

The XVII Commonwealth Games: (2)

A review of pharmacy operations

The biggest and most successful Commonwealth Games so far was recently staged in Manchester. Mark Stuart, superintendent pharmacist of the Athletes' Village Pharmacy, reviews the pharmacy operations that served 5,000 athletes and hundreds of officials for the duration of the games

ONE of the most important roles of the Athletes' Village Pharmacy was to provide advice relating to substances prohibited in sport and the restrictions regarding the use of some drugs. Many athletes who were concerned about their medication, particularly before competing, accessed this confidential service.

Team members from developing countries used the polyclinic facilities most frequently. The larger teams, including England, Australia, New Zealand and Canada, each had their own medical facilities within the village, staffed by their own doctors and physiotherapists, using their own medical equipment and drug supplies.

A specially designed computer program was used during the games. The dispensing system was linked to the main games accreditation database and could access both patients' and doctors' details from information on their photograph accreditation passes, allowing for secure and efficient patient identification. The link to the accreditation database meant minimal data entry for dispensing pharmacists. It was the first time a system of this kind has been used at any Commonwealth or Olympic Games.

The pharmacy dispensed around 100 prescriptions a day. The busiest periods were early in the morning and at night, when the athletes were in the village, before and after training and competition periods.

The most commonly dispensed drugs were anti-inflammatory analgesics. This was to be expected given the type of musculoskeletal injuries commonly experienced by athletes. Broad spectrum antibiotics were the next most popular class of drug prescribed, along with cough and cold preparations. The use of antibiotics peaked in the days before competition started when athletes were most concerned about optimising their health. The use of anti-inflammatory analgesics was consistent throughout the games.

The pharmacy worked closely with the Commonwealth Games medical commission and doping control. It monitored athletes' medication, and their notifications of prohibited and restricted drugs, according to the Olympic Movement Anti-Doping Code and individual international sporting federation laws. For example, salbutamol can only be used by athletes with proven asthma or exercise-induced asthma. At urine concentrations greater than 100ng/ml it is considered to be a stimulant; at concentrations greater than 1,000ng/ml it is considered an anabolic agent. Written notification by the athlete to the medical commission is required to confirm the medical necessity for use of this drug

before competition. The pharmacy at the games was responsible for collecting and collating this information. Pharmacists assisted in interpreting medication exemption requests from athletes.

Gold medal winning athlete Kim Collins, the St Kitts and Nevis men's 100m sprinter, tested positive for salbutamol in his urine. He had failed to declare the medication prior to competing, which jeopardised his eligibility for the medal. The Commonwealth Games Federation Court unanimously decided that Collins should not be penalised after he underwent lung function tests that proved he was genuinely asthmatic. Collins said: "This has taught me a powerful lesson and one which all athletes should learn from. In future I will take personal responsibility for making sure all competition requirements are met."

Beta-blockers are banned in Commonwealth Games sports such as lawn bowls and shooting, where a steady hand is necessary. Some athletes competing in these events realised only days before competition that the medication they had been taking for long-term conditions was prohibited according to their international sporting federation laws. These athletes sought the advice of doctors and pharmacists on alternative treatment options to enable them to compete within the rules of their sport. Athletes can face up to a two-year ban from competition if they test positive for a prohibited substance.

Diuretic use is prohibited in all sports according to the Olympic Movement Anti-Doping Code. Diuretics can be unfairly used to enable judo or boxing competitors to qualify for lower weight divisions, and in shooting diuretics can be used to dilute the urine and mask the presence of other prohibited substances such as beta-blockers.

Awareness of prohibited substances in sport seems to vary between sports and between countries. Most of the athletes in high profile events that are also Olympic sports, such as track and field, seem to be conscious of the international anti-doping rules. There appears to be a need for more education of athletes from developing countries and also of those athletes competing in sports with a lower global profile, such as lawn bowls and shooting.

UK Sport conducted the doping control tests, overseen by the World Anti-Doping Agency. Tests on over 900 athletes were processed by the drug control centre at King's College London (*PJ*, 20 July, p91). All athletes who qualified for gold, silver, or bronze medals had to provide a urine sample. A number of competitors were also randomly required to provide a urine sample

for analysis during the games and in the week before competition.

Random blood tests were also conducted. An initial analysis performed in laboratories at local hospitals was used to look for abnormal blood parameters indicating the use of erythropoietin, darbepoetin, and related substances. If abnormal or suspect results were found, further investigations by International Olympic Committee accredited laboratories could be obtained. Compared with previous games, there were fewer incidents of drug abuse reported. This is perhaps a reflection of growing global education and awareness of fair, drug-free sporting ethics by athletes.

At the close of the pharmacy, much of the pharmacy equipment was donated to medical representatives from Nigeria and Fiji for use at games to be held next year.

The efficient running of the polyclinic pharmacy would not have been possible without the skill and expertise of the 15 enthusiastic volunteer pharmacists from across the Commonwealth.