Legionella

A British Problem?

Dr Tom Laffey

5 November 2025

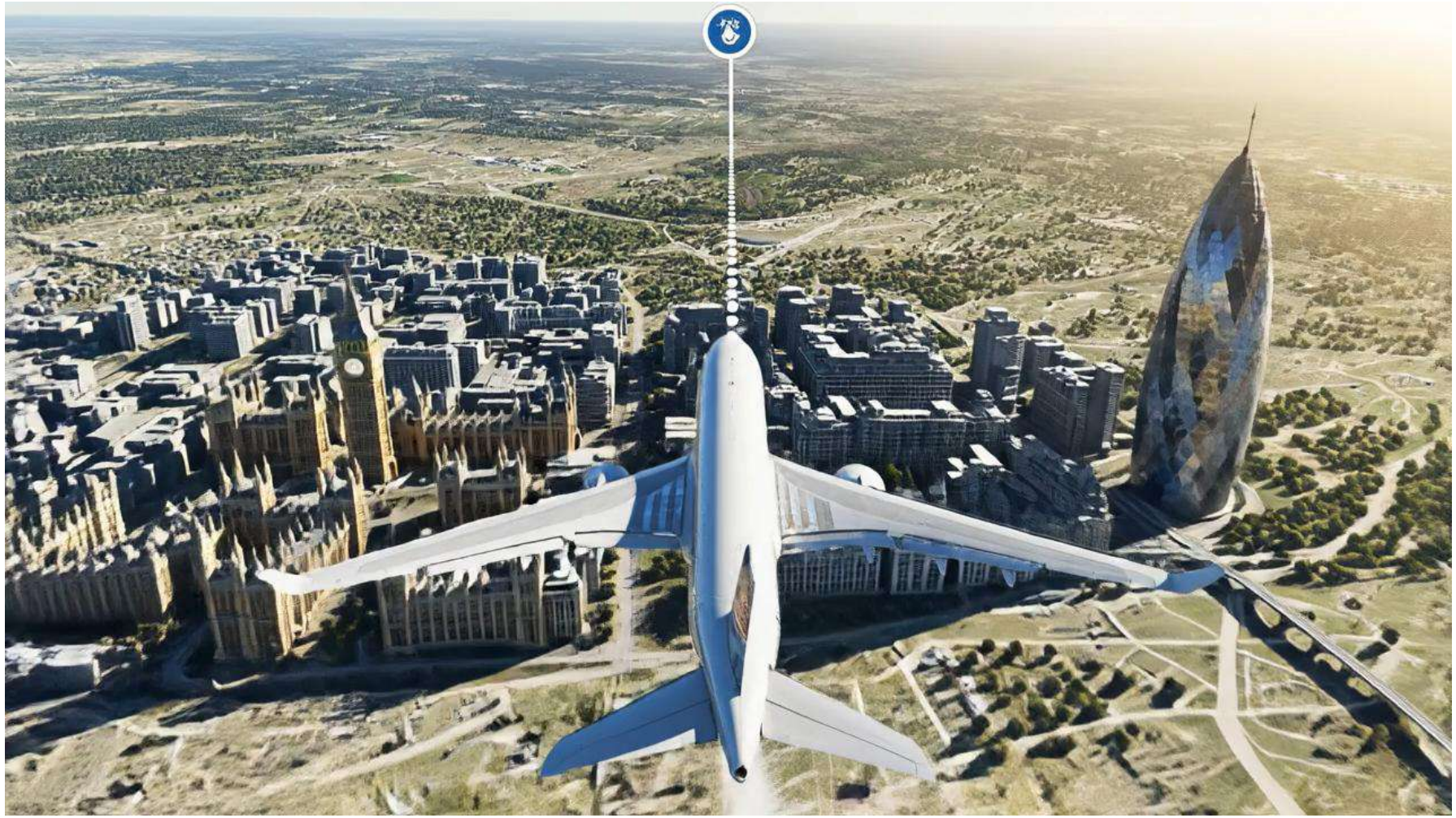
The information in this presentation is for informational purposes only and does not constitute professional advice. All information is presented are for general informational purposes only

The views expressed in this presentation are my own and do not necessarily reflect the views of ISHEM Ltd

The examples used are based on actual events, however the details and timelines may have been changed or made up for dramatic purposes

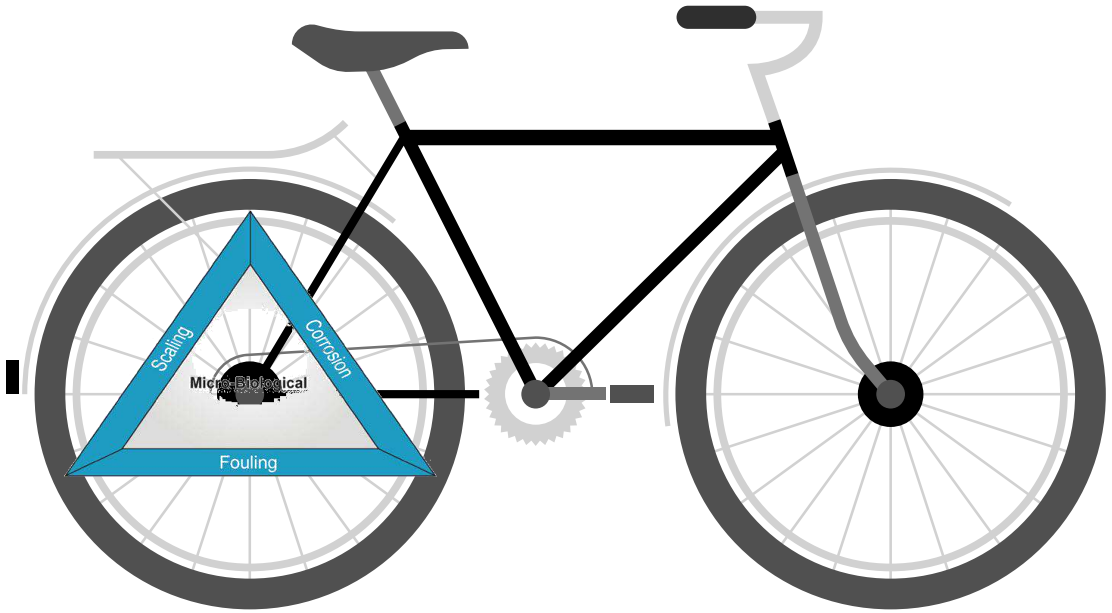
The Beginning

The Great Adventure



In the Spotlight

Assimilation



Technical **Sales**

ABC NEWS

Legionnaires' disease is becoming more common in Australia. What's behind the increase in cases?

By Sam Nichols | Public Health

Tue 20 Aug 2024

Sudden Surge of Legionnaires' Disease Causes Concern Worldwide: Time for India to Step Up Investigation

Amitesh Datta[1], Savita Bhatia[2], Nageswari Gandham[3]

Indian Journal of Respiratory Care (2025): 10.5005/jp-journals-11010-1171

European Centre for Disease Prevention and Control

An agency of the European Union

Increasing rates of Legionnaires' disease in the EU/EEA

News

3 Jul 2023

COUNTERPUNCH

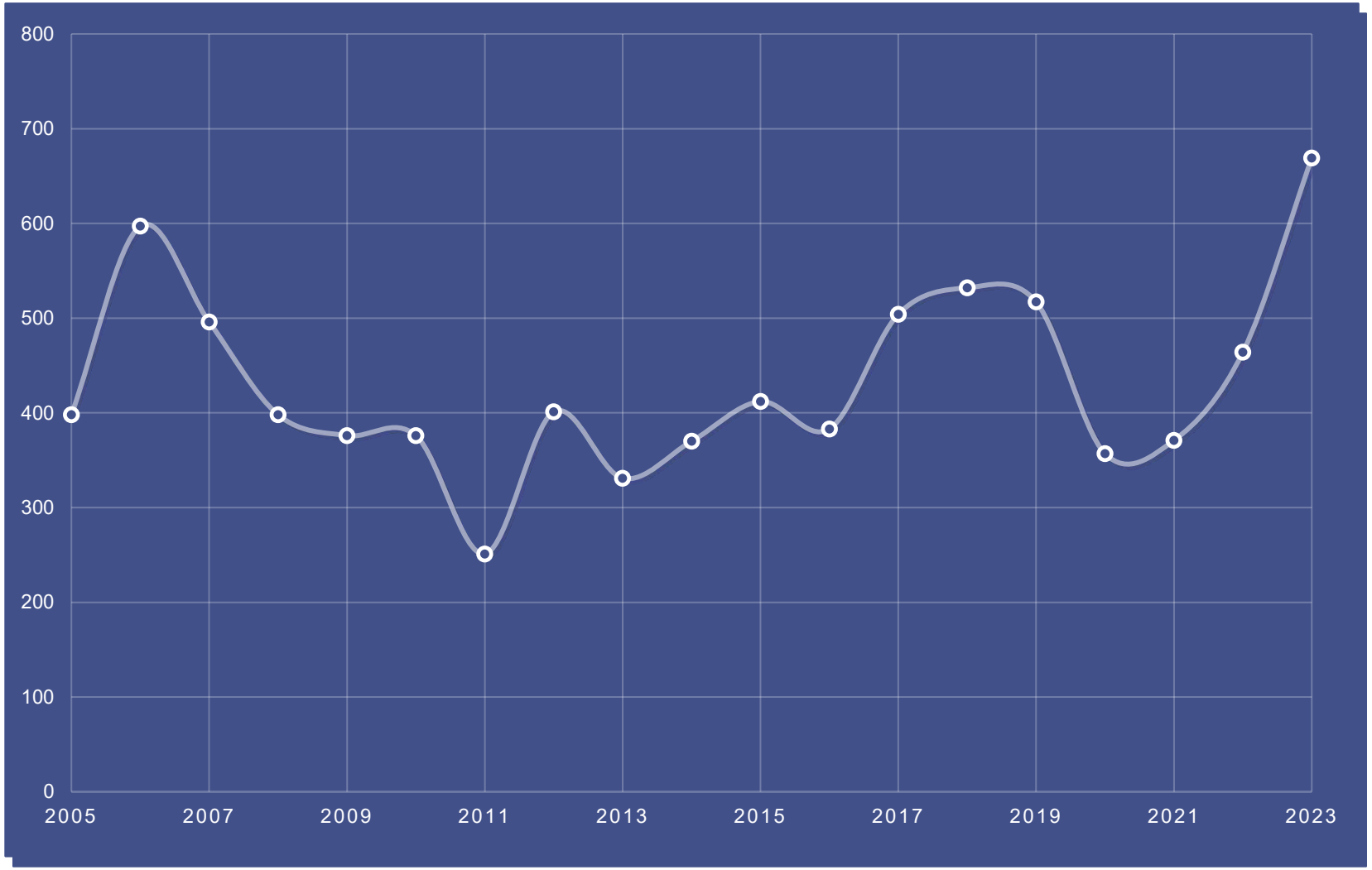
JULY 25, 2025

Big Spike in "Legionnaires' Disease" Has Public Health Experts Worried

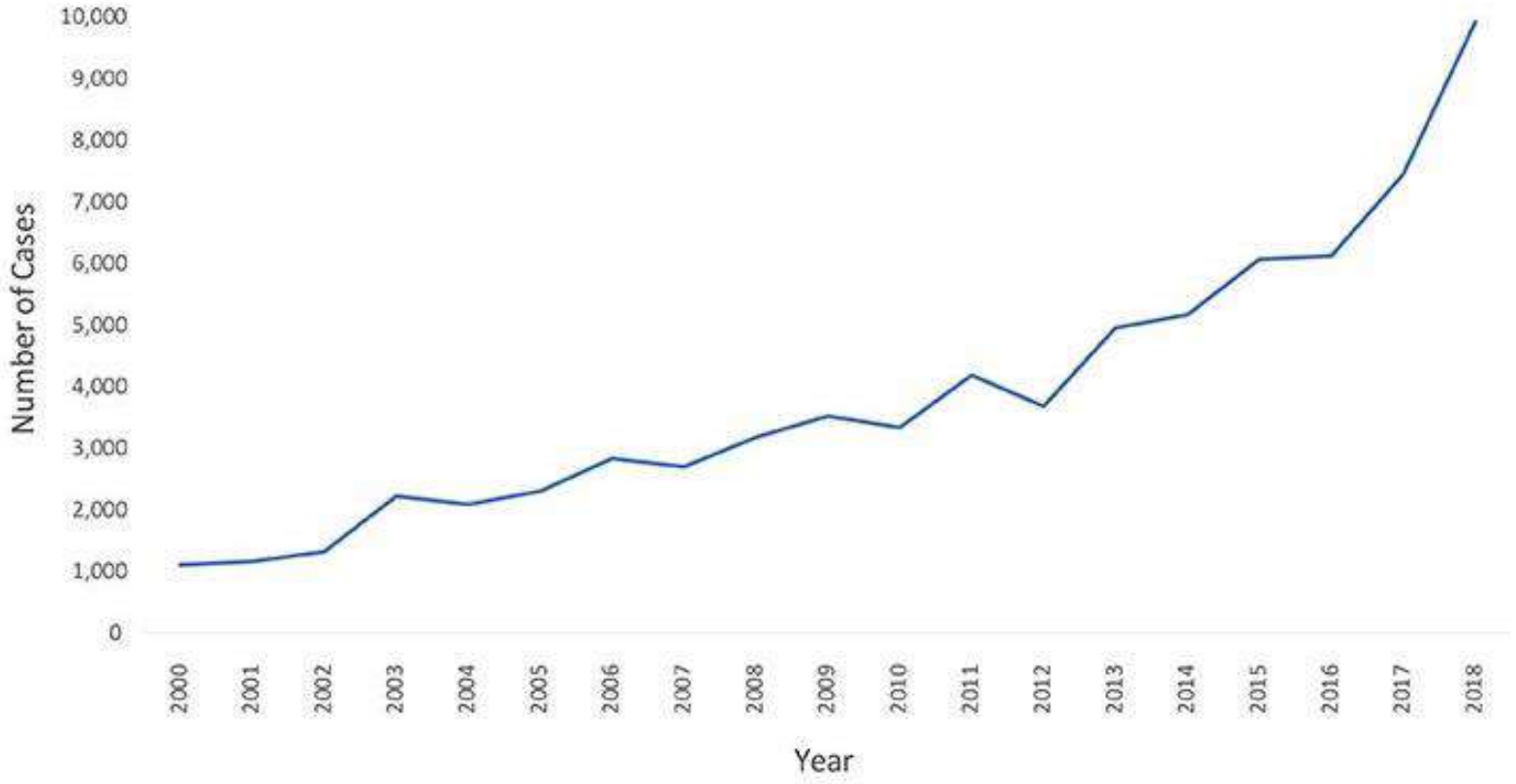
STEWART LAWRENCE

ISHEM

UK Legionellosis cases



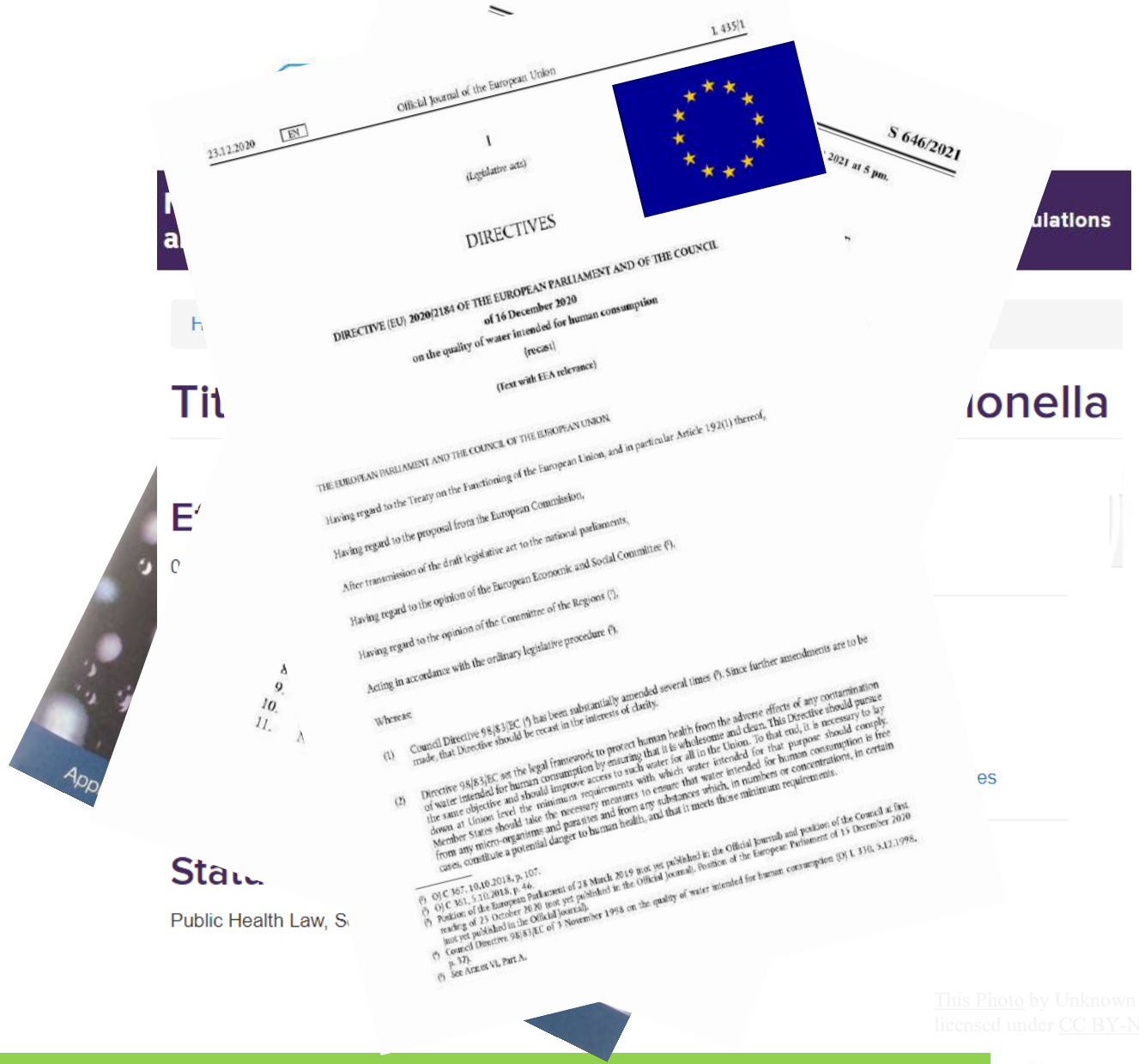
USA Legionellosis cases



Source: Nationally Notifiable Diseases Surveillance System

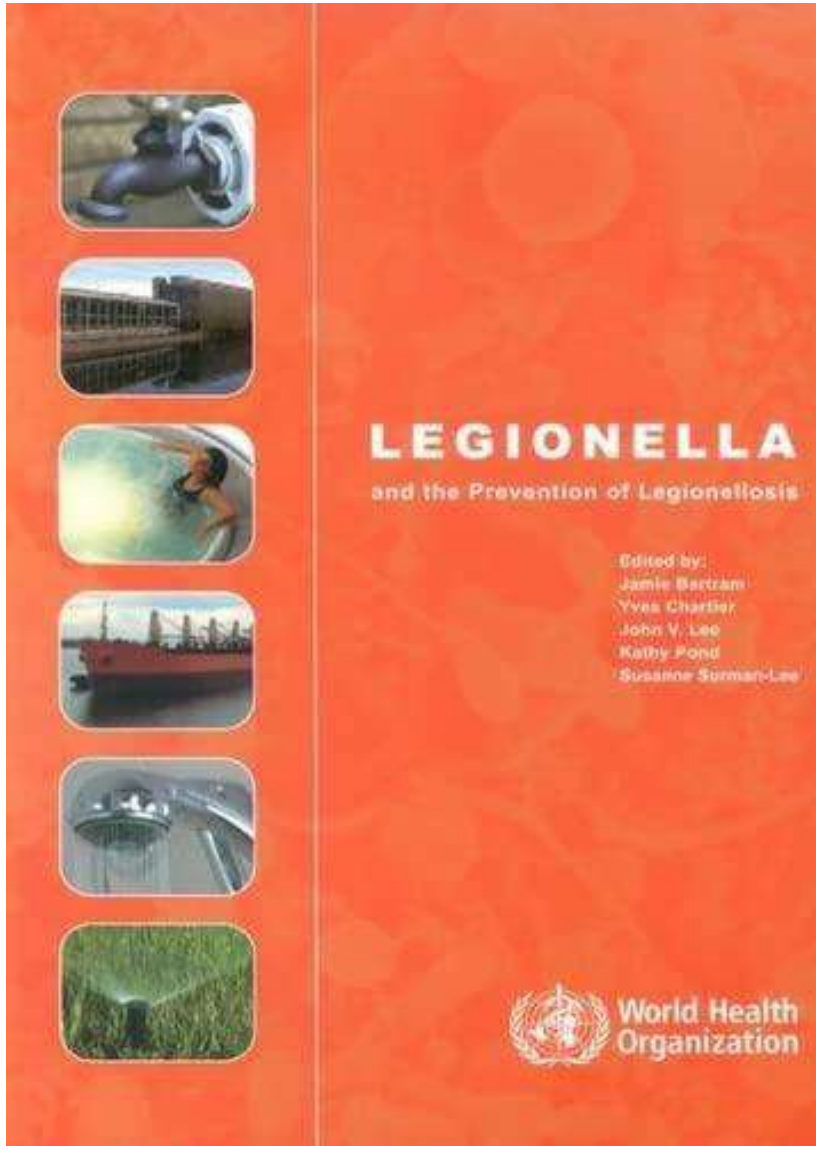
Regulatory Framework

- Regional
- National
- State
- City
- Guidance with Legal status



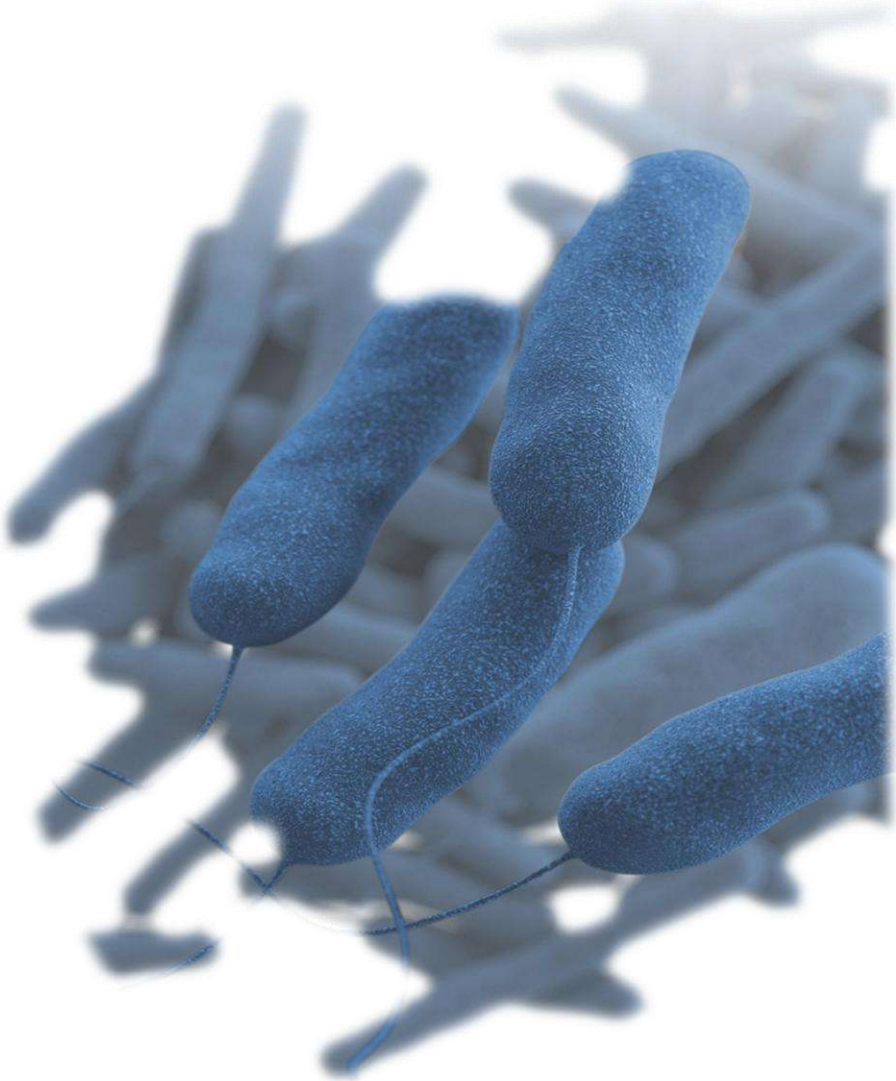
Guidance

- Global
- Regional
- National
- Others
- System specific



Regulations and Guidance

- Recognised hazard
- Common scientific basis
- Common principles
  - Stagnation
  - Nutrients
  - Temperature
  - Exposure
- Differences
  - Risk groups / systems



Has the US changed?

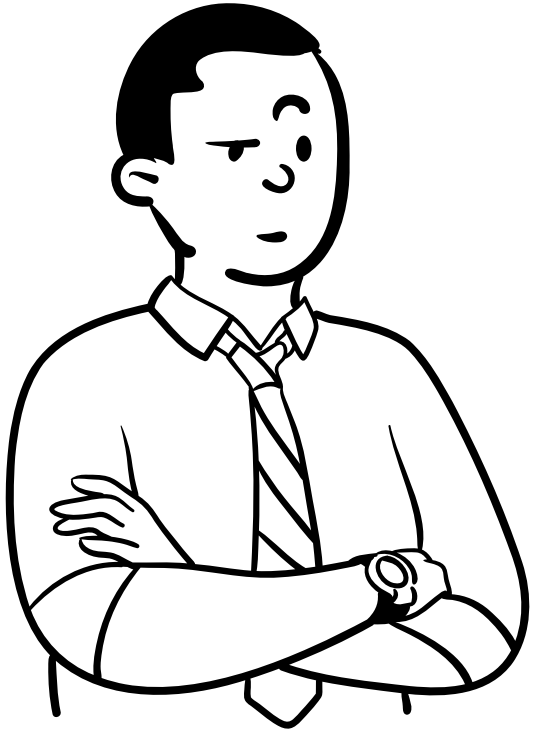
- AWT Annual Convention sessions with Legionella related theme
  - San Diego 2016 10%*
  - Vancouver 2022 30%*

- ASHRAE Standard and Guideline etc
- ASSE 12080

  Professional Qualifications Standard for Legionella Water Safety and Management Personnel
- A growing “Legionella” industry
- Focus on sampling rather than risk management / assessment

* US department of made-up statistics

Environmental Monitoring



		1	2	3	4	5	6	7	8	9	10	11	12
USA ✓	A												
	B												
	C												
	D												
	E												
UK ✗	A												
	B												
	C												
	D												
	E												

Raw Data

Test Description	Result	Units
Legionella pneumophila Sg 1	ND	cfu in vol
Legionella pneumophila Sg 2-15	ND	cfu in vol
Legionella Sp(non-pneumophila)	ND	cfu in vol
Volume Analysed for Legionella	1000	ml
Legionella Limit Of Detection	20	cfu/litre
Temperature at sampling, C	40.9	Deg C

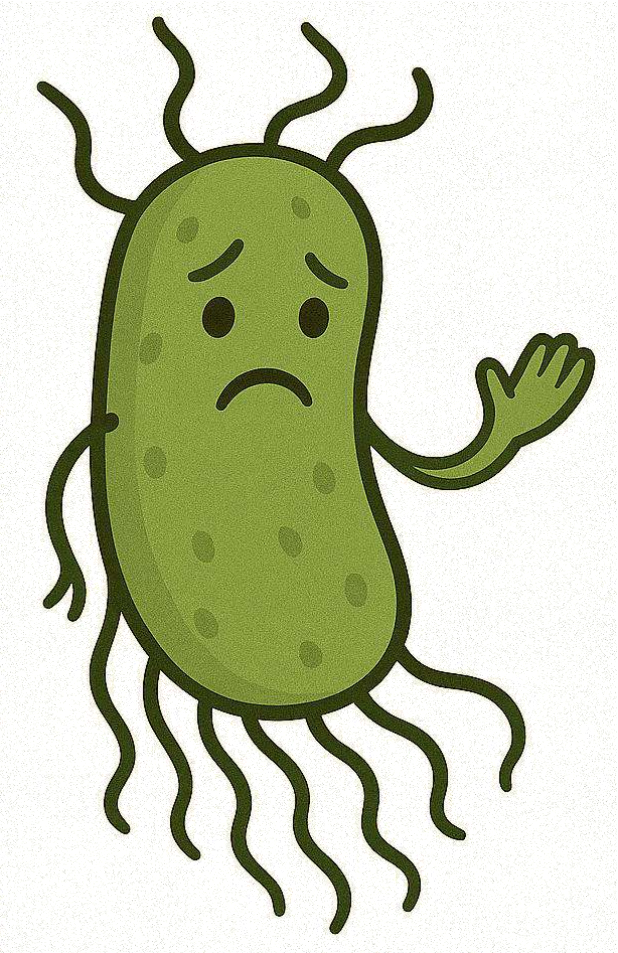
CUSTOMER:

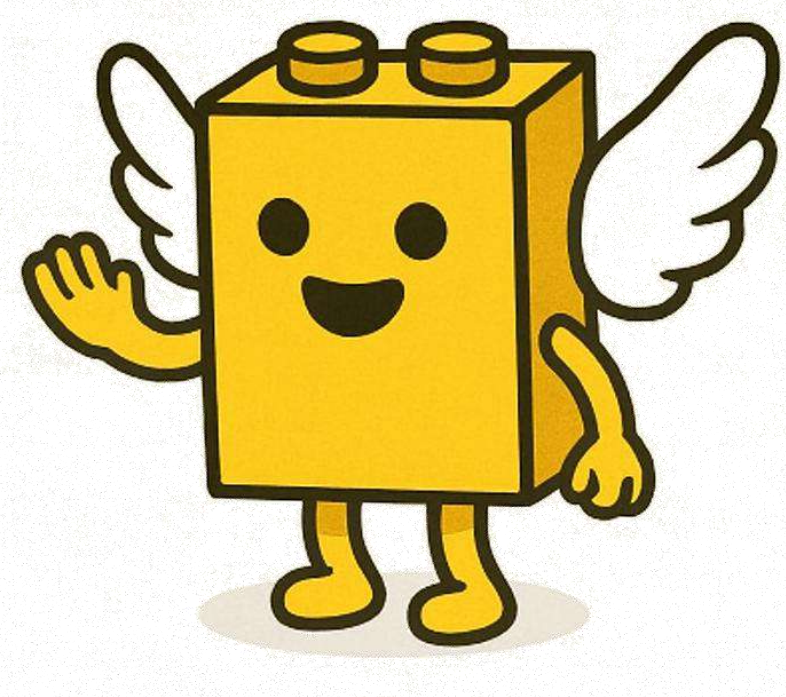
PROJECT NAME:

DATE ANALYSED: August 22, 2024

Customer Sample number	1
Lab Sample number	[redacted]379-
Description	
Sample type	Water (100mL)
Sample temperature	12°C
Procedure details	
Background flora	-
Reporting units	CFU/mL
L. pneumophila serogroup 1	ND
L. pneumophila serogroup 2-14	ND
L. pneumophila Total	ND
Other *Legionella* species	ND
TOTAL CFU	N/A
Detection Limit	5

Apples with Apples?





- Reporting units
- Limit of Detection (LOD)
- Action levels
- Pneumophila vs species
- Sample methods
- Analytical methods

Raw Data

Test Description	Result	Units
Legionella pneumophila Sg 1	ND	cfu in vol
Legionella pneumophila Sg 2-15	ND	cfu in vol
Legionella Sp(non-pneumophila)	ND	cfu in vol
Volume Analysed for Legionella	1000	ml
Legionella Limit Of Detection	20	cfu/litre
Temperature at sampling, C	40.9	Deg C

1 cfu/ml = 1000 cfu/litre

100 cfu/litre = 0.1 cfu/ml

CUSTOMER:

PROJECT NAME:

DATE ANALYSED: August 22, 2024

Customer Sample number	1
Lab Sample number	/379-
Description	
Sample type	Water (100mL)
Sample temperature	12°C
Procedure details	
Background flora	
Reporting units	CFU/mL
L. pneumophila serogroup 1	ND
L. pneumophila serogroup 2-14	ND
L. pneumophila Total	ND
Other *Legionella* species	ND
TOTAL CFU	N/A
Detection Limit	5

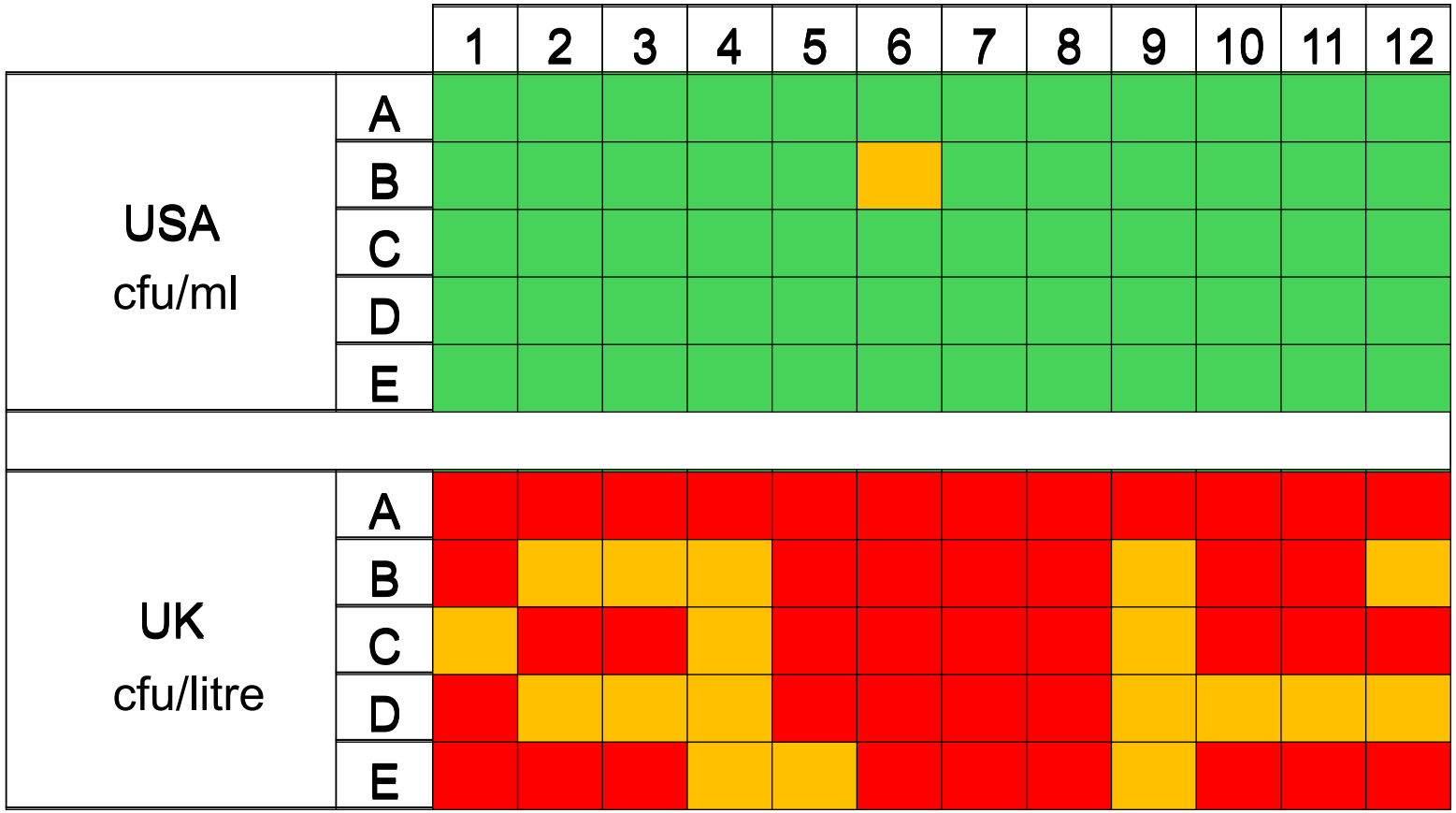
ISHEM

Apples with Apples?

	Action levels cfu/litre	
	First	Highest
UK	100	1000
USA (AIHA)	10000	1000000

Environmental Monitoring

- Common units
- UK action levels



	Action levels cfu/ml
UK	0.1
USA	10

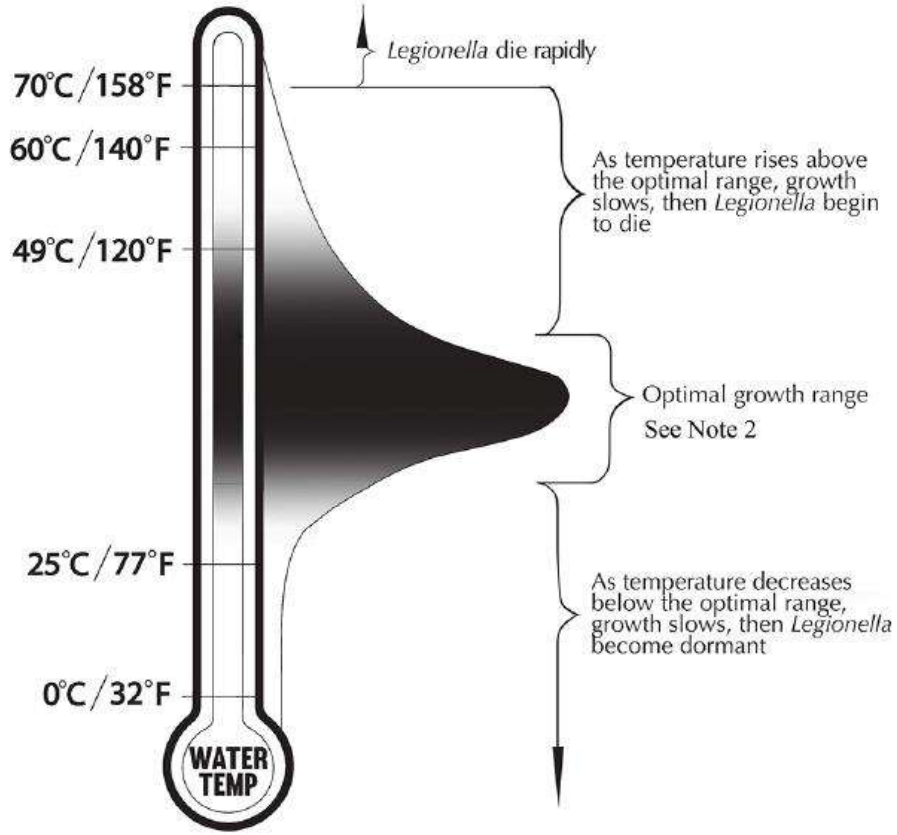
Controls

- Temperature
- Stagnation
- Nutrients
- Disinfection
- Filtration

- < 20ºC within two minutes
  - Mains < 20ºC?
  - Green buildings/fittings
  - Global warning
    - Flushing
    - Sampling
    - Disinfection(s)
    - Cooling

Controls

- “Cold water: Store and circulate cold water at temperatures below the favorable range for Legionella (…. 25–45°C)”
- “Ensure disinfectant residual is detectable throughout the potable water system”



Controls – Cold Water

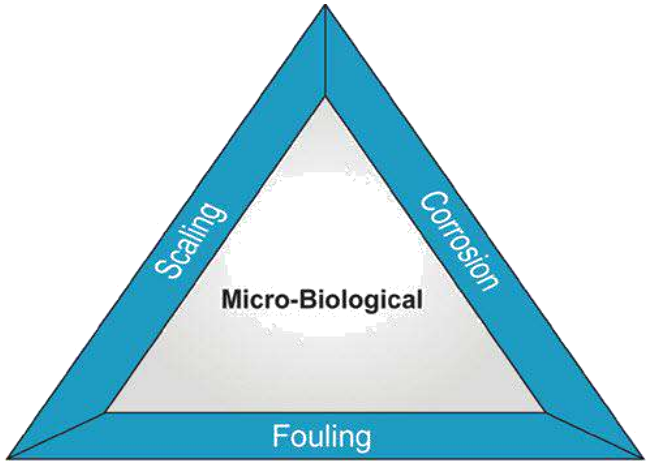
- “The water temperature should be 25°C or less (ideally water ≤ 20°C)” ESGLI 2017

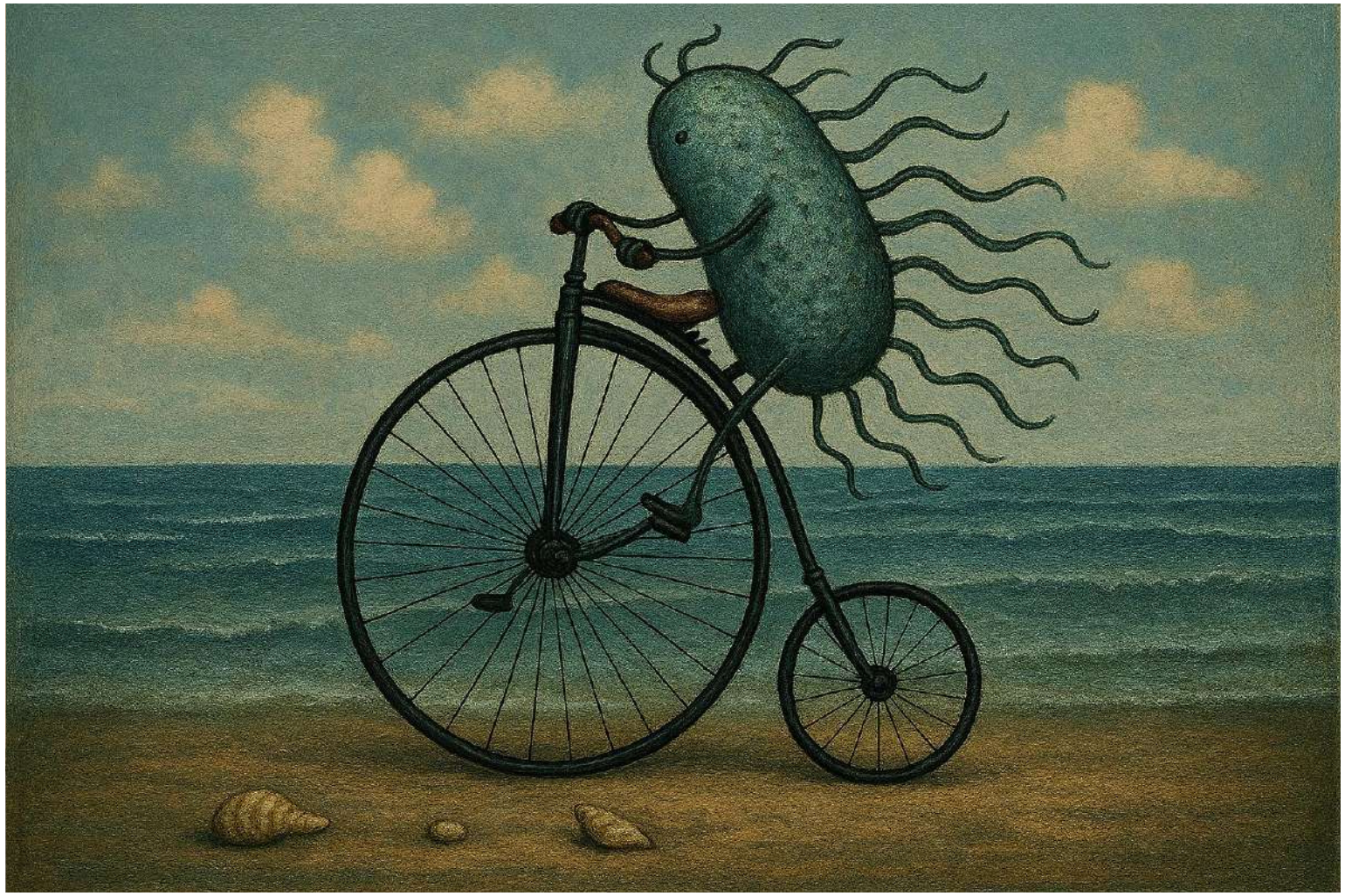
- < 25°C within 30 seconds
- Draw 5 x 1 litres

Conclusions

- Recognised hazard with common scientific basis
- Common themes but variability in regulatory frameworks and guidance
- Variability in enforcement
- Variability in priority systems and groups
- Variability in reporting and action levels
- Company standards?
- Standard designs?

Final Thoughts





Technical **Sales**

Thankyou for listening

Dr Tom Laffey

tom.laffey@ishem.com