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Innovations in Olympic and Paralympic pharmacy services

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Medical services have been designed and implemented for a number of major sporting events in the recent years, including Sydney 2000¹, Athens 2004², Singapore 2010³ and Innsbruck 2012.⁴ Within the published reports from these Games, little or no reference was made to the important role that pharmacy plays within each of the disciplines that constitute medical services.

The health protection of athletes is a crucial role for the International Olympic Committee.⁵ It is therefore important that medical services at major sporting events, such as Olympic and Paralympic Games are well-planned, comprehensive and robust. Consequently, the London Organising Committee of the Olympic and Paralympic Games (LOCOG) were tasked with providing these services. The Medical Services for London 2012 incorporated a specialist pharmacy work stream comprising a Pharmacy Planning Committee that had an advisory and operational role for the LOCOG Medical Services. This nine-member committee, under the leadership of Mark Stuart, Pharmacy Clinical Lead, brought national expertise and experience from across the sphere of pharmacy practice. A recently published paper details the work of this committee in developing and delivering pharmacy services for London 2012.⁶

The objective of the present review was to evaluate the impact of a number of innovative features in the pharmacy services that had not been operated at previous major sporting events.

AIM OF THE PHARMACY SERVICE

The primary remit of the Pharmacy Planning Committee was to design and oversee a safe, efficient and accurate dispensary service and to plan a system of supply, storage and management of medicines for use at competition and training venues. This included the design of systems to manage a range of drugs used

for emergency medicine, including controlled drugs (morphine sulfate) that were carried by doctors at the competition venues.

In collaboration with the other LOCOG specialist clinical leads, the pharmacy team was also responsible for facilitating the selection of medicines available from the polyclinic pharmacies, and in athlete and spectator medical rooms at the competition venues. This list of drugs was compiled to form the Olympic and Paralympic Formulary that listed the drugs that could be accessed via prescription by both LOCOG and team doctors.

OVERVIEW OF CORE PHARMACY SERVICES

Pharmacy services were one of seven specialty clinical areas of the Olympic and Paralympic medical services and were responsible for providing the medicine needs for 11 200 athletes of 26 Olympic sports across 34 competition venues, followed by 4200 athletes of 20 Paralympic sports across 21 competition venues. In addition, the pharmacy services covered the medicine needs of around 200 000 accredited people, and also an estimated 9.2 million spectators attending events.

There were three athlete villages, each containing a fully stocked pharmacy to provide the medicinal requirements of accredited athletes, team officials, Olympic and Paralympic Family, and other residents of the Villages.

The pharmacies operated in a similar style to a hospital outpatient dispensary and were the coordinating points of medicines supply for the athlete and spectator medical facilities at all Olympic and Paralympic venues. The pharmacy in the athlete village in Stratford, London was situated in a purpose-built polyclinic located in the athletes' residential area. The pharmacies in the Weymouth Sailing Village and Eton Dorney Rowing Village were situated in temporary facilities within the residential areas of these villages.

The operation period of the service was from the opening of the Olympic Villages on 9 July 2012 until the closure of the Paralympic Villages on 12 September 2012. The service to spectators covered 17 days of Olympic competition and 11 days of Paralympic competition.

RECRUITMENT, TRAINING AND MANAGEMENT OF PHARMACY VOLUNTEERS

Key to the successful operation of pharmacy clinical services was the expedient recruitment, appropriate training and effective management of the volunteer pharmacy workforce.

An analysis of workforce requirement for the period of the Games was conducted prior to the advertisement for Games volunteers. Expressions of interest were received from 1200 pharmacists and pharmacy technicians. Just over 100 volunteers were recruited. A substantial degree of management was required to accommodate the 215 shift changes that arose owing to non-Games work and social commitments of pharmacy volunteers.

Training for pharmacy volunteers was designed and delivered in collaboration with the LOCOG Medical Services Team and included three phases: orientation, role-specific and venue-specific training. Members of the Pharmacy Planning Committee also provided on-going training and advice to volunteers throughout the Games. This was achieved by ensuring that at least one member of the Planning Committee would be present during each shift on each day of the Games period.

ROLE OF PHARMACISTS DURING THE GAMES

The main role of the Games pharmacist was to provide a safe, efficient and accurate pharmacy service. Their role involved clinical screening, dispensing and providing clinical advice, especially about drugs used in sports medicine. A total of 5200 prescriptions were dispensed through the polyclinic pharmacies over the Olympic and Paralympic periods.

The pharmacists regularly sourced international medicines information for visiting team doctors to advice on alternative medicines available in the UK. They also facilitated strict systems of dispensing prohibited drugs to ensure that drugs used by athletes complied with the World Anti-Doping Agency regulations. This included meticulous scrutiny of cases involving therapeutic use exemptions.

INNOVATIONS IN PHARMACY SERVICES FOR LONDON 2012

A number of new initiatives in the design and delivery of Games pharmacy services were introduced at the London 2012 Olympic and Paralympic Games. These initiatives acted to enhance the contribution of pharmacists in the care of athletes, team members and spectators, and to

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support pharmacies nationally in their preparation for the Games.

The unique initiatives covered the areas of pharmacist education, community pharmacist support programmes, formulary development, provision of a minor ailment scheme, a medicines information service and the design of a complex drug management system for competition venues.

A NEW EDUCATION PROGRAMME FOR PHARMACISTS ON DRUGS IN SPORT

The provision of pharmacy services at the Games required pharmacy volunteers to have knowledge and skills in a variety of areas beyond normal professional duties, particularly with respect to the provision of medicines to athletes, including knowledge of prohibited drugs and the pharmacology of specific drugs used routinely in sports medicine.

A major education programme was therefore undertaken in collaboration with the Centre for Pharmacy Postgraduate Education, a national education provider for pharmacy.⁷ The programme, which is delivered as an online e-learning programme, took 12 months to develop. It is titled 'The Use of Drugs in Sport: A Healthcare Professional's Perspective' and includes three sections:

1. Doping and antidoping in sport;
2. Pharmacy services and support in sport and fitness;
3. Medical services at international sporting events.

The primary objective of the programme was to provide a body of knowledge to support the role of pharmacist and pharmacy technician volunteers at the Games. The pharmacy volunteers were required to undertake the education programme and to pass the associated assessment as a prerequisite to be accepted for a pharmacist role.

A research utilising an evaluation conducted with pharmacy volunteers after the Games indicated that this initiative played a crucial role in their preparations for the Games. Recommendations regarding the expansion of the material provided within the educational package are being implemented post-Games, as preparation for future sporting events and for education on this subject area for international healthcare professionals.

NATIONAL SUPPORT PROGRAMME FOR COMMUNITY PHARMACISTS

The Pharmacy Planning Committee collaborated with the National Pharmacy Association to produce a guide for local

and national pharmacies on issues they might encounter during the Games.⁸

This guide was primarily targeted at non-Games pharmacists who were providing services in locations close to Games' venues. It included advice on issues relating to local health services that might be accessed by the large number of spectators attending the games, particularly those from overseas. It also contained resources and guidance on what to do if an athlete presented at their pharmacy for medicines.

GAMES' FORMULARY

The focus of the Games' formulary was to provide a comprehensive set of medicines to cater to the specific requirements of sports medicine and that represented medicines for immediate treatment of patients presenting to the polyclinic for a range of likely conditions. This list of medicines was then compiled into the London 2012 Pharmacy Guide that presented comprehensive prescribing information on all the medicines available from the polyclinic pharmacies and the venues.

A consultation period for the medicines list was conducted prior to the writing of the final Pharmacy Guide.⁶ The list was reviewed by the International Olympic Committee (IOC), International Paralympic Committee, National Pharmacy Association, British National Formulary, a number of National Health Services (NHS) hospital pharmacy departments, sports medicine experts and the specialist leads of the LOCOG medical work streams. Specialist advice was also sought on medicine use during fasting, as part of the Olympic Games fell during Ramadan.

The drug monographs presented in the formulary were based on those published in the British National Formulary, but were edited to cater to the specific information needs in the Olympic and Paralympic environment.⁹ Each monograph in the book contained practical information for each drug on its indications, cautions, contraindications, available forms and side effects. The WADA status was also provided for each medicine in the formulary.

DEVELOPMENT OF A PHARMACY MINOR AILMENT SCHEME

In the UK, minor ailments schemes running through community pharmacies are widespread. A Minor Ailments Scheme was developed for the Games with the aim of expanding the traditional role of pharmacists at Olympic and Paralympic Games, recognising the professional competency of pharmacists in the UK.

Pharmacists working at the Games managed a range of minor ailments for non-athletes. The Minor Ailments Scheme was linked to a series of protocols for 21 conditions including minor infections, dermatological conditions and upper respiratory and urinary tract symptoms.

Where appropriate, pharmacists operating the scheme referred patients to the polyclinic doctors or other healthcare professionals in the polyclinic.

The protocols for the Minor Ailments Scheme were sent to all pharmacist volunteers prior to the Games and the general principles of the operation of the scheme were taught at the role-specific training sessions.

OPERATION OF THE MINOR AILMENT SCHEME DURING THE GAMES

Pharmacists provided a professional consultation service for non-athletes presenting with minor ailments. Olympic and Paralympic family members and workforce personnel were able to self-refer to the scheme or were referred by the polyclinic or other healthcare providers. In each case, the pharmacist undertook a confidential consultation which consisted of:

- ▶ Assessment of the symptoms described;
- ▶ Reference to the appropriate protocol;
- ▶ Provision of healthcare advice;
- ▶ Provision of medication from the minor ailments formulary.

There were 1046 Minor Ailments Scheme encounters over the period of the Games (532 during the Olympic Games and 515 during the Paralympic Games). This represented a significant resource contribution to the medical workload within the polyclinics.

The most commonly treated ailments were:

1. Headache (185 consultations);
2. Musculo-skeletal conditions (126 consultations);
3. General cold symptoms (109 consultations);
4. Sore throat (73 consultations);
5. Hay fever (65 consultations);
6. Insect bites (54 consultations).

MEDICINES INFORMATION SERVICE

Access to robust medicines information resources were required to ensure that clinic-based pharmacy staff could access safe and accurate information on both local and international medicines. In addition, the provision of a medicines information service was required to support the local LOCOG and visiting team doctors in their practice in the UK medical environment.

It was decided that the Internet-based 'Medicines Complete' package of

information resources provided by the Pharmaceutical Press, London, should be used as the first-line resource for enquiries that could not be immediately answered by pharmacy staff.

This portal site supports cross-searching of a number of key medicine information resources including Martindale (for identification of the ingredients of non-UK medicines) and Stockleys (a comprehensive guide to clinically significant drug interactions).

As volunteer pharmacy staff were from a range of backgrounds representing different competencies in drug information sourcing, training material was developed to support appropriate use of this resource and other important medicines information resources that were freely available from the Internet. In addition, Guys and St Thomas' NHS Foundation Trust Hospital agreed to provide a 24 hour on-call medicines information back-up service for the duration of the Games.

CONCLUSION

London 2012 saw pharmacy services designed and planned in such a way that they were no longer on the periphery, but were central to all medical services at the

Games. The innovations and robust analysis of the pharmacy services will provide a valuable post-Games legacy for the Olympic Movement and for the national and international pharmacy profession. We recommend the new initiatives outlined in this review are included as an integral part to the planning of future games. In doing so, they will support the IOC's fundamental aim of protecting the health of athletes.

Correction notice This article has been corrected since it was published Online First. The article was originally published incorrectly as a Review, but has now been changed to an Editorial.

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