

Communicating Health Risk - Working with the Community on Asbestos

20 June 2017



Environment
Protection
Authority Victoria





Introduction

EPA Environmental Public Health Unit

EPA Inquiry recommendations:

- 5.3 EPA to protect human health & environment by reducing harmful effects of pollution and waste
- 6.2 Consolidate & enhance environmental health capability in EPA

This saw a shift of some public health functions and staff from DHHS to EPA to further enhance EPA's capability



Introduction (EHOs at EPA EPH Unit)

Ray Goudey - Senior Science Policy Officer

- Recently completed 60 years continuous public service, of which 45 years have been in environmental public health.
- Qualified as an Environmental Health Officer (EHO - then Health Inspector) in 1971. Until last year, he had served in many EHO positions in local government, the Victorian Health Department and Northern Territory Health.
- Worked at Department of Health and Human Services for 19 years as Senior Project Officer and Manager of the Legionella Program and Senior Policy Officer of the Environmental Public Health Unit. In the latter position, he managed asbestos policy and contributed to the development of the enHealth asbestos guide.
- In December 2016, he was appointed as Senior Science Policy Officer of the recently established EPA Environmental Public Health Unit.



Introduction

Pete Curtis – Team Leader EPH Surveillance and Prevention

- Qualified as an Environmental Health Officer (EHO) in 1999 and has served in many EHO positions in local government, both in the United Kingdom and Australia.
- Worked at the UK Environment Agency as an Environment Protection Officer (EPO)
- Previous role was as Team Leader of Environmental Health Services at Brimbank City Council.
- In May 2017, was appointed as Team Leader EPA Environmental Public Health Unit.

Asbestos communication...

More specifically risk communication....

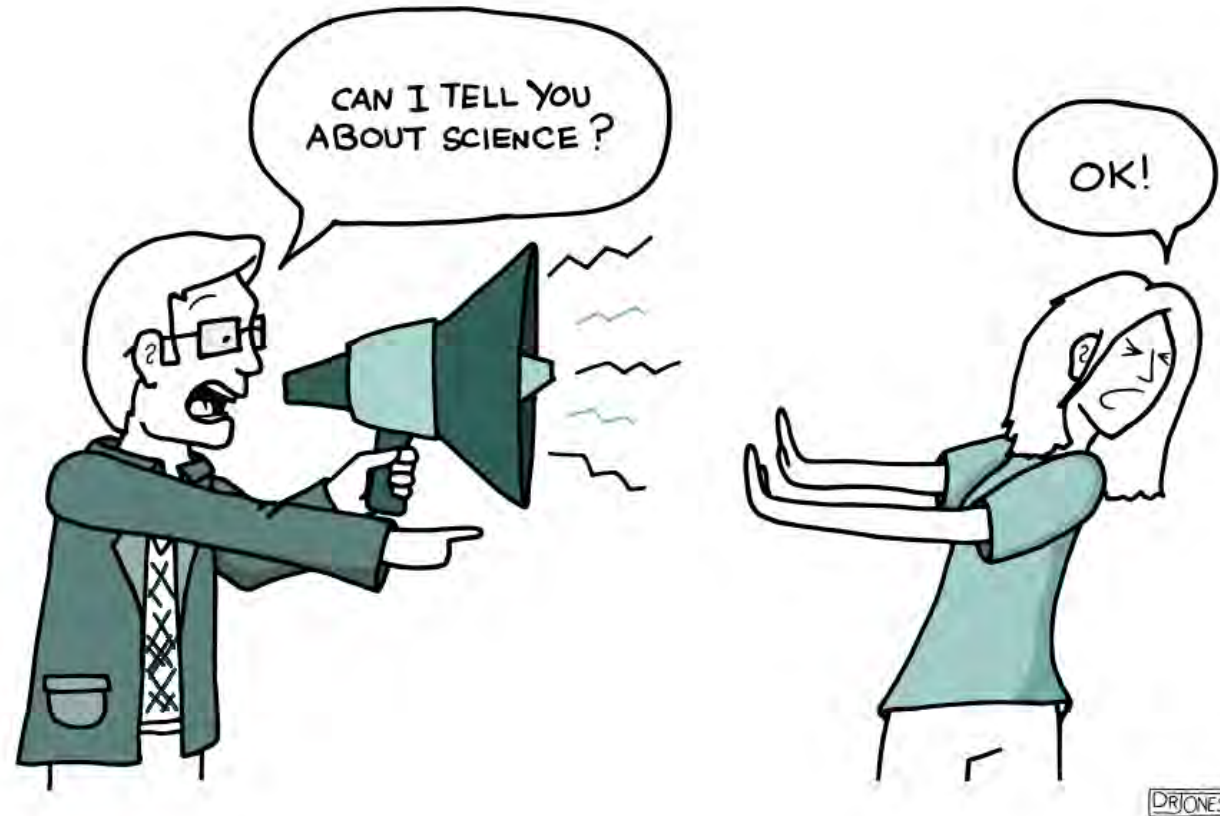
And...

Outrage

- an extremely strong reaction of anger, shock, or indignation.
- synonyms: indignation, fury, anger, rage, disapproval, wrath, shock, resentment, horror, disgust, amazement
- "there was widespread public outrage at the proposal"

Why do we need risk communication?

- Scientists are not always all that good at communicating science to the public.
- Communicating risk is often even harder than communicating science!
- Risk can be complex because it is not a simple fact. It is the response to that fact.



*Slide borrowed from Victor Kabay EPHU, who borrowed it from someone else



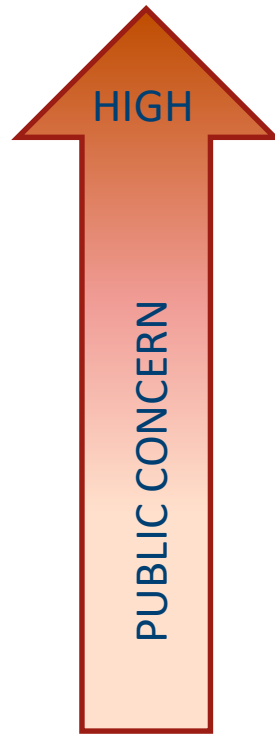
Risk Perception – the Sandman Formula

Risk = Hazard + Outrage

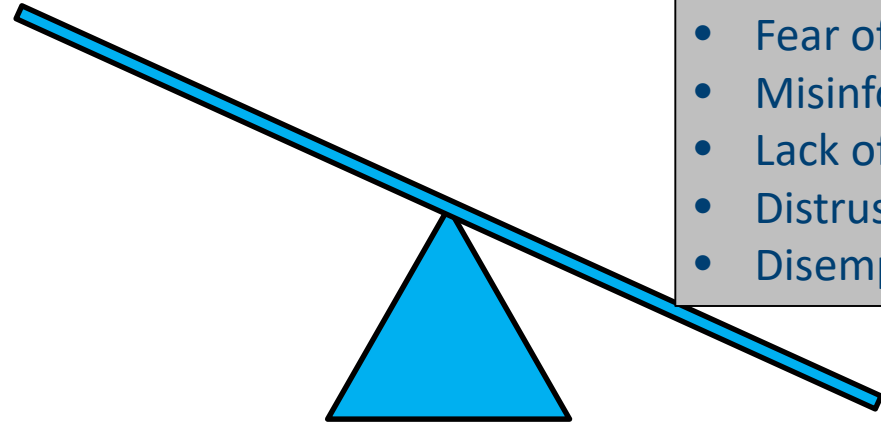
Which can be slightly re-worded as:

Perceived Risk = “Real” Risk + Outrage

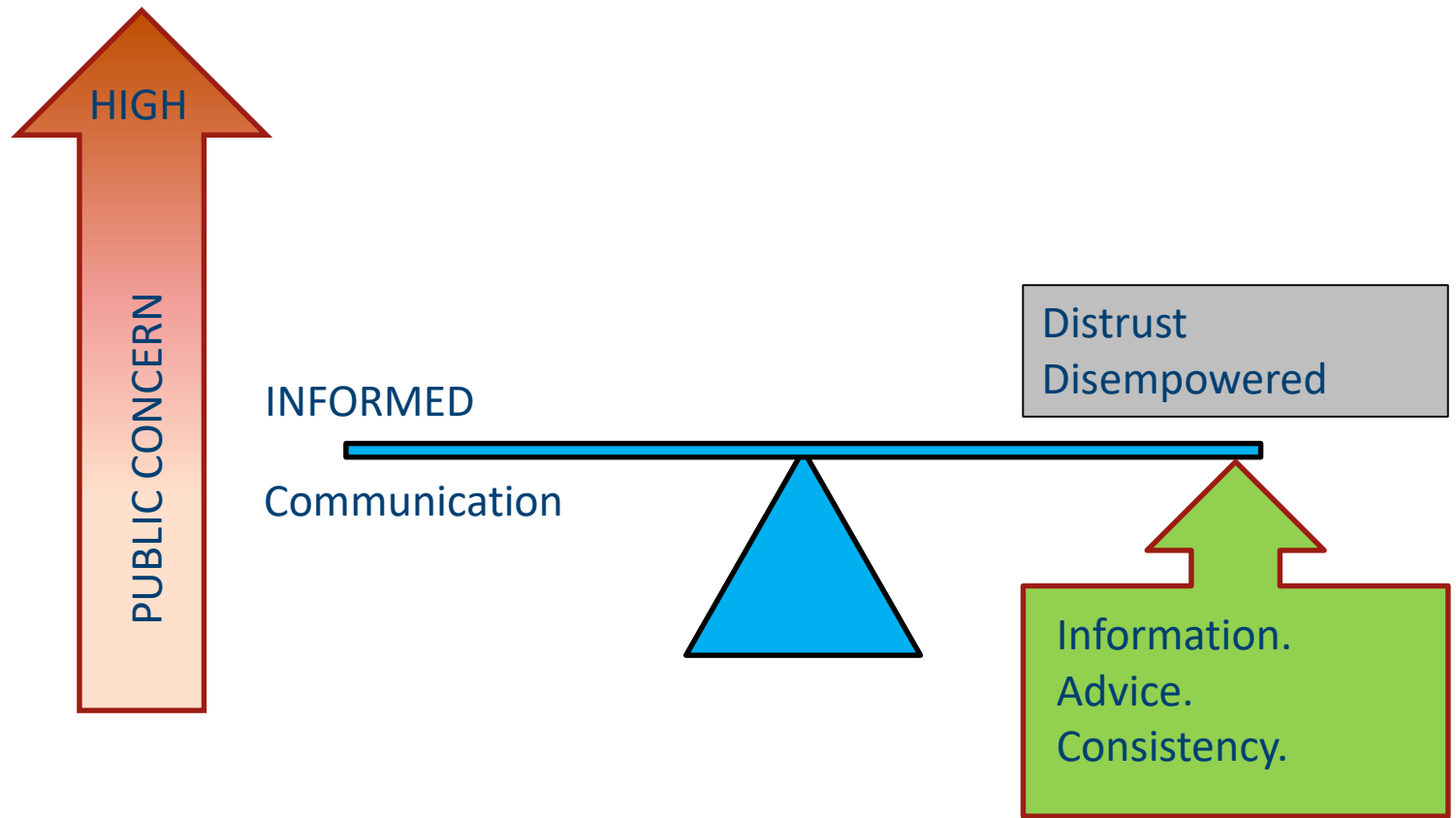
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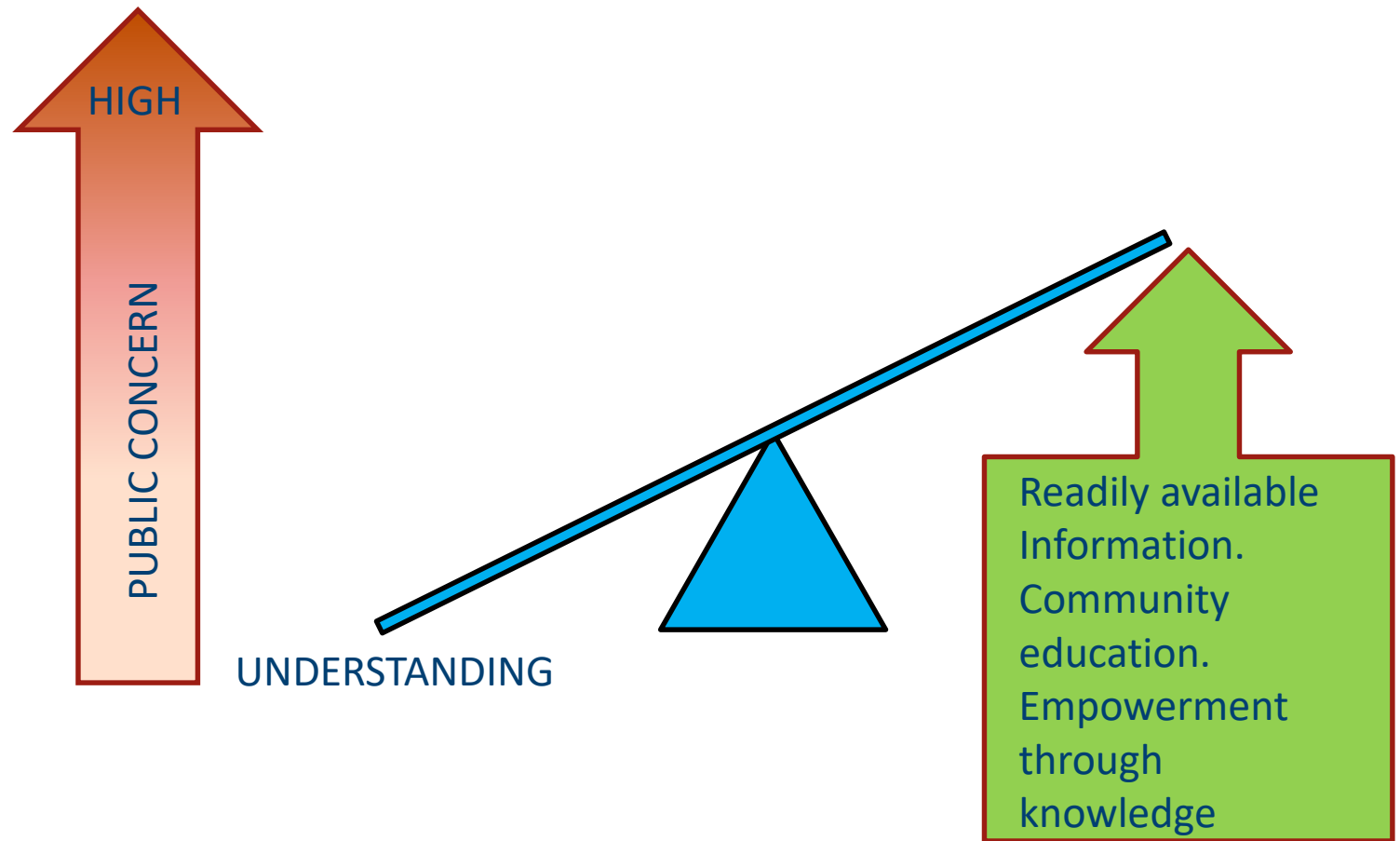


OUTRAGE



- Fear of unknown
- Misinformation
- Lack of knowledge
- Distrust
- Disempowered







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- To understand and respond to community concerns we need to be aware of and navigate outrage



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- How does this all relate to communicating to the community on asbestos matters.....!
- A good job has been done of raising awareness of the detrimental health impacts of being exposed to asbestos therefore the general public perception is that the risk of harm from any presents of asbestos is high



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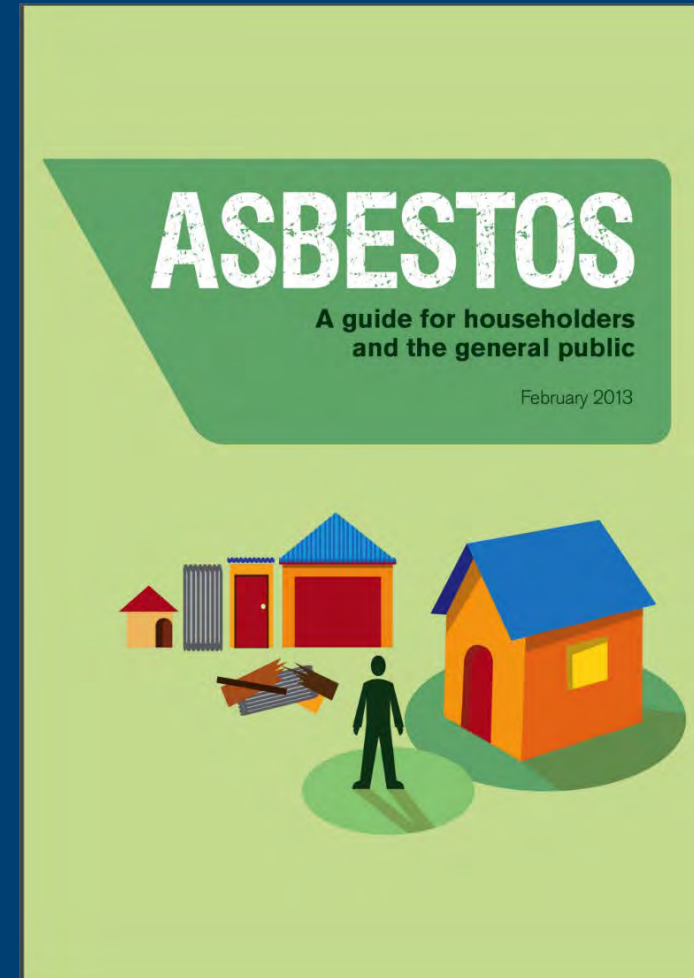
- To understand and respond to community concerns you need sometimes need to be aware of and navigate outrage
- How does this all relate to communicating to the community on asbestos matters.....!
- A good job has been done of raising awareness of the detrimental health impacts of being exposed to asbestos therefore the general public perception is that the risk of harm is high from any presents of asbestos
- A perception of high risk of harm can lead to outrage if the community's concerns are not effectively and swiftly addressed and managed
- Example.....

Report Findings

Investigation report into asbestos-related disease in Sunshine North (DHHS)

- Exposed asbestos on or near the the former Wunderlich site was identified and rectified and continues to be monitored.
- The environmental testing program concluded that all of the homes tested were safe to live in. similarly all other homes in the area are considered safe.
- There was an indicative excess of asbestos-related disease in close proximity to the site of the former Wunderlich asbestos factory which is consistent with a legacy of exposures more than 30 years ago.
- Dumped asbestos remains a significant challenge to Council in the area but is being rapidly addressed and monitored.

Information (For you and the community)





Management of asbestos in the non-occupational environment (enHealth 2005)

- provides a nationally-consistent and evidence-based approach for managing asbestos health risk in the non-occupational environment
- is the science and evidence-base of the 2013 enHealth asbestos guide
- is recommended reading and a recommended reference for environmental health professionals

Management of asbestos in the non-occupational environment

(enHealth 2005)

Amongst many other messages, the document stresses that effective communication is integral to managing asbestos risk. It states:

- *“The belief in the community that one fibre can kill compounds the problem of risk communication.*
- *While this claim is not supported by scientific evidence, it underpins the fear and anxiety about asbestos exposure.*
- *Asbestos fibres are widespread in the environment, but the incidence of asbestos-related disease is extremely low, except in cases of high occupational or para-occupational exposure.*
- *This means that everyone breathes in asbestos fibres during their lifetime. The small amount of fibres resulting from this background exposure appears to be tolerated.”*



Asbestos: A guide for householders and the general public (enHealth February 2013)

- The 2013 enHealth asbestos guide was developed in response to the high volume of enquiries received by environmental health departments at all levels of government in relation to asbestos identification and risk management.
- It was designed to assist householders to assess and manage health risks associated with exposure to asbestos fibres.
- It was also intended to assist environmental health officers in their roles of assessing and managing health risk and communicating with stakeholders, including householders.

Typical asbestos fibre concentrations per cubic metre

(enHealth asbestos guide 2013):

10,000,000 to 200,000,000	Levels encountered in the past by workers in asbestos mills and mines
100,000	Current regulated workplace limit over an eight hour period (ie. between 500 and 10,000 times background levels)
10 to 200	Levels in ambient or background air (equivalent to 0.01 to 0.20 fibres per litre of air)

AS A GENERAL RULE ...

if your house was built:

before the mid-1980s

it is **highly likely** that it has asbestos-containing products.

between the mid-1980s and 1990

it is **likely** that it has asbestos-containing products.

after 1990

it is **unlikely** that it has asbestos-containing products.*

*Some houses built in the 1990s and early 2000s may have still used asbestos cement materials until the total ban on any activity involving asbestos products became effective from December 2003.

WHERE ASBESTOS MAY BE FOUND IN A TYPICAL HOME

exterior

— flat, patterned and corrugated wall and roof sheeting, roof guttering, ridge capping, imitation brick cladding and lining under eaves

bathroom, toilet and laundry

— asbestos cement sheet walls, ceilings and floors, backing to wall tiles

living areas

— insulation in wood heaters, asbestos cement sheeting in walls, ceilings and beneath wood-heater hearths

kitchen

— walls, splashbacks, ceilings, in vinyl floor tiles, backing of vinyl sheet flooring, underlay sheeting for ceramic tiles

other

— backing of electrical meter boards, old ironing-board covers, heatproof mats, brake and clutch linings, some plaster sealants, filters and adhesive products, and hot-water pipe insulation set into masonry walls
— low-density asbestos fibreboard wall and ceiling panels (especially in high-humidity areas)

roof cavity

— loose fill insulation (not common)



backyard

— fences, garden sheds, garages, outside toilets, carports and dog kennels
— buried and dumped waste materials



ASBESTOS AND YOUR HEALTH

Asbestos only poses a risk to health when asbestos fibres are breathed in.

Undisturbed asbestos cement materials in good condition do not pose a health risk because the asbestos fibres are bound together in solid cement.



However, if the material is damaged or crumbling (that is, has become friable), or is disturbed by breaking, cutting, drilling or sanding, fibres are released into the air.

Risk factors for developing asbestos-related diseases

Total number of fibres breathed in

The risk of developing an asbestos-related disease increases in proportion to the number of asbestos fibres a person breathes in during their life. This, in turn, depends on how many fibres are breathed in and how often.

Number of fibres breathed in during each exposure (the dose)



The risk of developing an asbestos-related disease increases when a larger number of fibres is breathed in.

The number of times a person is exposed over time ('cumulative dose' or 'lifetime exposure')

Very occasional exposure to a larger number of asbestos fibres (e.g. unsafe home renovation or demolition next door) poses a risk to your health ...



But frequent exposure to a larger number of asbestos fibres (e.g. builder or tradesperson using unsafe techniques) is much more likely to pose a risk to your health.



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ASBESTOS-RELATED RISK OF DISEASE

Risk of disease increases with increased exposure (measured as number of fibres and frequency of exposure)

General public
All air has a low level of asbestos fibres



Exposure
Number of fibres: Background
Frequency: Constant

VERY LOW RISK

Householder
Incident such as unsafe renovation or demolition next door



Exposure
Number of fibres: 100s-1000s x Background
Frequency: Occasional

LOW RISK

Home renovator
Unsafe removal of asbestos in home renovation



Exposure
Number of fibres: 1000s-10000s x Background
Frequency: Occasional

MEDIUM RISK

Builder/tradesperson
Frequent exposure to high levels of asbestos by builders, etc if using unsafe practices



Exposure
Number of fibres: 1000s-10000s x Background
Frequency: Frequent

HIGH RISK

Asbestos mine worker
(Note: All asbestos mining in Australia stopped by 1983)



Exposure
Number of fibres: millions x Background
Frequency: Daily

EXTREME RISK

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Transmission pathway 1

- The risk associated with installed, undisturbed asbestos cement products is negligible.
- Weathered asbestos cement roofing does not release significant amounts of airborne fibres.
- Asbestos poses a risk only when asbestos fibres are disturbed, become air-borne and are breathed in.
- Nearly all fibres that are breathed in, are intercepted and removed by protective systems in the body (refer to enHealth 2005, p.4).
- The fibres that are of respirable size that bypass these systems may reach deep inside the lungs and lodge in lung tissue.

Transmission pathway 2

- The fibres that reach inside the lungs and lodge in lung tissue may cause inflammation, scarring and serious disease.
- The diseases commonly associated with inhalation exposure to asbestos usually take many years, if not decades, to develop.
- These diseases are asbestosis, lung cancer and a rare cancer called mesothelioma. Benign pleural abnormalities, also known as pleural plaques, can also result from asbestos exposure.

The text in the following two slides is from the 2013 enHealth asbestos guide. Further, more detailed information, is available in the 2005 enHealth document.

Asbestos-related conditions and diseases 1

The four major conditions or diseases, in increasing order of severity are:

a. Pleural plaques

These are often the earliest sign of exposure to asbestos. They are areas of white, smooth, raised scar tissue on the outer lining of the lung, internal chest wall and diaphragm. Not everyone who has been exposed to asbestos develops plaques, possibly because of differences in immune responses to asbestos fibres. People with pleural plaques as their only asbestos-related symptom **usually have very little impairment of lung function.**

b. Asbestosis

This is a chronic condition caused by inflammation or scarring in the lungs, and causes shortness of breath, coughing and permanent lung damage. **Asbestosis is caused by heavy, prolonged exposure to asbestos fibres.**

Asbestos-related conditions and diseases 2

c. Lung cancer

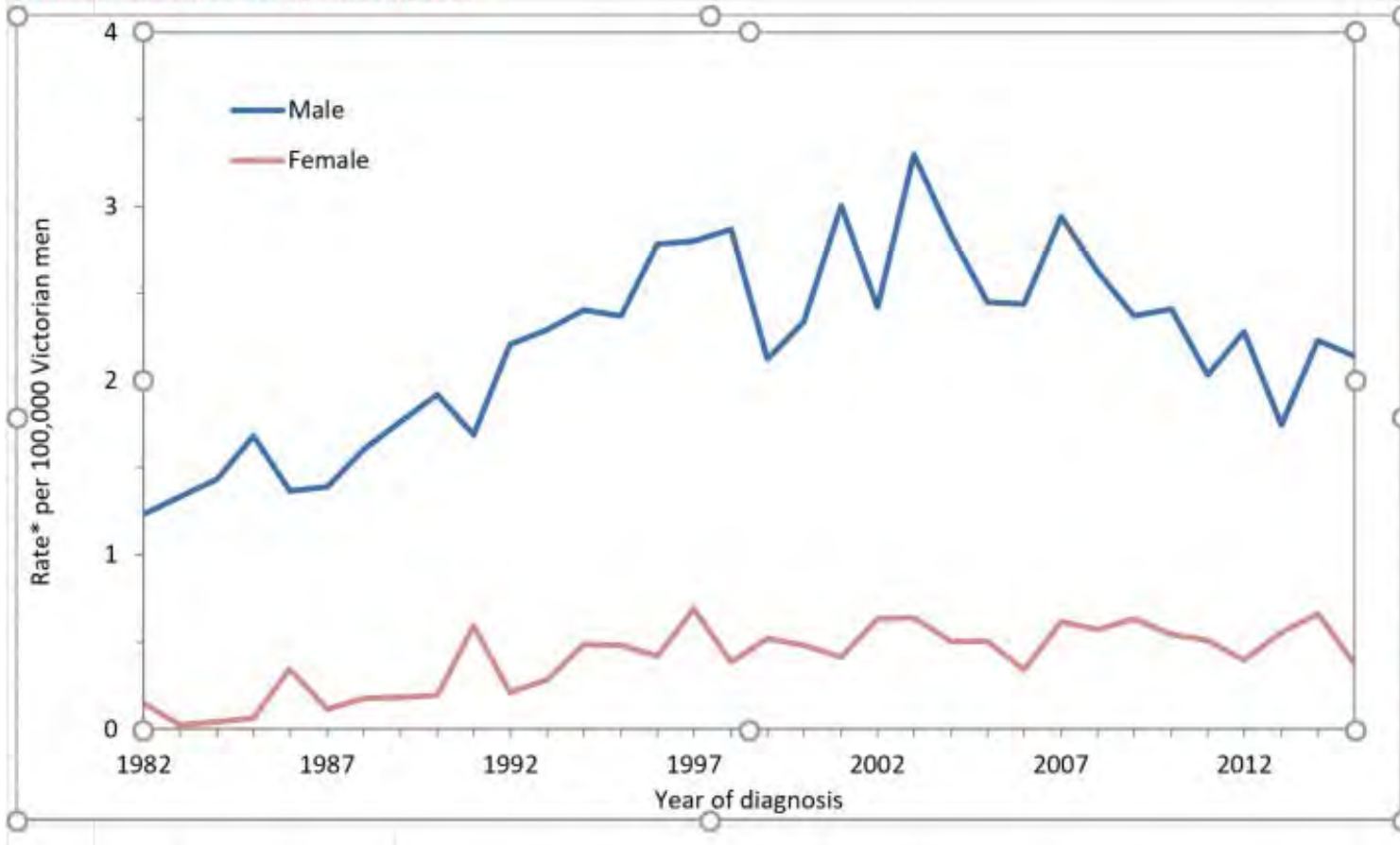
These are cancerous tumours that mainly occur in the lining of the tubes leading into the lungs, the smaller airways or the middle of the lungs. **The risk of developing lung cancer is increased in people who also smoke or who have pre-existing lung disease.**

d. Mesothelioma

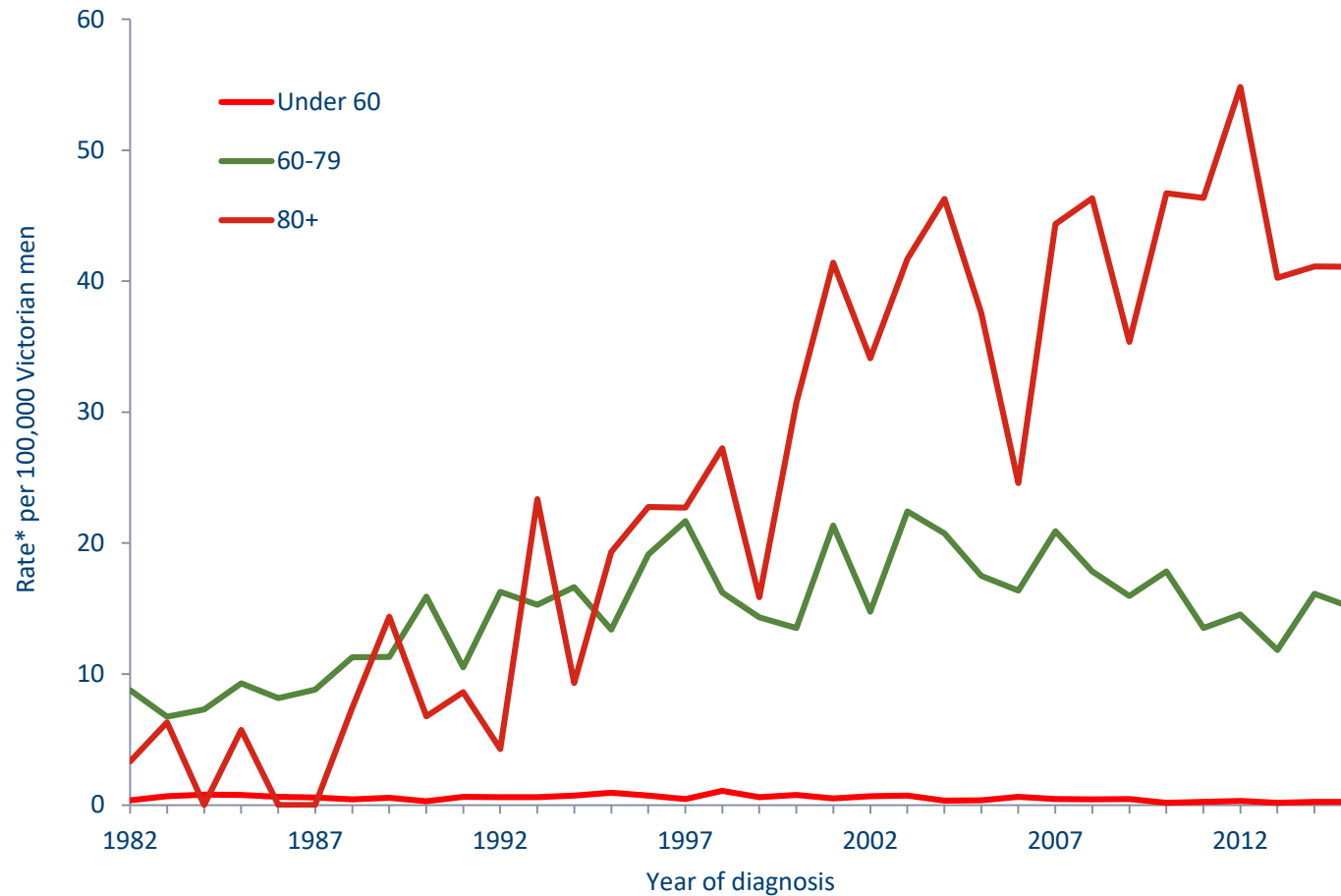
This is a rare form of cancer of the tissue that lines the body cavities, particularly the chest and abdominal cavities. In Australia, **about ninety percent of all mesothelioma patients have a confirmed history of significant asbestos exposure.**

Further advice regarding these conditions or diseases is available in the 2005 enHealth document.

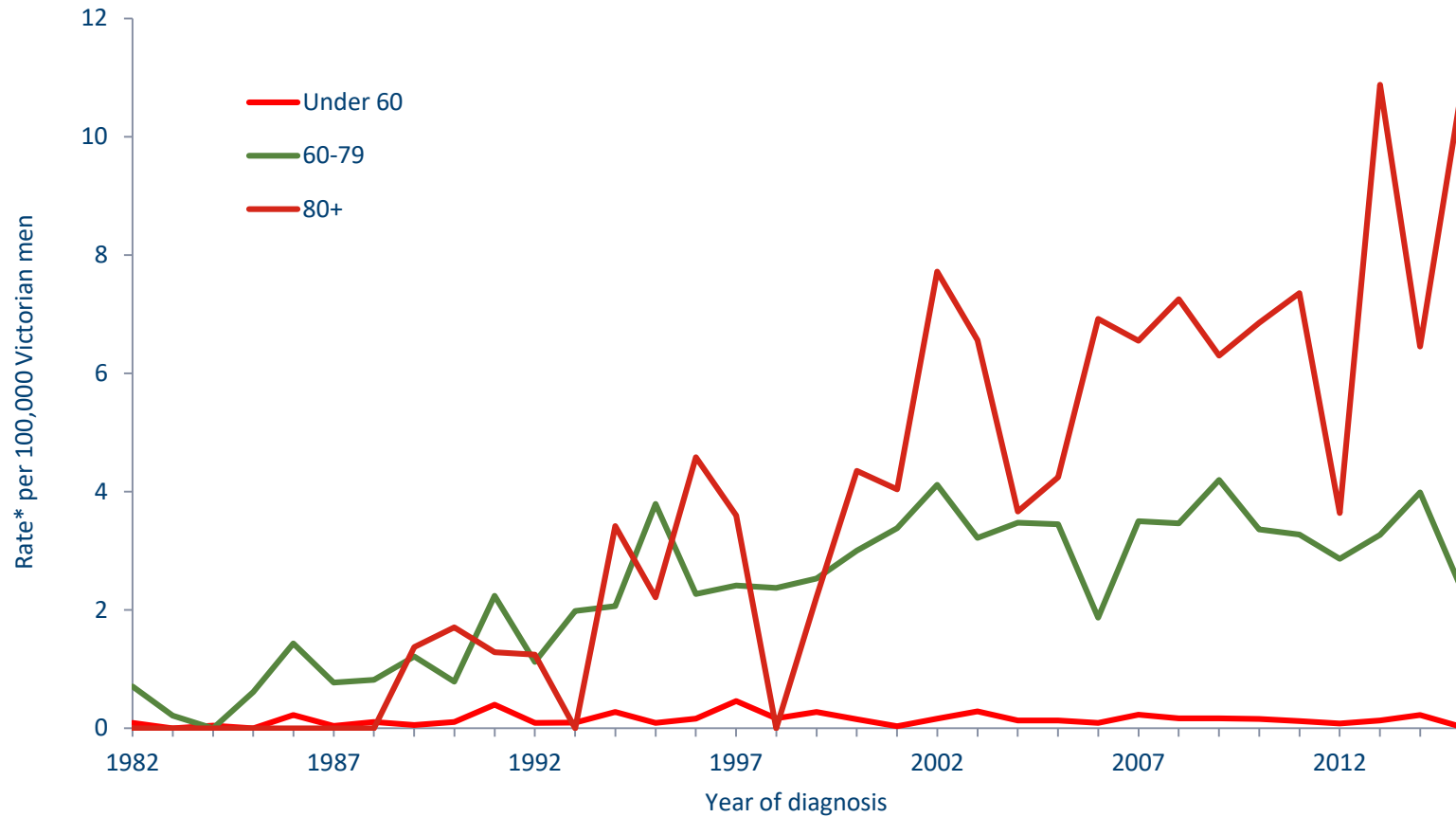
1. Annual incidence rates by sex 1982-2015



Mesothelioma incidence trends by age group, males 1982-2015



Mesothelioma incidence trends by age group, females 1982-2015





For further asbestos information, advice and referrals

- Local health issues– Council environmental health officer
- General health effects – Council environmental health officer or EPA Env Public Health Unit
- Workplace health issues, licensed asbestos removalists and demolition information, maintenance of website asbestos.vic.gov.au - WorkSafe Victoria
- Removal, licensed transport operators and disposal (other than removal and transport by householders), contaminated sites and larger dumping issues - EPA
- Asbestos-related diseases (information and support) – Better Health Channel (website), Asbestoswise and other asbestos support organisations (p.43 of 2013 enHealth asbestos guide).



Accessing EPA Environmental Public Health Unit

All health queries for the EPA Environmental Public Health Unit should be made through EPA's Call Centre (1300 EPA VIC).



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enHealth Publications

<http://www.health.vic.gov.au/archive/archive2014/nphp/enhealth/council/pubs/pdf/asbestos.pdf>

[http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-enhealth-asbestos-may2012.htm/\\$File/asbestos-feb13.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-enhealth-asbestos-may2012.htm/$File/asbestos-feb13.pdf)

The End Thank You



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