

L8 – consider the ventilation aspects

The HSE's ACOP (Approved Code of Practice) L8 and supporting HSG274 Parts 1-3 Guidance set the minimum standards by which everyone should work to manage the risks from waterborne microbiological pathogens. The NHS also has further supporting guidance on the subject in the form of HTM core standards 00, 04-01 (three parts), and HTM 03-01 (two parts). However, argues Andrew Poplett IEng, MIHEEM, ACIBSE, an experienced engineer with over 28 years' healthcare building services engineering experience – 18 in the NHS – 'even with all of this available guidance, some elements of healthcare building services engineering are all too often overlooked'. Here, 'to stimulate discussion and raise awareness of the issues', he sets out some of the key points to consider.

The fourth edition of the HSE L8 Legislation/ACoP has now been out since March 2013, and with the publication of the supporting HSG 274 guidance notes, there has been a fundamental shift in the emphasis and importance of 'competence', and appropriately accurate and 'current' written risk assessments.

The term 'water risk assessments' is frequently used when describing the obligations under L8, and the ACoP itself and associated guidance make several references to the risks of *Legionella*

associated with water systems. However, it must be remembered that air carries a high level of moisture, and, if the air is cooled or comes into contact with colder surfaces, then this water will condense out of the air, and can form an environment within which *Legionella* can colonise and grow.

The HTM 03-01: *Specialised Ventilation for Healthcare Premises*, does make specific reference to the *Legionella* risks and the need to assess those risks; however this guidance is not clearly stated

in either HTM 04-01 or L8/HSG 274. The requirement for glass traps and stainless steel drip trays in air-handling plant is a long-established healthcare standard; however the reason for these elements is not reinforced within the current guidance, and should not be forgotten. Additional issues can include 'washable' filter media, humidification, heat recovery coils, local DX coiling or air-conditioning units, and air intake plenums.

While it is not uncommon for organisations to have 'up-to-date' written

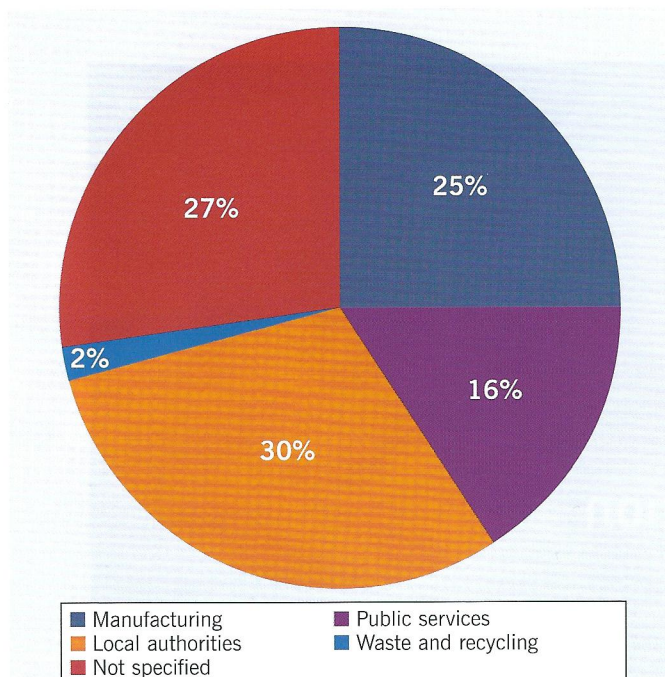


Figure 1: Outbreaks by sector (n=44).

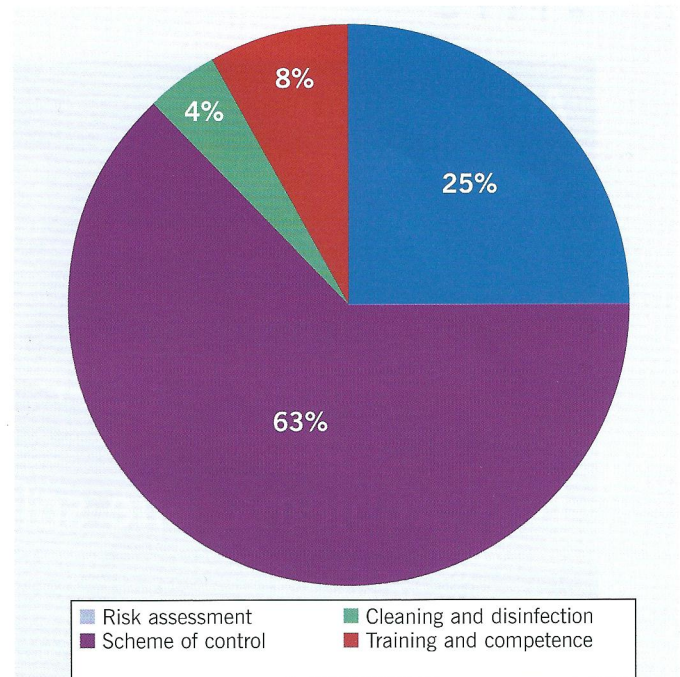


Figure 2: Outbreaks by Failing (n= 24 from 17 outbreaks).

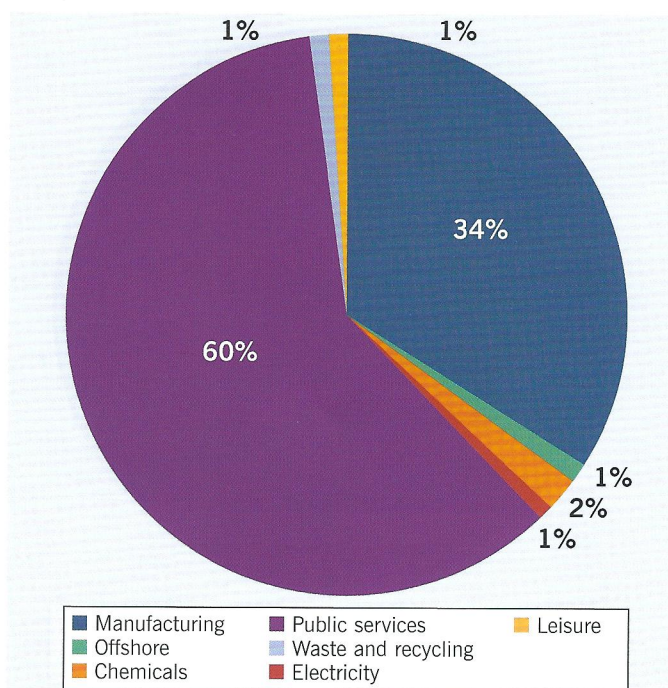


Figure 3: Enforcement cases by industry sector (n=321).

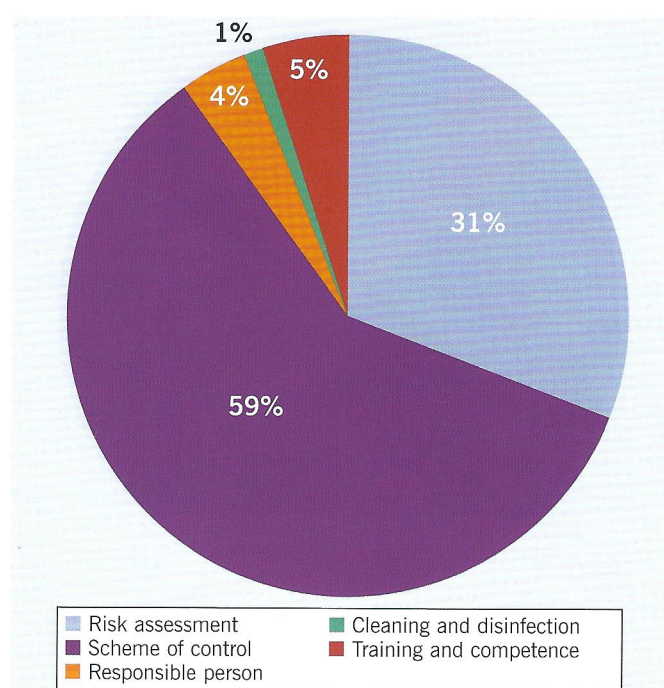


Figure 4: Enforcement cases by Failing (n=401).

risk assessments which include all of the recommended elements for the water systems, as outlined within the L8 ACoP, many of these assessments struggle to address the systems which do not form part of the hot or cold domestic water systems, i.e. ventilation or air-conditioning installations.

A question of competence

The revised L8 ACoP places a high level of responsibility on the individual or company undertaking the assessment, and there is a clear and unambiguous requirement to establish an appropriate level of competency to enable and ensure that the assessment is fit for purpose. Designated Duty Holders need to ensure, through their Responsible Persons, that anyone engaged in producing, monitoring, or managing the systems under their control which could be a potential source of *Legionella* colonisation are competent to do the tasks and duties assigned to them. It is not a defence to say that the liability has been passed to a third party because a contract was in place. Ultimately, all designated Duty Holders must be confident that the people managing their systems are competent, qualified, and suitably experienced to do so.

Get the right expert advice

The revised standard makes those responsible for the management of premises clearly liable for the safe assessment and management of the associated risks. It also makes it clear that, if necessary, the Duty-Holders should obtain suitably qualified expert advice. This outside expert advice is what most organisations rely on to provide their risk assessments. Many external expert

The revised standard makes those responsible for the management of premises clearly liable for the safe assessment and management of the associated risks.

It also makes it clear that, if necessary, the duty holders should obtain suitably qualified expert advice

organisations provide extremely high quality and detailed assessments, and indeed a large number of them are members of the Legionella Control Association, which sets out good minimum standards for its members to work to. There are also, however, less qualified and unscrupulous companies out there providing generic, non-specific assessments, which do not give clients the required detail or advice on managing the risks and therefore complying with the standards. However, even the good assessors can have limited knowledge and experience of air-conditioning and ventilation systems, and the associated *Legionella* risk, so it is essential to ensure that whoever produces the risk assessment covers all of the systems which can pose a threat.

One way to effectively address the risk of receiving poor advice is to appoint an independent Authorised Engineer for water quality – now a requirement of HTM 04-01. In this situation it is essential that whoever provides the AE (WQ) service should not provide any other services – such as provision of risk assessments, water treatment, or rectification works.

Not just 'an estates problem'

Traditionally, the role of Responsible Person has been seen as a liability which

is held by a single named individual within an organisation – often, within the NHS, a member of the estates team. This situation has led to some organisations believing that, if there is an issue with *Legionella*, then it is 'an estates problem', and thus it is the estates team that is both responsible for resolving it, and liable for any consequences associated with it. This is, however, not the case, and the revision to the L8 ACoP has clarified the responsibilities, and highlighted the diverse nature of the experience and roles involved. This has been further reinforced by the obligation to have an established Water Safety Group, where a multidisciplinary team should discuss, agree, and manage, the safe operation of the water systems. Only by working collaboratively with all stakeholders can an organisation hope to comply with the law, and, more importantly, protect its patients, visitors, and staff.

The risks and business implications

In assessing the operational and business implications of this situation, consideration should be given to the HSE's own research into the source of interventions (either prohibition notices or prosecutions), and the spread of these over a number of organisational sectors.

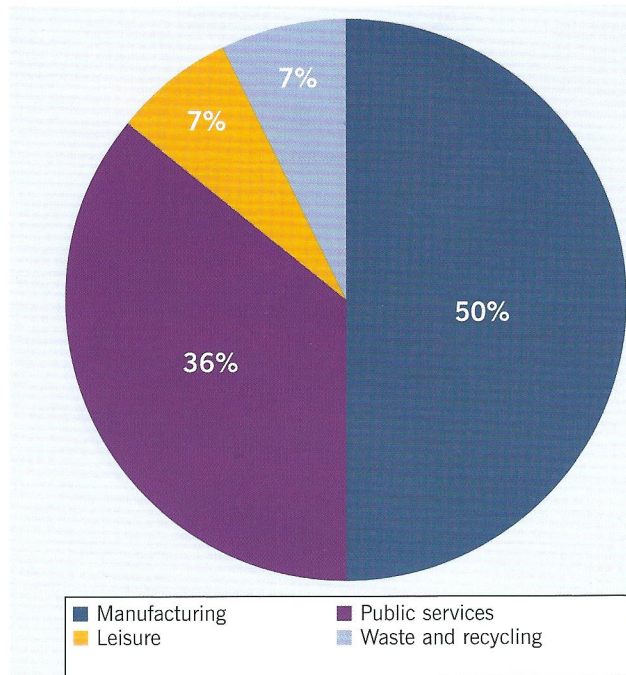


Figure 5: Prosecutions by industry sector (n=14).

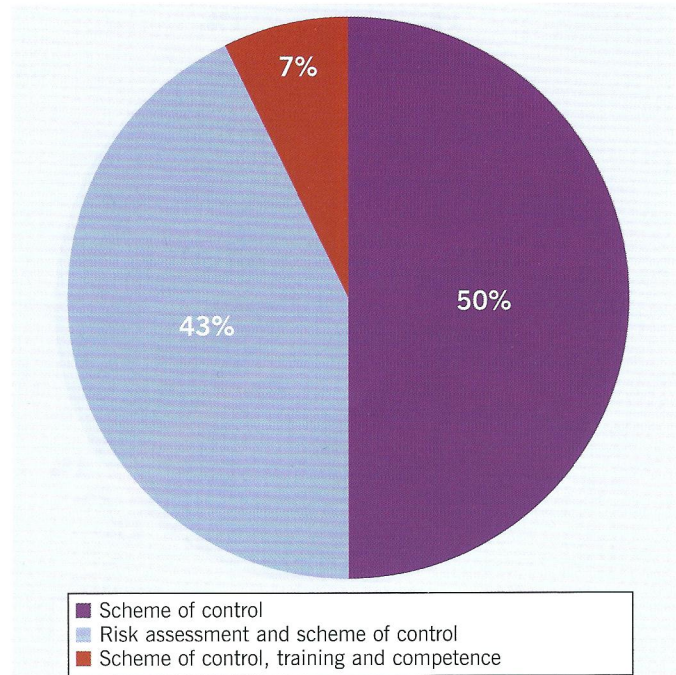


Figure 6: Prosecutions by Collective Failings (n=14).

Figures 1-6 are drawn from Annexes 1-3 within the HSE/HSL's research document *Legionella outbreaks and HSE investigations; an analysis of contributory factors* HEX/12/07.¹

The data covers the five-year period up to June 2012. The data is presented for notices issued and prosecutions conducted, broken down similarly to the outbreak data, by:

- Industry sector;
- Failures in compliance (i.e., reason for notice or prosecution).

The enforcement data relates purely to that taken by HSE arising from both proactive and reactive work. The data includes some obtained during intervention programmes targeted at certain sectors, which resulted in increased enforcement activity in that sector. Therefore, this should be taken into account when comparing levels of compliance between sectors on the basis of the information acquired.

Summary of HSE data

The data used in the analysis was derived from a variety of sources. Where reliable information on the source of the outbreak was available, the data was classified according to sector, water system type, and failing.

The analysis of the outbreaks (Figs. 1&2) demonstrates that only 16% of recorded outbreaks were in the public sector, which includes healthcare premises. There is also a high percentage of outbreaks (27%), which are not specified by sector. Of the recorded outbreaks, nearly two-thirds are due to a failure in the scheme of control or maintenance, with a quarter being attributed to

In assessing the operational and business implications of this situation, consideration should be given to the HSE's own research into the source of interventions

inappropriate or incomplete risk assessments.

When looking at enforcement cases (Figs. 3&4), the statistics seem to suggest that the public sector is by far and away the leading sector for action, with 60% of cases relating to this sector, and 90% of those enforcements relating to either a failure of control/maintenance, or inadequate risk assessments.

While the public sector seems at increased risk of enforcement action, it is interesting to note that this same sector only accounts for 36% of formal prosecutions, which suggests that these organisations are reasonably good at improving or addressing issues when raised. The reasons behind prosecution closely mirror those for enforcement actions (namely failures of control/maintenance, or inadequate risk assessments).

The HSE/HSL state in the document form which the above data was extracted: 'A range of information sources was used (including HSE records, outbreak committee reports, and press releases from HSE and others, the Health

Protection Agency, and other disease reporting data and national and local news reports). Not all outbreaks originated from HSE enforced premises, and not all investigations involved HSE. The review provides a broad general picture of outbreaks in the last ten years, rather than a definitive record of all outbreaks or actions taken.'

Acknowledgment

This article 'contains public sector information published by the Health and Safety Executive and licensed under the Open Government Licence', extracted from *Legionella outbreaks and HSE investigations; an analysis of contributory factors*, HEX/12/07.

References

- 1 Health and Safety Executive 2012. *Legionella outbreaks and HSE investigations; an analysis of contributory factors*, HEX/12/07. (www.tinyurl.com/989hc5t).

Andrew Poppett

Andrew Poppett IEng, MIHEEM, ACIBSE is an experienced engineer, with over 28 years' experience in the healthcare building services engineering profession, with 18 of those spent in the NHS. He is now an independent advisor to the NHS and other, private, healthcare estate organisations in his role as an Authorised Engineer for both specialist ventilation and water quality, and also provides specialist support and advice on all aspects of estates and property management.