



This is a repository copy of *Health improvement for men and hard-to-engage-men delivered in English Premier League football clubs.*

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/132220/>

Version: Accepted Version

Article:

Pringle, A., Zwolinsky, S., McKenna, J. et al. (3 more authors) (2014) Health improvement for men and hard-to-engage-men delivered in English Premier League football clubs. *Health Education Research*, 29 (3). pp. 503-520. ISSN 0268-1153

<https://doi.org/10.1093/her/cyu009>

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

**Health improvement for men and hard-to-engage-men delivered in English
Premier League Football Clubs**

Andy Pringle *, 1; Stephen Zwolinsky, 2; James McKenna,1 ; Steven
Robertson, 2; Andy Daly-Smith 1; Alan White** 2.

1. Centre for Active Lifestyle, Research Institute of Sport, Physical Activity and
Leisure, Leeds Metropolitan University, LEEDS, UK. LS6 3QS.

2. Centre for Men's Health, Leeds Metropolitan University, LEEDS, UK. LS1 3EE.

*Correspondence to: a.pringle@leedsmet.ac.uk ** Principal Investigator

Abstract

Unhealthy behaviours represent modifiable causes of non-communicable disease in men. In men, concern focuses on those (i) demonstrating the poorest health, exacerbated by a lack of awareness of the risks that their lifestyles pose and (ii) who neither consult their doctor, nor use health services. Classed as 'hard-to-engage', distinctive strategies are needed to reach these men. Impact and process evaluations assessed the effect of a programme of men's health-delivered in/by English Premier League football clubs. Men attended match-day events and/or weekly classes involving physical activity and health education. Validated self-report measures for demographics and lifestyle behaviours were completed pre- and post-intervention. Intention-to-treat analysis was performed on pre-versus-post-intervention differences in lifestyle profiles, while interviews (n=57) provided men's accounts of programme experience. Participants were predominantly white British (70.4%/n=2669), 18-44 (80.2%/n=3032) and employed (60.7%/n=1907). One third (n=860) 'never' visited their doctor. Over 85% (n=1428) presented with combinations of lifestyle risk-factors. Intention-to-treat analysis showed improvements ($p < 0.001$) in lifestyle profiles. Interviews confirmed recruitment of men who were hard-to-engage and unhealthy. Men were attracted through football and/or the clubs, while specific design factors impacted on participation. Limitations include use of self-reports, narrow demographics, small effect sizes, lack of follow-up and the absence of non-completers in interviews.

Key Words: Men, Health, Physical Activity, Intervention, Football Clubs

Introduction

Unhealthy behaviours, including a poor diet, inactivity, smoking and excess alcohol consumption represent a major, modifiable cause of non-communicable disease in men both globally and in the UK [1-2]. Particular concern is reserved for two groups of males. First, men demonstrating the poorest health profiles, exacerbated by their lack of awareness of the health risks posed by their lifestyles [1-2]. Second, men who neither consult their General Practitioner (GP), nor use health information and advice services [1-3]. Males who consistently fail to present in conventional healthcare settings can be classed as both 'reluctant' [4] and 'hard-to-engage' [5], since they are unlikely to experience the health-enhancing interventions delivered through these channels [6]. This can delay diagnosis and impair use of secondary healthcare [7] including hospital-based services, resulting in longer-term incubation of the lifestyles that produce harmful disease states [1-2].

However, it is important that men's non-engagement in healthcare is not viewed through the stereotype that sees men as fundamentally disinterested in their health [1, 8]. Moreover, it signals the need for more creative thinking on how to access 'hard-to-engage' men with health improvement opportunities in the places where they present [6, 9]. Such a mindset rejects the notion of men as 'hard-to-reach', preferring to regard them as 'unreached'. Men remain unreached when they anticipate, or find, the approach to and setting for healthcare unattractive

and/or irrelevant to their value systems [1, 6]. Conversely, where men with unhealthy lifestyles can be found in large numbers, they are likely to regard these locations as secure and comfortable, possibly because they are in-line with both their value systems and interests [6].

With those thoughts in mind, men's health specialists recommend using complimentary channels to connect men to health improvement activities [1-2]. Research [10-12] also suggests the value of providing men with health improvement opportunities in the places where they participate in and spectate on sports and recreational activities. These settings potentially provide health promoters with a potentially large captive audience of men [13] who have unhealthy lifestyles, yet do not engage with primary care services [1, 6].

One of these sporting settings is football (soccer) and it is no surprise that in the UK, top flight football is extremely popular with men. The English Premier League is attended annually by 11 million men [13]; worldwide, a projected 4.7 billion people and 643 million households view EPL matches on TV and through the internet [14]. Professional football clubs have been viewed by supporters as networks for social inclusion [15] and heralded as important features of local communities [16]. Football settings have been used for the delivery of health interventions [17] and form part of a broader strategy by football's authorities, harnessing the attraction of professional football to positively impact on the health of young people, adults and older adults [18].

Football clubs are well positioned to connect with male supporters and other local men interested in football and/or sport. In doing so, clubs can offer a unique opportunity to reach men with health promotion interventions [19-20]. For example, the *Extra Time* programme offered men over the age of 55 opportunities to improve their health through interventions located in football clubs [21]. The *Fit Fans in Training* programme located in the Scottish Premier League, provides male-specific health improvement opportunities at the

participating clubs [22-23]. Confirming the lure of football clubs for recruits attending the *Fit Fans in Training* programme, Gray and colleagues reported that some men would not have adopted the same health improvement intervention had it been delivered in a traditional health service setting [23].

Materials and Methods

Study Context and Interventions

Premier League Health is a three year programme of men's health promotion delivered through 16 English Premier League Football Clubs. The initial impacts have been reported elsewhere [24-25]. Using final impact data derived from the programme evaluation, this study set out to assess the effect of the overall programme along with men's experiences from participating in interventions. This programme comprised health interventions delivered in/by the clubs and designed to foster the 'good health' of male participants [24]. While all men of adult age were eligible to attend, the programme was aimed at men 18-35, as this group have been shown to be at risk in health terms [1-2]. The programme targeted men with a heightened risk of ill-health along with males who 'never' used their GP and/or health advice and information services and classed as 'hard-to-engage'.

Funding for the programme came through the Football Foundation, with participating clubs each receiving approximately £100,000 over three years. To secure investment, the clubs were required to outline and submit to the funders their plans for their respective interventions. This investment was supplemented by resources made available through the clubs and their partners. Partners included agencies committed to improving the health of men such as Primary Care Trusts, local government departments, charities and community

agencies/groups. Interventions delivered by the clubs were supervised by Health Trainers (Trainers) specifically employed by/or seconded to the clubs from the Primary Care Trust. Trainers are allied health professionals with a background in health promotion. Each Trainer received bespoke training and education on men's health. This was supervised by practitioners with experience of delivering men's health interventions in a range of topics (*e.g. CVD, mental health*) and settings (*e.g. workplace and community*) [1]. This was provided to Trainers at the start and in year two of the programme. Trainers also received specific advice on assessing the health needs of men, to optimise the appeal and impact of interventions.

To build an accurate profile of local needs and to facilitate each club in developing appropriately bespoke programming and delivery, Trainers worked with their partners in performing needs analysis [26]. In some examples, clubs relied on secondary sources such as local and national survey data. In other examples, clubs supplemented this information with primary sources. For instance, Trainers worked with captive male audiences. Using discussions, questionnaires and focus groups, Trainers and their partners set out to generate more specific detail on what men's needs were and how these needs could be best met. For example, one of a number of clubs targeting South Asian men, arranged to hold informal discussions in a local mosque when this group of men would be present [25]. In another intervention aimed at homeless men, the Trainers attended a homeless men's shelter located in the community to perform a similar exercise. Information secured through these approaches helped supplement information secured through secondary sources to help inform programme delivery. It is noteworthy that in practice, a complete understanding of participant needs does not always occur in logical sequences presented in models [26], but in phases. For instance, men who joined the weekly football classes provided a captive male audience on which to conduct on-going investigations and conversations as to what men's on-going needs were and how best these could be met in future provisions. What is more, there are men who

not only develop awareness, but also more insightful perspectives on their health needs following initial exposure to health interventions. A point supported by the Trainers leading this programme and reported elsewhere [25]. With information on health needs secured, Trainers worked in conjunction with their partners through on-going meetings to make decisions on the delivery of interventions. However, these decisions were made within the scope of the resources (finance, personnel, expertise, facilities, equipment) at their disposal of and within the parameters of the programme outline provided to the funders within those initial plans submitted.

All men volunteered to participate in interventions and the evaluation. Participants were supporters and/or local men from the community [24-25]. Recruitment was based on a number of approaches, including advertisements placed in the club's media channels, e.g. match-day programmes and the club website, as well as word of mouth [24-25]. Partners who engaged men on a daily basis included job centres, sheltered housing and drug and alcohol services; they actively promoted the interventions to their clients. Trainers supplemented these approaches by making visits to these services and to other venues where men congregated, such as working men clubs, pubs and workplaces [25].

Table I maps the focus, design and content of the interventions in the 16 clubs. Interventions in the programme were formed of either, match-day events and/or weekly classes and groups. Indeed, the majority of clubs deployed match-day events which involved awareness-raising activities presented to supporters before the kick-off of Premier League matches. Events took place in or around the stadia on the day of the game. On occasions events were held in a mobile unit, such as a trailer or caravan, depending on availability. At these interventions, Trainers distributed written and verbal information on men's health issues, such as physical activity. Recognizing that some men are drawn to gadgets, staff used smoker-lizers (to assess carbon dioxide levels) or sphygmomanometers (to assess blood pressure) and provided feedback on

outcomes. Trainers also distributed written information on the weekly classes that men could participate in as part of the programme of interventions. One club circulated this information using a convenient 'wallet sized' card. Male-friendly language was also used on promotions. For instance, the terms 'fitness', 'sport' and 'football' were selected over words with direct health or feminine connotations, including 'slimming' and 'dieting' [27]. Football club colours, motifs and slogans helped to brand materials in the club image. One club included their nickname in the leaflet/posters issued to men.

Insert Table !

Table I shows that every club deployed weekly classes. These took place in three types of venues (i) football stadia (ii) club venues (club/community facilities adjacent the grounds) and (iii) other local venues based in the community. Recognising the need to take activities into the community, clubs also accessed facilities like community halls, five-a-side pitches and sports facilities. Decisions on the selection and use of these venues depended on local factors, such as the accessibility of venues for intended recipients. For example, Health Trainers used iconic club training or the stadia, as these would appeal to fans. The availability of club facilities was also a further consideration. This programme was one of several run by the community service arm of the participating clubs for different groups. It should also be remembered that the participating football clubs are also businesses, some with an international portfolio of work. In some cases, clubs facilities at the stadia were extensively used for purposes of business and hospitality, meaning there was greater competition and lower availability of such venues for community programmes, such as the one in this study. Using this information, decisions on the use of venues were made by Trainers in collaboration with the relevant service managers at the clubs, including the community programme managers and business managers where applicable.

Following inductions, men typically followed a programme of physical activity and/or sports [24] as the core element of the intervention. Interventions were free of charge to take part in. Table I shows that these interventions involved playing football, although this was not universal. Recognising that not all men were interested in, or indeed, fit enough to play football, interventions also included gym-based activities (exercise machines/free-weights), keep fit, circuits, badminton and walking. With the results of health needs assessment in mind, clubs targeted men of different demographic profiles and this was reflected in the focus of the interventions. For instance, one club directed their activities at South Asian taxi drivers and 'take away' workers. Understanding these men would be working through the evenings; Trainers provided activities (e.g. badminton) between 12-2 am. In doing so, they increased access and opportunity for participants. Table I also shows that clubs combined physical activity with educational sessions on a range of health topics. These typically took the form of 45-60 minute talks or workshops and led by Trainers, club staff or staff provided by partners (e.g. nurse specialists). At one club, the football club chef demonstrated convenient and cheap strategies to help the men prepare healthy snacks. Activities took place in the kitchen facilities at the football club. Sessions typically occurred twice per week, lasting between 60-90 minutes. Some groups started new recruits every 12 weeks supported by follow-on programmes. Recognising that new participants needed a group to join, some clubs operated rolling recruitment, meaning that old and new recruits were in the same sessions. Importantly, each club aspired to shape provision that fitted within their available resources and that responded to the results of their needs assessment activities.

Collection and analysis of impact data

In line with guidance [28], an independent programme evaluation was commissioned, from which this study emerges. All participants attending match-

day events¹ and classes were invited to take part in the evaluation. Having obtained informed consent and using 'pen and paper' self-report measures, data were collected on demographics, lifestyle risk factors; self-rated health and use of health services. Data were collected during pre-activity assessments and at inductions. To avoid 'double counting'², participants were given a unique identifier to record their engagement in the evaluation. For participants attending classes, the measures were repeated at 12-weeks [24].

Volunteers completed measures for age, ethnicity, and employment status adapted from previous compatible evaluations [29]. Although objective measures have greater validity and reliability than self-report measurements where concerns prevail on accuracy, they are commonly deployed to assess the impact of community health interventions [30]. Further, they remain an important and accessible method of public health surveillance. Indeed, Haskell argues "*it needs to be remembered that nearly all of the physical activity exposure data supporting a link between habitual physical activity and chronic diseases comes from self-report*". (s.9), [31]. For physical activity, participants were asked on how many days during the last week they accumulated 30 minutes or more of moderate intensity physical activity [32]. The equivalent of five or more sessions per week adheres to current recommendations [33].

Daily consumption of fruit and vegetables was measured by summing all the portions of pulses, salads, vegetables, fruit juices and fresh, canned and dried fruit eaten on an "average" day [34]. Five or more daily portions are recommended by contemporary UK guidelines [35]. Regarding smoking, participants were asked if they currently smoked, and classed as 'smokers' if they recorded the smoking of tobacco [36]. Participants were also asked how

¹ Match-day events provided a one off opportunity to collect demographic and/or pre-intervention lifestyle data, as there was no opportunity to follow-up, no post-intervention data could be collected.

² Participants were issued with a unique identifier meaning they provided evaluation data through either match-day events or weekly classes, but not both. If participants attended both a match-day event and then weekly classes, the latter category was used.

many alcoholic beverages they consumed on an average week [37]. Alcohol consumption (units/week) was then determined, importantly men are recommended to consume <21 units of alcohol per week [37]. In this study, one unit of alcohol is 10 ml or 8g of pure alcohol, which is the quantity of alcohol the average adult can process in an hour [38].

Participants height (feet/inches or centimetres) and weight (stones/pounds or kg) were recorded and used to calculate Body Mass Index (BMI). Participants were then classified as either underweight (<18.5 kg/m²), healthy weight (18.5-24.9 kg/m²), overweight (25-29.9 kg/m²) or obese (≥30 kg/m²) [35]. Finally, participants were asked to sum the time (hours/mins) that they spent sitting on an average day (at work, travelling, watching TV, and using a computer for recreation, i.e. reading, films or socialising) [39]. Sitting for > 4.7 hours per day indicates a 'higher risk' category compared to those who sit for < 4.7 hours per day [40]. Men were asked to rate their health using a validated single question, 'I would say my health is very good, good, average, poor [41-42]. Further, men were asked if they considered themselves to have any health problems and to report what these were [29]. Questions also related to men's consultations with their GP and use of health advice and information services [29]. Men were asked if they 'visit your family doctor/GP when they have an ailment' and if they 'use health advice and information services such as, NHS Direct'. In both cases men were provided with the options of 'Never, Sometimes Often'.

All the data collection instrumentation used had been validated, and shown to be reliable with adults in published works and or public health guidance [29, 32-42]. In line with other community physical activity evaluations [43], a sample of three volunteer Trainers piloted the instrumentation with men attending their respective interventions prior to the full data collection 'going live' [24]. Questionnaire items were reviewed in meetings through an expert panel made up of our researchers and the Trainers, where they contributed to a high linguistic rating, or when Trainers considered that they were not overly intrusive

and/or likely to result in non-completion. Indeed, in our discussions, Trainers informed us that they were likely to recruit men who had fears surrounding surveillance, where intrusion may impact completion rates. Further, the Flesch Reading Ease Test was applied to the self-reports used in this study. The test is designed to indicate comprehension difficulty when reading a section of contemporary academic English language [44]. The test is based on two core principles of sentence and word length. In general terms, the higher the test score, the higher the ease of reading, thus contributing to the likelihood that the self-report measures used in this study would be understood by participants. To put this score into context, using the Flesch Reading Ease Test, a result of 90-100 would be easily understood by an average 11 year old student [44]. Given that Trainers expected men to present at interventions with low literacy levels, common in community interventions [43], assessing that instrumentation was understandable to men was also an important consideration during this piloting phase. As such, it was not only important to review with the Trainers participant responses, but also the ease in which men found completing the self-report measures. Training was then provided to all Trainers and club staff administering the evaluation at specific training days (previously mentioned), and during on-site visits. Once collected, all data were submitted electronically via a secure web-link; researchers then cleaned the data and undertook the analysis.

This protocol was undertaken to ensure that the evaluation could be readily undertaken by participants and so that Trainers knew how to provide reassurance and further clarification on items where required. This process aimed to resolve and minimise issues that could add to non-completion of the evaluation and so limit the evaluability of the programme [30, 43]. Previous research [30, 43] has suggested that the non-completion of self-report measures within community physical-activity interventions would be an issue from the outset and would be most problematic at follow-up (12-weeks). Loss of data in community interventions is not uncommon [30, 43]. With those thoughts in mind and to assess the effect of participant assignment to the programme, an

intention-to-treat analysis was undertaken using the 'last observation carried forward method' [45]. In this analysis, data from men who contributed at two time points (pre and post-intervention) were included along with any participants who provided just one set of data (i.e. pre or post-intervention). To generate a difference score, missing data were replaced with the evaluation data that were known. This is sometimes referred to as a conservative approach [46], is often used in progressive conditions [45] and favours finding no intervention effect. It also subscribes to the principle of including each participant in the analysis, where this is possible [45]. Descriptive statistics are used to describe demographic profiles, lifestyle risk factors and health related practices for all participants engaging the evaluation. Chi-Squared tests for association (χ^2) assessed for relationships. Dependent *t*-tests (*t*) calculated differences in lifestyle risk factors presented by participants. For all inferential tests, a *p* value of <.05 was taken to be statistically significant. Analyses were conducted using SPSS for windows version 19.0. Effect sizes were calculated manually to standardize the measure of the effect observed. Results are reported in both tables and or in the text.

Collection and analysis of process data

Following 24-hour informed participant consent, semi-structured interviews were undertaken with 57 men who were attending classes during the final year of the programme. These men were drawn from 14 of the 16 clubs.³ They were recruited through Trainers using word of mouth and posters at the venues. Interviews were undertaken at the venue where interventions were delivered with Trainers booking out suitable accommodation for interviews to take place. Interviews were digitally recorded, transcribed verbatim and participants were given pseudonyms. Interviews were based on established approaches for

³ Two clubs did not participate in the interviews. One did not provide participants for interviews at the time of the request. In the second, local ethical permissions set out by the Clubs partner, the Primary Care Trust did not extend to researchers performing direct data collection with participants' i.e. interviews with recruits. Ethical permissions were restricted to indirect data collection i.e. the quantitative data collection performed through Health Trainers at this club.

investigating experiences of participating in community activity-led health programmes, including those with hard-to-engage groups [43], and analysed using the six phases of thematic analysis [47]. A thematic map of the analysis was generated and two researchers met to refine the specifics of each theme and generate clear definitions and names for each theme [47].

Results

Impact data collection

In total n=4020 men participated in the evaluation. Of these, 26.3% (n=1056) participated through match-day events while the majority, 73.7% (n=2964) participated through weekly classes.

Demographic and lifestyle risk factors: pre-intervention

Table II shows the demographic profile, lifestyle risk factors and health practices of the overall sample. Predominantly, white British men (70.4%/n=2669), 18-44 (80.2%/n=3032) and employed (60.7%/n=1907) participated. Over 85% (n=1428) presented with multiple combinations of lifestyle risk-factors.

Health rating and practices

The majority of men rated their health as at least good (57.8%/1723), and nearly 80% (n=1984) did not think that they had any health problems. One third (n=860) 'never' visited their doctor and over half (51.9%/n=1339) 'never' used a health advice or information service. Men who did not attend primary care health services had worse health profiles than those who did. Those participants who 'never' visited their GP were more likely to report having 3-4 lifestyle risk factors for CVD when compared to those who did visit their GP $\chi^2 [1]= 4.17, p<.05$). Further, fewer than 58% (n=1895) were fans of the club where they engaged the health improvement interventions.

Insert Table II

Lifestyle risk factors: pre-intervention-versus-post-intervention

Table III shows the proportions of men providing demographic as well as lifestyle data for the intention-to-treat analysis by either match-day events or weekly classes. The data highlights that the majority of participants providing data for analyses engaged the programme through weekly classes. For each variable, at least 75% of the responses came from participants engaging on a weekly basis. The responses for lifestyle variables were markedly lower for match-day participants as there was limited time and opportunity to collect this level of data on a match-day as previously discussed.

Insert Table III

Table IV shows the results of the intention-to-treat analysis. It illustrates changes in the lifestyle behaviours of programme recruits pre-versus-post-intervention. Analysis detected statistically significant improvements for all lifestyle behaviours presented however, whilst significant, the effect sizes are small. These results reflect outcomes reported over a 12-week period, whereas a longer time frame may detect more substantial changes in health enhancing behaviours, and therefore elicit larger effect sizes. Moreover, men who engaged via match day events only, did not benefit from attendance at weekly classes and groups which may also account for the diluted size of the effect. .

Insert Table IV

Process data collection

Fifty-seven men reported their accounts of participating in the programme of physical activity and health interventions and these are deconstructed into the following themes which have been as an organising framework for presenting the results. (I). Which men engaged interventions and what were their health behaviours? (II). How did men find out about the interventions? (III). How did football/football clubs engage men in the interventions? (IV). What was the effect

of fan status on men's engagement in the interventions? (V). What were the physical and social the outcomes reported by men attending the interventions? (VI). What changes in health awareness and behaviours were reported by men attending the interventions? (VII). What other opportunities were presented to men attending the interventions? (VIII). Which parts of the interventions did men find less acceptable?

Which men engaged interventions and what were their health behaviours?

The programme engaged men from a number of different groups and their accounts are illustrated through selected excerpts from interviews, and have been used to indicate constituency of these four groups.

The first group were men who attended interventions demonstrating unhealthy lifestyles and risky health practices. This is also supported by the lifestyle data previously presented and which shows the majority of men attending the programme had risk factors for CVD. With those thoughts in mind, the following accounts by two participants illustrate the status of the majority of interviewees who presented at interventions demonstrating health problems and/or risky health practices.

I went for the NHS health check and they found out I had a 31 per cent risk of having a heart attack or stroke. (Steve)

I smoke rollies, so I get a pouch of that duty free for like six quid, whereas if I'd bought that from a shop it would have cost me 15 quid if not 18 quid so I'm lucky in that way, but I don't even know what I'm smoking really, it could be crap it could be anything. But like I say, I started coming to football to keep myself active. (Malcolm)

The second group were men who did not want to/or felt it necessary to consult their GP. This was typified by the response of the following participant who reported that:

I don't really need to go to them, the GP, I don't wanna bother them, our doctors' waiting list is two weeks for an appointment. No, if I had to see them over something I would, if I was poorly. Once one side of my face stopped working. I'll go then if I need to. But, if it's something a bit stupid you just think, well there's other things to do. (Eric)

The third group of respondents were men who visited health services, but did not view these as acceptable channels for securing advice about lifestyle issues:

I do go to the GP, but I wouldn't go for this kind of thing [health and exercise]. (Willy)

Finally, there were a fourth group of men who engaged health services and were alerted to the programme by the health professionals they engaged:

It was my GP who got me on the program, I went there because I had breathing problems, at night I'd been really heavy, and it was he who said 'come to this and get your weight down a little'. (Paddy)

How did men found out about the interventions?

Men found out about interventions through different ways including health services as reported previously and the word of mouth of friends and demonstrated by the following examples.

I found out about it [the programme] from my dietician who recommended [referred] me onto this course. (Tarique)

For a good few weeks, my mate was telling me that he was going to some football class and it's quite enjoyable and you learn stuff, and it gets your fitness going. So for weeks I was like, I don't know, and then he said its run by United's coaches and I thought why not? (Manny)

How did football/football clubs engage men in the interventions?

Football and the football club provided a powerful hook for reaching men and a number of men found out about the interventions through the club media channels. Club infrastructure (players, ground, badge) was deemed important for reaching fans. Staging match-day events at the football ground helped to connect with men. One local man reported how he became involved:

Last June, I came down to the local World Cup they have at the stadium, they have local nationalities teams and they were handing out flyers for the [men's health] scheme, and I went to the session in the afternoon to find out more. (Hamul)

Branding the intervention with the football club name, helped to give the interventions credibility. This point was illustrated by the following participant.

I would rather come here than go to NHS, it may be just for having the name 'United' behind it, but I think it gives me more of the idea that, maybe it's [the programme] is more serious than the other thing. [than going to the NHS]. (Wes)

Indeed, a number of men liked the opportunity to engage with the football club, the coaches and players during the course of the weekly classes. Two recruits described the appeal of locating interventions in the clubs.

It's a big incentive, you're actually training with the coaches, there's ex-players taking training as well, and we're training at the ground. (Harry)

I like [the Reds], I'm a supporter. It's good to get people involved with sport. Club players came down to meet a group of us when we played Wanderers and the Saints in a mini tournament. (Matthew)

What was the effect of fan status on men's engagement in the interventions?

Interventions were effective in recruiting fans of the host club. Locating the programme in the football clubs generated interest in fans that not only lived locally, but also further a field and illustrated in the following example.

Not all guys are local, there are guys from all over the place, but who support Rovers, they come here from 30-40 miles away and just to come here. (Barry)

However, not all men were fans of the host club. In some cases, recruits were not even football supporters reflecting the broader reach of football for some men.

I'm not a football fan at all to be quite honest with you, I don't support any league teams, I just come to keep fit. (Fred)

Participants varied in their response to the proposition of attending the health interventions delivered at/by a rival club:

I am a [Blue] and even if it wasn't here and it was at [the Reds], it's just, to play some games of footy, get fit and that. (Earl)

My son, he's [a Red], the only thing about it, because when the team gives you like [club] t-shirts, he's obviously like, 'Yeah', he wouldn't wear any of them'. (Eddie)

For others, even the prospect of attending a similar intervention at a rival club was rejected outright:

Yeah, I wouldn't want to go, if it was at [the Reds], but because it is at [the Blues], it is better. (Eric)

What were the physical and social outcomes of attending the interventions?

The men we spoke to all reported beneficial aspects of attending, including being active and getting fit and this was illustrated by the following man.

You get better at football, helps you lose weight and helps you cut down on smoking if you wanted to. (Manny)

However, there were other impacts and one of the benefits commonly endorsed by the majority of men was social engagement. This was typified by the following response.

It's a really, really friendly group, everyone gets on with each other, you know everyone helps out in the way they can, we communicate and obviously we're in [city region] so it's a very diverse community as well so you've got all kinds of people, people from all walks of life and people from all different countries. (Fred)

For many men, attending the group became a social priority.

I will change things to come here, like it was a couple of [the] lads' birthdays and it was my 22nd and we all went on a pub crawl on a Friday.

Everyone wanted to go out for 12 and I said 'I can't we'll start at three, I've got football', so everyone does change things to come here. (Mike)

For some individuals, this was different to their social experiences of attending other activity-based sessions.

Other places I have been to, they weren't clubs, just sports facilities, you booked a slot, 30 minutes in most places, so you never met anyone. (Barry)

What changes in health awareness and behaviours were reported by men attending the interventions?

Men reported being more active and feeling fitter. Attendees also reported both improvements in their awareness of health issues and changes to their health practices. The following accounts act as examples.

I was in and out of prison for a few years, drinking and smoking cannabis and taking ecstasy. It [the programme] sort of keeps my mind away from certain things; I haven't been in trouble for at least five or six year. (Michael)

It is not just coming and kicking a ball or running around, you're learning about your diet and what to do about it. We come down here and we talk about it [health issues] in front of, other triggers that might alter you and yeah that was interesting. (Tom)

From [the] classes you get taught things like eating brown bread, the nutritionist said 'white bread should be banned, it should all be brown bread', it does things, the fibre, actually attracts cholesterol and pushes it out your body. (Harry)

In some cases, men reported being more receptive to using health services following their engagement in the interventions.

Now if something comes up and I'm a little bit concerned about it, I will phone NHS direct or my doctor. (Lawrence)

What other opportunities were presented to men attending the interventions?

There were clubs that provided men with the opportunity to study for coaching and sports leadership qualifications. One man attending an intervention with such provisions reported.

I've took my level one and two coaching badges, I played at the Reds last year, scored two goals against all the Reds legends, that was like the perk, you know, plus I got my coaching badges. (Eddie)

This also provided men with an opportunity to sustain community-based football for local men.

Hopefully by doing the coaching badges, it gives us a chance to run our own football team, for the men's health program, past present and future, we'll be bringing them in and then we'll have a proper football team!. (Eamon)

Which parts of the interventions did men find less acceptable?

Some parts of interventions were found less acceptable to men. For example, the way a specific health education session was delivered by an external speaker.

What the guy [speaker] was saying was completely right for the time but, the language he was using was not right. It was like the f-word every time, for me when you're coming to speak to people and you don't know where they are coming from, you have to really respect people. (Tav)

Clubs offered different physical activity options, but for some men football dominated the provision. While this was attractive to many, some participants wanted to participate in a broader range of activities more frequently. One man reported:

I would have liked to have done a little bit more badminton, things of that sort, but I don't think the lads like that very much I've done a lot of football, in the past, but I'd like to take it [badminton] up. (Tim)

Some recruits also felt apprehensive about initially attending the activities. For instance:

It is a little daunting sometimes when you see, you go in there and they [the Trainers] show you what everyone's doing and you think, you haven't done exercise for a little while and you're like wow! (Fred)

A number of clubs held competitive matches for their male participants against other football clubs. One recruit reported feelings of exhilaration tinged with the apprehension of playing in such games.

We played the Reds and they [the opposition] were saying things to us, so when we scored a goal I went up to them and kissed the badge and run off. It was very good, it was an eye opener, but I found it very, very intimidating. (Mark)

Discussion

This study aimed to assess effect of a national programme of men's health delivered in English Premier League football clubs. The impact of the programme can be seen at a number of levels. First, interventions engaged men with unhealthy lifestyles and multiple risk factors for CVD. Second, improvements

were found for an array of lifestyle behaviours. While the effect sizes may be small, they nonetheless reflect an improvement in health profiles and highlight that changes in health behaviours are an on-going process rather than a one-off event. Finally, a third of participants 'never' consulted their GP, and over half 'never' used health advice or information services. These 'hard-to-engage-men' who 'never' visited their GP also demonstrated worse initial health profiles than men who did. These recruits were more likely to report having 3-4 lifestyle risk factors when compared to those who did visit their GP. The engagement of this group of men in football-led health interventions may be viewed from two public health stand points. The first is a more conservative position that sees a relatively younger profile of adult male recruits in this study who report never attending their doctor. These men may not view attending their GP as necessary, especially if they don't deem their condition warrants such a consultation. The second position is a more cautious one that sees men who never engage health advice services or Primary Care. Combined with a reluctance to use health advice services reported by some interviewees, means that these men are unlikely to be exposed to health improvement opportunities provided through these channels [6, 24].

While not engaging, wanting and not needing to attend a GP consultation are different concerns, they can result in the same outcome. In each case, men find themselves not accessing 'appropriate' primary health services and advice - and the professionals with skills to interpret symptoms and signals of ill-health [1]. Over 85% of men in this study presented with multiple combinations of CVD risk factors, yet a similar percentage did not see themselves as 'having health problems and over half viewed their health as at least 'good''. Those men who don't see themselves as vulnerable and or requiring health advice are of special public health concern. International guidance [1-2] offers a reminder that men often ignore the signs of chronic lifestyle conditions and in doing so, they are potentially incubating health problems for later in life [1-2]. Men are delaying diagnosis and increasing reliance on secondary healthcare [7] such as hospital

services. By intentionally aiming to attract unhealthy, unresponsive and ‘hard-to-engage’ and succeeding in changing men’s health behaviours, this programme supports deploying even more radical thinking on how and where men’s health improvement services are delivered [1-2, 6].

In reflecting on programme objectives, men aged 18-44 dominated engagement rates. These rates compare favourably with recruitment levels found at community physical activity interventions, where this group of men have been underrepresented [30, 43]. This study has shown the importance of interventions being viewed by men as ‘acceptable’ and two other priority groups [1-2] also participated in Premier League Health. First, BME men made up one third of the overall sample. In part, this may reflect the growth in popularity of Premier League football with these constituents [49], supplemented by the specific efforts made by individual clubs to engage these communities [25]. Second, even though the focus was on recruiting younger men, one in 10 recruits were aged 55+. The interactions of the determinants to participation for this group are complex [50] and they are known to impact on engagement rates of older men in football-led health programmes [21]. While the programme demonstrated considerable success in operationalising what is known about how to recruit and retain younger adult men, a similar process now needs to be focused specifically on older men.

It is unsurprising that around 60% of participants were supporters of the host club where they attended interventions. Indeed, those fans reported how this affiliation influenced their adoption into the interventions. For these men, the football club represented a venue and a social institution with which they felt secure and personally and culturally connected. Word of mouth helped facilitate men’s adoption rates, including that of friends. Two groups of ‘non club supporters’ also engaged interventions where they were hosted. First, were men who were not football fans. Their engagement suggests that the football/sporting environment is appealing to them. The second group of men were football fans of opposing

clubs; some of them felt it was acceptable to attend programmes run by local – sometimes even rival - clubs.

While centring the programme around their interests (sport, football or ‘their club’) helped facilitate their engagement, men reported that their participation was helped by specific design factors. Participants appreciated the regularity of weekly classes and groups. In terms of behaviour change, this created a structured regime to support their involvement, episodic or otherwise. Given the bases for recruitment, many of the participants had few daily routines and they valued having sessions to look forward to, being disciplined enough to get to sessions on time and with exercise kit. For most men, delivering the interventions in nearby, convenient and/or familiar football/community venues was important. A recent meta-analysis confirmed that individuals increase their physical activity when they experience exercise opportunities that are familiar, structured and delivered direct to them [51]. The notion of familiarity applies as much to venue as it does to people, both for instructors and participants [25]. As such, another important factor was that activities were populated by like-minded men, while weekly classes created regular opportunities for social engagement. The social interaction that underpinned weekly classes was a commonly reported benefit by the men we spoke to. Beyond meeting friends and acquaintances, attending also provided opportunities to develop supportive relationships. These design attributes are particularly important for individuals contemplating changes in lifestyles behaviours such as physical activity [32] and men attending the programme could avail themselves of this support. Indeed, social support is an important mediator for changes in behaviour [32] and a dominant sub-theme emerging from the interviews. As was simply enjoying ‘being active’ [32] along with achievement, fitness and fun, among the most commonly discussed themes when talking about programme outcomes. This did not mean exclusively playing football, but participating in other types of exercise, such as keep fit, gym-based activities and following coaching qualifications.

Although the modes of exercise were important in providing challenge and interest, many Trainers found that football-themed/club branded activity sessions provided a powerful 'hook' on which to engage and build a broader range of changes to lifestyle practices [25]. Our data suggest that physical activity and physical fitness provide considerable traction for further behaviour change [52] including healthy eating. Following engagement in weekly classes, men expressed increased awareness and being 'nudged' into making gradual changes in lifestyle practices, such as smoking, diet and use of health services. Most clubs in-built health education sessions into their interventions and this study encountered men who linked their increased awareness of health and lifestyle issues to these sessions. Given that a proportion of participants 'never' visited their GP, and half 'never' used health advice services, we wonder how many men would report such learning had they not attended these weekly classes.

We asked men about programme components important for facilitating behaviour change. While social support and enjoyment featured highly, relapse prevention, contingency planning and goal setting strategies did not feature strongly in men's accounts. Similarly, reports on the uptake of cancer screening programmes and men's experiences of mental health activities did not feature heavily in the men's responses. Nonetheless, many of these have been reported in the accounts of the Trainers who reported their views in earlier research [25]. In part, this may reflect a more comprehensive understanding of programme components that Health Trainers retained over their participant-counter parts. Moreover, given the design and the context where the programme was delivered, it is perhaps understandable that many men have chosen to focus on those aspects of the intervention which were most important to them, that is the football, the clubs in which activities were held, social engagement and the physical activity options.

Men did not find all elements of the interventions acceptable and it is important that this learning shapes future delivery planning [26]. For instance, while

competition can appeal to men, it also presents challenges, especially to those participants who are unfamiliar or 'out of practice' at playing competitive sports. Similarly, these men may find the initial re-introduction to group physical activity daunting as outlined in participant responses. Deliverers need to give particular attention to ensuring both a gradual and supportive induction of these men to interventions. While football offers great appeal, we have learnt that a broad programme of physical activity options is needed to cater for diverse needs. Lessons can and should also be drawn on the use of match-day activities where Trainers used gadgetry and health checks to attract men. While such approaches were valuable in facilitating engagement, researchers have expressed caution over the use of health checks [53]. A recent Cochrane Review concluded that while health checks may increase rates of diagnosis, they are not typically powerful enough in their own right to reduce either mortality or morbidity for CVD and cancers. Further, important harmful outcomes were often not investigated or reported in the studies that were included. As such, the impact of health checks may be detrimental rather than beneficial, as a result of over diagnosis and over prescription [53]. This is an important consideration for those planning such approaches as part of football-led health improvement schemes.

Limitations and strengths

Despite efforts to refine the evaluation methodology and data collection protocols with staff, this study encountered losses in data. This included variations between demographics, adopters and completers and match-day and weekly interventions [24]. No intention to follow-up men only participating in match-day events may have also diluted the impact of the programme. Equally, the findings are for an initial intervention period of 12 weeks; a longer timeframe would identify the prolonged impact and sustainability of outcomes. While using objective measures and 'blind' data collection would be preferred, they are not always available due to the finite resource and budgetary constraints of community interventions and evaluations [43]; this study was no different. Findings are from self-report measures, where concerns exist over accuracy of

measurement. Interviews were with men attending the programme, but engaging with men who achieved short-term, or episodic, engagement will provide their informative perspectives of the programme.

Study strengths included (i) the use of validated self-report measures, (ii) deploying a conservative intention-treat analysis performed and (iii) a multi-methods research design which combined final impact with process data from this programme evaluation. The study also maps the common design content of the 16 interventions (Table I) and identifies from a men's perspective, key design characteristics helping them engage and participate in the programme. Interviews also provide insights into the design elements of intervention which were less acceptable to recruits. Finally, by adopting a partnership evaluation design [54], which is common in community evaluations [30], we shared with the providers a commitment to establish and refine the impact of the programme. Without these efforts to retain the sample of approximately 3,800 data sets for demographics and up to 2900 for lifestyle profiles, it is difficult to envisage what the scale of data loss would have been.

Conclusion

Findings challenge the notion that men are resistant to changes to their lifestyles. Far from being 'hard-to-engage', men were hard to avoid when interventions are delivered through football clubs. These places are local and familiar and interventions were delivered in non-threatening ways and where participants felt their male (as opposed to health or illness) needs were met. Associating the programme with the status of professional football/clubs helped to facilitate engagement by men. This includes those 'hard-to-engage' men who would find it hard and or feel it unnecessary to access similar support for making positive changes to behaviour, even though these may have been small in scale. Learning emerging from this study will be valuable to sports clubs, football or otherwise who aspire to make gender-specific health improvement programmes acceptable to a range of men.

Acknowledgements

The authors acknowledge the contribution of the Premier League (the commissioners) and the Football Pools (the Funders), as well as the participants and staff in the 16 clubs who took part.

References

1. European Commission. The State of Men's Health in Europe. Luxembourg, European Commission, 2011.
2. European Commission. The State of Men's Health in Europe – Extended Report. Luxembourg, European Commission, 2011.

3. Witty K, White A, Bagnall A, South J. Male frequent attenders of general practice and their help seeking preferences. *Journal of Men's Health* 2011; 8: 21-26.
4. Jefferies M, Grogan S. Oh, I'm just, you know, a little bit weak because I'm going to the doctor's': young men's talk of self-referral to primary healthcare services. *Psychol Health* 27: 898-915.
5. Sinclair A, Alexander H. Using outreach to involve the hard-to-reach in a health check: What difference does it make? *Public Health* 2012; 126: 87-95.
6. Baker P. Current issues in men's health. *Trends in Urology and Men's Health* 2012; 3:19-21.
7. Juel K, Christensen K. Are men seeking medical advice too late? Contacts to General Practitioners and hospitals in Denmark in 2005. *Journal of Public Health* 2008; 30: 111-113.
8. Wenger, L. Beyond ballistics: expanding our conceptualization of men's health-related help seeking. *American Journal of Men's Health* 2011; 5: 488-99.
9. White A, de Sousa B, de Visser R, Hogston R, Madsen S, Makara P, McKee M, Raine G, Richardson N, Clarke N, Zatoński W. Men's Health in Europe. *Journal of Men's Health* 2011; 8:192-201.
10. McCoy B. Bridging the indigenous health divide: football and men engaging. *Sport in Society: Cultures, Commerce, Media, Politics* 2012; 15: 952-964.
11. Brown A. Older men and home and community care (HACC) services- barriers to access and effective models of care. *Journal of Men's Health* 2011; 8: 228.
12. Mason O, Holt R. A role for football in mental health: the Coping through Football project. *The Psychiatrist Online* 2012; 36, 290-293.
13. FA Premier League. Barclays Premier League Review of the 2010-11 season. London, Football Association, 2011.

14. Harris N. A football competition and a headline about a global audience: What on earth is going on? London: Sporting Intelligence, 2011.
15. Alonso A, O'Shea M. You only get back what you put in: perceptions of professional sports organizations as community anchors. *Community Development* 2012; 1-21.
16. McLean R, Wainwright D. Social networks, football fans, fantasy and reality: how corporate and media interests are invading our life world, *Journal of Information, Communication and Ethics in Society* 2009; 7: 54-71.
17. Parnell D, Stratton G, Drust B, Richardson D. Football in the community schemes: exploring the effectiveness of an intervention in promoting healthful behaviour change. *Soccer and Society* 2012; 14, doi: 10.1080/14660970.2012.692678.
18. Premier League. *Creating Chances*, 2011, London, Premier League, 2012.
19. Brady A, Perry C, Murdoch D, McKay G. Sustained benefits of a health project for middle aged football supporters at Glasgow Celtic and Rangers football clubs. *European Heart Journal*, 2010; 24:2696-2698.
20. Pringle A, Sayers P. It's a goal: Basing community psychiatric services in a local football stadium. *Journal of the Royal Society of Health Promotion* 2004; 124:234-238.
21. Football Foundation. *Extra-Time: Evaluation Summary Report*, 2011.
22. Gray CM, Hunt K, Mutrie N, Anderson AS, Leishman J, Dalgarno L, Wyke S. 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* 2013; 13: 232.
23. Gray C, Hunt K, Mutrie N, Anderson A, Treweek S, Wyke S. Can the draw of professional football clubs help promote weight loss in overweight and obese men? A feasibility study of the Football Fans in Training programme

- delivered through the Scottish Premier League. *Journal of Epidemiology and Community Health* 2011; 65: A37-A38.
24. Pringle A, Zwolinsky S, Daly-Smith A, Robertson S, McKenna J, White A. Effect of a national programme of men's health delivered in English premier league football clubs. *Public Health* 2013; 127: 18-26.
 25. Pringle A, Zwolinsky S, McKenna J, Smith A, Robertson S, White A. Delivering men's health interventions in English Premier League football clubs: key design characteristics. *Public Health* 2013; 127: 716-726.
 26. Ransdell B, Dinger K, Huberty J, Miller K. Planning and evaluating physical activity programmes: developing effective physical activity programmes; 2009. Champaign, Illinois, Human Kinetics, 13-21.
 27. Gough B. 'Real men don't diet': an analysis of contemporary newspaper representations of men, food and health. *Social Science and Medicine* 2006; 64: 326-337.
 28. National Institute of Health and Clinical Excellence. The most appropriate means of generic and specific interventions to support attitude behavioural change at population and community levels. London, National Institute of Health and Clinical Excellence, 2007.
 29. Witty K, White A. Tackling men's health: implementation of a male health service in a rugby stadium setting. *Community Practitioner* 2011; 84: 29-32.
 30. Pringle A, Marsh K, Gilson N, McKenna J, Cooke C. Cost-effectiveness of interventions to improve moderate physical-activity: a study in nine UK sites. *Health Education Journal* 2010; 69:211-224.
 31. Haskell W. Physical activity by self report: a brief history and future issues. *Journal of Physical Activity and Health* 2012; 9: (Suppl 1), S5-10.
 32. Marcus B, Forsyth L. Motivating people to become physically active Champaign, Illinois, Human Kinetics, 2009.
 33. Department of Health. Start Active, Stay Active: a report on physical activity for health from the four home countries' Chief Medical Officers. London: Crown, 2011.

34. National Health Service. Healthy Eating Questionnaire, London, Department of Health, 2009.
35. National Institute of Health and Clinical Excellence. Guidance on the Prevention, Identification, Assessment and Management of Overweight and Obesity in Adults and Children. London, National Institute of Health and Clinical Excellence, 2009.
36. Vartiainen E, Seppala T, Lillsunde P., et al. Validation of self-reported smoking by serum cotinine measurement in a community-based study. *Journal of Epidemiology Community Health* 2002; 56: 167–170.
37. Department of Health. How Much Is Too Much? Drinking and You. London: Department of Health, 2007.
38. Miller W, Heather N, Hall W. Calculating standard drink units: international comparisons. *British Journal of Addiction* 1991; 86: 43-47.
39. Zwolinsky S, Pringle A, White A, Smith A, McKenna J, Robertson S. Associations between daily sitting time and the clustering of lifestyle risk factors in men. *Journal of Men's Health* 2012; 9: 261-267.
40. Brown W, Miller Y, Miller R. Sitting time and work patterns as indicators of overweight and obesity in Australian Adults. *International Journal of Obesity* 2003; 27: 1340-1346.
41. Chen H, Cohen P, Kasen S. Cohort differences in self-rated health: evidence from a three decade, community based, longitudinal study of women, *American Journal of Epidemiology* 2007; 166: 439-446.
42. Kaleta D, Makowiec T, Jegier A. Lifestyle index and work ability. *International Journal of Occupational Medicine Environmental Health* 2006; 19: 170-177.
43. Carnegie Research Institute (Leeds Metropolitan University) with Matrix RCL and Ipsos MORI. National evaluation of LEAP: a final report on the Local Exercise Action Pilots; 2007. London: Department of Health.
44. Flesch-Kincaid Readability Tests. Wikipedia; the Free Encyclopaedia. Available at: http://en.wikipedia.org/wiki/Flesch%E2%80%93Kincaid_readability_tests. (Accessed 13 January 2014).

45. Wood A, White I, Hillsdon M, Carpenter J. Comparison of imputation and modelling methods in the analysis of a physical activity trial with missing outcomes. *International Journal of Epidemiology* 2005; 34: 89-99.
46. Shih W. Problems in dealing with missing data and informative censoring in clinical trials. *Curr Control Trials Cardiovascular Medicine* 2002; 2:4
47. Braun V, Clarke V. Using Thematic Analysis in Psychology. *Qualitative Research in Psychology* 2006; 3:77-101.
48. Miner M. Men's health in primary-care: an emerging paradigm of sexual function and cardiometabolic risk. *Urology Clinics of North America* 2012; 39: 1-23.
49. Premier League. National Fan Survey summary report 2009/2010 season. London: Premier League, 2010.
50. British Heart Foundation. 'Active in later life: Keeping older people physically active.' London: Ellerman Foundation, 2003. Available at: <http://www.bhf.org.uk/plugins/PublicationsSearchResults/DownloadFile.aspx?docid=52058f8b-c137-41f5-a4ec-6030fd0166c5&version=1&title=Active+for+Later+Life+Toolkit+-+Factors+Affecting+Planning&resource=Z109> (Accessed 30 September 2013).
51. Conn V, Hafdahl A, Mehr D. Interventions to increase physical activity among healthy adults: meta-analysis of outcomes. *American Journal of Public Health* 2011; 101: 751-758.
52. King A. Promoting regular physical activity in the 21st Century: The Presidents Lecture. 60th Annual General Meeting of the American College of Sports Medicine, San-Francisco, USA, 2012.
53. Krogsboll L, Jorgensen K, Larsen C, Gotzsche P. General health checks in adults for reducing morbidity and mortality from disease: Cochrane systematic review and meta analysis. *British Medical Journal* 2012;345 e7191.

54. South J. Tilford S. Perceptions of research and evaluation in health promotion practice and influences on activity. *Health Education Research* 2000; 15: 729-741.

