

Faculty of Occupational Medicine

Wilf Howe Memorial Prize 2011

Winning submission by Dr Marianne Dyer

1. Clear description of innovation, initiative or intervention

Since December 2007 Park Health has delivered OH and well-being services for the construction workforce of the London 2012 Olympic Park and Athletes' Village. Park Health is a joined-up venture incorporating prevention and hygiene specialists and clinical OH Physicians, OH advisors, treatment nurses and a physiotherapist. This novel and truly passionate team effort has successfully recognised and reconciled the specific yet disparate needs of construction workers' health, the regulated environment within which they work and also taken the opportunity to improve their health.

Key elements of the OH programme have been:

- Ill-health *Prevention*: addressing the impact of work on employees' health.
- *Clinical* intervention: the impact of a person's health on their work.
- Health *Promotion*: the use of the workplace environment to promote health and increase employees' knowledge of OH Risk.

These programme elements have been achieved by adopting a holistic approach:

- **Identification and treatment of pre-existing diseases/conditions, by:**
 - Establishing pre-placement medical screening for all employees, with medicals for all safety-critical staff, prior to them commencing work on site.
 - Delivering an outreach programme of health surgeries directly to workers' rest facilities across the Site.
 - Holding specialist clinics in conjunction with local health services; thus providing access to specialist treatment and health advice which might otherwise be difficult for many workers to obtain.
- **Rapid and effective treatment of illness and injury whilst on the Park, by:**
 - Providing a walk-in treatment service: all workers on site can receive treatment for illnesses and injuries quickly and easily.
 - Maintaining an integrated emergency response, paramedic capability anywhere on site within 5 minutes of an incident. The Park Health response capability was developed with London Ambulance Service (LAS) in recognition that LAS cannot reach casualties quickly owing to the constantly changing geography of the site: it was impossible for LAS staff to maintain effective local site knowledge or penetrate security and site hazards rapidly for a guaranteed response time.
- **Improving workers' health for the future, through:**
 - A comprehensive health promotion programme including both work – and non-work related health and lifestyle topics.

Specific health campaigns in response to identified issues and trends.

2. Description of working population

Exceeding 500 acres the Olympic Park is currently the largest building site in Europe. Criss-crossed by roads, rivers, canals and railways, the dynamic nature of multiple, collocated major building projects, results in hazards and safe routes changing daily.

To date the project has involved over 30 Principal Contractors (PCs), with multiple sub-contractors. At peak there were over 10,000 workers on site: constant churn in the workforce means over 60,000 people have worked here.

The construction workforce presents particular OH challenges due not only to the hazards within the workplace but also lifestyle challenges to individuals' health. Construction has amongst the highest mortality and work-related illness rate (3.8%). Data from safety critical workers on-site indicates a male-dominated workforce (average age 47) with an increased prevalence of obesity and raised blood pressure.

The generally short-term nature of construction contracts results in workers developing itinerant lifestyles to find work: many live far from home. Some invest in rented accommodation but many live in caravans or sleep in their vehicles to save money. They often rely on take-aways or processed foods, sometimes eating only one meal daily. The prevalence of smoking and drinking is higher in construction workers compared to averages and their cardio-vascular risk profile is poor.

There are significant socio-financial strains. Most have no sickness benefits: without work, they have no income. Hence, construction workers tend to labour when unfit leaving medical problems until late on when treatment may be difficult. Men are generally more reluctant to seek medical advice, and even less likely to take time off to see their GP, especially if they have to travel home to do so (e.g. to Liverpool, Newcastle). If individuals become ill there is rarely a support system to rehabilitate them back to work: potentially they can quickly fall into unemployment. Living away from home and the uncertainty of finding future work exacerbates mental health issues arising from long-distance relationship problems.

3. Reasons for choosing 1 and 2, including organisational context

The London 2012 ethos was to ensure a positive, lasting legacy for the future. This ethos has been the driving force behind Park Health's initiatives. Our ambition was to *improve* the long-term health and wellbeing of everyone involved in the project.

The Olympic Delivery Authority has paid for Park Health's services to be available to all workers on site. This allowed many companies' workers access to OH services for the first time, representing an opportunity for OH to make a real, positive difference to a vast number of people in an industry where male bravado, time and cost pressures (corporate and personal) and social circumstances usually combine to create higher risks of illness and injury.

Our aim has been not only to secure the health and safety of the workforce during the construction project, but also to address current health issues and thus improve people's future ability to work. Improving the physical health, knowledge, awareness and attitudes of this large population will provide a positive legacy for the construction industry, which should spread far beyond those who have experienced Park Health's services.

Building the Olympic Park is publicly funded: every penny has had to be accounted for. Park Health's initiatives have been delivered on a lean budget, responding to the needs of the project but also the medical/health needs of the workforce, identifying trends and implementing measures to manage them. While money is tightly controlled, the energy and enthusiasm of the team is boundless: their innovation and commitment which has had enormous impact on this project.

4. How did you measure outcomes?

Interventions and publicity campaigns were put in place to address directly our findings from clinical data.

Lifestyle and pre-existing conditions were assessed through pre-placement screening and a dynamically promoted series of popular, voluntary attendance clinics convened in workers' welfare areas/canteens.

- Some 10002 safety critical medicals revealed pre-existing medical conditions in ~30% of staff which could affect ability to work: 50% were previously undiagnosed. 7.5% were removed from safety critical work pending treatment; all but one worker was returned to full duties.
- Measuring blood pressure, body mass index and blood sugars, showed 45% had raised high blood pressure, while ~30% were overweight.
- We subsequently invited the local Diabetic Team to run risk factor clinics across the sites for 2 weeks. 352 Workers attended:
 - 68% were overweight or obese.
 - 16% had raised blood pressure.
 - 13% of the workers were referred for further assessment.
- Park Health partnered with Newham PCT to provide site-based smoking cessation clinics. Park Health nurses, sponsored by Newham PCT, became level 1 smoking cessation advisors.
 - 93 workers attended, with a 43% 4-week quit rate.
- Park Health arranged advisory clinics with the Homerton Sexual Health Team. Demand was high: 76 employees accepted screening for STIs. Clinics have since been offered monthly:
 - 26 clinics, 516 attendees (90% men, 10% women).
 - Age ranges 17-73 years old (most common 20-29 year olds).
 - 19 cases of Chlamydia diagnosed and treated (3.7%).

Treatment on-site for work-place incidents and illness has demonstrated a number of preventable injuries, with 8760 treatments since December 2007. However:

- Only 5.9% needed referral to local A&E services;
- 101 emergency call outs on site since 2007; the commonest incident is chest-pain. Only 25% needed transfer to hospital.

Lifestyle promotions alongside the volunteer clinics engaged employees to consider less obvious risks to their well-being:

- Holding 2 Olympic Park "strongest man and woman" contests to raise awareness of work-related upper limb disorder (WRULD) using grip test readings. In excess of 700 workers attended. Whilst all grip readings were normal significant WRULDs were identified (carpal tunnel and HAVs).
- A "London 2012 Big Breakfast" campaign began after analysis of site data revealed an alarming incidence of low blood sugars amongst workers (17%). A survey of 390 workers found:-
 - 60% admitted not eating breakfast prior to work.
 - Many workers stated they could often not afford to purchase breakfast and lunch.
- Park Health teamed with local charities to raise awareness of mental health risks and problems amongst workers, advising where to go for help.

Park Health's Physiotherapy service is highly innovative within the construction industry. The service provides both treatment and training on the prevention of musculoskeletal injuries, returning workers to duty faster.

5. What were the health benefits?

Increased knowledge and understanding amongst the workforce of health risks both from work activities and lifestyle choices;

Park Health-led healthy eating promotions across site resulted in the introduction of affordable healthy options in canteens. Anecdotal reporting indicates much greater uptake of healthy meals. Sexual and mental health and diabetes clinics improved knowledge in at risk groups and successfully treated cases that may have continued undetected.

The walk-in treatment service minimized the number of hours lost to incidents that would ordinarily have seen employees sent to A&E for assessment – saving 60,000 worker hours. More importantly, the interventions kept employees working, safe, and returned to full duty promptly without conditions worsening. The service also ensured there was no significantly increased burden to local NHS services arising from the vast temporary workforce.

Park Health's on-site emergency response, supported by LAS has saved lives through rapid arrival and intervention by OH nurses trained in immediate care and advanced life support skills.

6. Give an account of the difficulties / obstacles that arose and how they were addressed

There was no template for a service of this scale and complexity:

- There was a deep lack of knowledge and understanding amongst construction companies about OH issues and benefits. The rigid project end-date necessitated rapid trust-building with workforce and Unions, particularly regarding pre-placement medicals (very unusual within construction).
- The Male-dominated, sceptical workforce had to be encouraged to see benefits of and use the service.
- Substituting LAS with Park Health paramedics was viewed with some scepticism both on-site and amongst LAS staff at the outset of the service.

Park Health tackled mistrust through pro-actively engaging PCs and Unions as soon as each arrived on site, to understand the nature of its work and to promote the OH services available. Where companies had in-house OH services, Park Health worked with them, sharing baseline information and supporting activities. It took time, energy and relentless persistence at every opportunity and by direct engagement to communicate the requirements for and benefits on OH down through PC management structures.

All health promotions had to be delivered quickly: workers had only short meal breaks so it was imperative to grab attention and deliver information rapidly: fun, high impact messages delivered in rest areas by professional, enthusiastic staff was key. Specialist clinics arranged with local health services provided access to treatment and advice which would be difficult for those living away from home.

Although evident LAS could not deliver its usual service on-site we had to demonstrate our competence and ability to provide an equivalent paramedic response, and then educate workers at all levels to use on-site emergency procedures, replacing 999 calls. We engaged very closely with LAS to arrive at an integrated approach. Introducing LAS-sourced defibrillators to the site, and training key workers to use them, added greater robustness to the potential life-saving capabilities of this service.

The response on the whole has been very positive: some companies embraced OH services completely; others made some changes but did not wholly engage. The response of the workforce has been exceptionally positive with them reporting feeling valued, and their health protected.

7. Explain how this might be used elsewhere

Dame Carol Black has included Park Health in her newly-established Construction Forum which seeks to bring the lessons learnt at London 2012 to the rest of the industry. In addition to increasing the knowledge and understanding of OH and wellness in the current workforce it is also looking to introduce training early, for those entering the industry as apprentices, so they can manage their own health better.

This all-encompassing model of OH provision on a grand scale (including emergency response and rehabilitation services) is also being used for upcoming major construction projects, Crossrail and New Nuclear builds.