HEAL Network Future Leaders School 2024

A/Professor Carmel Williams A/Professor Aditya Vyas





We would like to acknowledge the Ngunnawal people, traditional custodians of the lands where Bruce Campus is situated.

We wish to acknowledge and respect their continuing culture and contribution they make to the life of Canberra and the region.

We also acknowledge all other First Nations Peoples on whose land we gather, and specifically pay our respects to the Kaurna people of the Adelaide Plains.

A/Prof Carmel Williams

Director for the Centre for Health in All
 Policies Research Translation based at
 Health Translation SA and School of Public
 Health at University of Adelaide

Founding Director of the WHO
 Collaborating Centre for Health in All
 Policies implementation





A/Prof Aditya Vyas

Deputy Director of the Healthy
 Environments and Lives (HEAL) Global
 Research Centre at the University of
 Canberra

Public Health Physician in the Office of the Chief Health Officer at ACT Health Directorate





ICEBREAKER SESSION

Introduce yourselves!

- ► What's your role?
- ▶ What are your hopes for the day?
- ▶ What are you most excited to learn about?





Session 1: The 'what' and 'why' of research-policy translation

A/Professor Carmel Williams





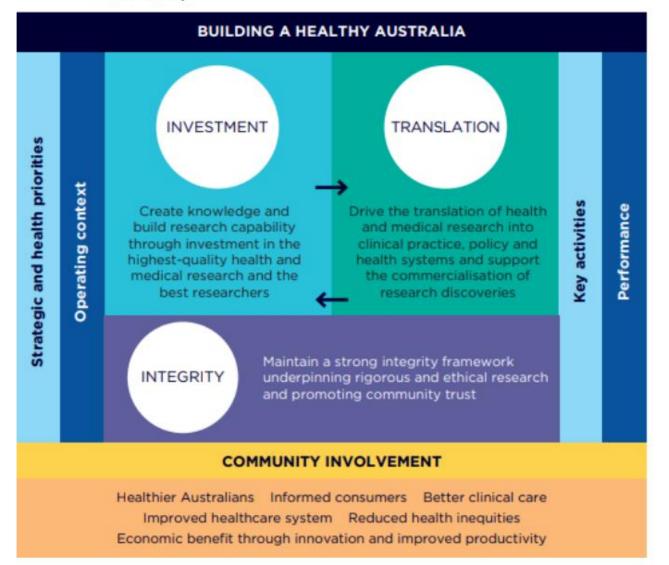
What is Research Translation?

- ▶ **Research translation** is fundamentally about bridging the gap between knowledge gained through research, and its application in policy and practice.
- Research translation equates with other terms used internationally such as knowledge translation, knowledge transfer and exchange, research uptake and research utilisation. The following definition for knowledge translation (KT) from the World Health Organization is commonly used:
- ► "The synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people's health".²





Figure 1. NHMRC's Strategy for Health and Medical Research (NHMRC Corporate Plan 2022-2023)







Research-policy translation

- Research translation has been the subject of growing interest in recent years
- Academic and policy-making communities are increasingly recognising the need for more interactive, iterative and dynamic approaches
- Documented evaluation of research translation strategies is limited
- How best to do research translation remains a knowledge gap, with further investigation needed







What 'big picture' factors might influence the nature, quality and effectiveness of research to policy translation?





Influential factors:

- Different needs within research and policy communities (e.g., grant obligations, required outputs, timelines, scientific rigour, policy imperatives)
- Culture within research and policymaking institutions
- Political, social and economic factors
- Capacity and interest of researchers, policymakers and their respective institutions
- Alignment of research and policy agendas
- Leadership support for research translation
- Institutional governance and financing arrangements





What might be some barriers to effective research policy translation?





Potential barriers:

- Cultural differences between researchers and policymakers
- ► Limited relationships and lack of opportunities for engagement
- Institutional barriers within agencies (e.g. unsupportive leadership, complex organisational structures)
- Inaccessibility of science to policymakers
- Inadequate understanding of the policy-making process and how to work within political and bureaucratic constraints
- Inadequate planning and/or communication
- Lack of time and resources
- Frequent staff turnover





Strategies to support effective research policy translation



Push

Research papers
Evidence
syntheses
Policy briefs

Pull

Commissioned research

Exchange

Partnerships Networks Collaboration





Research design

Participatory research
Co-design
Collaborative approaches

Relationships

Communication Trust

Dedicated roles

Advisory groups

Steering committees

Knowledge brokers

Mentors

Capacity development

Training
Tools
Technology
Resources





Terminology - does it matter?

Different terms

- Evidence-informed decisionmaking (EIDM)
- Knowledge translation (KT)
- Research-policy translation
- Co-production
- Policy-relevant research

Similar Meanings

- Implementation science
- (research) Engagement
- Impact
- Evidence based policy
- Commercialisation





Terminology Word Cloud

- ► Go to www.menti.com and use the 4594 5858 code to contribute to the word cloud.
 - What are the terms you use most often to think about research informing policy and practice?
 - ► Add up to 3 terms keep them to 1-4 words only





Group Discussion (20 mins)

What experiences and observations have you had in research policy translation?'

What barriers and challenges do you anticipate in undertaking research policy translation?





- MORNING TEA -

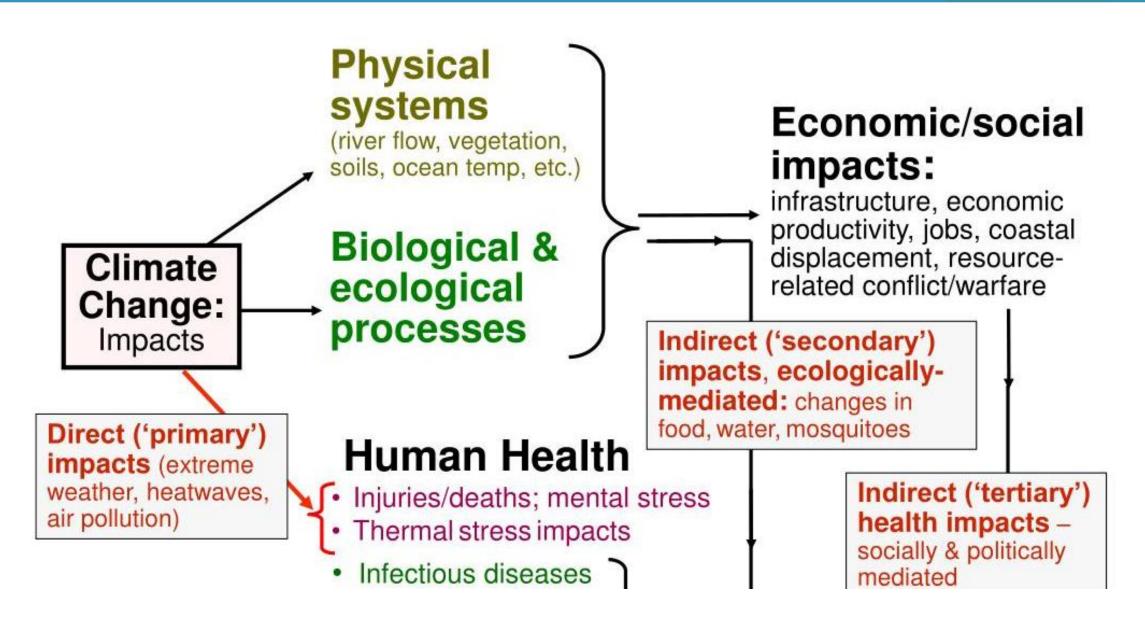
Resume at 11:00

Session 2: Foundational concepts for public policymaking

A/Professor Carmel Williams
A/Professor Aditya Vyas

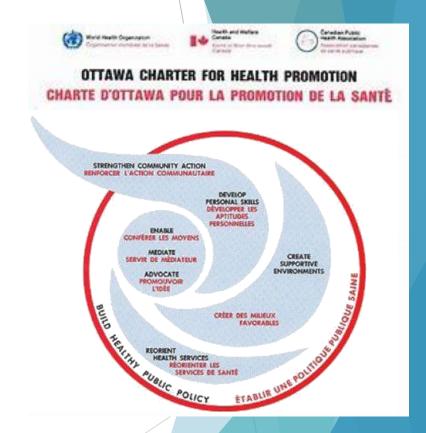






Ottawa Charter for Health Promotion

- Enabling people to increase control over, and to improve, their health.
- ➤ To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment.
- Health is a resource for everyday life, not the objective of living.
- ► Health is a positive concept emphasizing social and personal resources, as well as physical capacities.
- ► Health promotion is not just the responsibility of the health sector but goes beyond healthy life-styles to wellbeing.







Prerequisites for Health

The fundamental conditions and resources for health are:

- Peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice, and equity.
- Improvement in health requires a secure foundation in these basic prerequisites.

Health Promoters

- Advocate
- Mediate
- Enable

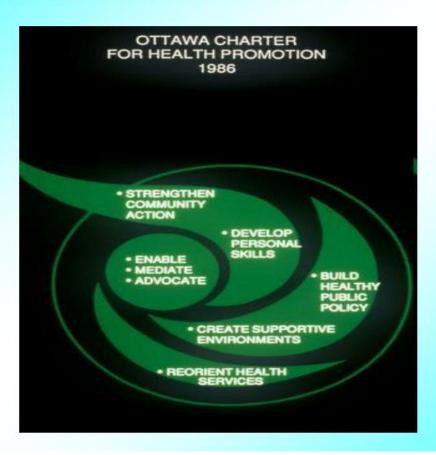






Health Promotion Action means....

OTTAWA CHARTER



- Build healthy public policy
- Create supportive environments
- Develop personal skills
- Strengthen community action
- Reorient health systems





Levels of Prevention

The concept of prevention is used to refer to efforts by society to promote, prevent and sustain the health of the population.

Primary prevention: reduces the likelihood of developing a disease or disorder

Secondary prevention: interrupts, prevents or minimises the progress of a disease or disorder at an early stage

Tertiary prevention: halts the progression of damage already done

And....

Primordial prevention: addresses the wider determinants of health by reducing the environmental factors, hazards and social factors that negatively affect health.

Quaternary prevention: reduces the harms caused by medical interventions for a disease or disorder

National Preventive Health Strategy 2021-2030. Commonwealth of Australia Department of Health 2021

Defining Prevention

Prevention is defined as action to reduce or eliminate the onset, causes, complications occurrence of disease.

AIHW 2004 Australia's Heath 2004 Canberra





Chronic Disease Prevention and Management Continuum

Well Population Primary Prevention •Surveillance of diseases & risk factors •Promotion of healthy behaviours •Creation of supportive environments •Universal & targeted approaches	At Risk Population Secondary Prevention •Screening •Case finding •Periodic health examinations •Early intervention •Medication to control •Universal & targeted approaches	Tertiary P •Treatment and acute care •Complications management •Self-management	Controlled Chronic Disease revention •Continuing Care •Maintenance •Rehabilitation •Self-Management
Health Promotion	Health Promotion	Health Promotion	Health Promotion
Prevent movement Prevent progression Prevent progression to at-risk group To established disease to complications and/or hospitalizations			





Policy and Politics in Research Translation

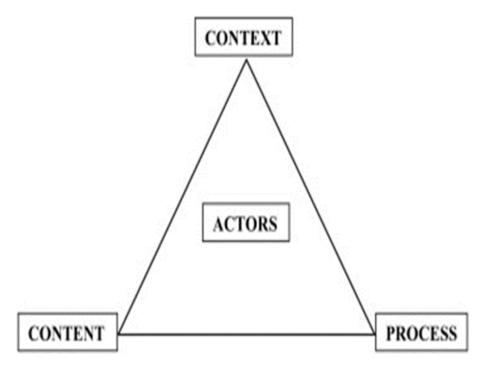




What is Policy?

Policy is hard to define:

- A plan or course of action, as of a government, political party, or business, intended to influence and determine decisions, actions, and other matters
- In 1994, Walt and Gibson proposed that it is helpful to understand "policy" in terms of context, content, process and power.
- Policy and Politics







What is Public Policy?

Public Policy is made by governments

- ► Takes different forms
- Legislation, regulation, guidelines, directives, strategic, technical and operational policy

Reflects priorities of government - ideally based on the societal views and needs

- ➤ The public is source of political authority- authority for a government to act on the public's behalf
- ► It is inherently political





Setting the Policy Agenda

Society

social, economic, and political leaders; interest groups; the general public

Raises issues for ...



Responds to stimuli from ...

Constitutional and Governmental System

Defines (a) the levels of government, their responsibilities, and (b) the branches of government and their powers;

Resulting in ...

Explicit public policy formation

 specification of agenda items; (2) analysis of alternatives and results; relationships among costs, effects, and other policy goals; (3) policy decisions and implementation; (4) implementation and experience;

Leads to ...

Evaluation and feedback





What is Public Policy Making?

Public policy making

- is about problem solving
- is shaped by institutional, political, economic and other contexts
- is interpreted by public and private actors who have different interpretations of the problem, solutions and their own motivations

Ultimately, public policy is what governments choose to do or not do

deciding what gets onto political agenda or not

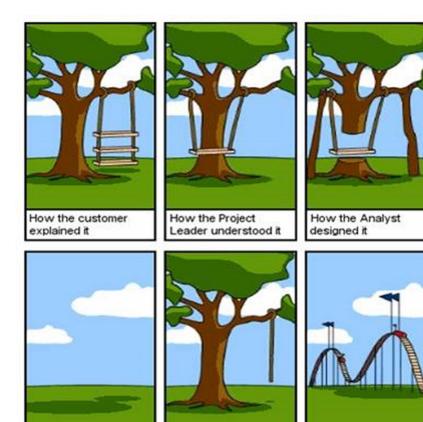
How the problem/issue is framed and who frames the issue is important

whose voice is heard can define the problem





Whose voice is heard?

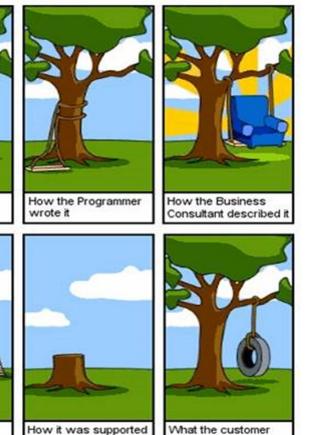


What operations

installed

How the project

was documented





really needed



How the customer

was billed

The Policy Cycle

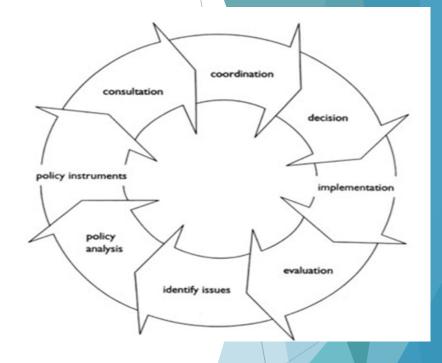
Policy making

- is a complex ongoing process.
- can stretch over long periods of time
- involves many interests and participants, which in turn may vary along the course of time.

The essence of policy making:

- Policy processes are usually fraught with differences of ideology and opinion
- Require mechanisms to manage conflict and create win-win: they are a "struggle over ideas"

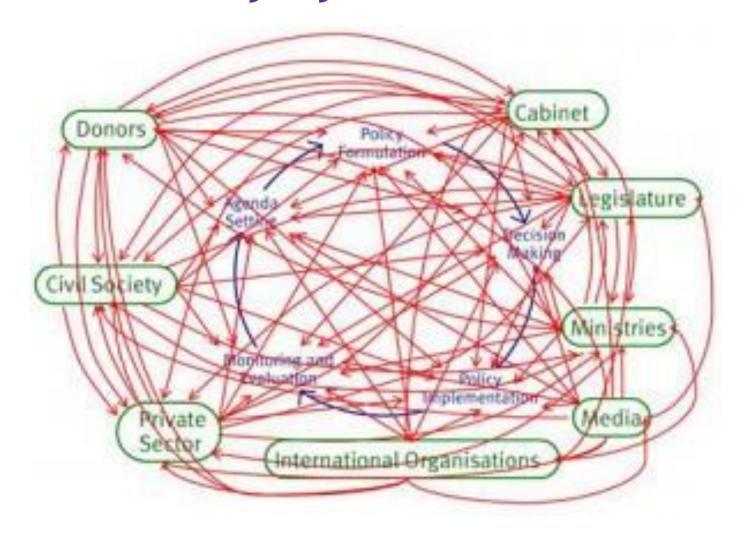
Issues (even when supported by evidence) are always prone to touch on political belief systems, in particular in the relationship to the responsibility of the state, the market or the individual and the family







The true Policy Cycle



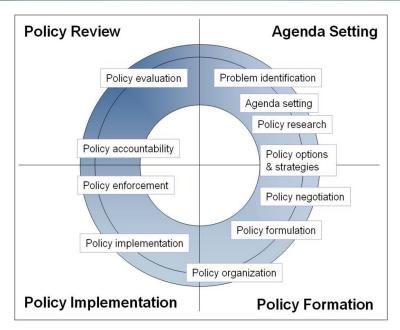




Evidence and Policy-making

- How evidence is used and at which stage
- Positioning and process evidence
- Sometimes evidence is not used at all in policy making
- Therefore, the use of evidence and the way you frame it - in defining the problem and the solution - is critically important.

Policy Cycle

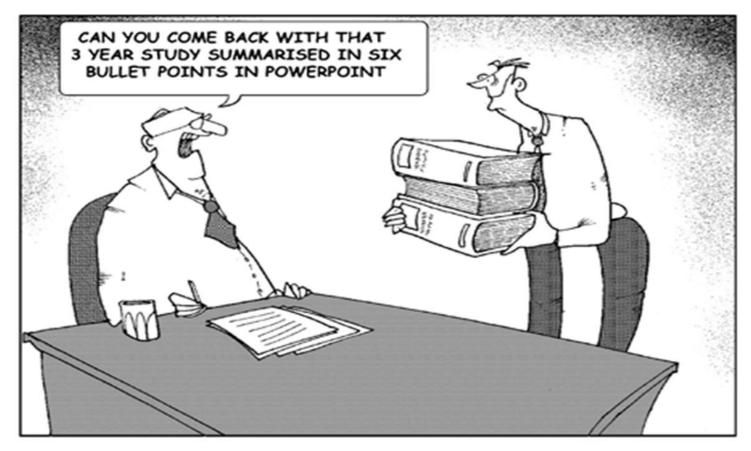


Ecoinformatics international





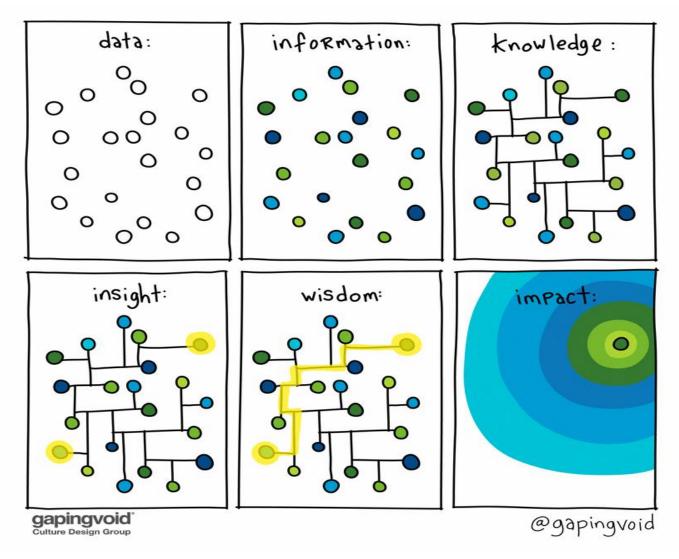
Evidence and Policy-making



© fran@francartoons.com







Dr Tahna Pettman | Presentation to UoA MPH Students





Questions?





Case Study: Why Research Translation Matters (30 mins)

NSW cooling tower regulation (bread and butter health protection); experience as a health practitioner within government; vested interests; governance and 'government'

A/Professor Aditya Vyas





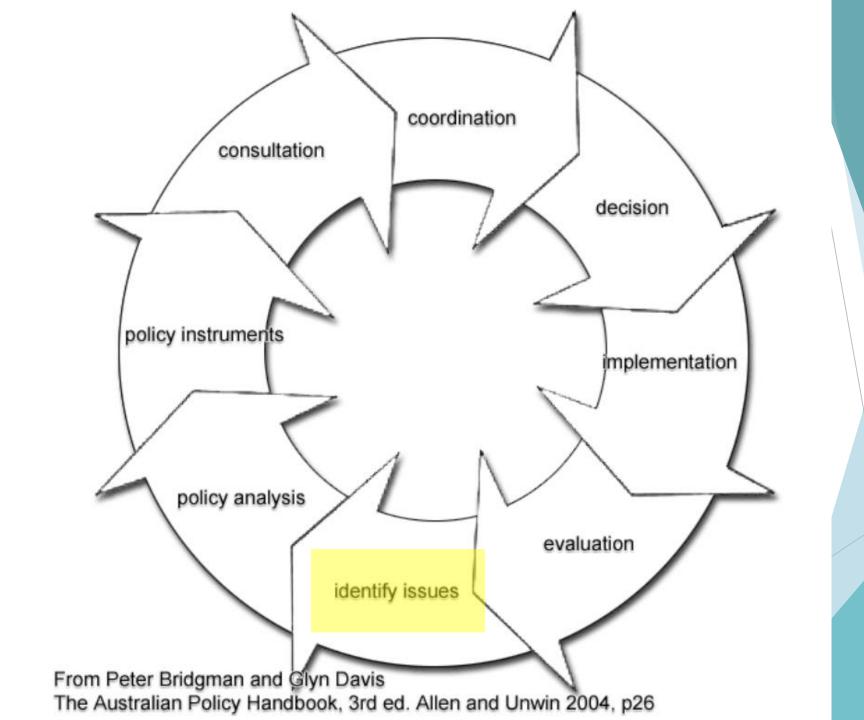






Outline

- ▶ 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



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

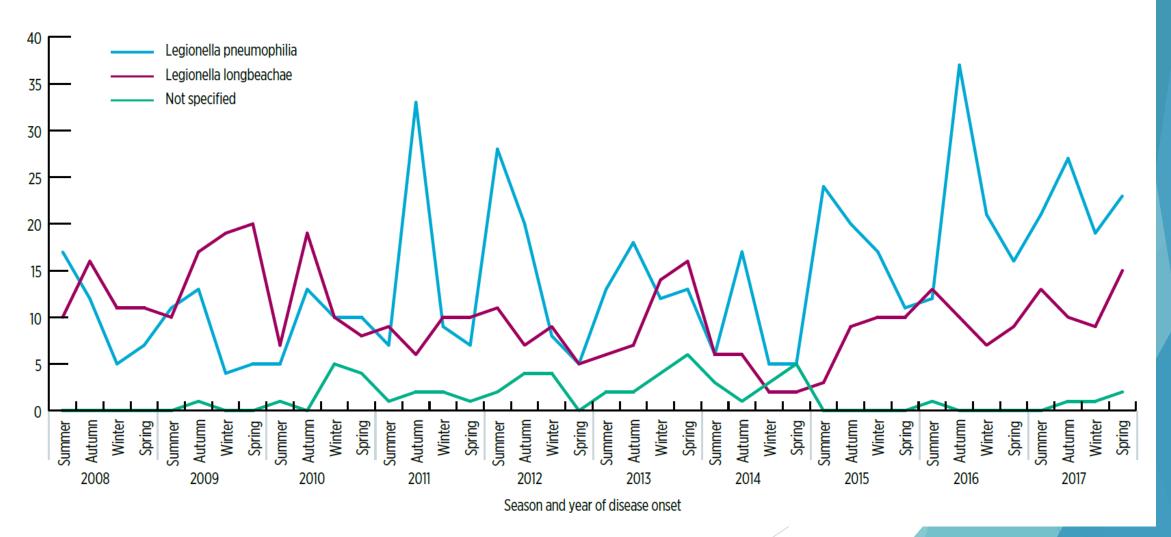
13
Cases notified

20 Environmental Health Officers deployed

199
Samples collected

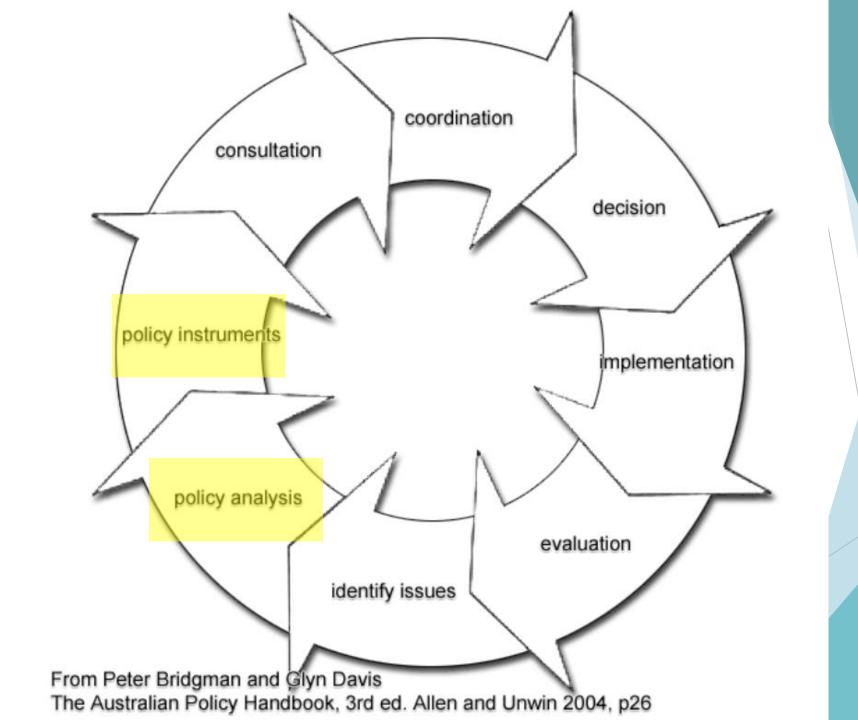
Epidemiology

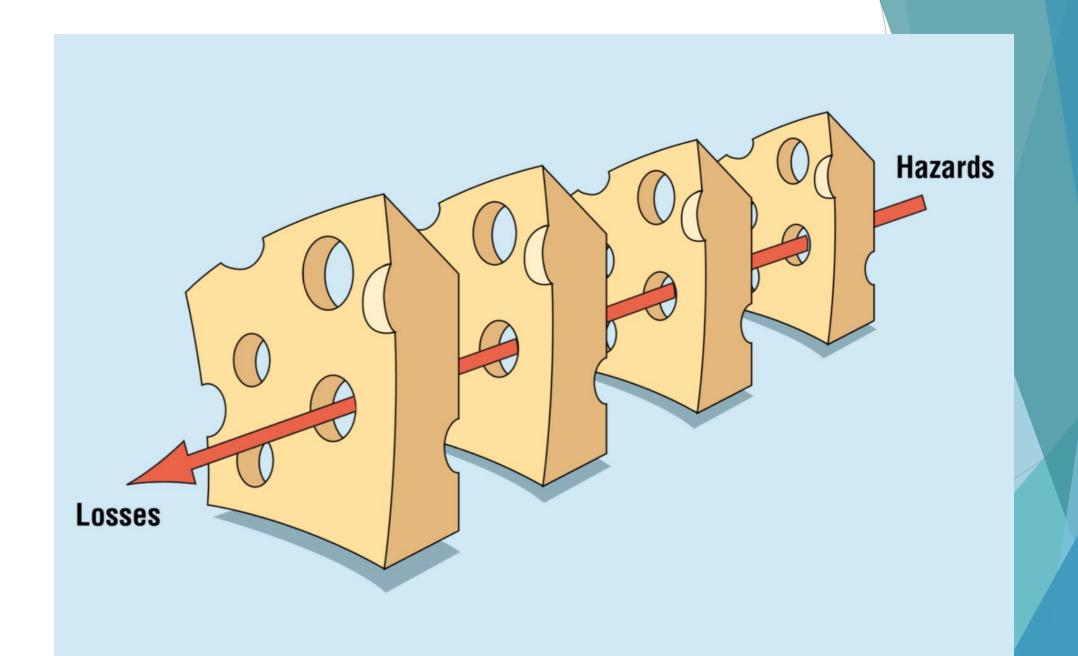
Figure 3.5-1: Notifications of Legionnaires' disease in NSW, by species and season of disease onset, 2008 to 2017



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

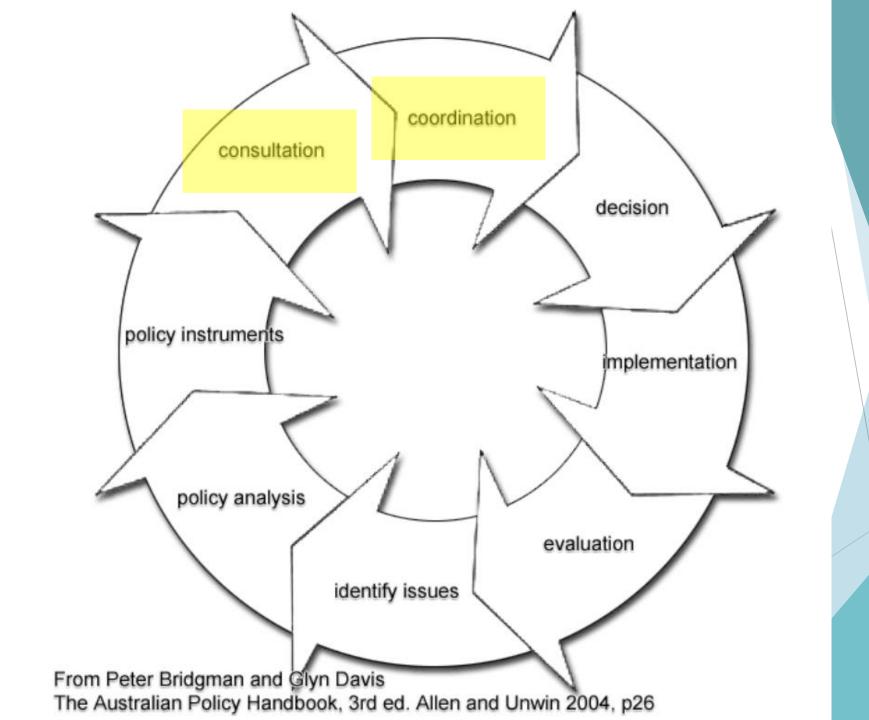


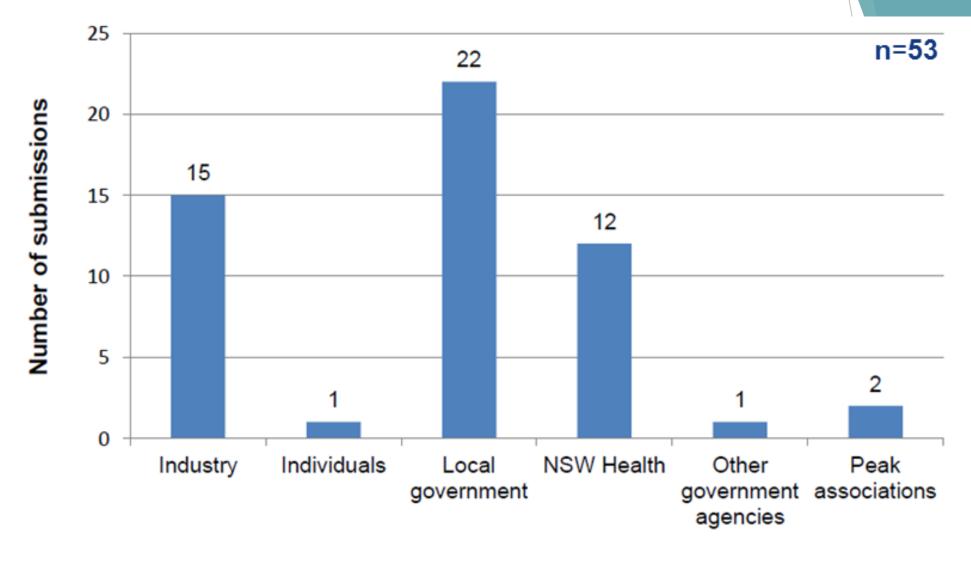




The "six safeguards"

- ► <u>Risk Management Plans</u> (RMPs) developed every five years (low risk) or every year (high risk systems)
- ► Independent third party <u>auditing</u> every year
- ► RMP and audit completion <u>certificates</u> to local council
- ► <u>Laboratory testing</u> for Legionella count every month
- Notification of reportable test results to local council
- Unique identification number displayed on every cooling tower





Stakeholder group

SUMMARY PUBLIC HEALTH INVESTIGATION INTO THE LEGIONELLA OUTBREAKS IN SYDNEY CBD

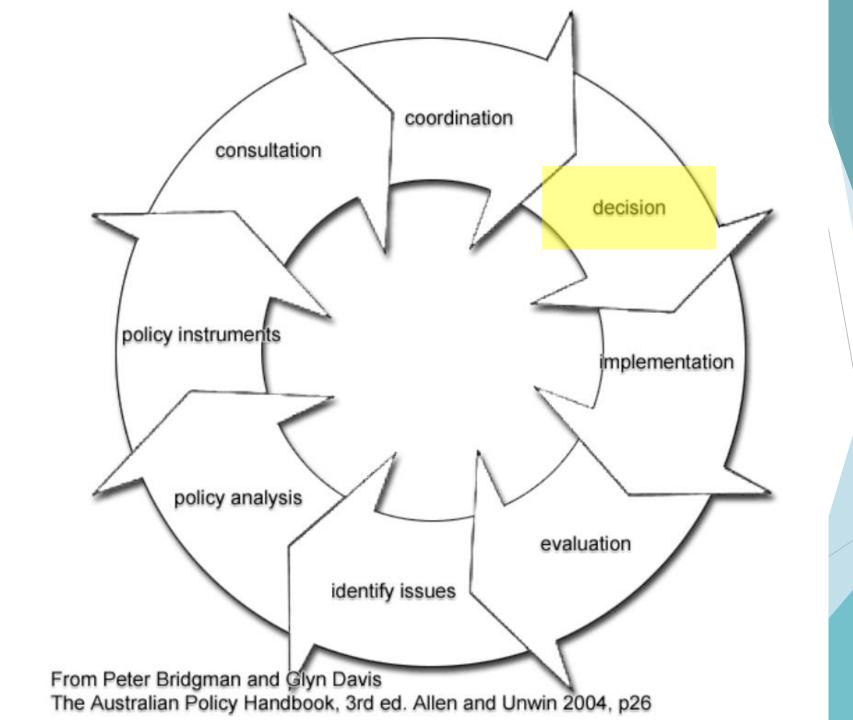


Report on public consultation:

Proposed changes to the regulation of water-Cooling systems to prevent Legionnaires

July 2017





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 3

Developing new guidelines for managing cooling towers in NSW

WG 2

Preparing a Discussion Paper + undertaking in stakeholder consultation

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.

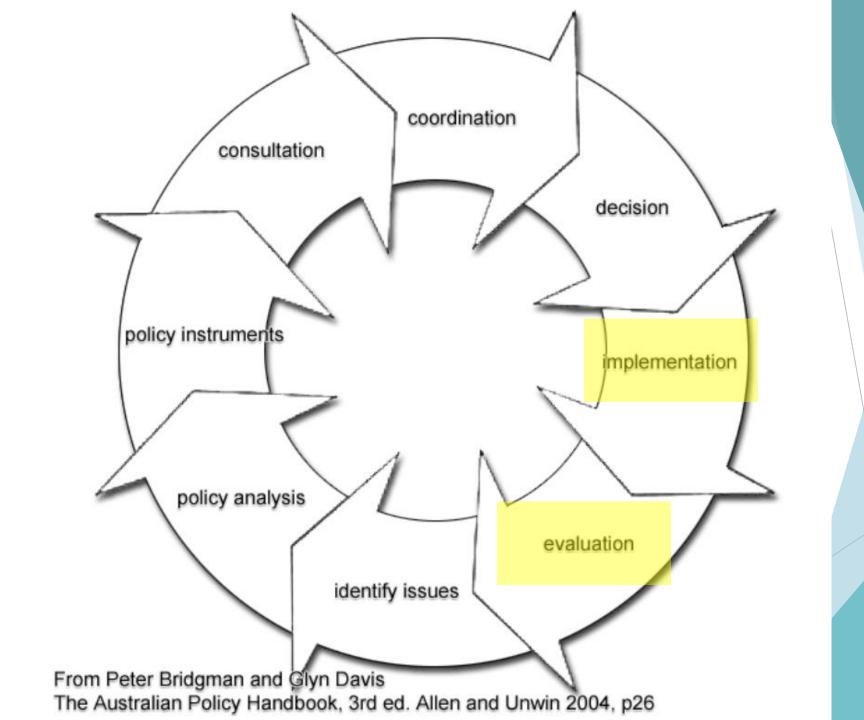
The installation, operational and maintenance requirements relating to cooling water systems are modified as follows:

- (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:
 - 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

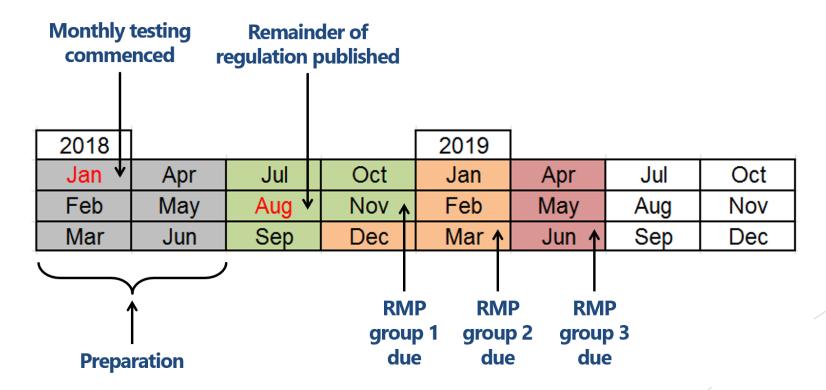
NSW HEALTH GUIDELINES





Implementation

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



Limitations and challenges

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

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
- 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 (2)

- 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
- 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 (3)

- 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

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

Session 3: Snapshots of researchpolicy translation in action

A/Professor Carmel Williams
A/Professor Aditya Vyas





Snapshot 1: Accelerated Silicosis

A/Professor Aditya Vyas





Snapshot 1: The scenario

- ► The epidemiology: real health impacts, burden of disease
- Advocacy by physicians and researchers: sounding the alarm, and the policymaking process
- Actions by the work health and safety regulator: using the law and regulations
- ► Actions by the health department: use of routinely collected data, health system surveillance, evidence
- Success or failure: the long lag of health impacts





Young tradie warns of silica-related illnesses after needing lung transplant

triple j Hack / By Kimberley Price

Posted Fri 7 Apr 2023 at 5:10am, updated Fri 7 Apr 2023 at 12:08pm

The biggest lung disease crisis since asbestos: Our love of stone kitchen benchtops is killing workers

7.30 / By Michael Atkin

Posted Wed 10 Oct 2018 at 2:41 pm, updated Wed 10 Oct 2018 at 5:02 pm



Tahir Ozkul covered with dust after cutting stone (Supplied: Tahir Ozkul)

SHORT REPORT

Artificial stone-associated silicosis: a rapidly emerging occupational lung disease

Ryan F Hoy, ¹ Timothy Baird, ² Gary Hammerschlag, ³ David Hart, ⁴ Anthony R Johnson, ⁵ Paul King, ⁶ Michael Putt, ² Deborah H Yates ⁷

¹Department of Epidemiology and Preventive Medicine, School of Public Health and Preventive Medicine, Monash University, Melbourne, Victoria, Australia ²Department of Respiratory Medicine, Nambour General Hospital, Nambour, Queensland, Australia

³Department of Respiratory Medicine, Royal Melbourne Hospital, Melbourne, Victoria, Australia

⁴Department of Respiratory Medicine, St Vincent's Hospita Melbourne, Victoria, Australia ⁵Department of Thoracic Medicine, Liverpool Hospital, Sydney, New South Wales, Australia

⁶Department of Respiratory Medicine, Monash Medical Centre/ Monash University, Clayton, Victoria, Australia ⁷Department of Thoracic Medicine, St Vincent's Hospita Sydney, New South Wales, Australia

ABSTRACT

Introduction Artificial stone is an increasingly popular material used to fabricate kitchen and bathroom benchtops. Cutting and grinding artificial stone is associated with generation of very high levels of respirable crystalline silica, and the frequency of cases of severe silicosis associated with this exposure is rapidly increasing.

Aim To report the characteristics of a clinical series of Australian workers with artificial stone-associated

What this paper adds

- ► Fabrication of benchtops from artificial stone may result in workers being exposed to high levels of respirable crystalline silica.
- ► The frequency of reported cases of silicosis associated with artificial stone work is increasing significantly.
- Artificial stone-associated silicosis is

Respirology





SCIENTIFIC LETTER

Stonemasons with silicosis: Preliminary findings and a warning message from Australia

To the Editors:

The use of artificial stone products for home benchtops is becoming increasingly popular. Artificial stone products have a higher silica content (>90%) when compared to natural alternatives (2–30%). Due to the high silica content of the material, the potential exposure of respirable crystalline silica (RCS) to stonemasons has increased. The first Australian case of silicosis associated with artificial stone was reported in

practices, reported by 90% and 87% of subjects, respectively.

All subjects were diagnosed with either accelerated (n = 36) or chronic (n = 42) silicosis by their treating respiratory physician. ILO grades were available for 67 subjects (Table 1). A normal chest radiograph (ILO grade of 0) was observed in 43% of the subjects. On the other end of the spectrum, progressive massive fibrosis (PMF) was observed in 21% of subjects. Bilateral PMF opacities were detectable on chest radiograph in nine



STANDING COMMITTEE ON LAW AND JUSTICE

Work Health and Safety Amendment (Information Exchange) Bill 2020 www.parliament.nsw.gov.au

Report 74
September 2020

Ban the bench: Scientists bid to stop cancer-causing

building material



Fellows V

Overseas _ specialists

LOG IN

Accelerated Silicosis

The Australasian Faculty of Occupational and Environmental Medicine (AFOEM) and the Thoracic Society of Australia and New Zealand (TSANZ) is issuing an urgent call to screen and manage aggressive artificial stone lung disease affecting young tradies.

Australia is currently in the grips of an epidemic of accelerated silicosis, a preventable occupational lung disease occurring in workers as a result of exposure to silica dust. This can occur in various industries.

Action on silicosis stalled as surveillance program estimated to miss 200 workers with deadly disease

By Adele Ferguson

Posted Mon 31 Jul 2023 at 5:11 am, updated Mon 31 Jul 2023 at 7:52 am

In NSW, a series of documents released to parliament earlier this year under standing order 52 showed a failure to keep proper checks on operators, despite SafeWork NSW believing it has done a good job and made silica compliance a priority since 2017.

Scratch the surface and while the safety regulator may have increased the number of breaches or improvement notices served up to companies, there is little evidence it changed employer behaviours.

For instance, one company was given multiple improvement notices — a notice that allows a business to continue operating while it addresses the contraventions — despite the regulator finding an unsafe workplace including

Cases of black lung disease increase in Queensland workers



Queensland was thought to be rid of black lung disease, however the potentially-fatal disease is among a number of new cases diagnosed in the state's coal mine workers.



workers not wearing proper protective equipment, no training or health monitoring and evidence of silica dust everywhere including the toilet.

Two years later, the regulator inspected the factory and found conditions hadn't changed. It was fined \$3,600. Two years after that, workers were diagnosed with silicosis. The regulator returned for another inspection and found further breaches.

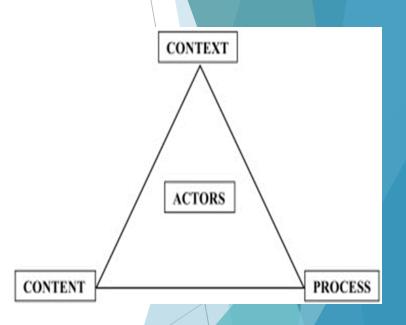
Maurice Blackburn partner Jonathan Walsh says cases of silicosis continue to flood in and he believes we are now at a point of saying regulatory interventions have failed to reduce diagnoses.

Snapshot 1: Group Work (20 mins)

Discuss in small groups

- Go back to the policy triangle
- Discuss the role of different players in the issue
- Where does evidence fit? Where does power fit?

Give feedback







Snapshot 2: Industry-led Food Labelling Standards

A/Professor Carmel Williams



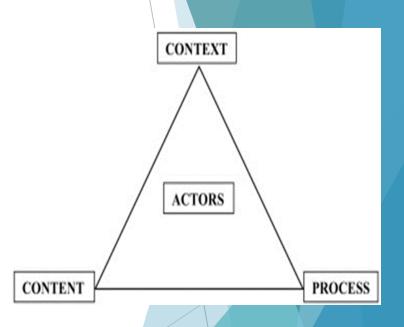


Snapshot 2: Group Work (20 mins)

Discuss in small groups

- Go back to the policy triangle
- Discuss the role of different players in the issue
- Where does evidence fit? Where does power fit?

Give feedback







- LUNCH -

Resume at 13:45

Session 4: Applying research-policy translation to the National Health and Climate Strategy

A/Professor Aditya Vyas





Milestone moment for climate change and health in Australia!

- ► Launch of the National Climate and Health Strategy in December 2023
- ► Lots of consultation, feedback, roundtables, advocacy
- ► HEAL Network submission
- Download it:

https://www.health.gov.au/resources/publications/n
ational-health-and-climate-strategy?language=en





Case Study and Group Work (15 mins)

Critique the strategy in your groups





Individual Reflection (15 mins):

Where do you fit in this strategy? Link this to your role; your organisation's scope; and HEAL themes, communities of practice

What are the leverage points (knowledge translation) in the strategy that align with your personal and organisational role within the HEAL Network?





Case Study and Group Work (15 mins)

Share your reflections with your groups





Case Study: National Health and Climate Strategy (30 mins)

Full group discussion

- ► Share your individual reflections
- What did your group discuss?





Session 5: Wrap up and conclusion

A/Professor Carmel Williams
A/Professor Aditya Vyas





Reflection (15 mins)

- What will you do differently based on your learning today?
- ► How will your research team engage in policy?
- ► Go back to the basic vision and objectives of the HEAL Network, and reflect on "What kind of science does the HEAL Network do?"





- AFTERNOON TEA -

Resume at 16:00

Lecture 5: Environment, climate, and health, the state of the science

Melissa Hart





Thank You!



