International Conference on
ASBESTOS AWARENESS
AND MANAGEMENT 2015
Towards an asbestos-free Australia
Where are the current and future exposure risks in Australia?

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Australian Mesothelioma Registry

Collecting Information to assist with the Prevention of Mesothelioma
Who is involved?

- Safe Work Australia
- State and Territory Cancer Registries
- Australian Government
- Comcare
- NSW Government
- Cancer Institute NSW
- Hunter Research Foundation
- The University of Sydney
- ADRI (Asbestos Diseases Research Institute)
Australian Mesothelioma Registry

• Contains information about people diagnosed with mesothelioma from July 2010

• Includes historical residential and occupational data to help assess persons exposure to asbestos throughout their life

• Information helps with research and prevention and to help develop policies to best deal with asbestos still present in Australia’s buildings and environment

• AMR Annual Report – rates of new cases and deaths, patterns of exposure to asbestos in mesothelioma patients
Aims of the AMR

• Better understand the relationship between asbestos exposure and mesothelioma

• Identify the circumstances under which groups of individuals are exposed to potentially dangerous levels of asbestos and to facilitate prevention.

• Assist the development of policies to best deal with the asbestos still present in our environment.

• Provide information to assist researchers in undertaking investigations with the aim of preventing mesothelioma in the future.
Process: Asbestos Exposure Information Collection

- **Patient**
  - To complete the Postal Questionnaire

- **MonCOEH**
  - Assigns specific interview questions based on the completed Postal Questionnaire

- **Hunter Valley Research Foundation**
  - Conducts telephone interviews with patients
At 20 August 2015: 3,383 notifications of mesothelioma had been received for diagnoses since 1 July 2010

641 notifications of people newly diagnosed with mesothelioma between 1 Jan and 31 Dec 2014

85% cases 65 years and over at time of diagnosis, 518 males and 123 females

### People in Australia newly diagnosed with mesothelioma by year and sex, 2011 to 2014

<table>
<thead>
<tr>
<th>Year of Diagnosis</th>
<th>Males</th>
<th>Females</th>
<th>Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>587</td>
<td>105</td>
<td>692</td>
</tr>
<tr>
<td>2012</td>
<td>591</td>
<td>122</td>
<td>713</td>
</tr>
<tr>
<td>2013</td>
<td>547</td>
<td>129</td>
<td>676</td>
</tr>
<tr>
<td>2014</td>
<td>518</td>
<td>123</td>
<td>641</td>
</tr>
</tbody>
</table>
Developments to AMR

- Numerous improvements being made to increase participation which is currently less than 20% nationally:
  - New patient and clinician brochures
  - Revised process - more personal approach
  - Simplified Questionnaire
  - Updated patient and clinician forms/information sheets
  - Website update
## Latest findings from the AMR

### Table 4.3: Summary of occupational and non-occupational exposure assessment, by sex

<table>
<thead>
<tr>
<th></th>
<th>Exposure indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Occupational exposure only</td>
</tr>
<tr>
<td><strong>Males</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>48</td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Persons</strong></td>
<td>48</td>
</tr>
</tbody>
</table>
What is the source of the Non-occupational Mesothelioma cases?

- Misclassified occupational cases?
- Cases that lived with ‘former asbestos industry workers’?
- Cases that lived near former asbestos industries?
- Cases that lived in AC buildings?
- Cases that engaged in DIY home renovation or maintenance?
  (Park et al, 2013?)
Measurement of asbestos fibre release during removal works in a variety of DIY asbestos removal scenarios:

• Simulation Study by Monash University funded by ASEA
• Measurement of in-situ home DIY renovation infeasible due to:
  - Lack of H&S controls by DIY renovators
  - Reliance on a good response rate
  - Lack of control on timing and tasks of DIY renovators
Methodology

- Enclosure or “bubble” constructed to simulate laundry or small kitchen;
- Outdoor shed demolished
- Nine different tasks commonly undertaken in DIY home renovation and maintenance
- Asbestos fibre exposure monitored for static locations and personal samples, using high flow rate pumps at 6 to 7 litres per minute
- Analysis of filters by SEM and PCM
Tasks and fibre release scenarios simulated (1-5)

• Removal of asbestos cement (AC) flat external wall sheeting in dry conditions.
• Removal of asbestos AC corrugated (e.g. Super Six) external roof sheeting in dry conditions.
• Removal of a small outdoor shed constructed of flat and corrugated AC sheeting.
• Removal of asbestos cement support materials (to ceramic tiles) in sink splash-backs inside.
• Removal of AC wall panels and ceilings in bathrooms and kitchens.
Tasks and fibre release scenarios simulated (6-9)

- Removal of small sections of AC corrugated sheet to create penetrations e.g. for fans or flues.
- Removal of small sections of AC flat sheet to create penetrations (e.g. for an air conditioner).
- Drilling and screwing into asbestos cement sheet (e.g. to fix hooks, strapping, shelving, etc.).
- Stacking, wrapping and bagging of AC sheeting for disposal.
<table>
<thead>
<tr>
<th>Task#</th>
<th>Description</th>
<th>Static Result f/ml</th>
<th>Personal Result f/ml</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Removal of AC external roof sheeting</td>
<td>0.01</td>
<td>0.22</td>
<td>Stacking of sheets, no wetting</td>
</tr>
<tr>
<td>2</td>
<td>Removal of flat AC external wall sheeting</td>
<td>0.10</td>
<td>0.21</td>
<td>Used shovel and brush, no wetting</td>
</tr>
<tr>
<td>3</td>
<td>Removal of flues and small sections of AC</td>
<td>0.15</td>
<td>2.79</td>
<td>Used drill-mounted hole saw</td>
</tr>
<tr>
<td>4</td>
<td>Removal of AC support materials in sink splash back</td>
<td>0.03</td>
<td>1.06</td>
<td>Used hammer to break fixed sheets</td>
</tr>
<tr>
<td>5</td>
<td>Removal of small AC sections to accommodate air-con</td>
<td>0.01</td>
<td>13.23</td>
<td>Used angle grinder</td>
</tr>
</tbody>
</table>
## Results

<table>
<thead>
<tr>
<th>Task#</th>
<th>Description</th>
<th>Static Result f/ml</th>
<th>Personal Result f/ml</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Drilling and screwing AC sheet</td>
<td>0.06</td>
<td>0.06</td>
<td>Drilling 20 holes</td>
</tr>
<tr>
<td>7</td>
<td>Removal of AC wall panels and ceilings in bathrooms</td>
<td>0.02</td>
<td>0.66</td>
<td>Hammer used to break sheets, Removal of 20m²</td>
</tr>
<tr>
<td>8</td>
<td>Clean-up after task</td>
<td>0.03</td>
<td>0.90</td>
<td>Dry sweeping and bagging</td>
</tr>
<tr>
<td>9</td>
<td>Removal of a small outdoor shed constructed of flat and corrugated AC sheeting</td>
<td>0.03</td>
<td>0.12</td>
<td>Used hammer and pinch bar to remove screws and demolish shed</td>
</tr>
</tbody>
</table>
Discussion

• Results reflected worse case situation
• Seven tasks below regulatory occupational limit of 0.1 f/ml
• Dry cutting with power tools, breaking of AC sheeting by hammer and dry clean-up, lead to high levels
• All static monitoring less than personal samples
• Could not determine effects of weathering, as all AC sheets and flues used were highly weathered
Recommendations

• Prior to any work, it is important to consider the presence of asbestos and whether an asbestos register for the property may be warranted. If in doubt, take a precautionary approach and treat suspect material as you would confirmed ACM.

• If you are undertaking work involving ACM, prior to commencement ensure you have appropriate PPE, and disposal equipment, and access to a licensed disposal facility.

• Do not cut asbestos flues or sheet with power tools.

• Do not break AC sheeting as this can cause fibre release.

• Do not work on asbestos materials in confined, poorly ventilated environments.
Recommendations

• Use wet methods for removal and clean-up of asbestos cement debris.
• Use wet methods and/or approved HEPA filter vacuum cleaners for clean-up of asbestos cement dust.
• All DIY should be undertaken with the use of appropriate respiratory protection and personal protective equipment (PPE)
Acknowledgements

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