

Hospitals risk review

HOSPITAL



In his column this month, **Adair Lewis** analyses data relating to large-loss fires in hospital premises and looks at ways of reducing the risks

IN A RECENT edition of *FRM*, it was pointed out that hospitals are one of the few categories of buildings where millions of pounds are spent on equipment, but there are no locks on the doors. It comes as no surprise then, that the statistics for large loss fires occurring on hospital premises in the last five years indicate that 62% were started deliberately.

The 24 fires in this category, representing 71% of all large loss fires in the medical sector, cost an average of £2,386,875 per fire. This is an enormous loss to society; money which would have paid for additional equipment, more staff and better facilities in a sector that is under pressure for a more streamlined and effective response for patients. Not only do the costs of fires divert budgets, but equally important are the resulting delays in treatment that potentially lead to the deterioration of the health of many patients.

The time of the fires is interesting in that all the incidents (both accidental and deliberate) occurred during afternoons and evenings, with 33% occurring between midday and 6pm and 66% between 6pm and midnight.

The statistics also reveal that fire and rescue service access can be problematical, no doubt because of poorly parked cars, which may also obstruct hydrants. This could possibly be interpreted in tandem with the frequently high cost of parking in hospital car parks.

In common with virtually all businesses, a fire risk assessment should be undertaken for hospitals in compliance with the Regulatory Reform (Fire Safety) Order 2005, or equivalent legislation in Scotland and Northern Ireland. An assessment will also be required in accordance with the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002, mainly in respect of the presence of oxygen cylinders.

Specific fire safety guidance for hospitals is set out in three Health Technical Memoranda: 05-01, 05-02 and 05-03 (the latter having parts A-M).

Addressing problems

Fire risk assessments carried out for hospitals should address all parts of the premises, including patient and non-patient areas. The assessments

for patient areas should comply with HTM 05 and those for other parts of the premises may be in other styles. But whatever the style, the possibility of deliberate fire raising by patients, visitors or intruders should be a key part of the process.

The fire risk assessment should be reviewed periodically; always when planning modifications to the layout of patient and staff areas and the introduction of new equipment, which presents additional potential sources of ignition.

It is quite likely that the kitchen will present the highest fire hazard on the site. When undertaking the assessment for this area, a specific assessment should be made of the kitchen extract ventilation, based on the guidance provided in RISC Authority Recommendations RC44. The guidance set out in RC16b should be observed when considering general fire precautions in hospital kitchens

A policy of locking store cupboards, plant rooms and other staff areas when not in use should be introduced in order to deter deliberate fire raising.

Sector main category: Medical**Sub category: Hospitals and medical care – hospital**

Medical fires account for 1.6% of all large-loss fires

Hospitals and medical care – hospital fires account for 0.3% of all large-loss fires and 33.3% of all medical fires

Causation	Accidental	Deliberate	Unknown
Medical	29.2%	50.0%	20.8%
Hospitals and medical care – hospital	25.0%	62.5%	12.5%

Time of fire	Midnight - 6am	6am - Midday	Midday - 6pm	6pm - Midnight
Medical	27.3%	13.6%	22.7%	36.4%
Hospitals and medical care – hospital	0.0%	0.0%	33.3%	66.7%

Impedances	Access	Acetylene	Inadequate Water Supply	Resources
Medical	66.7%	0.0%	0.0%	33.3%
Hospitals and medical care – hospital	66.7%	0.0%	0.0%	33.3%

One medical fire of 24 had impedences; one of these had more than one impedance

One hospitals and medical care – hospital fire of eight had impedences; one of these had more than one impedance.

Staff training should include an understanding of the effects of a release of oxygen in the event of a fire, and the position and operation of oxygen shut off valves in wards and other relevant areas. Staff should be trained to react immediately and effectively to commence the evacuation of patients in an emergency.

All waste materials should be stored as far as practicable, and ideally at least 10m from buildings. Eurobins should not be sited against walls where flames could enter the building through the eaves. Oxygen cylinders should also be stored away securely from cylinders of combustible gases such as LPG.

Clear and prominent zone maps should be displayed adjacent to the main and repeater fire alarm panels. In addition, automatic fire detection and alarm systems need to be designed to an appropriate category as defined in BS 5839-1. They should also be installed and maintained by an independent UKAS accredited third party certification body. The systems should be monitored by staff in a permanently manned area with an emergency plan in place should the system fail.

Serious consideration needs to be given to the installation of a water sprinkler system when new

hospital premises are at the design stage. Sprinkler systems should be designed, installed, commissioned and maintained in accordance with the LPC Sprinkler Rules incorporating BS EN 12845 by a company certificated by an independent UKAS accredited third party certification body.

You should also liaise with the local fire and rescue service to ensure that water supplies in the area are

adequate for firefighting purposes and for the sprinkler installation, where appropriate.

Effective emergency plans must also be in place to ensure the resilience of the facility. One way of approaching this is to complete the ROBUST business continuity and incident management planning software available free from <https://robust.riscauthority.co.uk> ■

Case history

MORE THAN 50 people were evacuated from a large county hospital after a serious fire broke out in the MRI unit. People in A&E and the intensive care units, as well as some patients undergoing surgery, had to be moved to safe areas of the hospital. A&E was closed as a result of the fire and did not open for several days, resulting in emergencies being diverted to other large hospitals in the area. About 100 firefighters fought the blaze, which created unusual dangers because of the strong magnetic field within the MRI scanner. No one is thought to have been injured in the fire, which broke out at about 16:00. A spokesperson for the fire and rescue service said that when the brigade arrived, the MRI section was well alight and the fire was threatening to spread to the main hospital building.

The hospital followed its major incident plan and moved patients, including several being treated in the intensive care unit. The chief executive of the NHS Trust said that a number of patients were safely transferred from intensive care to another clinical area with all the necessary equipment and without incident. He praised the fantastic teamwork of the staff responding to the crisis.

Eyewitnesses reported seeing flames and smoke around the hospital grounds. One patient was being examined in a cubicle when she was told that A&E was to be evacuated. Patients were escorted through the thick black smoke and when they got out of the building, they looked back and saw the building 'covered with flames' ■

These statistics are based on information supplied by loss adjusters to the FPA on a voluntary basis and not all insurers conducting business in the UK contribute to this dataset. They represent only sums paid out where the total loss is in excess of £100k and are deficient of losses under £100k, deductibles, underinsurance, uninsured, self-insured and captively insured components, which may be significant. In a year, total losses captured typically account for 50% of the ABI declared annual fire loss figure – which is similarly deficient of the same components (except the £100k threshold).