitFIT) to encourage participants to self-monitor their activity. Weekly education sessions targeted physical activity, sedentary time and diet and were delivered by trained coaches at club facilities or their 'iconic' stadia (Wyke et al. 2019). At 12 months, significant between-group differences favouring the intervention were observed for outcomes including steps/day, dietary intake, weight, wellbeing and self-esteem.

Both FFIT and EuroFIT provide evidence to support the use of football club facilities and stadia to promote weight management, physical activity, sedentary time and diet in middle-aged men. Due to its success, and the demand from women, FFIT is now also available to female football fans (http://spfltrust.org.uk/ffit/) and the programme is delivered as a sustainable, community engagement initiative through the Scottish Premier Football League Trust. Sustainability and transferability should be key goals for any health promotion initiative, so to see this level of engagement beyond the scope of a contained, rigorous randomised controlled trial is promising. This framework could be utilised in a number of professional sporting contexts and tailored to meet the needs of local communities.

In New Zealand, Maddison and colleagues (2019) tailored the FFIT programme to be delivered at the grounds of professional rugby union clubs in Auckland and Dunedin (RUFIT-NZ). Overweight men aged 25-65 years were recruited for a pilot study testing the feasibility of the tailored programme. Significant treatment effects were observed for body weight, waist

circumference, blood pressure and cardiorespiratory fitness, suggesting that the FFIT programme could be successfully tailored for the New Zealand population.

The FFIT programme has also been replicated in Australia, with the AussieFIT programme being delivered in Western Australia through professional Australian Rules football clubs in the elite Australian Football League (AFL) at either the clubs' playing or training facility (Quested et al., 2018). Outcome data are not yet available, but the results from the EuroFIT and RUFIT-NZ programmes are promising and it is anticipated that the AussieFIT programme will show similar results. There is also a range of excellent programmes being delivered through professional football clubs for which formal outcome data are not yet available or are not being collected. For example, the Western Bulldogs AFL club based in Melbourne, Australia also deliver a 10-week FFIT-inspired programme called Sons of the West (http://sonsofthewest.org.au/). The free programme delivers education sessions and activities to promote physical activity, nutrition and mental health. Although the effectiveness of the programme has not been formally evaluated, anecdotal evidence suggests this programme is successfully engaging the local community and improving health outcomes.

In the National Rugby League, the Canterbury-Bankstown Bulldogs deliver the Active Breed men's health initiative (https://activebreed.thebulldogs.com.au//home). This 12-week programme engages male rugby league football fans in the Greater Sydney region and involves weekly education and physical activity sessions within the club's inner sanctum and training facility, Belmore Sports Ground – a stadium that hosted Bulldogs' games from 1936 until 1998. This programme is also inspired by FFIT, but was developed in partnership with sport, health and community partners. The education component of the programme focuses on physical activity, nutrition, health service engagement, mental health and violence prevention.

Participants engage in tailored activity sessions including gym-based workouts in the same gym used by the players and touch football games. Active Breed is embedded within the club and incorporates visits from club coaches, current and former players, and health experts.

The professional football context is a powerful drawcard for fans and this should be harnessed for the continued promotion of health and wellbeing. However, it is also worth considering the potential that stadia have for increasing physical activity levels of spectators at regular games in addition to during interventions.

Stadium design and fan activity levels at games

The MatchFIT app is not the only example of the potential that wearable technology holds for stadia-based health initiatives. Global Positioning System (GPS) enabled devices, such as smartphones and smartwatches, can be used to provide visual overviews and tracking data of research participants on route to specific sport locations (Andrew 2013; Gong et al. 2014; Rasmussen 2013). Indeed, wearable technology has been used since the 1990s to track trip data, gaining popularity because of the improvement in the accuracy of GPS technology. In fact, the first attempts to validate a commercially available GPS device (the GPS45 Garmin) for the measurement of human movement was published in 1997 (Schutz & Chambaz 1997).

Although wearable devices have been used to explore skill development and/or health and well-being implications of professional athletes, they have not been used to track sports fans movement, engagement and physical exertion on match day. There is much potential for the use of these devices as a substantial amount of empirical data can be generated from a study incorporating wearable technology into the research design. An additional benefit of utilising this technology is that the data collection process is completely normalised and operates

"innocently and efficiently" to limit field distortion (Jones et al. 2016), primarily because wearable technology enables users to access information naturally in their own environment rather than forcing them to enter into a digital world (York & Pendharkar 2004). The psychological benefits of being a sports fan have been extensively researched (Bransombe & Wann 1991; Wann 2006), but going to a sports match may also have additional physical health benefits, not yet explored within research and academic literature. Despite people becoming increasingly aware of their wellbeing and the state of their bodies, with body sensor networks embedded into garments to track bodily data in order to sustain healthier lives (Ugur 2013), the physical benefits of attending sports matches remains under-researched.

Sports fan-related research is increasingly identifying that the match day experience entails much more than just attending the stadium and involves visiting particular locations (often routinely) while travelling to watch live sport (Richards & Parry 2019). Gaffney (2008) identifies that stadia function as sites and symbols of social memory, representation, and meaning for sports fans, with match day travel yielding particular significance. Travel in this way both consolidates and strengthens fan identity, with fans either sharing modes of transport (train/car), or meeting at a particular venue and walking together to the match. Historically, the routes walked by fans from public transport links or through densely packed housing to the stadium have involved at least moderate degrees of physical activity. However, while the (often extraordinary) lengths that fans travel by car to attend matches is frequently documented, the distances that fans walk to games and the associated levels of physical activity have been ignored. Recent technological advancement has provided researchers with the tools to collect, analyse, and integrate micro-level data on an individual's location, time and intensity of activity in space (Yin 2013). For example, a recent study by Murray et al. (2017) on the social and physical benefits of watching golf found that spectators of the 2016 Paul Lawrie Matchplay

tournament walked a mean of 11,589 steps, with 82.9% of the 339 spectators surveyed reaching their recommended daily step-count. Additionally, they note the physical, social and mental health benefits of walking the course.

We are currently conducting a pilot study exploring the use of wearable technology to understand how sports fans interact with stadia during sports matches, as well as assessing any health benefits of match day travel. The project aims to provide a more holistic account of sports fans' routes to stadia and explore an alternative narrative of match day related to health. Preliminary findings suggest that attending a live sporting fixture involves more physical activity and physical movement than first anticipated – and certainly more than fans who watch matches on television. Initial data collection took place at a number of venues in Sydney, Australia. Within the Australian context, the ticket to a sporting fixture generally includes the cost of public transportation and, for this reason, most participants travelled by train to their chosen sporting match. Our findings suggest that travelling to the match, regardless of the mode of transportation and even without engaging in active travel measures, involves not inconsiderable levels of physical activity. Fans that took public transport had a higher rate of physical activity (mostly due to walking to and from a train station), but even those who drove still had substantially high levels of physical activity than fans watching it on television as most car parks are situated at least a reasonable walk from the stadium. Indeed, the shortest distance travelled by participants when attending a stadium was 1.5kms.

Tracked levels of physical activity varied depending on the design of the stadium and the type of sporting event being watched. Those stadia that allow fans to move around during games, such as oval-shaped cricket grounds, provided greater opportunities for physical activity during games and resulted in greater distances covered by participants. Rectangular football stadia,

where fans are typically allocated seats in particular sections and often segregated from either opposition fans or exclusive corporate facilities, result in lower levels of physical activity. Indoor arena sports, such as basketball and netball, offer high levels of entertainment during breaks in play (and which involve shorter match-time), resulting in a greater tendency for spectators to remain sedentary and hence lower levels of activity. However, for sports that were longer in duration, such as cricket, there was an increase in the physical movement in and around the stadium.

As it is now recognised that prolonged bouts of sedentary behaviour should be broken up with physical activity, in order to improve metabolic health (Healy et al. 2008), sporting organisations should not only consider the role that the design of stadia plays in health promotion, but also the activities that they provide during events to reduce the amount time that fans are seated. As an example, in North America, the San Diego Padres have for a number of years been incorporating physical activity breaks for spectators during their games (Yancey et al. 2009) as part of a holistic approach to health promotion that also includes competitively priced healthier food options.

Challenges to stadium-based approaches

Facilities and stadia have been identified as "cultural landmarks to deliver health-related messages, interventions and projects" (Martin et al. 2016, 177). Yet using football stadia as health promotion sites is not without challenges. As an example, an initiative that aimed to create health awareness and motivate men to consider adopting and/or engaging in recommended health behaviours disseminated health messages both inside and outside an English football stadium but found that "only a small number of men engaged with health services at the stadium on match days" (Curran, Drust & Richardson 2014, 924). As noted,

fans have regular match day routines that are grounded in tradition and meaning (Richards & Parry 2019). They are resistant to any interruptions to these routines and so, Curran, Drust and Richardson (2014, 929) have concluded that "we cannot assume that male supporters will absorb health messages in and around all sport stadia on match days". Health messages can also be hard to deliver when stadia are more often the home of 'unhealthy' messages.

In numerous countries, television advertising of products such as alcohol, gambling, and fast food is now regulated; recognising the negative impact that these products can have, particularly on children. Similarly, the governing body of football in England, the English Football Association have restricted the sponsorship of playing kits worn by teams consisting entirely of players under the age of 18 by any "service or other activity which is considered by The [Football] Association as detrimental to the welfare, health or general interest of young persons" (The Football Association 2017, 6). They primarily identify alcohol and gambling as being 'detrimental' based on the fact that they are age restricted products. However, Parry et al. (2018) note that the main sponsors of sport, particularly for mega events and venues are often fast food, fizzy drink, alcohol, gambling, and (previously) tobacco companies. Moreover, even when venues limit their unhealthy sponsors, the clubs playing there may not follow suit. In an analysis of association football clubs in Australia, we found that the teams in the elite men's competition, the A-League had, on average, two unhealthy food or beverage companies amongst their main sponsors in 2018. In addition, the league itself has fast-food giant McDonald's as one of its 'official partners'. While the clubs were less likely to have official betting sponsors/partners, the league again has a major betting company as an official partner. The negative impact of (less healthy) food and beverage, betting and alcohol companies sponsoring sporting events has been identified (Carter et al. 2012; Garde & Rigby 2012; Sherriff, Griffiths & Daube 2010) and yet the lucrative deals offered by these profitable

sponsors means that they continue to be appealing for venues and sports organisations. As a result, health-promoting policies regarding stadium food can be lost within the 'noise' generated by the proliferation of messages promoting unhealthy options. Until binding regulations or voluntary measures are introduced this situation may be difficult to change.

As has previously been argued (Parry et al. 2018), a football stadium (and sports stadia generally) is a specific environment that, like airports and concert venues, is physically sealed off from the outside world. It is an enclosed commercial domain that is designed in the context of a monopoly or oligopoly (depending on how many independent suppliers are contracted to service it) around offering food and beverages. The sale of these is often outsourced to a small number of licensed suppliers (Lee, Heere, & Chung 2013*)* who pass on the costs of supplying their necessarily limited offerings to sport fans. Under this model, food and beverages that are cheap to produce, and typically less healthy, are favoured due to their promise of larger returns than more expensive or more time intensive healthy alternatives. Consequently, some teams and venues have little or no influence or control over the food and beverage on offer.

In rare instances, clubs that retain control over their stadium and catering offerings can move away from the accepted practices and the indulgent behaviour associated with modern football. One club, Forest Green Rovers are challenging these norms, promoting sustainable practices and encouraging healthier eating and lifestyles. The following case study analyses this unique example.

Forest Green Rovers: "The World's first vegan football club"

Forest Green Rovers Football Club were already unique when the "village team on the top of a hill in the middle of nowhere" (Garry 2017) became the smallest club to be promoted to the

Football League (FIFA 2018), the professional divisions of association football in England and Wales. The club's stadium, The New Lawn, is located in Nailsworth, Gloucestershire, which has a population of just 5,794 (Garry 2017) – smaller than the average attendance of many of the club's rivals in League Two (the lowest division in the Football League) and some in the National League. However, it has been their off-the-pitch strategy rather than the team's performance in the Football League that has won recognition from the likes of FIFA and the United Nations, as the organisation became the first vegetarian (Vegetarian Living no date), and then the first the vegan (BBC 2015), football club in the world.

Rovers were founded in 1889 and have had modest success as a non-league club in local and regional leagues, with their most notable trophy being the 1982 FA Vase (Anderson 2017). In 2011, the club was acquired by Ecotricity (Ecotricity Group Limited 2011), a company owned by Dale Vince, who was appointed chairman of the club. Ecotricity is a provider of sustainable energy, transport and food services, which is based in the nearby town of Stroud, Gloucestershire. The club was acquired to provide a new channel for the company to promote sustainability projects (Forest Green Rovers 2018). Since then, Rovers have implemented a sustainability programme, which has encompassed the club's food and drink services, with the club's environmental policy being "to promote healthier food for our players, staff, visitors and fans" (Forest Green Rovers 2018, 4). The most prominent, and most contentious, part of the programme has been the introduction of a vegetarian and, subsequently, a vegan menu in 2015 (see Figure 1). The meat-free policy was initially introduced for players "for health and performance reasons" (Haynes 2011, 38) and subsequently to all staff and spectators " as a good health initiative and also an environmental one" (Stuart 2017, 6).

As we will detail below, many were initially sceptical about the menu and the rationale behind it. However, a comprehensive systematic review and meta-analysis on observational studies of vegetarian and vegan diets (Dinu et al. 2017) found that a vegetarian diet was associated with a significantly lower risk of ischemic heart disease incidence and mortality and cancer. A vegan diet was also associated with a significantly lower risk of cancer (Dinu et al. 2017).

Forest Green Rovers have generated worldwide publicity for their policy, although much of it has drawn on stereotyped perceptions of vegetarian and vegan menus being restricted to hummus (Haynes 2011, 38) and lentils (Daily Mail 2011). Vince has been described as a "hippy" (Nickless 2017, 13) and "carrot cruncher" (Davies (2017, 10) and the club as "eco-warriors" (Edwards 2018, 49). Reporting of the menus has been predominately negative: Meat products have been *banned* (Daily Mail 2011), while the vegan menu has been *imposed* (Haynes 2011, 38) on fans and "hungry players" (Sales 2018, 3). The vegan menu has both been blamed for poor performances, typically in the sport pages of the tabloid newspapers (cf. Witcoop 2017), and for good performances, such when Rovers won promotion to the Football League, more often by broadsheets (cf. Burnton 2017).

The non-meat menus have received support from the club's own staff, players and fans, but less so from those from opposition teams. Importantly, the policy has been endorsed by Rovers' manager Mark Cooper and the players (Stuart 2017; Williams 2015), although they have had to address scepticism, misconceptions and suspicion. Staff had to overcome concern from players that a vegan diet was "weird or wrong" (Caulkin 2017, 12) and there have been reports of players ignoring the policy, although Rovers maintain that it only applies at the club's facilities and events (Sales 2018).

Some opposition clubs have – intentionally or otherwise – been antagonistic towards the meat-free menu. When Lincoln City played Rovers in November 2018, they placed an advertisement for a steak restaurant in the match programme next to a feature on Forest Green Rovers (Lambourne 2018). The chairman of Carlisle United, Andrew Jenkins, described Rovers' policy as "strange" (Scott 2018, 10) when his team visited The New Lawn in December 2017. He refused to even try any of the products: "I couldn't pull myself together to sample the food on offer. I don't want to be sarcastic, but what would happen if, when vegetarians came to our club, all we could offer was an all-meat menu?" (Scott 2018, 10). However, Carlisle United did then offer a vegan option on their menus when they hosted Rovers later in the season (Bawden 2019).

There is generally more acceptance of the unique menu on offer at The New Lawn from Rovers' own supporters and neutral spectators than there is from opposition fans. Complaints are more likely to be from away fans, although some are open-minded and even anticipate the new products on offer, with a few visitors changing their opinions about vegetarian and vegan products. The menu is frequently debated on the *FGR Forum* message board, which is available on the club's website (Forest Green Rovers no date). Threads relating to food and drink are more prominent that on comparable forums of other clubs. There are a variety of opinions, but overall the forum indicates that there is a lot of support for many aspects of the club's sustainability programme. The opinions of other visitors to The New Lawn, however, are much more divisive. Reviews of the matchday experience on the *Football Ground Guide* and *TripAdvisor* websites cover a range of issues, but comments on the club's food and drink service are common. It is evident that many first-time visitors are sceptical about the menu, although some change their minds as a consequence of attending a match at The New Lawn. More

notable is that the fan experience is, again, adversely affected by perceptions of the poor-quality products and particularly by perceived low quality of facilities and customer service.

The sustainability strategy of Forest Green Rovers, and specifically the introduction of vegetarian and vegan menus, has received a significant and mixed response from the media and from the staff, players and fans of the club and its opponents. There has been scepticism from the media (Oliver 2017), but Rover's non-meat policy has generated publicity that the club and its sponsors would likely have not otherwise received. The club claims that all staff, including the manager and players, support the policy, although tabloid paper *The Sun* did report on players visiting a fish a chip shop after a match in November 2018 (Sales 2018, 3). There have also been "misconceptions and "suspicion" (Caulkin 2017, 12) from other club owners and "a lot of animosity" (Garry 2017) from opposition fans.

The club has been constrained by the size and quality of its facilities (Forest Green Rovers 2019) but have plans for a larger stadium with new and enhanced facilities (Forest Green Rover no date). Whether a meat-free menu or even more healthy products can be introduced by larger clubs, perhaps even in Premier League, or at other sports and events, is more questionable (Gordon 2017).

Figure 1 – Timeline of Forest Green Rovers' food journey

2010 Ecotricity acquires Forest Green Rovers.

2011 Rovers remove red meat products such as burgers and sausages from the menu at The New Lawn, although free-range and sustainable poultry and fish continue to be served.

2015 Introduce a vegetarian menu to become first vegetarian football club in the United Kingdom.

2015 The meat-free brand Quorn become a club sponsor.

2015 Introduce a vegan menu to become the first vegan football club in the world.

2016 Club is named "Menu of the Year" at the 2016 Sports and Leisure Catering Awards.

2017 Rovers' Creamy Vegan Pie is highly commended in the Vegetarian Pie category at the 2017 British Pie Awards.

2017 Win the National League play-off final at Wembley Stadium to gain promotion to Football League for the first time.

2017 Menu registered with The Vegan Society's Vegan Trademark.

2019 Rovers' Sweet Potato, Spinach & Chickpea Curry Pie wins silver in the Vegan Pie category and, along with the Q Pie, is awarded bronze in the Sports Pie category at the 2019 British Pie Awards.

Future directions

The development of the European Healthy Stadia Network and its subsequent guidance and toolkits has provided impetus for practitioners and academics to push for healthier practices at football stadia. The Healthy Match Mark, in particular, is an important step towards healthier eating options at stadia as this index-based benchmarking tool assesses catering practices at an organisational level. However, it is also important that fans are provided with greater information on nutrient values at the point of sale to allow informed decisions on food choices to be made. These measures should, surely, be a minimum requirement for any venues that are constructed or run via public funding. Yet such moves will not be met without resistance as fans are reluctant to break from the tradition practices and match day routines detailed above.

This chapter has also detailed the potential that wearable technology can play in providing a greater understanding of the activity levels of sport spectators. With further research in this

area it will be possible to understand the degree to which infrastructure and stadium design influence activity levels on the way to/from and during games. The use of wearable technology will also facilitate the evaluation of in-stadia physical activity interventions, providing insight into the efficacy of this form of health intervention. During a period when some venues are struggling to attract spectators to games, data on the levels of physical activity that are associated with watching sports matches at stadia may provide an additional incentive for sports fans and spectators to 'get off the couch' and go to a game. A holistic approach to healthy stadia (including active travel, stadium design, healthy eating, and physical activity activations) can, therefore, become a key component of *Watching* Football as Medicine.

However, for these approaches to be successful, the continued presence of advertising of unhealthy products and services at sports stadia must be challenged. Given that there are often restrictions on the advertising of these products on television, it may also be time to restrict this advertising at sports venues and of sporting organisations. The resistance to such a move is likely to come from clubs and sporting organisations as these sponsors make significant financial contributions so that they can associate their products with the healthy lifestyle associated with professional sport.

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