

Amending the regulation of cooling towers in NSW

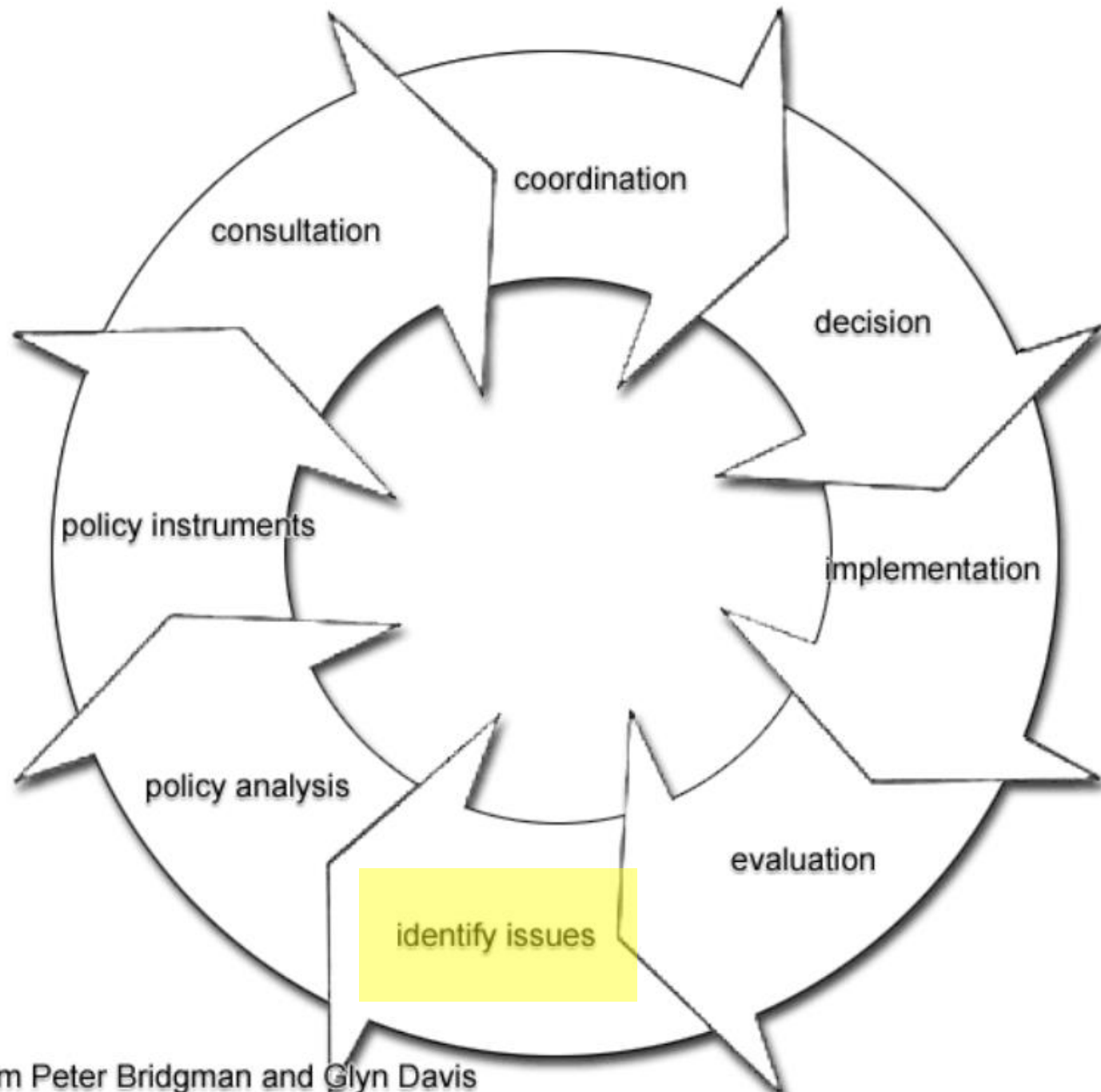
**RACP Congress
6 May 2019**

**Adi Vyas, Jeremy McAnulty
Health Protection NSW, NSW Ministry of
Health**



Outline

- **Background and context: Legionnaires' disease outbreaks in Sydney CBD**
- **Methods and results: formation of NSW Legionella Taskforce**
- **“Policy cycle” framework: eight steps that outline the process of policy development and implementation**
- **Limitations and challenges: outcomes of process and public health significance**



From Peter Bridgman and Glyn Davis
The Australian Policy Handbook, 3rd ed. Allen and Unwin 2004, p26

Background and context

2

Serotypes: *pneumophila*
and *longbeachae*

57

Average number of cases
notified per year, 2008-17

93

Number of cases notified
in 2016

5000

Cooling towers in NSW



2

Outbreaks in March &
May 2016

13

Cases notified

20

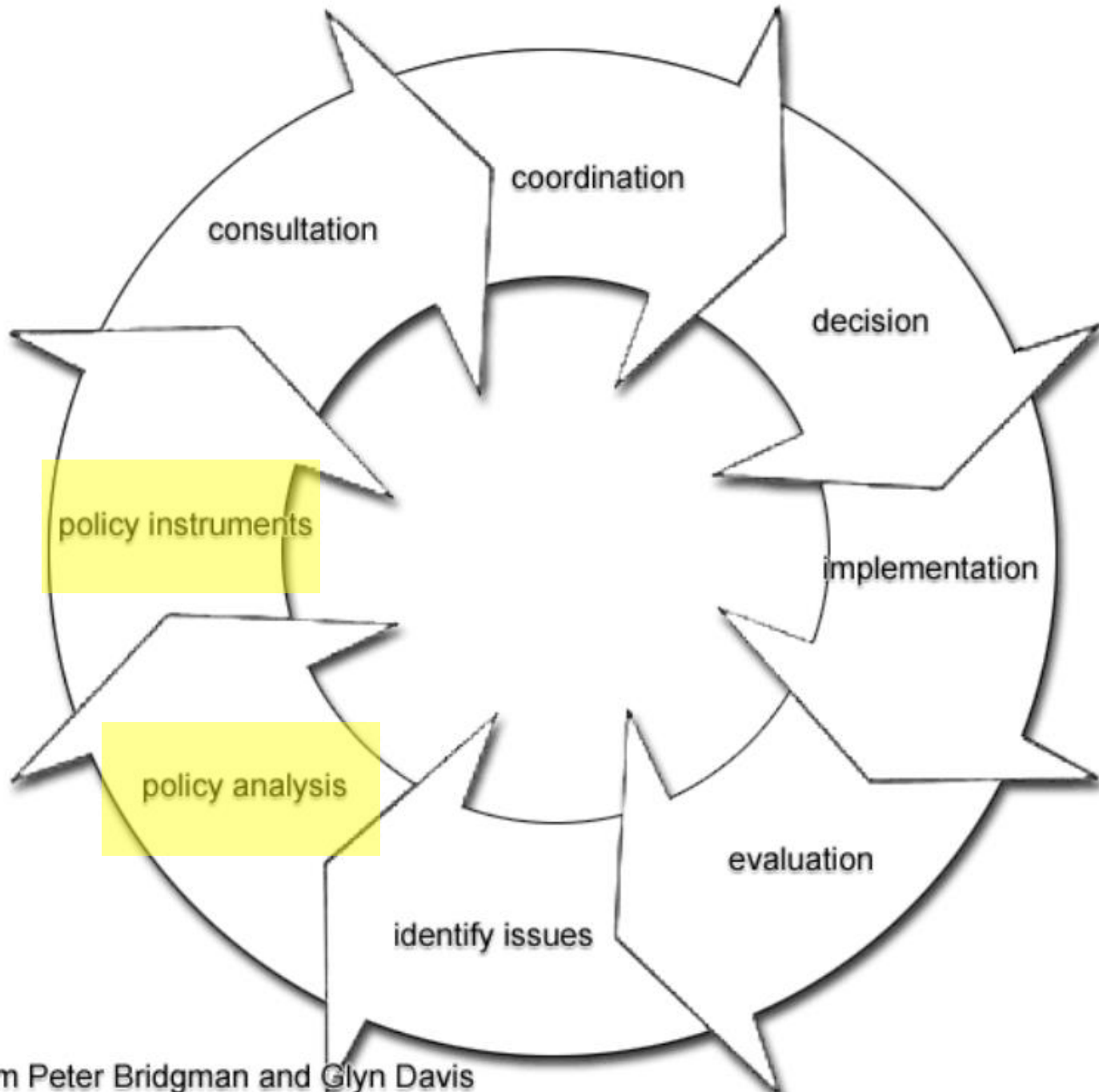
Environmental Health
Officers deployed

199

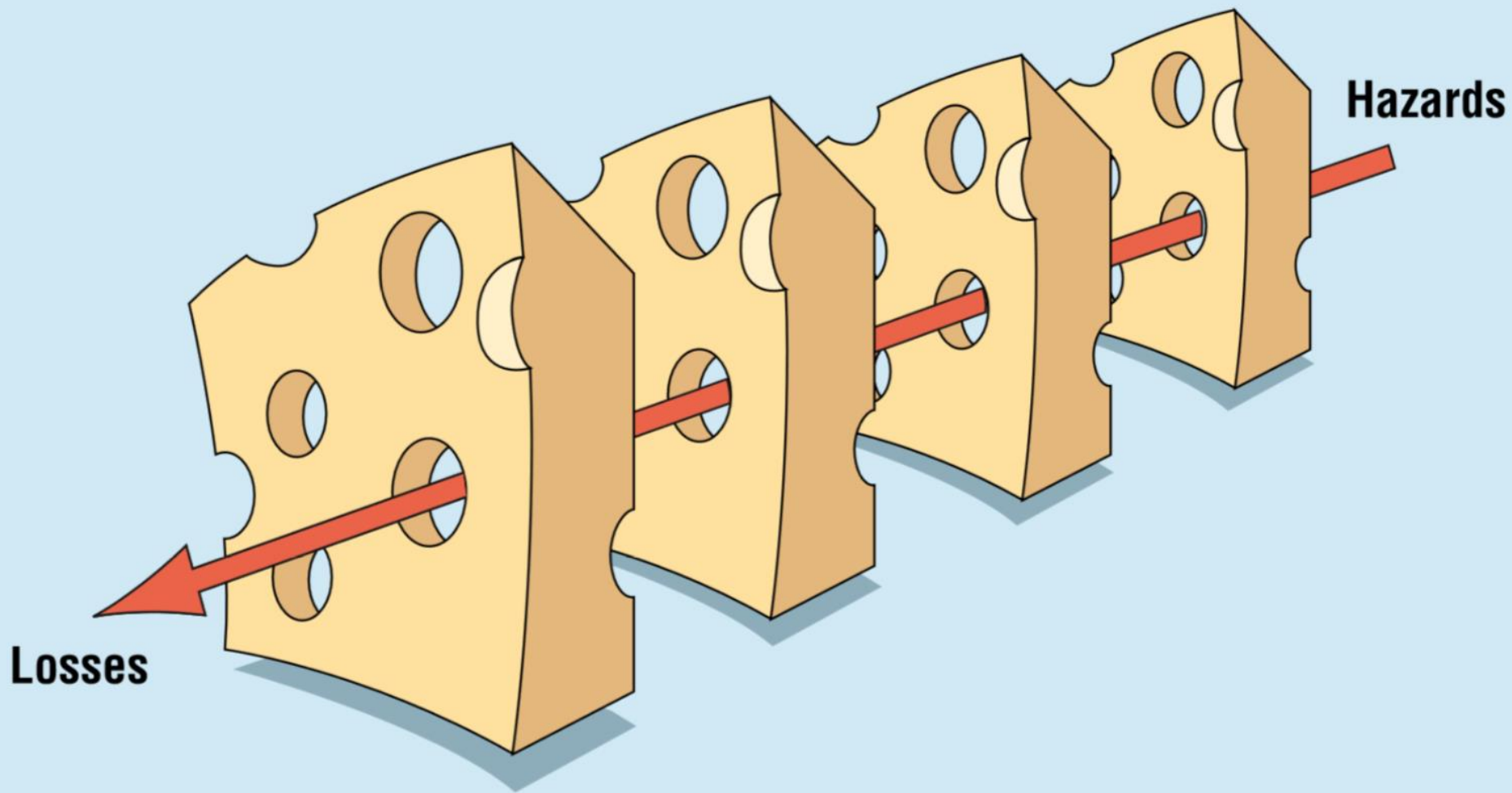
Samples collected

Background and context

- **Expert Panel convened by Chief Health Officer (~June 2016)**
 - Public health & infectious disease physicians, environmental health officers, legal officer, industry experts, mechanical engineer, local government representative
- **Developed recommendations to further strengthen the *NSW Public Health Regulation 2012***
 - Performance based (risk management) approach
 - To replace existing prescriptive approach (“thou shalt”)
 - Supported by comparison to other jurisdictions in Australia and internationally



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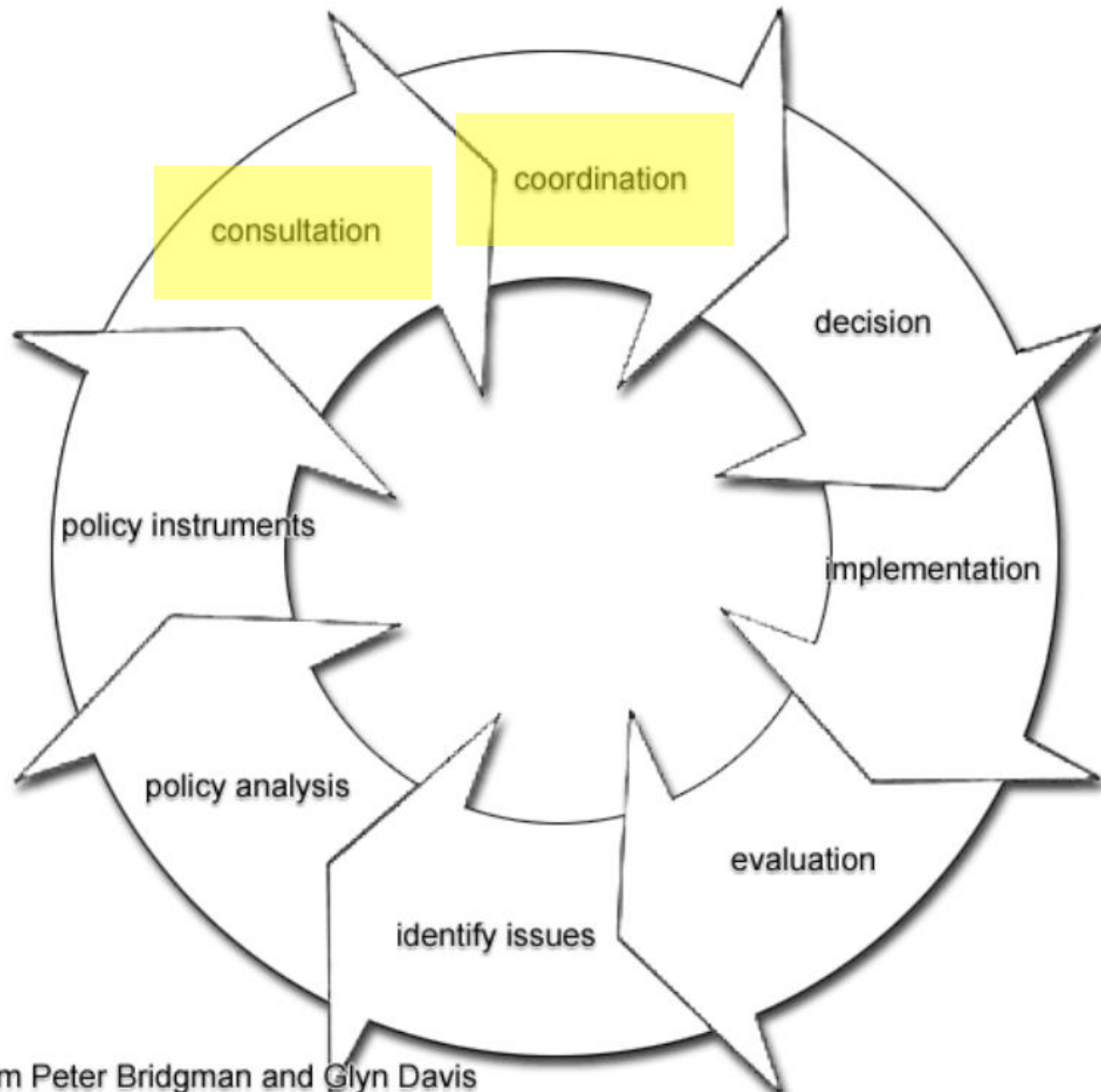
OBJECTIVES



**Air-handling and water systems of
buildings—Microbial control**
**Part 3: Performance-based
maintenance of cooling water systems**

The “six safeguards”

- 1. Risk Management Plans (RMPs) developed every five years (low risk) or every year (high risk systems)**
- 2. Independent third party auditing every year**
- 3. RMP and audit completion certificates to local council**
- 4. Laboratory testing for Legionella count every month**
- 5. Notification of reportable test results to local council**
- 6. Unique identification number displayed on every cooling tower**



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n=53

Number of submissions

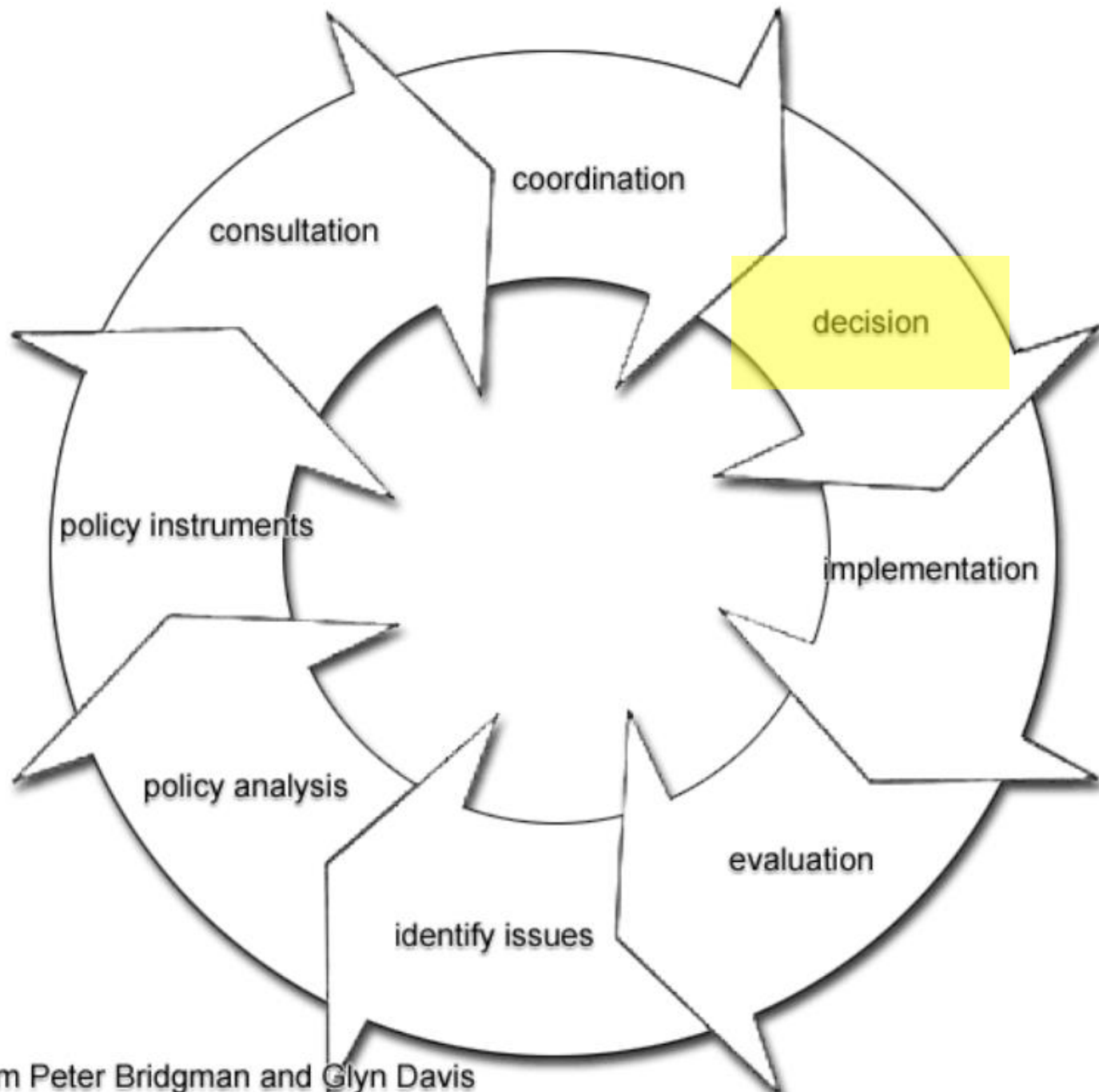


SUMMARY
**PUBLIC HEALTH
INVESTIGATION INTO THE
LEGIONELLA OUTBREAKS
IN SYDNEY CBD**

MARCH AND MAY 2016

**Report on public consultation:
Proposed changes to the regulation of water-
cooling systems to prevent Legionnaires'
disease in NSW**

July 2017



From Peter Bridgman and Glyn Davis
The Australian Policy Handbook, 3rd ed. Allen and Unwin 2004, p26

Results

- In principle approval by Minister for Health (July 2017)
- Amendments to Regulation (January and August 2018)
- Supporting deliverables of the four Working Groups

WG 1 Drafting amendments to Regulation with Legal Branch	WG 2 Preparing a Discussion Paper + undertaking in stakeholder consultation
WG 3 Developing new guidelines for managing cooling towers in NSW	WG 4 Delivering a training program to local councils and public health units

Public Health Amendment (Legionella Control) Regulation 2018

under the

Public Health Act 2010

His Excellency the Governor, with the advice of the Executive Council, has made the following Regulation under the *Public Health Act 2010*.

BRAD HAZZARD, MP
Minister for Health

Explanatory note

The object of this Regulation is to change the *Legionella* control requirements that the *Public Health Regulation 2012* imposes on the occupiers of premises on which certain regulated systems are installed.

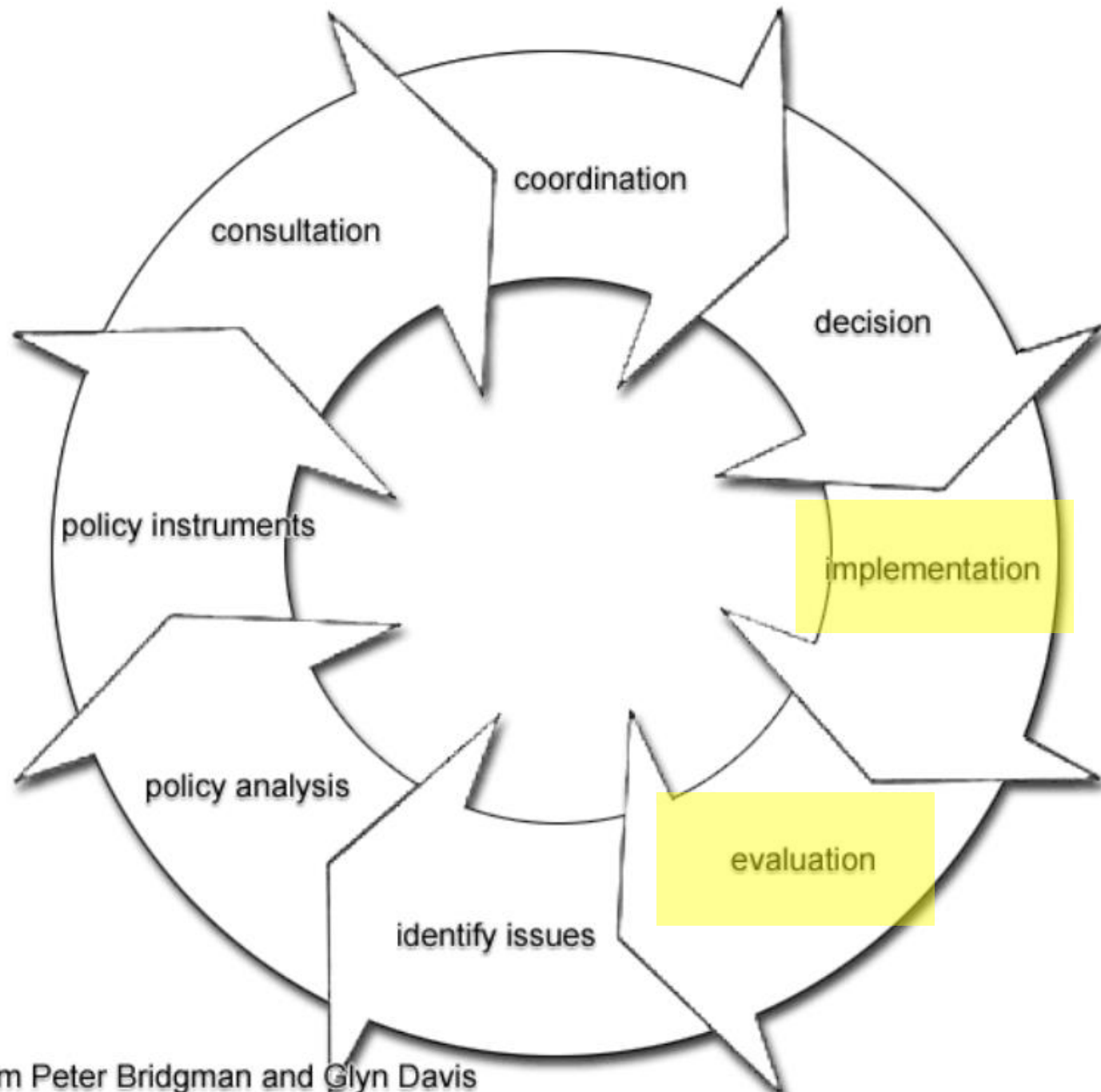
This Regulation remakes all existing provisions dealing with *Legionella* control, with some changes, which are explained below. A new provision makes it an offence to falsify test results relating to certain regulated systems.

The installation, operational and maintenance requirements relating to cooling water systems are modified as follows:

- (a) by amending the qualifications required to be a “competent person”, by referring to a requirement that a competent person is a person who has had appropriate training or experience (or both) in the relevant subject, sufficient to provide safe and satisfactory performance,
- (b) by imposing an additional installation requirement, namely that a unique identification number designated by the local government authority for the area must be displayed on each cooling tower in the cooling water system (including an existing system),
- (c) by imposing an additional operational requirement, namely that the local government authority for the area must be notified within 24 hours if a high level of *Legionella* bacteria, or a high heterotrophic colony count, is detected,
- (d) by modifying the maintenance requirements, requiring occupiers to do the following:
 - (i) maintain systems in accordance with AS/NZS 3666.3:2011 *Air-handling and water systems of buildings—Microbial control, Part 3: Performance-based maintenance of cooling water systems* (which includes a requirement to develop a risk assessment for a cooling water system),
 - (ii) maintain systems in accordance with certain control strategies for *Legionella* and heterotrophic micro-organisms contained in AS/NZS 3666.3:2011 *Air-handling and water systems of buildings—Microbial control, Part 3: Performance-based maintenance of cooling water systems* and the risk assessments required by that Standard,
 - (iii) carry out risk assessments in accordance with that document, at least once every 60 months, and carry out additional assessments in circumstances where an earlier risk assessment

Legionella Control in Cooling Water Systems

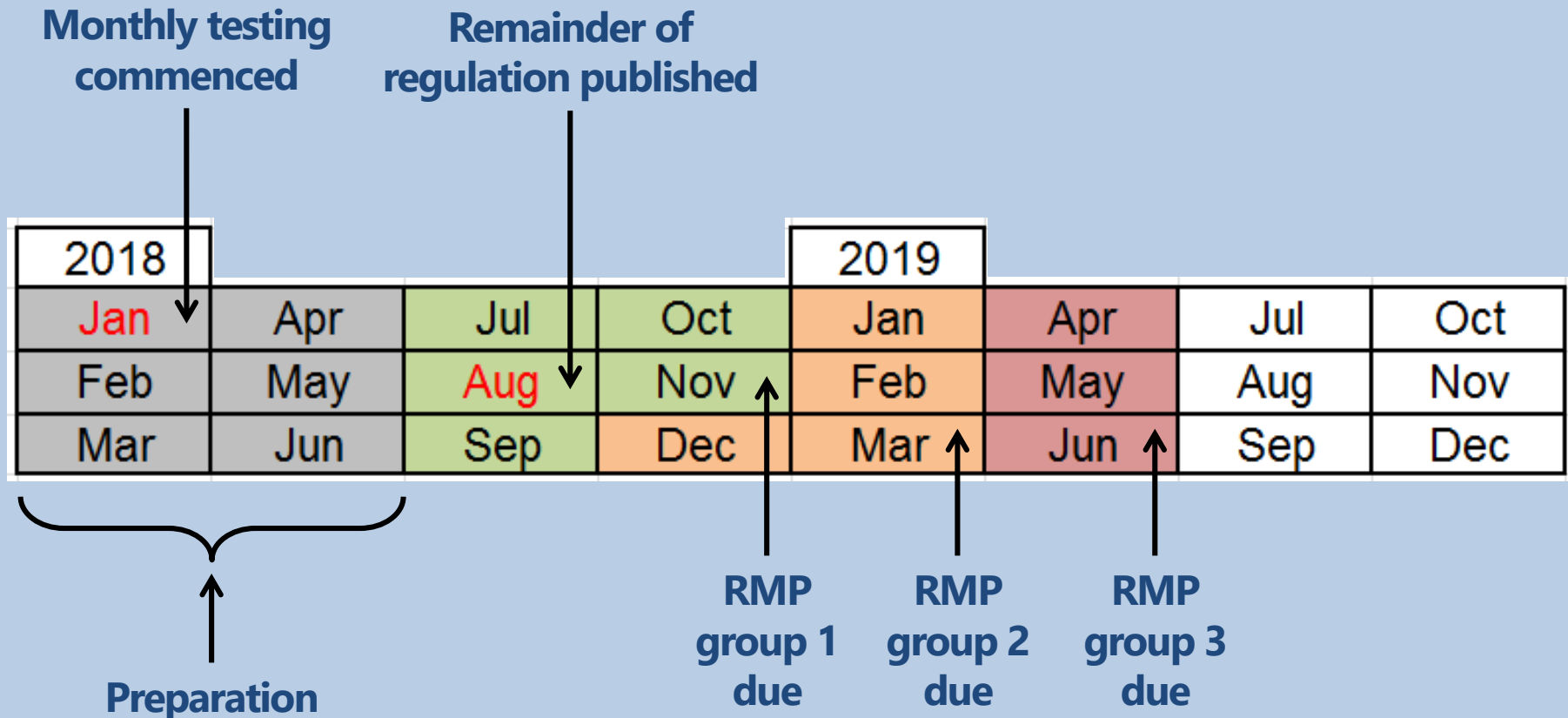
NSW HEALTH GUIDELINES



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Implementation

- Ongoing education and communication, “roadshows” to local councils and public health units, briefings to Health Protection Leadership Team



Limitations and challenges

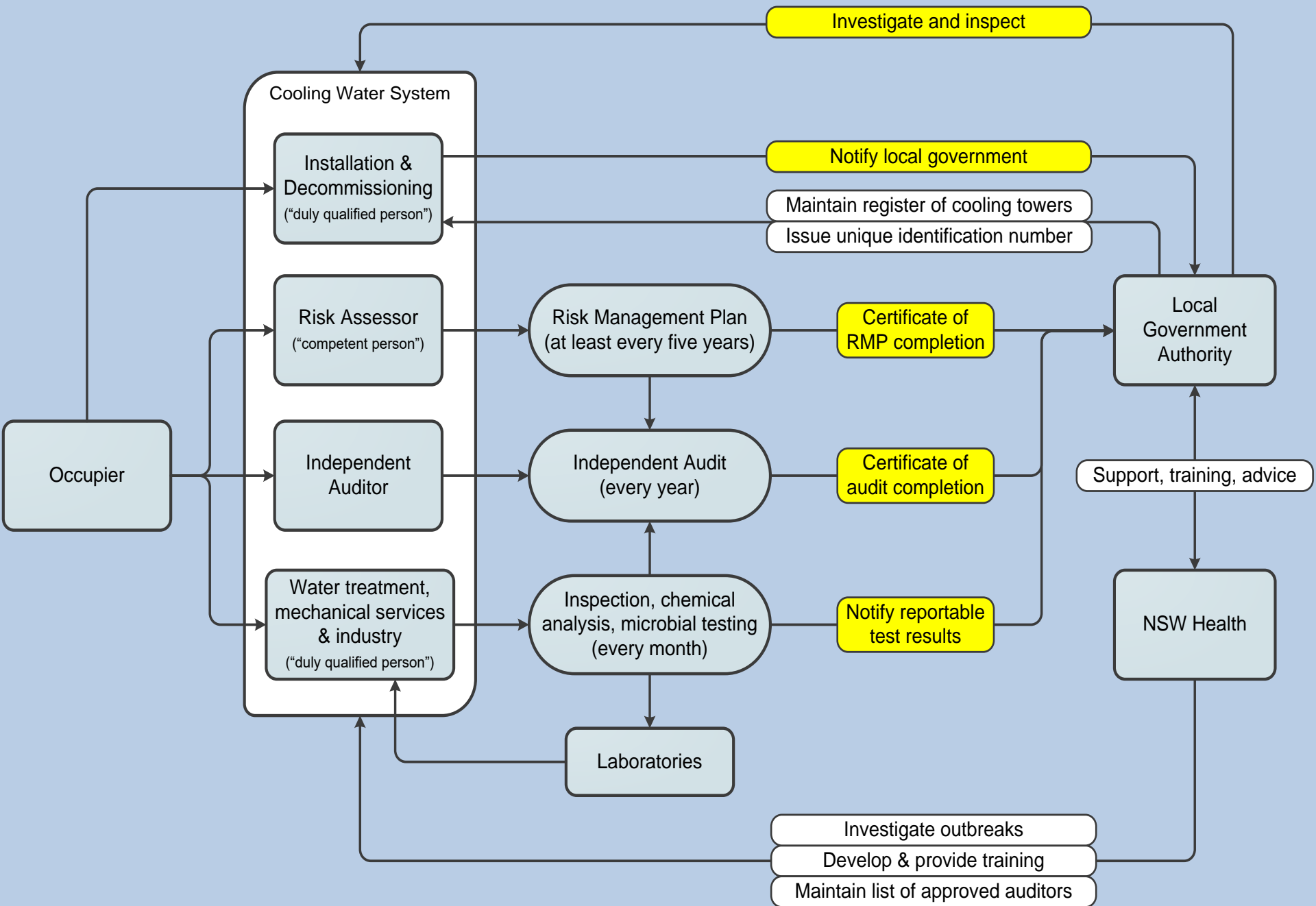
- 1. Decentralised government administration in NSW with 12 public health units and 128 local councils**
- 2. Simultaneous and parallel Working Groups**
- 3. Iterative processes to refine policy development**
- 4. Buse (2012): “policy making is seldom a fully rational process” and “policy makers muddle through”**
- 5. Potential for unintended consequences within a complex adaptive system**

Public health significance

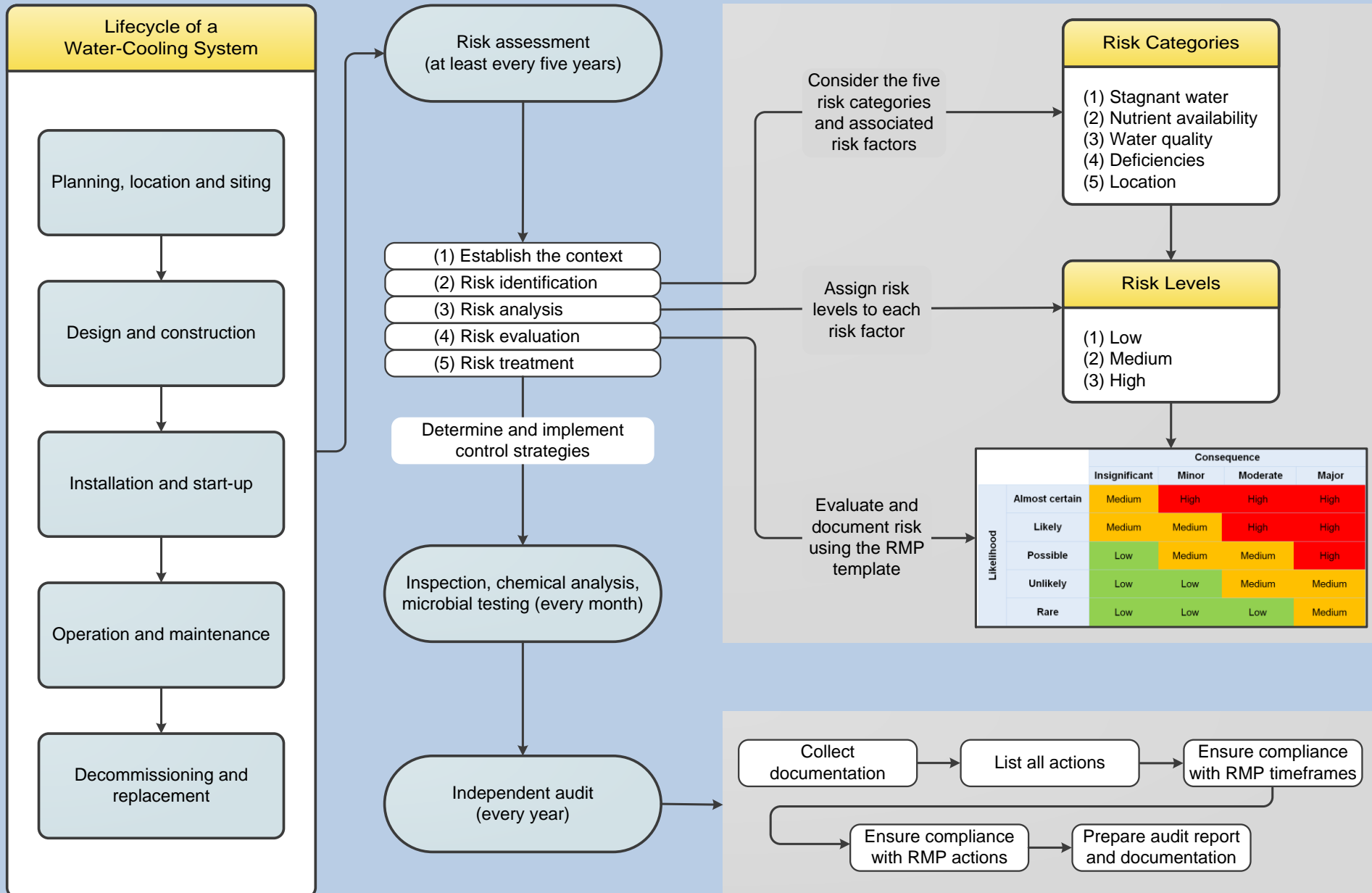
- **Regulation as an essential tool in public health practice**
 - Reducing burden of disease due to Legionella
 - Once in a decade shift in regulatory approach
 - Setting expectations for best practice, “lifting the game” across industry
 - Opportunity to reset norms for interagency working
- **Whole of government partnership working**
 - Internal stakeholders: public health units, local councils (building a relationship as “co-regulators”)
 - But varying levels of empowerment across the network
 - External stakeholders: TAFE NSW, Fair Trading NSW, NSW Food Authority, NSW Environment Protection Authority, Victorian Dept of Health and Human Services

Summary

- **The “policy cycle” is a useful framework for stepping through policy development and implementation**
- **Legionella poses a disease burden as well as a burden on organisational, financial, and human resources**
- **Regulatory change is a major undertaking, but an important tool in the public health armamentarium**
- **Whole of government, cross-sectoral and partnership working is essential to success in a decentralised system**
- **Iterative, pragmatic, non-rational policy setting process to be expected in context of a complex adaptive system**

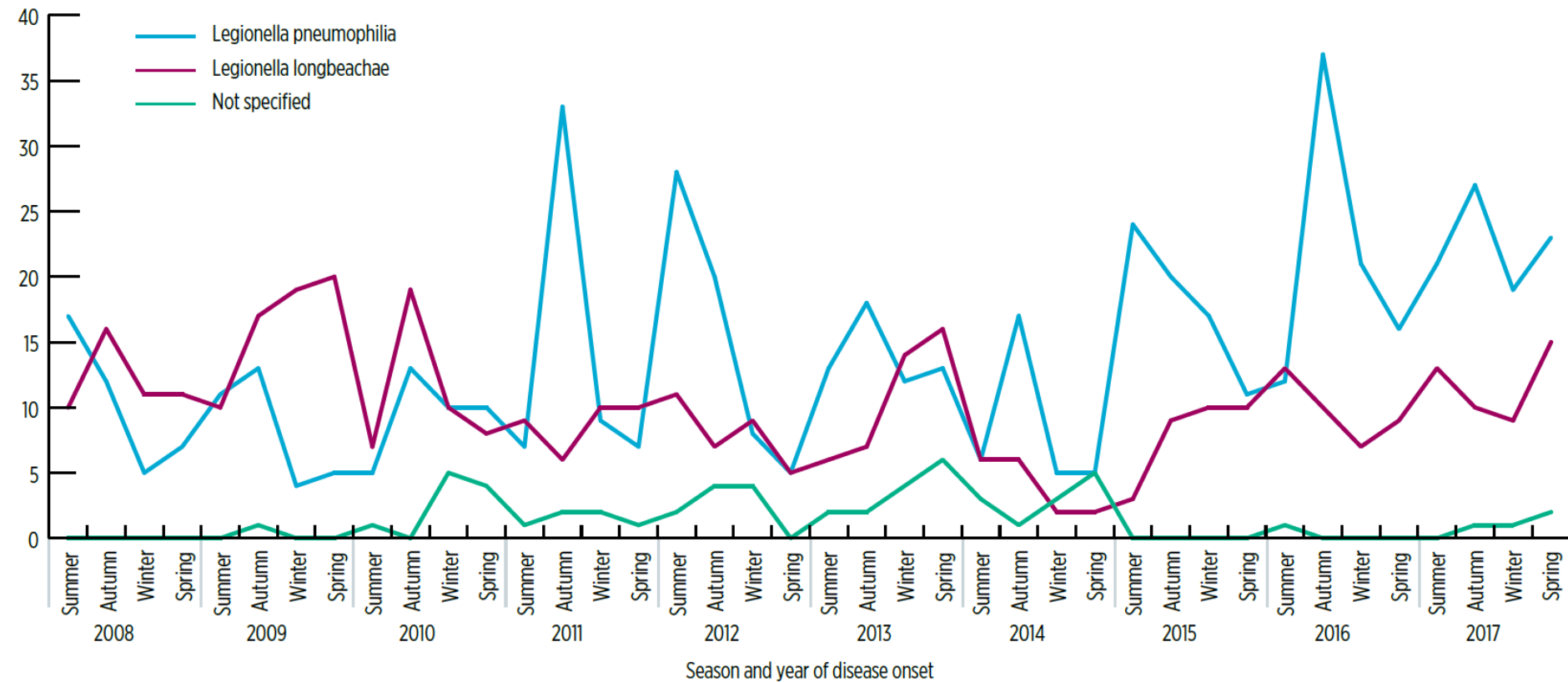


Bonus slide: Risk assessment process



Bonus slide: Legionella season

Figure 3.5-1: Notifications of Legionnaires' disease in NSW, by species and season of disease onset, 2008 to 2017



Methods

- **Legionella Taskforce formed (February 2017) aiming to:**
 - Effect the eight steps of the policy cycle
 - Amend the Regulation to require risk management
- **Governance: Steering Group + Working Groups (WGs)**

WG 1 Drafting amendments to Regulation with Legal Branch	WG 2 Preparing a Discussion Paper + undertaking in stakeholder consultation
WG 3 Developing new guidelines for managing cooling towers in NSW	WG 4 Delivering a training program to local councils and public health units

Limitations and challenges

1. Decentralised government administration in NSW with 12 public health units and 128 local councils

- “One size fits all” approach inappropriate
- Differences in resourcing, number of cooling towers, and disease burden between urban and regional areas

2. Simultaneous and parallel Working Groups

- Political and practical necessity of amended Regulation ahead of Legionella season (autumn 2018)
- Required two separate amendments on 1 January and 10 August 2018
- Required staged implementation over 2018-19, at discretion of local councils

Limitations and challenges

3. Iterative processes to refine policy development

- Agency (power) exercised by industry actors led to modifications in the policy proposal
- 44 liaison meetings, roundtables, training workshops, conferences, roadshow, and grand round presentations
- 30 drafts of amendments to Regulation
- 20 drafts of NSW Health Guidelines
- 15 drafts of Discussion Paper

4. Buse (2012): “policy making is seldom a fully rational process” and “policy makers muddle through”

- Pragmatism inherent in public health practice
- Compromise viewed as acceptable and necessary
- Protection of health as the ultimate yardstick

Limitations and challenges

5. Potential for unintended consequences within a complex adaptive system

- Increasing costs to owners of cooling towers
- Creation of a new third party auditor workforce
- Selection bias towards larger industry organisations
- Control methods included:
 - Assessment of cost benefit
 - Approval process for third party auditors via Secretary of NSW Health
 - Engagement with decentralised network to obtain views from under-represented organisations and populations
 - Commitment to process and outcome evaluation