

Healthcare Water System Risk Management

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Impetus for Risk Management Plans

why do this?

- No direct requirement but a good idea
- Duty of care (WHS ACT, Public Health Act)
- An existing problem:
 - Duty of care
 - Appease regulators
 - Troubleshoot the problem
 - A remedial strategy



Goal

A workable strategy to meet compliance requirements and minimise the chance of anyone being exposed to harm from the water system.

- An assessment
- An evaluation (compliance)
- A strategy (what needs to be achieved)
- An implementation (who, what, why, where, how, when)
- A review



Reality

- Dust collectors
- Encyclopedias
- Academic exercises
- Diagrams, tables and matrices
- Generic



Often prepared as 'value adding' to other services (worth every penny you didn't spend on it!).



Common Barriers

The rule rather than the exception

- Ignorance
 - Transient workforce
 - Entrenched workforce
- Flushing
- 'It's only in warm water systems'
- It's not in cold water
- Hot water is not an issue
- Stagnation



Staff Turnover / Ignorance

“I’m new to this myself”

- Staff turnover is high
- Qualifications extremely variable
 - Promoted assistant chef
 - Qualified plumber (rare)
 - Ex-Jims mowing handyman
- Entrenched staff
 - ‘we’ve never had to do this before’
 - Very knowledgeable about the system (hens’ teeth)
- Training is the exception



Ignorance 2: Duty of care

Who is responsible?

- Belief that only warm water systems carry obligation
- Unaware of WHS Act 2012 – PCBU
- Unaware of Public Health Act 2011 (sec 56)
- Only interested in compliance (ignore guidelines)
- Risk management plans are not a compliance requirement



Hot, Cold, Warm

“Only warm is a problem”

- Positive Legionella results from all three
- Belief that only warm water systems are a problem
 - Ice machines? Boil/chill units? Summer supply temperatures?
- Move to hot water systems with TMVs to avoid regs.
- Water treatment of warm water only
- Inadequate disinfection



Disinfection

The last resort

- UV installations on warm water
 - Remove chlorine
 - Have no effect on outlets
 - May create dead legs
 - Still get positive Legionella results
- ORP chlorination systems
 - Only on circulating warm water
 - Dosing point and sensor at opposite ends of system
 - Frequent corrosion issues
 - Still get positive Legionella results



Disinfections 2

- 6 monthly disinfections
- Pasteurisation
 - Neglects cold water
 - Selects resistance
- Chlorination
 - Needs high process control
 - Reacts with monochloramine supplies (Fleurieu, North, Riverland)
 - Corrosion issues if mis-managed
- Provide up to 1 month of protection if system is not properly managed.



Essential elements

who, what, why, where, how, and when

- Clear chain of responsibility
 - The who
- Accurate system description
 - The what
- Identified compliance targets
 - The why
- Identified control points
 - The where
- Established control measures
 - The how
- Frequency of operational and verification activities
 - The when



Who engages?

What drives creation of risk management plans?

- Hospitals with Legionella history
- Aged Care Providers with Legionella history
- Major and regional hospitals
- Tourism water providers with Legionella history



Questions for you...

- If a registered facility in your jurisdiction with a history of Legionella detections is converted to a hot water system do you follow it up?
- Do you believe risk management should be mandated?
- How confident would you be to assess a risk management plan?
- Are warm water systems more of a risk than systems with multiple TMVs?
- Should samples be taken from cold water as part of warm water system audits?

