



# Health Estate

JOURNAL OF THE INSTITUTE OF HEALTHCARE ENGINEERING AND ESTATE MANAGEMENT



**Getting water safety planning right**  
**Addressing Ghana's rising healthcare demand**  
**Surgical instrument quality under scrutiny**



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# Getting water safety planning right

Water Safety Groups – and associated Water Safety Plans – were advocated as a key element of best practice in keeping healthcare facilities' water systems safe, and minimising the risk of the growth and proliferation of harmful waterborne bacteria within such systems, in the HTM 04-01 Addendum, *Pseudomonas aeruginosa – advice for augmented care units*, published in March 2013. But what does a good water safety plan look like? Here Mike Quest, a water hygiene consultant and NHS Authorising Engineer (Water), provides some pointers on how to establish an effective such plan.

**C**risis management of an outbreak of, say, *Legionella*, is too late, and is also expensive. Water Safety Plans, which in theory have been with us since 2013, should be the key to the control of waterborne infection through effective internal management of the processes, but we have yet to define what this best practice should look like 'in the flesh'.

As estates and building managers you are, of course, familiar with ACOP L8 and HTM04-01 for the control of the risk of *Legionella* and other pathogens – so much so that you'd think the risk would surely be under control in hospitals and public places by now. Sadly, a quick look at the Public Health England statistics, and the

drip feed of stories of prosecutions, tells another story. For July 2015, 48 cases were confirmed (a year to date total of 221).

This may not be headline news, because nobody died, but Legionnaire's disease is an insidious disease; full recovery is rare. The same can be said of Pontiac fever and *Pseudomonas* infections. Water quality management is very much a live issue, with no room for 'tick box compliance'. These figures do not, of course, reveal the incidences of water samples showing raised levels of pathogen presence (there is almost inevitably going to be a base, low-level presence in any sample), or the panic and over-expenditure that so often follows such results.

## Tendency to 'tick compliance boxes'

Within the healthcare industry, when compared with other sectors, there may be a refreshing understanding of where the buck stops with *Legionella* control: senior managers realise that they are fully responsible for the quality of water quality once it is on their premises. Nevertheless, there is still a tendency to tick the compliance boxes, hope for the best, and then resort to crisis management if there is a positive test sample or, in the worst case scenario, an outbreak.

So, while 'holistic' is a much over-used word these days, I do believe that it is a concept that should be applied to the control of waterborne pathogens. For one thing, there is a legal, not to mention a moral, duty to avoid outbreaks. For another, raised pathogen levels and 'near misses' are all too often met as crises, and managed as such, i.e. very expensively. Far better to be prepared and proportionate in your response.

## Unambiguous lines of responsibility

It is important to have unambiguous lines of budget responsibility, with contingency funding behind them, to enable a timely response to samples that show a raised level of pathogens, and to nip them in the bud. The use of these budgets must, however, be guided by procedures applied by competent people. Airmec, a company

**Crisis management of an outbreak of, say, *Legionella*, is too late, and is also expensive**



*The author believes effective Water Safety Plans, and the establishment of Water Safety Groups, 'encourage inter-departmental collaboration, and have the potential to effect a paradigm change in the effectiveness and efficiency of control measures'.*



that I am now advising, has experience of hospitals being ill-prepared to manage the implications of positive test results promptly – the budgets simply did not have contingency for exceptions to the hoped-for norm, and the risks of a full-blown outbreak escalated while the resultant budget negotiations went on. Yes, there is always money to be plucked from the sky to deal with what is perceived as an immediate, acute risk, but there is rarely fat in the budget to allow for wider measures to assess and then deal appropriately with the 'near misses'.

### Breaking barriers

One of the most welcome changes in thinking that has come about in recent years is the concept of Water Safety Groups (and associated Water Safety Plans), as defined as best practice in augmented care units by HTM 04-01 since 2013. Primarily conceived in response to increasing incidence of *Pseudomonas* infection, Water Safety Plans will inevitably

encompass the control of other pathogens, including *Legionella*, and can, and should, be the bedrock of a Trust's prevention measures.

It is a brave manager who does not comply with HTM best practice, and does so not just for augmented care, but throughout the hospital. Nevertheless, there are still many Trusts that either lack a Water Safety Plan altogether, or seem to have complied by the book, and have thus not really grasped the opportunity to use such a plan to drive positive change.

By putting the director of infection control and prevention 'centre stage', these plans are helping to break down the old Chinese walls between estates management and 'hotel services' personnel, and clinical departments. They encourage inter-departmental collaboration and so, to my mind, have the potential to effect a paradigm change in the effectiveness and efficiency of control measures.

### Beware the buyer

The HTM guidance includes advice on the design and selection of water outlets and fittings, and I will not repeat that here. You need to deal with and manage the infrastructure that you have, and knowing what is new on the market will be cold comfort. However, as and when the need or opportunity to upgrade your water systems arises, I am mindful that the guidance notes that there is some evidence that the more complex the design of the outlet assembly (for example, some sensor-operated taps), the more prone to *P. aeruginosa* colonisation the outlet may be. *Caveat emptor*.

It is the 2013 Addendum to HTM04-01 referred to previously that should be the core driver of change and opportunity here, and the guidance is, at best, high-level here. It tells you to form a group, assess the risk, have an action plan, and know how to sample...but not how to do so. Nor does it really define the best practice that a court of law will be looking for.

The HTM does, however, state quite clearly that 'A programme of audit should



Over 90% of cases of Legionnaires' disease are caused by *Legionella pneumophila*.



*Pseudomonas aeruginosa* bacteria; Water Safety Groups, and Water Safety Plans – as defined in the 2013 Addendum to HTM 04-01 – were primarily conceived in response to increasing incidence of *Pseudomonas* infection.

It is important to have unambiguous lines of budget responsibility, with contingency funding behind them, to enable a timely response to samples that show a raised level of pathogens, and to nip them in the bud

be in place to ensure that key policies and practices are being implemented appropriately'. It also suggests that 'the WSG should always act in an appropriate and timely manner. Individual responsibilities should not be restricted by the need to hold formal meetings'. Furthermore reporting and accountability are required to demonstrate effective governance and assurance.

### Leveraging specialist expertise

The picture is further complicated where estates and facilities provider services are part of a contract (including PFI), but here your goal should be to leverage the specialist expertise – don't just negotiate around the service level and fees; make sure that your FM provider contributes to, and adds value to, the planning process, assuming they have the expertise to do so.

In short, we don't really know what compliance with this best practice looks like yet and, thankfully, there has been no need to test it in law. What we do know is what has worked in the past, and we have a huge repository of knowledge and experience to draw on, with so many more people involved at the sharp end of control. Water safety planning is an opportunity for positive change, and should be viewed as such, rather than as a 'chore'.

### The resource efficiency conundrum

Temperature is, and remains, the primary means of control of pathogens, and there is no way around this. Energy managers may balk at the temperatures that are required to maintain control in hot water systems, but there is no room for compromise. Almost perversely, avoiding heat gain in cold water systems can be a particular challenge in newer, energy-efficient buildings.

This is unlikely to be a priority for the director of infection prevention control, but, by creating a forum where different disciplines meet, Water Safety Groups can also ensure that the drive towards energy efficiency and maximising the life of essential equipment is not in conflict with



the overarching responsibility of infection control.

Similarly, water efficiency is increasingly on the agenda, too. Flushing of outlets in low-use and closed areas is often a waste of water. An efficient flushing regime can reduce consumption, but only if it is based on a live, up-to-date asset register and risk assessment, informed by local knowledge and awareness of the issues. Armed with that information it is feasible to develop a tap/outlet flushing regime, backed up by effective processes and auditing.

### Who needs to know?

As I mentioned earlier, flushing is one example of the key areas where traditional departmental boundaries between estates and facilities managers and ward-based medical and support staff are being breached. Typically it is the estates department that is responsible for flushing, often relying on the ward-based staff to undertake the process and record it. That in itself creates new challenges for auditing measures: such as 'What is being recorded?'; 'Which outlets and why?'; 'How are changes in (frequency of) use reported?'; 'How are procedures monitored and challenged?', and 'Is everyone very clear on what their role is?' The need for training is surely self-evident.

Only when people understand their role in control will the temptation to assume that it's someone else's responsibility be eliminated. For instance, does the heating engineer know how important it is to report downtime that might reduce the delivery temperature of water, albeit only for a few hours? Do the hard-pressed ward staff know that they really do need to take so many precious minutes out of their

shift to flush the taps? A well-planned training scheme will give each member of the team the knowledge they need.

### The bottom line?

Get it right now, and your Water Safety Plan should serve you well for years to come. The appointment of Authorising Engineers is a requirement under HTM 00, the overarching HTM document. More often than not, it is independent consultants like myself who fulfil this role. **+**

**\*IHEEM will later this this month launch (at Healthcare Estates 2015 - see HEJ – September 2015) a new Register for the Authorising Engineers (Water), who play a key role in advising not only healthcare estates and engineering personnel, but also healthcare facilities' Water Safety Groups. Full details will be published soon on the IHEEM website: [www.iheem.org.uk/](http://www.iheem.org.uk/)**



## Mike Quest

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