Contingency planning for hospitals

In crises, emergencies or disasters, the first place most people turn to for help is the local hospital. But what if the hospital itself is at the centre of the crisis and finds itself unable to function as it should? And how can we make sure people are treated, supported and helped in the ways they need? **Ruth Wozencroft** explores the issues to be considered

Hospitals are obviously not impenetrable fortresses, nor are they invulnerable to the chaos that an emergency can bring. Vital parts of a hospital, or indeed an entire building, can cease functioning for a multitude of reasons, leaving patients at risk.

Take a naturally occurring crisis such as flooding, for example, or hurricane, tornado, cyclone, earthquake or typhoon – all can damage a hospital building's infrastructure and the ensuing repair work can often be a long-term issue. Hospital environments and equipment are complex and need to be of appropriate high quality, particularly where surgery or invasive procedures are carried out, and therefore repairs can be complicated and lengthy. Where a department or building has been destroyed by a naturally occurring crisis, it will need rebuilding.

This is exacerbated if the hospital is in a rural location, far from other major conurbations, or in island situations where the hospital is the only one that serves the population. In such circumstances, it is difficult for people to access treatment or procedures, causing long waiting times and potentially risking lives. People have to travel long distances to be treated elsewhere, increasing pressure and waiting times in neighbouring hospitals.

Floods can be particularly invasive and cause longer term problems. Many key functions, such as sterilisation services for surgical instruments or equipment, are housed in hospital basements – the areas most likely to be affected by a flood.

These departments are the heart of a hospital – without them functioning, how can the centre's doctors and nurses carry out their work? The simple answer is, they can't, not without adding capacity.

If a hospital is damaged, the effects on communities can be far reaching
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Clearly, in these situations, things are made worse by the fact that patient numbers are likely to have risen as severe weather events often lead to people being injured, requiring medication they've left behind, or experiencing worsening existing medical conditions owing to the extreme events. This presents a situation where the hospital – or a vital part of it – is damaged and cannot function as it should, but more people are likely to need to access it, putting even greater pressure on the hospital's capacity.

Fire can leave a hospital without vital functions for an extended period. Evidently, the fire itself will damage a particular area, but in a hospital where complete sterility is required, smoke damage to other areas, as well as water damage caused by extinguishing the blaze, can be even bigger issues and are likely to affect a far wider area. Patients will probably have been evacuated, even in the short term, causing issues with identification, tracking when they are moved and data protection.

We clearly can't predict when a naturally occurring crisis or fire may affect a hospital, but hospitals can plan for contingency in these situations. So what can they do?

Hospital resilience planning should encompass events that affect the safety of the hospital environment and address those measures that ensure the availability of necessary services.

Hospital teams should look at each individual function that each department performs, what the potential impact would be if it had to shut down for any unpredicted reason and how they would replicate these functions should the worst case happen.

Often hospital disaster planning centres on what it would do if there's a huge influx of people owing to natural hazards, or human-caused incidents, such as a large-scale accident or terror attack, but the planning doesn't focus so much on what should be done if the hospital itself is the centre of the crisis.

In the immediate aftermath, nearby hospitals (where they exist) will share capacity and support the most in need, and tented field hospitals can be erected. But hospitals need to look at the long-term. How will they continue to treat patients while areas are repaired, cleaned or rebuilt?

Mobile units can provide reliable, quality environments for a range of functions such as: Mobile operating rooms; wards; clinics; endoscopy decontamination units; central sterile services departments (CSSD); minor injury units; visiting hospitals; outpatient clinics and endoscopy suites – even temporary accident and emergency units.

Over recent years, a number of incidents have occurred that have called for the deployment of such mobile solutions to bridge the gap from initial rapid response to reinstating full infrastructure.

In one hospital in Scotland, after an accident and emergency department had to close temporarily, a mobile solution was used in its place.

When a London hospital was affected by a fire, mobile units were used to ensure patient care could continue.

The fire damaged a large part of the roof at the Royal Marsden NHS Foundation Trust, a world-renowned cancer hospital in London, UK. It caused fire, water and smoke damage to several other areas, including wards and operating rooms. The incident affected the hospital's surgical capacity while the experts assessed the theatres for remedial works.

Mobile units can be put into place and made functional rapidly after a crisis
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Short-term mobile wards were installed the next day. The installation of these units takes mere hours from their arrival on site, so they provide an excellent emergency response. The ward was later joined by a mobile operating room. The units provided services at the hospital's Sutton site, where additional surgery was taking place while the operating rooms in Chelsea were being recommissioned. The team augmented the configuration of the ward and operating room with sealed access corridors, similar to an airport hub. This joined the mobile units to the existing building.

The seamless extension not only helped the Royal Marsden in the short-term with its requirement for capacity, it also enabled the Trust to meet its workload targets and concentrate on the rebuilding programme of the fire damaged areas.

Extensive disruption

Another example is when torrential flooding severely disrupted hospital services and left a hospital in Gloucestershire (UK) virtually inaccessible, causing extensive disruption and the cancellation of hundreds of operations. Following the installation of a mobile solution, patients whose operations had been cancelled owing to the flood were able to receive treatment at a mobile day surgery facility.

In addition, a mobile endoscope decontamination unit supported patient treatment and helped it continue to run scheduled appointments after an endoscopy suite was damaged by fire.

Globally, these temporary solutions have also been used following a devastating fire at a hospital in Guadeloupe and after flooding in Australia.

While mobile units can be put in place and made functional quickly, in most cases they are not instantly on site. That's why it is vital for hospitals to know what is available in terms of contingency mobile or temporary support around the world, and to factor in how long it would take to get it into place. Having that foresight, awareness and degree of forward planning could make a huge difference should disaster strike. CRJ

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