

How to prepare for the unexpected

In the light of the recent bomb attacks on the London transport system, **Mark Borthwick**, **Neil McGuire** and **David Scott** outline how hospital pharmacy departments can use a military-style “table-top” exercise to prepare for emergencies and major incidents

Recent tragic events in London have shown how difficult it can be to anticipate and prepare for major incidents, even when the general threat is known. Yet there is a need to respond effectively to accidents, natural disasters and terrorist attacks.

How does one prepare?

Most people have no experience of real major incidents so hospital procedures, including pharmacy plans, may have been written without the benefit of first-hand knowledge of what can happen.

Some well-known tragedies have been useful as learning tools because they highlighted the deficiencies of existing plans; the Kegworth aircraft crash led to a radical overhaul of the coding system used to prioritise patients because of the confusion caused by each ambulance authority using its own colour coding system. More recently, Spanish pharmacists have reflected on the Madrid bombings.¹ Such instances can turn out to be a silver lining to a dark cloud but they make one all the more keen to learn before a major incident occurs. Proper preparation is necessary both for new, inexperienced staff and for established staff who may be complacent about procedures because of years without a major incident.

Planning and simulation exercises are one partial solution. In Birmingham, one hospital discovered the deficiencies of its fire evacuation procedures when it tried it out with volunteers acting as patients. The video of the resultant chaos was distributed to other hospitals and a television company made a documentary about the subsequent efforts to correct the problems and run a more successful repeat exercise.

Other multidisciplinary exercises have been run, generally under the aegis of the emergency rescue services; one of us (DS) was involved in an exercise where an empty bus was dropped off a railway bridge. The wreckage was then packed with actors as casualties and yet more actors played the part of the press, relatives, etc, to test the ability of the rescue services and hospitals to cope. In that instance pharmacy turned out to have little unexpected involvement because the local hospital already had resident pharmacists and the extra work related mainly to the supply of fluids and opioids. Not all hospitals would be so fortunate.

However valuable these exercises are, and they are also regularly used as learning tools in the military environment, they are expensive and time-consuming to organise and run. There are alternatives that can achieve many of the same aims, without the time and expense, and that can maximise exposure of personnel to mechanisms and procedures in limited timescales.

Two years ago two of us (MB and DS) were planning to provide training for hospital pharmacists who might be involved in emergencies but we were unable to find published examples of pharmacy-based simulations. We then discovered that there is considerable expertise in the armed services in running “table-top” exercises to test the capabilities of new installations. When a new field hospital or other service is set up, exercises simulating the anticipated demands are run in order to identify the problems before they occur. There are no real or acted casualties but the service providers have to enact their roles in real time under the control of a simulation co-ordinator who plans the scenario and reveals the plot to the participants as time elapses.

One of us (NM) is a consultant in our hospital's intensive therapy unit and is also a Royal Air Force intensive care doctor with experience of both real emergencies and table-top simulations, and so was able to design an exercise for pharmacy.

The exercise

The exercise was designed to run in a one-hour session and to cover the first 45 minutes or so of an evolving emergency that involved many casualties who required medicinal treatment. The session included a discussion of lessons learnt and led to quiet reflection afterwards for those involved.

In a classroom that normally seats about 35, a table-top “gaming” board was set up with a plan that represented a pharmacy with telephones, faxes and offices detailed. Stores, including a distant bulk IV fluid store, were shown with an indication of how long it would take to transport items between sites. Wards, the emergency department, operating theatres and neighbouring hospitals were similarly depicted. Movable counters showed staff of different grades or designations.

Participants were given roles to play, with a brief set of written instructions on how to play their parts. They were asked to make it as real as possible but not to stray outside their brief. In general, we chose a junior pharmacist to act as chief pharmacist because we thought this would help highlight how the system would work in the absence of senior staff. It also stimulated the juniors to appreciate the



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need for leadership, the taking of instructions as a subordinate and acting independently for the overall effort. It allowed the scenario to be conducted without threatening more senior participants. They may not have previously considered such a situation and gaining a too realistic review of their performance was not the intention. The idea of these exercises was to subject the system to stress but with accompanying support and suggestions for the participants. If participants felt intimidated all of the benefits of learning would be undermined, with a negative result.

Participants stood close to the table unless they had a timed task to do (eg, “go to ward 9; this will take eight minutes”), in which case they would retire to the edge of the room for the set period. There they could observe the action but were not allowed to participate.

Some participants were designated at random as nurses, doctors or relatives and they interacted or “telephoned in” when given their cue from the scenario co-ordinator. A portable recorder produced the ringing tones that came to be much-loathed. Other participants could hear both ends of these conversations but were not allowed to respond thus benefiting from the interaction but not altering it. Some participants were instructed to be difficult in some particular way to add stress, eg, over the need to leave immediately for child-care reasons or, more generally because they did not appreciate the gravity of the situation.

At an appropriate moment a medicines information enquiry was simulated with a folder of papers that showed what would have been found by a computer-based search, and the relevant pharmacist was moved to the edge of the room to digest the contents of the file.

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Recommendations

- Ensure your incident plan is well known in the department and is written in bullet point format as an aide-memoire. Detailed annexes, for example, the trust policy on various matters, should be attached where necessary but should not interrupt the flow.
- Write actions in the order they would need to be performed, without waffle. The time available to read in a real incident will be short and distractions numerous. (One hospital provided a pharmacy incident plan and it took four hours to extract the information to make an action card suitable for use in an emergency by someone unfamiliar with it.)
- Consider revision sessions or drills for staff every six to 12 months. Check telephone numbers and contact details in the incident plan.
- Clear the decks early on. Do not wait until a situation has fully developed and there are lots of casualties before taking action. Start preparing as soon as there is a warning of a possible major incident and reorganise staff and priorities. This may require some effort but the price is worth paying; at least staff will be better prepared for the real thing.
- Communicate the department's aims and priorities clearly and frequently to your own staff as the situation unfolds.
- Ensure an experienced person is managing the workload in the dispensary, assigning priorities and balancing existing patient needs with those of the newcomers. This person should not be the person co-ordinating the response to the emergency but the two people need to talk frequently.
- Assign specific staff to deal with other tasks that are not in the major incident plan but which are necessary to keep the hospital running.
- Rather than use telephones, dispatch one or more experienced technicians or pharmacists on a tour of wards to explain the new priorities and to prioritise the work to focus on discharge drugs so that beds can be cleared if necessary.
- Have a plan to cope with the likelihood of the telephone and bleep systems being jammed.
- Plan in advance how to locate and summon staff when communications are difficult, or when most staff are off duty. Consider having lists of staff home and mobile telephone numbers, which can be held by several staff members at home as well as in the department. Then, the pharmacist on site can ask the first person he or she finds at home to use their home telephone to call for reinforcements. A formal cascade system may be used but it should not be one that could get blocked if someone is not contactable. Consider using mobile telephones as well as, or instead of, hospital telephones and consider sending a junior runner to find staff who are on low-priority wards.
- In most incidents with multiple casualties, there will be an increased need for IV fluids and analgesia in emergency departments, operating theatres and critical care areas. Some areas that are not normally "critical" may be redesignated as such in an emergency. Consider an immediate supply of fluids and analgesics, including opioids and perhaps anaesthetics, to some or all of these areas, without waiting for a request. Paperwork can be sorted on delivery or afterwards. The nature of these deliveries can be discussed with medical staff when writing major incident procedures.
- Consider how existing patients can be rapidly and efficiently discharged if necessary. Some incidents may need only a few discharges; others will need whole wards cleared or patients relocated to areas such as the physiotherapy gymnasium or classrooms. Perhaps discharge medicines could be dispensed from inpatient prescriptions under the supervision of the ward pharmacist and confirmed later. Perhaps some patients could be sent, with their inpatient chart, to a GP with a note asking the GP to prescribe appropriately; the chart could be returned at the next outpatient appointment or when the incident is over.
- Consider giving FP(10) prescription pads to outpatient departments.
- Ensure there are lists of important medicines and their locations, including at other hospitals or depots, with access details and telephone numbers that are up to date.
- Remember that the central control room for the major incident has details of military or government contacts who can arrange for personnel or materials that may be needed from outside the NHS; this may be especially important for terrorist attacks and chemical accidents.
- Keep the central control room informed of any major developments relating to your work, including expected supply problems. Control can advise or help with obtaining transport and escorts when the roads are blocked.
- Be aware that members of the press or public may telephone any hospital number they can find, by-passing switchboard; you may get such direct calls.

Dispensary workload was simulated with counters that represented different kinds of work; each was marked with the time it would take to complete.

Outcomes

The simulation has been run four times, sometimes with participants from several hospitals and sometimes with staff from only one. On each occasion there has been some hilarity, some tension, some confusion and some frustration. The varied participants performed well and entered the spirit of the role-playing, after overcoming initial "nerves". There have been many lessons learnt and a strong determination from all involved to think ahead. Many found the experience sobering and have resolved to read their own department's emergency files, in some cases for the first time.

As far as we were concerned, the exercises went well; the participants learnt a lot and could see the real-life application of the skills learnt in a somewhat artificial exercise. The

benefit of having an experienced person to design and co-ordinate the exercise was apparent although the fourth session was run by the two non-military authors proving that, with a little practice and guidance, exercises could be run by any hospital or department with minimal effort. The session could fit into a study day or into a slightly extended lunchtime seminar slot and with proper planning requires only minimal props and equipment. Since these exercises, at least one department has rewritten their major incident protocols to incorporate the lessons learnt.

Recommendations

The Panel contains some suggestions that may or may not be applicable to any one situation or institution.

Conclusions

There are no clear-cut right and wrong ways of handling emergency incidents; in each of the exercises the pharmacy response was con-

trolled in different ways by their respective chiefs. The usefulness of the specific content of the exercises will only be as good as the prophetic abilities of the person designing the scenario, but the broader messages have wide applicability.

Feedback from participants suggests these exercises were extremely valuable and we recommend that departments set up their own group exercise or collaborate with neighbouring hospitals in order to run one. Local emergency co-ordinators or military sources may be able to suggest suitable simulation designers who can use pharmacy input to create and run an exercise tailored to test the service.

Reference

1. Obeid I. Practical implications of disaster preparedness for a hospital (European Association of Hospital Pharmacists congress report). *European Journal of Hospital Pharmacy Practice* 2005;11:20.