IRRIGONICS · A 50-YEAR REPORT
1976–2026

Fifty years of Legionnaires’ disease

What we’ve learned, and why it still kills.

Marking the 50th anniversary of Legionnaires’ disease

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AT A GLANCE

The disease is 50 years old. It is not history.

182 / 29

People who fell ill and died in the Philadelphia outbreak, summer 1976, where the disease got its name.

Jan 1977

When *Legionella pneumophila* was finally isolated. It took six months to find the cause.

472

Cases of legionellosis in England and Wales in 2024, resulting in 13 deaths.

~2.8%

Estimated case fatality rate in 2024. Most cases occur in people aged 60 and over.

2026

An investigation into a London cluster in early 2026, a reminder this is current, not history.

Management

The science hasn't changed. What decides whether people are protected is management, and whether you can prove it.

FOREWORD

Fifty years ago, a mysterious pneumonia swept through a hotel in Philadelphia and gave a new disease its name. Half a century later, with the science well documented, the law settled and the guidance written, Legionnaires' disease has not gone away. It still sickens hundreds of people in England and Wales every year, and it still kills.

That is not a failure of knowledge. It is a failure of prevention. This report looks back at where the disease came from, takes an honest look at where it still gets in, and sets out the practical steps every organisation responsible for a water system can take to make sure the next fifty years look different.

> The message is simple: the disease isn't going anywhere, but with competent, provable control, neither are the people who depend on you.

WHERE IT BEGAN

Philadelphia, 1976

In July 1976, members of the American Legion gathered at the Bellevue-Stratford Hotel in Philadelphia for their annual convention, held during the United States' bicentennial celebrations. Within days of returning home, attendees began falling seriously ill with a severe pneumonia. Doctors were baffled; the cause resisted every standard test.

182
PEOPLE AFFECTED

29
DEATHS

6
MONTHS TO FIND THE CAUSE

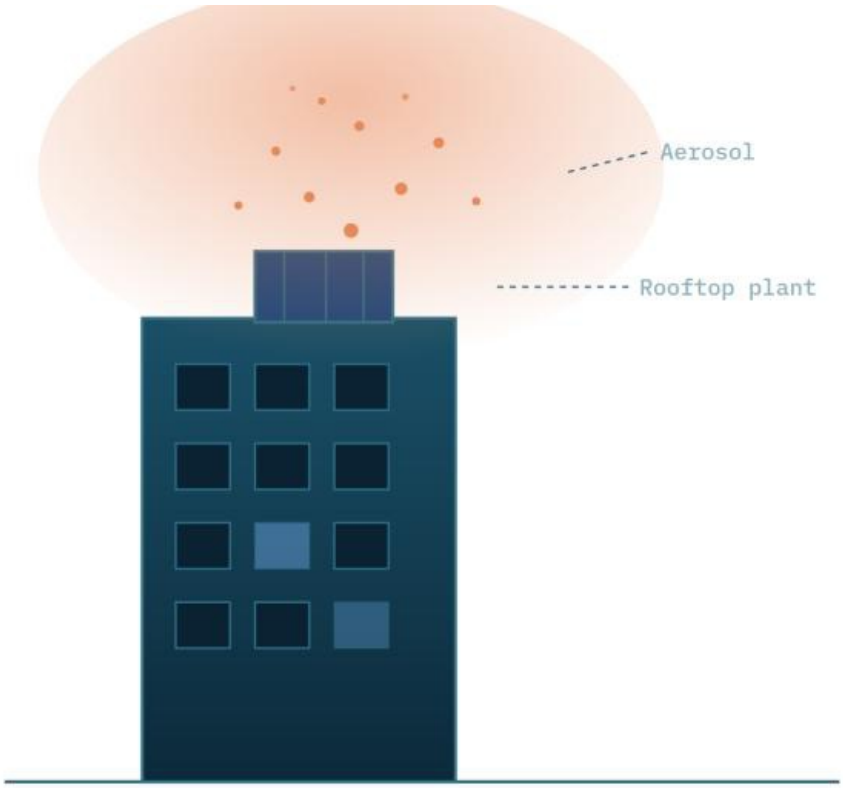


Illustration: contaminated droplets from a building's water and air-conditioning system carried the bacterium into the air.
Original illustration © Irrigonics Ltd.

It was not until January 1977, six months later, that scientists at the US Centres for Disease Control isolated a previously unknown bacterium and traced it to the building's water and air-conditioning system, which had dispersed contaminated water droplets into the air. The bacterium was named *Legionella*, after the people it first struck, and the illness became known as Legionnaires' disease.

The episode reshaped public health. It established that ordinary building services, the systems that heat, cool and move water through the places we live, work and stay, could harbour a deadly pathogen, and that managing those systems was a matter of life and death.

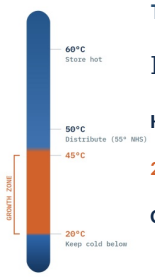
WHAT WE LEARNED

The science and the law

In the decades since, the science has become well understood. *Legionella* bacteria occur naturally in water. They become dangerous when they are allowed to multiply, in warm, stagnant water between roughly 20°C and 45°C, and are then dispersed as a fine, breathable aerosol from showers, taps, spa pools and hot tubs, ornamental fountains and water features, cooling towers, evaporative condensers, process water systems and similar outlets. People contract the disease by inhaling those droplets; it is not passed from person to person.

The UK responded by building one of the most mature regulatory regimes in the world. Under the Health and Safety at Work etc. Act 1974, and through the Approved Code of Practice **ACoP L8** and the technical guidance **HSG274 parts 1, 2 & 3**, anyone responsible for premises with a water system has a clear legal duty to assess and control the risk. In practice that means a competent risk assessment, a written scheme of control, temperature and condition monitoring, record-keeping, and a named, competent **"responsible person."**

The principles are not complicated, and they work. Keep hot water hot (stored at 60°C, distributed at 50°C or above), keep cold water cold (below 20°C), keep water moving, keep systems clean, and check that the controls are actually happening. Fifty years of knowledge sits behind those few lines.



THE CONTROL WINDOW

Keep water out of the growth zone

Hot water, keep it hot. Stored at 60°C, distributed at 50°C or above (55°C in the NHS).

20–45°C, the danger zone. Warm, stagnant water is where the bacterium multiplies. Keep water moving through it, never still.

Cold water, keep it cold. Below 20°C. Monitor and record both ends of the range.

WHY IT HASN'T GONE AWAY

If the science is settled and the law is clear, why are people still falling ill?

Because prevention is a choice that has to be made, and kept, building by building, every single day. The data tells the story plainly.

472

Cases of legionellosis in England and Wales in 2024, resulting in 13 deaths.

~2.8%

Estimated case fatality rate in 2024. The disease remains genuinely dangerous.

60+

Nearly two-thirds of cases occur in people aged 60 and over, the populations in care homes, hospitals and sheltered housing.

Numbers have remained elevated since the pandemic, particularly among older age groups. Cases follow a strong seasonal pattern, peaking through the warmer months from roughly June to October, when conditions for bacterial growth are most favourable.

The pandemic made the risk worse in a way that still echoes. When buildings emptied and water systems sat idle, stagnation created ideal conditions for *Legionella* to thrive, and many systems were brought back into use without proper flushing or recommissioning. Changing patterns of building use, with offices and facilities used less intensively, continue to leave water sitting in pipes and outlets that were never designed to be quiet.

And it is not history. In early 2026, UKHSA and the Health and Safety Executive launched an investigation into a cluster of Legionnaires' cases in London, a recent reminder that the threat is live.

WHERE PREVENTION STILL FAILS

The failures are rarely dramatic. They are quiet, cumulative and managerial.

01 “Compliant on paper.”

A risk assessment in a drawer is not protection. An assessment that is out of date, never acted on, or doesn’t reflect how the building is actually used offers no defence, to occupants or to a regulator.

02 Idle and under-used outlets.

Little-used taps, showers and seldom-occupied wings are where stagnation and risk build up unseen.

03 Gaps in competence.

The “responsible person” is sometimes named without the training or support to understand what good looks like. Competence is now under increasing regulatory scrutiny.

04 No line of sight.

Many organisations pay for water hygiene services but cannot actually see, at any given moment, what has been done across all their sites, what it found, or what is overdue, until something goes wrong.

The consequences are serious. The Health and Safety Executive enforces these duties robustly. Beyond the fines lies the real cost: people harmed, and organisations unable to demonstrate they did what they should have.

£900,000

Fine for a housing provider after *Legionella* was found across sheltered accommodation, putting vulnerable residents at risk.

HOW TO PROTECT YOUR BUILDING

The good news: the risk can be controlled.

The risk of Legionnaires' disease can be controlled when the basics are done well and done consistently. Use this as a practical starting checklist.

01 Hold a current, competent risk assessment.

Make sure it reflects how your building is actually used today, not how it was used five years ago.

02 Name a trained, supported responsible person.

Ensure they have the competence and the time to do the role properly.

03 Maintain a written scheme of control, and follow it.

Temperature checks, flushing of little-used outlets, cleaning and disinfection on schedule.

04 Keep temperatures right.

Hot water stored at 60°C and distributed at 50°C (55°C in NHS) or above; cold water below 20°C. Monitor and record.

05 Don't let water sit.

Flush infrequently used outlets; recommission idle systems properly before bringing them back into use.

06 Sample and act.

Test where appropriate, and have a clear, fast response plan for any out-of-spec or positive result.

07 Keep the evidence.

Record what was done, when, by whom, and what it found, so you can demonstrate compliance the moment anyone asks.

> **The goal**
>
> That last point matters most. The goal is not just to be compliant but to be able to prove it, to an HSE inspector, a CQC inspector, an insurer or a coroner, at a moment's notice. We call this **provable compliance**: water safety delivered with the visibility and audit-ready evidence that protects the people in your buildings and the people responsible for them.

1976 TO 2026

Five decades in brief

PERIOD	WHAT CHANGED
1976	Outbreak in Philadelphia; **182 ill, 29 dead**. The disease gets its name.
1977	*Legionella pneumophila* identified and isolated; the cause is finally understood.
1980s–1990s	The UK builds a control regime; duties for those responsible for water systems take shape.
2000s	Guidance matures; high-profile outbreaks reinforce the duty to manage water safety.
2010s	ACoP L8 and HSG274 consolidate modern best practice; enforcement and competence expectations rise.
2020–2021	Pandemic shutdowns leave water systems idle, a hidden, lasting risk.
2026	A **London cluster** earlier in the year, hundreds of cases a year, and 50 years of lessons that still need applying.

ABOUT THIS REPORT

Control the risk, and prove you have.

Irrigonics is a UK water hygiene and Legionella compliance company. We help organisations across care, healthcare, education, hospitality, housing, facilities management, commercial property and industry to control Legionella risk, and to prove they have.

Our services span Legionella risk assessments, water hygiene monitoring, remedial works, TMV servicing, tank cleaning and disinfections, temperature monitoring, sampling and ACoP L8 compliance support.

If this report has prompted a question about your own water systems, that is exactly its purpose. To arrange a conversation or a compliance review, contact us at **Admin@irrigonics.co.uk** or **0333 038 6286**.

SOURCES & NOTES

This report draws on publicly available information, including: UK Health Security Agency (UKHSA) surveillance data on legionellosis in residents of England and Wales (2024 figures, published November 2025); Health and Safety Executive (HSE) guidance and enforcement (ACoP L8, HSG274, and published prosecution outcomes); and the documented history of the 1976 Philadelphia outbreak and the subsequent identification of *Legionella*. Figures are accurate to the best of our knowledge at the time of writing and should be cited to their original sources where reproduced. Technical content reviewed by Dale Hunter M.W.M.Soc, Technical Director, Irrigonics Limited.