

The role of sport in promoting prisoner health

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Abstract

Purpose – *The existing evidence base and policy context of sports-based prisoner health promotion is evaluated, and an original analysis of current provision and best practice in delivering sport to address physical, mental and substance misuse needs among prisoners across the secure estate in England and Wales is presented, with a focus on the variability of provision across different prison establishments.*

Design/methodology/approach – *Inspectorate reports published by Her Majesty's Inspectorate of Prisons (n = 184) were analysed to assess the extent to which health promotion objectives are being implemented through physical education in prisons across England and Wales. Examples of innovative sport-based health promoting programmes are drawn upon in order to illustrate principles of best practice.*

Findings – *Despite health promotion being engrained in existing policy, the degree to which physical, mental health and substance misuse needs are addressed through sport in prison remains highly variable and locally contingent across the secure estate, although examples of innovative practice are evident.*

Research limitations/implications – *For sport to promote prisoner health most effectively, tailored sports provision should be embedded within multi-modal interventions which draw on internal and external partnerships and promote opportunities for ongoing sporting participation. Further research is required to delineate principles of best practice applicable to discrete prisoner populations.*

Originality/value – *Sport can play a key role in addressing a multitude of prisoner health needs whilst contributing to achieving "healthy prison" objectives in practice. Sport and physical activity clearly offers a valuable way of motivating prisoners to engage in health promoting initiatives.*

Keywords *England, Wales, Prisons, Sport, Personal health, Inspectorate reports, Physical health, Mental health, Substance use*

Paper type *Research paper*

Introduction

It is widely acknowledged in the national and international literature that offenders represent a group with complex and multiple health needs (McSweeney and Hough, 2006), many of which are not addressed prior to custody (Department of Health (DoH), 2009a; Mair and May, 1997) yet place considerable cost and resource burden on health services (Rodriguez *et al.*, 2006). Prisoners have poorer physical health (Harris *et al.*, 2006; World Health Organisation (WHO), 2007) and elevated levels of substance misuse, mental health problems and vulnerability to self-harm and suicide (DoH, 2009a; WHO, 2007), and approximately half of male prisoners (Fazel *et al.*, 2006), and two-thirds of female prisoners (Social Exclusion Unit, 2002) report substance dependency prior to imprisonment. In England and Wales over 70 per cent of the prison population has two or more mental health problems, and it is widely acknowledged that access to mental health and substance misuse services can contribute to reducing the risk of reoffending (Home Office, 2004; Social Exclusion Unit, 2002). However, despite growth in the provision of mental health and substance misuse treatment within prisons, many prisoners still do not engage with treatment (Stewart, 2008).

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The concept of empowerment and the ability to make healthy choices is a central pillar of health promotion which is heavily curtailed by prison regimes (Sim, 2002; WHO, 2007). It has been suggested that voluntary participation in sports can offer a means by which to increase empowerment in healthy living, as well as offering an active form of learning which is typically more amenable to offenders' preferences (Audit Commission, 1996; Evans and Fraser, 2009; Meek *et al.*, 2012). Although prisoners can be particularly resistant to healthy living (National Audit Office, 2008), interest in participating in sport in prison is often high (Buckaloo *et al.*, 2009; Lewis and Meek, 2012b); thus physical activity has the potential to play a key role in promoting health objectives. In spite of this and the wide acknowledgement that sport can confer both physical and psychological health benefits within the community (see Frank and Dahn (2005) for a review) scant academic attention had been paid to the role of sport and physical activity in promoting wellbeing among prisoners, or the degree to which this is achieved in policy and practice.

The policy context in England and Wales

Following the publication of the Social Exclusion Unit's (2002) "Reducing reoffending by ex-prisoners" and the subsequent "Reducing reoffending national action plan" (Home Office, 2004) the physical, mental and substance misuse needs of prisoners have been established as key domains that need addressing in order to facilitate reductions in reoffending. National and international policies that specifically address prisoner health have promoted the notion of a *whole prison approach* to improving the physical and mental health of prisoners in order to meet such objectives (DoH, 2002; WHO, 2007) and in an attempt to respond to prisoners' multiple health needs, recent years have seen an increasing emphasis on holistic approaches within prisons and the promotion of partnership working. In 2006 the responsibility for health care in public prisons was transferred from the Her Majesty's Prison Service to the National Health Service, accompanied by the introduction of Public Service Agreements aimed to promote shared delivery and a joined up approach (House of Commons Treasury Committee, 2007). Despite such strategic political attempts to address prisoner health, subsequent reports have continued to highlight the unmet physical (Bradshaw, 2008) and in particular, mental health needs of offenders in custody (DoH, 2009b; Home Office, 2007), and there has been a resulting call for more integrated and innovative approaches (Patel, 2010).

Health promotion consideration has been outlined in local planning mechanisms, and national directives (DoH, 2002) have sought to be implemented locally through the Prison Service Orders and Instructions which contain compulsory and discretionary directions which guide the operation of prison establishments. Such guidance has been developed and implemented to address the primary areas of mental health promotion and well-being, smoking, healthy eating and nutrition, and healthy lifestyles, including sex and relationships, active living and substance misuse (HM Prison Service, 2003). Prison gym departments are increasingly seen as having a role to play in delivering such provision and this is made evident in the physical education (PE) instruction (Ministry of Justice, 2011) which stipulates that PE programmes must incorporate access to remedial PE and should promote healthy living and diet opportunities as well as activities that boost self-esteem to improve psychological wellbeing. Likewise, clinical guidance on services for substance misuse advocates physical activity as an accompaniment to detoxification programmes (HM Prison Service, 2000), and the *Tackling Drugs through Physical Education* framework (Ministry of Justice, 2009) provides a guide for such provision.

Although PE is routinely delivered throughout the secure estate and the majority of establishments fulfil the mandatory obligation (Ministry of Justice, 2011) to give prisoners the opportunity to participate in physical activity for at least one hour per week (or two hours for those under 21 years old) (Herbert *et al.*, 2012; Meek and Lewis, in press, 2013), the degree to which health promotion policies are effectively integrated in PE provision in practice is less clear.

Promoting offender health through sport in prison: assessing the evidence base

Physical health. As well as being increasingly likely to enter prison with unmet physical health needs, prisoners are at higher risk of non-communicable diseases (Herbert *et al.*, 2012)

and periods of incarceration are also associated with deteriorating physical fitness (Fischer *et al.*, in press; Plugge *et al.*, 2009, 2011; Olaitan *et al.*, 2009). Nelson *et al.* (2006) report on a programme with 120 inmates in a maximum security prison in the USA which incorporated 30 minutes of exercise up to four times a week over six months or more, concluding that participants experienced physical benefit in terms of weight reduction accompanied by increased energy, muscle tone, strength and stamina. Regular physical exercise among prisoners has also been found to reduce sleep problems such as insomnia (Elger, 2009). Evidently prison sport can promote offenders' physical health and the custodial context offers an opportunity for targeting men's health among individuals who may typically be difficult to engage with in community settings (Woodall, 2010).

Mental health. The DoH (2006) recommends the inclusion of a physical fitness element in the treatment of service users with mental illness, with physical activity widely recognised to improve psychological wellbeing (Frank and Dahn, 2005). Research with community samples has demonstrated that exercise can have a positive impact on psychiatric symptoms including psychosis (Beebe *et al.*, 2005; Ellis *et al.*, 2007) and a growing number of studies have documented such positive gains among forensic populations (Johnsen, 2001; Martos-Garcia *et al.*, 2009a, b). Buckaloo *et al.* (2009) found that male prisoners in a North American low security prison who exercised regularly had significantly lower scores for depression, anxiety and stress compared to those who did not exercise, regardless of the type of exercise and number of sessions participated in.

Such findings have been corroborated with diverse offender population (Libbus *et al.*, 1994; Verdot *et al.*, 2010) and exercise in both male and female prisoners has been inversely correlated with feelings of hopelessness (Cashin *et al.*, 2008). Furthermore, a qualitative evaluation of a British sports-based intervention with female prisoners has revealed positive outcomes in terms of increasing confidence and self-esteem, as well as providing a coping mechanism for dealing with anxiety and aggression (Ozano, 2008), which is particularly promising considering the elevated level of mental health problems among females in custody (Social Exclusion Unit, 2002). That said, it has been suggested that an excessive focus on sport among some prisoners can comprise the therapeutic alliance in other psychiatric interventions (Tesu-Rollier, 2008), but nevertheless, physical exercise in prison clearly confers psychological benefits and sport evidently has the potential to be used as a medium through which to engage prisoners who may be reluctant or unable to participate in more traditional psychological work.

Substance misuse. Although the role of PE in prison to address substance misuse and dependency has received little academic attention, community sports-based interventions targeting substance use tentatively suggest that physical exercise may be correlated with decreased drug use and increased abstinence (Collingwood *et al.*, 1994, 2000). For example, integrating substance misuse consultations into sports programmes for adolescents in the community has been found to reduce alcohol, drug and cigarette consumption 12 weeks post-intervention and at one year follow-up in a randomised controlled trial (Werch *et al.*, 2005).

There is tentative evidence to suggest that sport can make a positive contribution to addressing substance use in prison and there are several rationales that underpin how physical activity may be a valuable addition to substance misuse interventions: first, the psychological impact of exercise may have a positive impact on substance misuse risk factors and associated behavioural problems; second, alterations in neurotransmitters and endorphin levels as a result of exercise can improve mood and provide an alternative "high"; and third, the development of a health enhancing lifestyle in which drug use is incongruent may promote abstinence. Furthermore, sport can be used as a valuable tool to encourage participation in wider drug interventions and the *Tacking Drugs through Physical Education* framework (Ministry of Justice, 2009) advocates physical activity to support those on compact-based drug testing and drug free wings. Supporting this, Stöver and Thane (2011) describe how Hungarian prisons have used privileges such as sport as a means to promote drug free units and uptake in detoxification programmes. In the UK, a small study with class A drug users entering prison demonstrated that those assessed had relatively high levels of fitness and reported participating in exercise substantially more than the average prisoner prior to custody, but that their activity was heavily constrained once in prison (Fischer *et al.*, in press).

The NAO's (2008) *Good Practice Guide to Promoting Healthier Lifestyles for Prisoners* recommends encouraging prisoners with drug dependency issues to participate in physical activity, and linking PE with healthcare drug strategies. Initial evidence suggests that implementing such guidelines has had positive outcomes, for example PE departments delivering "healthy living" and "healthy balanced diets" sessions within the integrated drug treatment systems (IDTS) in British prisons have experienced increased referrals and engagement in PE, as well as benefiting from PE instructors' specialist knowledge in promoting interest in IDTS sessions (MoJ, 2009).

Risks associated with promoting offender health through sport in prison. Despite the evident health benefits associated with sport participation in prison and the potential for PE departments to promote healthy prison agendas, sport may not necessarily always confer positive outcomes. Indeed in some cases, if sport provision is not carefully delivered it could be detrimental to offender health. Physical activity inevitably increases the chance of sporting injuries, but since 2004 the prison ombudsman has investigated at least 20 deaths occurring during or shortly following exercise sessions in custody (Prisons and Probation Ombudsman for England and Wales, 2011). The men who died varied in age and although most were reported to have exercised regularly, several had significant medical conditions or exercised infrequently. These incidents and the identified inadequate emergency response in some instances has led the ombudsman to recommend the need for appropriate medical equipment (e.g. defibrillation machines) and training in its use, staff training in symptom recognition (particularly for circulatory conditions) and efficient emergency procedures within PE departments and prisons more widely. Clearly, thorough health screening, monitoring and effective emergency procedures must remain central to health promoting sports-based initiatives, particularly considering that such initiatives should target those with the greatest need, who by default are likely to present with the most complex physical and psychological problems.

Although physical activity is widely recognised to confer psychological benefits, certain sporting activities can have detrimental effects on psychological wellbeing among some populations. Hughes and Coackley (1991) hypothesise that "positive deviance" (deviant behaviours stemming from an over-commitment to "sport") may be more likely among men who have low self-esteem and there is a risk that competitive sporting environments can foster social comparison concerns in individuals already predisposed to high levels of such anxieties (Andrews and Andrews, 2003; Slater and Tiggemann, 2011). Furthermore, although primary exercise dependency disorders are extremely rare, secondary exercise dependence more commonly occurs alongside eating and image disorders such as body dysmorphia (Matrie, 2002). Considering that self-reported eating disorders appear to be more prevalent among female prisoners compared to the general population (O'Brien *et al.*, 2001), and that among males it has been suggested that poor body image, body dysmorphia and low self-esteem can also contribute to anabolic steroid use (Wroblewska, 1997) careful consideration needs to be given to the design of sports-based interventions for such vulnerable prisoners.

Finally, it has been argued that prioritising sport can lead to an over commitment to the "sport ethic", characterised by dedication, goal setting and perusal, defying adversity and making sacrifices. Such a focus emphasises essentially positive norms, but can also result in deviant behaviours such as drinking and misuse of substances (Hughes and Coackley, 1991). Although no systematic association between participation in sport in prison and steroid use had been identified to date, it is possible that emphasising sport among vulnerable populations with high body consciousness and low self-esteem could increase the risk of misuse of performance enhancing substances such as anabolic steroids. Use of such substances is known to have negative health implications in terms of cosmetic changes such as hair loss, increased risk of heart disease, liver toxicity and tumors, infertility and indirect risks such as the of transmission of viruses such as HIV (Yesalis, 2000), in addition to evidence identifying negative psychological and behavioral effects such as mania and aggression in some individuals (Haug *et al.*, 2004). Research has demonstrated that steroid use is up to ten times higher in prison populations compared to the general population (Klotz *et al.*, 2010) and a number of recent Independent Monitoring Board and

Her Majesty's Inspectorate of Prisons (HMIP) reports have identified steroid use as a growing concern in British prisons (HM Chief Inspector of Prisons, 2009, 2011; IMB, 2010, 2011). As such it is important that steroid awareness training continues to be promoted to prisoners and staff through gym departments and beyond, and further research is required to assess if sport participation in prison is correlated with increased steroid use.

Method

In order to assess the extent to which health promotion policy agendas across the three domains of physical health, mental health and substance misuse are delivered through PE departments across the secure state in England and Wales, data from the most recent reports (published between 2006 and 2012) made public by HMIP for 142 establishments (130 of which were publicly run and 12 were privately run) were analysed for content, with comparisons made according to prison category. Establishments were grouped according to whether they were a juvenile ($n = 7$), young adult ($n = 18$), category B/C ($n = 47$), local ($n = 32$), high security ($n = 8$), open ($n = 10$), female ($n = 16$) or immigration removal ($n = 4$) facility, based on their reception criteria outlined in HMIP reports. In instances where establishments held more than one population type they were categorised according to their principal population. In cases where the most recent inspection was a short follow up, the previous inspectorate report was also considered, resulting in a total of 185 reports being subject to scrutiny. The researchers assessed the content of each inspectorate report which referred to PE to ascertain if it stipulated whether or not there was provision for six elements of health promotion identified in policy (healthy living initiatives, remedial PE, weight management, mental health and addressing substance misuse) and the extent to which this was successfully integrated into PE practice in each establishment. In cases where such provision was not mentioned in HMIP reports for an establishment it was assumed that such provision was not available. The majority (80 per cent) of the inspectorate reports were assessed by two independent assessors, with high rates of inter-rater reliability. Any instances of disagreement were discussed until consensus was reached. The present study was part of a broader programme of research and analysis of inspectorate reports was supplemented with a series of research visits to establishments across the prison estate in order to identify key issues and examples of good practice.

Results

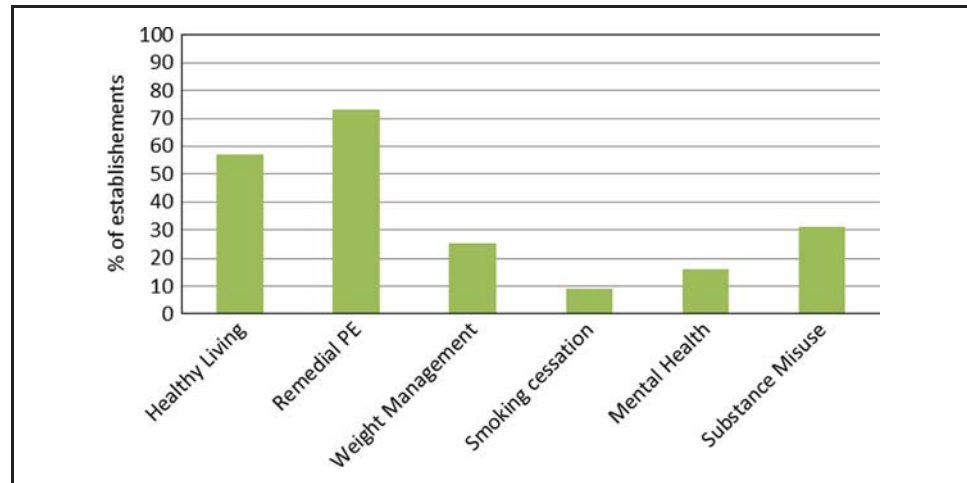
The analysis indicated that health promotion through PE is not well embedded across the secure estate, although provision of differing elements of health promotion through PE varied greatly, with remedial PE being widely available while targeted PE programmes to address specific health concerns – for example, smoking cessation and mental health – were available in a small minority of establishments. Figure 1 shows the percentage of establishments across the entire estate with PE provision across the six domains of health promotion.

Physical health

Analysis of HMIP reports indicated that only 57 per cent of establishments integrated healthy living initiatives into PE programmes. Sports-related healthy living initiatives were most commonly found within the high security estate, with HMIP reports for seven out of the eight high security establishments identifying such provision. Establishments detaining young people were identified as least likely to have PE programmes promoting healthy living: HMIP reports for only 14 per cent of juvenile and 22 per cent of young offender institutions identified such provision. In contrast, sports-related healthy living programmes were identified in over 50 per cent of establishments holding adult prisoners.

HMIP reports for almost three quarters (73 per cent) of establishments across the secure estate identified remedial PE provision of some form. Such provision was greatest within local establishments (88 per cent) and least common within juvenile establishments (43 per cent), but was identified in over half of all other types of establishments. Programmes designed to address specific physical health issues – such as weight management and smoking cessation – through PE were substantially more disparate. A quarter of PE departments were

Figure 1 Provision of health promotion within physical education programmes across the secure estate in England and Wales



identified in HMIP reports as offering weight management programmes, and these were most frequently identified in the women's estate (44 per cent of the inspectorate reports considered for female establishments identified weight management programmes), with comparatively low levels of prevalence in open prisons (10 per cent). Likewise, PE-based smoking cessation programmes were infrequent, with HMIP reports for only 13 of the 142 establishments identifying such provision. Smoking cessation programmes integrated with PE were identified more frequently within open prisons although this still only equated to HMIP reports for two out of the ten open prisons identifying such provision. No smoking cessation programmes linked to PE were identified by HMIP in establishments for juvenile or high security prisoners, or within immigration removal centres.

Despite the evident variation in the extent to which establishments promote physical health explicitly through sport, innovative practice has been identified in a number of establishments, including - but by no means limited to - HMP Bristol, Bullingdon, Dorchester and Wakefield. For example, Box 1 outlines an example drawn from Parc prison which demonstrates how healthy living programmes can be delivered effectively through PE departments to populations with the greatest need.

Mental health

The analysis suggested that in practice, provision of PE programmes explicitly aiming to improve mental health were substantially less common than initiatives aimed at promoting physical health. HMIP reports for only 23 of the 142 establishments (16 per cent) directly referred to instances of sports programmes targeting or being tailored for those with mental health problems. In practice such programmes were most commonly found within the juvenile estate, with HMIP reports indicating that three of seven juvenile facilities had PE programmes aimed at promoting psychological wellbeing. No such provision was identified within open establishments, only one such programme was identified across the 16 female establishments, and under a quarter of all other types of establishments offered sports activities specifically aimed at improving mental health.

Substance use

HMIP reports indicated that tackling substance misuse through sport in English and Welsh prisons was not widespread: overall just under a third (31 per cent) of establishments offered sports-related substance misuse interventions. The integration of sport into substance misuse programmes was most common within local and high security establishments (HMIP reports confirmed that half of these establishments had such provision) followed by establishments for young people (43 per cent of juvenile establishments and

Box 1. Promoting physical health and delivery of healthy living programmes through prison sport: the “Fit for Living” programme at HMP/YOI Parc

Parc prison in South Wales is a large Category B local private prison, holding a diverse range of male offenders including juveniles, young offenders, and adult males. It holds a substantial number of sex offenders and has a dedicated wing for older prisoners.

Education is heavily embedded within the PE department and the “Fit for Living” programme incorporates the promotion of healthy lifestyles in terms of diet, nutrition and fitness alongside low impact physical activity. The programme aims to improve the fitness of and promote healthy living among prisoners who may have particular health needs or may not be ready to engage in mainstream physical activities.

The programme is delivered twice weekly over 12 weeks and is promoted in particular to older and vulnerable prisoners who have the greatest need, with dedicated sessions being set aside for these populations. Uptake is consistently good with an average of 75 prisoners enrolled onto the programme per month.

Engagement in a diverse range of activities is promoted including walking, chair-based aerobics and games such as Boccia (a form of bowls tailored for those with disabilities) which are particularly popular with older prisoner and suitable for those with physical impairments or poor motor skills.

Individually tailored remedial plans are created for prisoners with specific physical health problems in collaboration with the health care department and a qualified visiting physiotherapist who attends weekly. The PE department also works closely with Safer Custody providing regular individual feedback regarding vulnerable prisoners' engagement and progress on the programme. Following completion of the “Fit for Living” programme prisoners are encouraged to continue participation and try different physical activities, with many progressing on to the mainstream PE programme.

Principles of best practice

- Tailored provision for those most in need.
- A range of low level non-competitive activities to attract individuals who are not able or confident in engaging in mainstream gym activities.
- Cross-departmental working and partnership working with external professionals.
- Embedded education.

28 per cent of young offender institutes). Provision of such programmes in all other types of prisons ranged from a quarter of female establishments offering sports related substance misuse programmes to none of the immigration removal centres.

Discussion

The highly variable and overall relatively sparse extent to which health promotion is integrated into PE across the secure estate serves to confirm previous findings, and raises the question of how effective the last decade's drive towards a “whole prison approach” to improving the physical and mental health of prisoners (DoH, 2002) has been. Our analysis demonstrates that in terms of integrating health promotion into PE within prison, generic efforts to improve physical health, such as promoting healthy living through sport, are common but that sporting provision targeting discrete physical and psychological health concerns is limited and delivered inconsistently across the secure estate in England and Wales, despite a strong potential for prison gyms to play a significant role in such behaviours.

Physical health

In terms of physical health, although the Prison Service PE Instruction (Ministry of Justice, 2011) stipulates that all PE programmes within English and Welsh prisons must promote healthy living, not all establishments achieve this. Of particular concern is the finding that highlighted a dearth of PE-related health programmes within Juvenile and YOI establishments: such initiatives were referred to by HMIP in fewer than half of all establishments detaining young people. It is possible that this dearth of provision reflects the stronger emphasis within establishments holding young people on providing sports-related

educational and vocational opportunities (Meek and Lewis, 2012), which may in practice dominate delivery and leave little time for health promotion. However, considering that young prisoners have been identified as particularly resistant to healthy living (HM Prison Service, 2004) the results suggest a concerning discrepancy between need, policy and consequent provision. Our results echo those of Condon *et al.* (2008) who identified that although facilities for PE were generally good across the estate, there were large disparities in the availability of healthy living opportunities across prison departments.

In contrast to healthy living, remedial PE – also a mandatory requirement of the PE instruction (Ministry of Justice, 2011) – was available within the majority of establishments. This is particularly promising since exercise on referral has been found to promote ongoing engagement in mainstream physical activity (NAO, 2008). Nevertheless, remedial PE was referred to less frequently in HMIP inspectorate reports for establishment holding juveniles, although this may be explicable in terms of a reduced demand for remedial provision among a younger prisoner population.

In line with previous qualitative research which identified large disparities in the availability of specific health promotion programmes across prison regimes (Condon *et al.*, 2008) our analysis suggested that the provision of specific health promotion programmes integrated with PE such as those addressing weight management and smoking cessation were disparate. Greater provision of sports programmes targeting weight management in the female estate may reflect a response to recommendations made in the “women prisoners” Prison Service Order (HM Prison Service, 2008) for PE activities to address issues of body image and self-consciousness. The overall paucity of PE programmes addressing weight management in British prisons may also reflect a decreased perceived need for such provision given that a recent systematic review has revealed that male and female prisoners in the UK are less likely to be obese compared to the general population (Herbert *et al.*, 2012). However, the scarcity of smoking cessation programmes integrated into PE provision cannot be attributed to a lack of need. According to a 2003 report from the Health Development Agency & ASH (2003), over three quarters of prisoners smoke. Comparative figures for England’s general population collated around the same indicated that only a quarter of people in the community smoked (The Information Centre, 2006) thus highlighting a significant health inequality in terms of smoking. Whereas some countries (such as New Zealand) have introduced total smoking bans in prisons, most English and Welsh prisons have implemented less stringent smoking restrictions whereby adult prisoners can still smoke within their own cells (Hartwig *et al.*, 2008). Thus, in light of current policy concerning smoking in prisons in England and Wales, as well as its elevated prevalence among prisoners, smoking is clearly an area that is important to continue targeting through multiple approaches, including through PE departments.

Mental health

The results indicated that PE sports-based programmes tend to focus on physical health significantly more than mental health, and programmes aimed specifically at promoting psychological wellbeing were infrequent. However, the greater provision of such programmes identified within the juvenile estate may reflect a development in Youth Justice Board (which has responsibility for the juvenile estate in England and Wales) policy towards more individualised, multimodal interventions to address children’s needs. Indeed, tailored sports programmes targeting psychological wellbeing in young prisoners appear to offer benefits for mental health. For example, the *Every Child Matters in a Secure Settings Toolkit* (National Children’s Bureau, 2008) describes the ACCESS course initiative within the juvenile facility at YOI Wetherby which targets young people at risk of bullying and self-harm who are reluctant to participate in PE. The scheme combines sessions designed to promote coping, social, problem solving and emotional-management skills with physical activities such as trampolining, gymnastics, rollerblading and team games, and is thought to have positive outcomes in terms of reducing the risk of self-harm and suicide as well as increasing self-esteem and motivation to engage in sport.

However, despite evidence of good practice within the juvenile estate, our analysis revealed only one sports programme specifically targeting mental health in the female estate, where mental

health problems are known to be most prevalent (Social Exclusion Unit, 2002). Although it is widely agreed that sport and physical activity can be effective in promoting psychological benefits such as improved self-esteem and confidence, mental health problems are a key challenge for delivering PE in prisons (Johnsen, 2001; Martos-Garcia *et al.*, 2009a, b), and women's participation in physical activity in prison is lower than that of males (Goetting and Howsen, 1983; Lewis and Meek, 2012a). Consequently, challenges associated with engaging female prisoners in sport – coupled with a high prevalence of mental health problems – makes delivering such programmes particularly challenging and may help to explain the paucity of such provision identified within the women's estate. Nonetheless, isolated examples of good practice (such as that identified at YO1 Wetherby) as well as interventions incorporating physical activity delivered in secure hospitals to individuals with severe enduring psychopathology (Scholey *et al.*, 2007) serve to demonstrate the extent to which carefully designed and delivered multi-modal programmes can produce positive outcomes for those with severe mental health problems and self-harming behaviours, who are typically less likely to participate in sport.

Substance misuse

Despite sport being advocated within official policy as an accompaniment to substance misuse programmes (HM Prison Service, 2000), and although a clear framework for implementing such provision exists (Ministry of Justice, 2011), our analysis indicated that in practice this is not widespread. The greater prevalence of PE programmes targeting substance misuse within local and high security prisons is likely a reflection of the high level of substance misuse problems presenting within these populations. However, considering the elevated level of substance misuse problems among female prisoners and the ongoing call for tailored approaches to addressing women prisoners' needs (Hardwick, 2012; Fawcett Society, 2007; Prison Reform Trust, 2012) it is surprising that only a quarter of the female establishments considered appeared to offer PE-based substance misuse programmes. It may be the case that even if provision is available, maintaining prisoner engagement and motivation to complete such programmes can be difficult, with high levels of attrition. Furthermore, the use of sport in practice to address substance misuse in prison is further confounded by the removal of the mandatory requirement to provide the minimum level intervention outlined in the *Tackling Drugs through Sport* from the latest PE instruction (Ministry of Justice, 2011) which is only likely to reduce such provision further in the future.

Despite the findings presenting a pessimistic picture of the way in which physical activity has been widely utilised in health promotion, innovative examples of how sport can be used to tackle substance misuse do exist. For example, the drug free wing at HMP Bristol draws on partnerships between the substance misuse team, the gym and community partners in order to incorporate within their wider multi-modal "Health Through Sports" programme as a means of diverting prisoners' focus away from substance use and towards the promotion of health and self-esteem. The programme has reported positive outcomes including better overall health, higher participation in physical activity and consistent negative drug urine tests among prisoners engaging in the sports-based element. Additionally, an increase in people with a history of substance misuse gaining qualifications was identified following participation in the programme and with the support of prison gym staff, participants had completed national vocational qualifications and secured work placements in local gyms (NHS National Treatment Agency for Substance Misuse, 2011). Previous research has identified that many prisoners, particularly young men, are more likely to participate in sport in prison as it is one of the few times when they are drug free (Condon *et al.*, 2008) and such examples demonstrate the added value that physical activity can confer when integrated into holistic multi-modal substance misuse interventions in prison.

Conclusion

In accordance with British and international research (Condon *et al.*, 2008; Herbert *et al.*, 2012) the findings suggest that although prisons in England and Wales are favourably placed to address health inequalities, such opportunities are not necessarily being fully exploited in the context of PE and sport. Despite empirical evidence linking participation in sport to improved

physical and psychological well-being in prison and community samples, and in spite of the promotion within policy of sport as a means of achieving health objectives in prisons, our results demonstrate the limited extent to which such responses are being implemented, and how practice across the secure estate remains variable. Such variation may be partially attributed to the fact that governors can exercise discretion in allocating resources and prioritising different aspects of the regime within their establishment. Likewise, the effectiveness of integrating health promotion in physical activities and the gym will be dependent on the development and maintenance of good internal relationships between departments.

However, the results of the present study should be considered in light of methodological limitations. Although HMIP reports provide a useful insight into the provision and practices observed and reported upon at the time of official inspection, the level of detail and focus is dependent on the type of inspection (i.e. full/short/follow up), the specific previous recommendations raised by the inspectorate for each establishment, and the time of inspection. It is recognised that there will be instances where the most recently published inspectorate report available for an establishment is dated (these were up to six years old at the point of analysis) and will not necessarily accurately reflect current practice and provision. Nevertheless, our analysis provides a provisional insight into the degree to which offender health is promoted through sport in prisons, whilst acknowledging that provision and practice in establishments changes rapidly and as a consequence cannot be captured with absolute accuracy.

Despite uncovering disparity in provision, innovative examples of how PE can effectively be integrated as part of multi-modal initiatives addressing the physical, mental health and substance misuse needs of specific prison populations do exist. Successful sports-based health promotion interventions in prison typically embed tailored sports provision within a wider programme of learning and/or specialist psycho-social and medical intervention, and draw upon internal and external partnerships in promoting opportunities for ongoing sporting participation. Although physical activity is by no means a panacea which can resolve the disproportionate health inequalities evident within the prison population and thorough care must be paid to the potential negative impact of sport, it does offer an effective mechanism by which to engage and empower those who may prove to be particularly hard to engage with or motivate in health promotion. Further research is required to identify and disseminate specific principles of best practice for discrete offender populations in the promotion of health through sport and PE in prisons.

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