F10: Update from the UK asbestos working party

11-14 October 2011
Introduction
What has the Working Party done?

• Since 2009 market estimate - entered working party passive phase
• Continued to collected survey and government data
• Comparing data against estimates
• Maintained contact with HSE and Prof. Peto
Agenda

• Experience in 2010
• HSL / HSE latest work
• Legal and Other Developments
• Next steps
Experience in 2010
Experience in 2010

- Update of Summary Claim data as at 1Q 2011
  - Asbestos Related Claims data from 13 companies
- New Claim Recovery Unit (CRU) data as at 2Q 2011
  - Mesothelioma data at claim and claimant level
  - Male and Female
  - EL, PL and Other
  - Live, settled and withdrawn
  - Non-State, Government and Local Authority
Actual vs. Projected Experience 2010
Mesothelioma

**Number of Claims**
(excludes nils)

- Scenario 23: 2,500
- Actual: 3,000

**Average Claim Size (£)**
(excludes nils)

- Scenario 23: £100,000
- Actual Incurred: £112,000
- Actual Settled: £100,000

1Q 2011 survey data assuming the survey covered 80% and nil rate of 20%

Assuming nil claims rate of 20%
Actual vs. Projected Experience 2010
Lung Cancer

Number of Claims (includes nils)

Average Claim Size (£) (includes nils)

1 1Q 2011 survey data assuming the survey covered 80%

2 Assuming nil claims rate of 33%
Actual vs. Projected Experience 2010
Asbestosis

Number of Claims (includes nils)

Average Claim Size (£) (includes nils)

1 1Q 2011 survey data assuming the survey covered 80%

2 Assuming nil claims rate of 33%
Actual vs. Projected Experience 2010
Pleural Thickening

Number of Claims (includes nils)  

Average Claim Size (£) (includes nils)

Shift from Asbestosis on post 2010 years as well compared to previous surveys

¹ 1Q 2011 survey data assuming the survey covered 80%

² Assuming nil claims rate of 35%
Actual vs. Projected Experience 2010

Mesothelioma: Projected (Scenario 23 & Cost 2 / Number 2) vs. Incurred (Grossed up in 1Q 2011 Survey)
Lung Cancer: Notified in 2010 vs. Settled in 2010 (Grossed up 1Q 2011 Survey)
Asbestosis: Projected (Scenario 23 & Cost 2 / Number 2) vs. Incurred (Grossed up in 1Q 2011 Survey)
Pleural Thickening: Projected (Scenario 23 & Cost 2 / Number 2) vs. Incurred (Grossed up in 1Q 2011 Survey)
Claimants to Deaths Ratios - Mesothelioma only
Grossing up using CRU

- Survey data for UK EL Insurance Market
- Need to allow for:
  - Female claimants
  - Claims from Northern Ireland
  - Government share of claims
- Female claimants based on detailed survey data
  - Much lower propensity to make a claim than males
- Northern Ireland mesothelioma deaths from HSENI (The Health and Safety Executive for Northern Ireland)
Claimants to Deaths Ratios - Mesothelioma only
CRU - Government share

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Claimants to Deaths Ratios - Mesothelioma only
CRU – Female (to Male) percentage

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Claims per claimant
Mesothelioma only

Number of claims per claimant death

2009 - Scenario 23  2011 Data
HSL / HSE latest work
HSE update

• New report produced by the HSL published in July 2011
• Contents of the report:
  – Female deaths projections
  – Develop alternative models for male projections:
    – Revised Risk Model
    – Two-Stage Clonal Expansion model
HSL 2011 projections
Female projections – based on HSL 2009 model

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HSL 2011 projections
Female vs. Male projections

Number of GB mesothelioma deaths

HSL 2009 Non-clearance (Males) - (Ages 20 to 89)
HSL 2011 F1 (Females) - (Ages 20 to 89)
HSL 2011 projections - Males
Comparison to prior HSL projections
Two-Stage Clonal Expansion (TSCE) Model Overview

- First proposed by Moolgavkar and Kudson in 1981
- Motivated by biological considerations
- Model assumes that cell undergoes two mutations prior to development of a tumour:

Asbestos exposure

Healthy Cell → Intermediate Cell → Malignant Cell → Tumour

Initiation → Malignant Transformation → Growth

Promotion
Two-Stage Clonal Expansion (TSCE) Model

Modelling steps

Classification of the population

- Lung burden
- Dose response equations
- Hazard Function

\[ \nu(d) = \nu_0 + \nu_1 d^{\nu/2} \]
\[ \gamma(d) = \gamma_0 + \gamma_1 d^{\gamma/2} \]
Two-Stage Clonal Expansion (TSCE) Model
Modelling steps - Classification

- Population is classified between high and low exposed
  - Occupational vs non-occupational exposure

- High exposed are sub-classified based on:
  - Age at which exposure started
  - Duration of the exposure
Two-Stage Clonal Expansion (TSCE) Model
Modelling steps – Lung Burden

• Lung Burden:
  – Measure of the amount of Asbestos fibres in an individual’s lungs

• Use of UK Asbestos imports to estimate the lung burden
  Main parameters:
  – Clearance of the lungs
  – Stock removed and released
  – Risk factor of one type of fibres relative to another one
Two-Stage Clonal Expansion (TSCE) Model
Modelling steps – Hazard Function

• Hazard Function
  – Probability of developing a tumour
  – Lag of 10 years assumed between tumour and death
  – Derived from the dose response equations
  – Applied to the GB male population
Two-Stage Clonal Expansion (TSCE) Model
Results / Observations

Modelled deaths by age group

The TSCE model projects less deaths at older age (85+ band) than the HSL 2009 model.
Two-Stage Clonal Expansion (TSCE) Model

Results / Observations

Death rate per 100,000 for the 1960 - 1964 birth cohort

The TSCE model’s projected death rates are lower for the later birth cohorts in particular for the 1960 cohort.
Two-Stage Clonal Expansion (TSCE) Model

Summary

Pros:
• Good fit to the historical data
• Based on biological considerations
• More flexible as a result of its many parameters
• Allows different death rates
• Takes into account exposure explicitly

Cons:
• Lots of parameters (more than population model) – difficult to parameterise
• May underestimate the number of deaths from 80+ year olds
• Sensitivity to the post-1980 exposure level
HSL 2011 projections - Males
Comparison to AWP 2009 projections
Legal and Other Developments
Legal and Other Developments

- EL trigger
  - Does Bolton apply to EL policies?
- Sienkiewicz and Willmore
  - Does Fairchild apply?
- Scottish damages
  - Are claims now more expensive?
- Pleural plaques
  - An update on all UK territories and Supreme Court ruling
EL Trigger Litigation
Bolton and Consequences

• Bolton v MMI, 2006 (Public Liability Case)
  – Injury Occurring = Mesothelioma victim sustains injury when tumour starts to develop, 10 years before manifestation
• 4 insurers with EL policies worded in a similar way to the PL policy in Bolton
  – Responded if the injury was sustained or contracted during the term of the policy
  – They declined EL claims on the Bolton principle
• Led to ‘black holes’ in insurance cover
EL Trigger Litigation
Round One

- Claims against the 4 insurers pursued Trigger Litigation
- Burton J held that “injury sustained or disease contracted” wording = liable when fibres inhaled
- Pragmatic commercial view of EL policies:
  - rejected technical legal arguments
  - acknowledged that the insurance industry had traditionally paid such claims on an exposure basis for over 50 years
- Accepted Injury didn’t occur at point of inhalation
  - Approximately 5 years before symptoms
Overturned High Court Judgement
Some principles agreed:

- “Sustained” = Policy in force when starts to develop
- “Contracted” = Policy in force at exposure (“caused”)

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<thead>
<tr>
<th>Rix LJ</th>
<th>Burnton LJ</th>
<th>Smith LJ</th>
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<tbody>
<tr>
<td>• Contracted when caused</td>
<td>• Insurers entitled to change practices as Mesothelioma</td>
<td>• Policies should be interpreted on understanding of parties when written</td>
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<tr>
<td>• Mesothelioma not sustained on inhalation</td>
<td>better understood</td>
<td>• Not Bound by Bolton</td>
</tr>
<tr>
<td>• Policies from 1972 respond if caused</td>
<td>• Bound by Bolton</td>
<td></td>
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<tr>
<td>during policy</td>
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EL Trigger Litigation
What now?

• If Rix LJ not bound by Bolton:
  – Actionable injury from date of inhalation
  – Liability created when employer materially contributed to the risk
  – Decision led to “an unfortunate conclusion”

• Troubling for the Market:
  – Public Authorities need provision for 1974 & prior
  – Private Sector Businesses will have to meet their own liabilities if pre-1972 sustained policy
  – Insurers and defendants will need to fill ‘black holes’ under joint & several
Reminder of Fairchild

- Special rule for cases brought by persons who contract mesothelioma
- House of Lords Decision (Fairchild v Glenhaven Funeral Services Ltd) in 2002
  - Joint & Several = ‘materially increases the risk’
- Relaxes the usual requirement:
  - More likely than not that harm caused by the defendant
- Medical Science cannot determine which fibre(s) caused the mesothelioma to develop
Karen Sienkiewicz daughter of Enid Costello

Mrs Costello died of Mesothelioma
  – 21 January 2006, Aged 74

Worked for Grief (UK) Limited
  – Found to have wrongly exposed her to asbestos
  – ‘very light’ exposure - Increased her exposure by 18%

Initial verdict:
  – Fairchild did not apply

Reversed by Court of Appeal
Sienkiewicz & Willmore
Knowsley Metropolitan Borough Council v Willmore

• Mr Barre Willmore husband of Diane Willmore
• Mrs Willmore died of Mesothelioma
  – 15 October 2009, aged 49
• Found to have been exposed to asbestos at her secondary school
• Judge applied Fairchild
  – Awarded damages of £240,000
• Decision upheld by the Court of Appeal
Results and Impact of Sienkiewicz and Willmore

- Supreme Court - Fairchild still applies when only one defendant as well as environmental exposure
- It may now be easier to establish liability
- Implication for insurers
  - PL / uncompensated claims $\rightarrow$ compensated occupational claims
  - Potential knock-on effect to lung cancer claims
Scottish Damages

- Damages (Scotland) Act 2011 - Royal Assent in April
  - In force from 7 July 2011
- Consolidation of existing laws
- Replaces the 1976 Act
  - Doesn’t affect proceedings brought before it’s in force
- Consequences in relation to loss of support claims:
  - Increase in awards for loss of support claims;
  - Higher awards for past loss of support; and
  - Wider category of claimants entitled to claims.
Pleural plaques
Before Supreme Court judgement

House of Lords ruled pleural plaques were not compensable (Oct 2007)

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<tr>
<th>Scotland</th>
<th>Northern Ireland</th>
<th>England and Wales</th>
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| • Scottish Parliament introduced a bill to reverse the House of Lords ruling in Scotland – Act in force from June 2009 | • Northern Ireland Parliament introduced a bill to reverse the House of Lords ruling in Northern Ireland  
  • Received Royal Assent on July 2011  
  • Attorney General for Northern Ireland referred the NI legislation to the Supreme Court | • Former Claimants Payment Scheme closed on 31st July 2011  
  • No further court action pending  
  • Potential for Forum shopping |
| • Insurers’ appeal to The Scottish Court of Session rejected |                                                        |                                                        |
| • Supreme Court ruling 12 Oct 2011            |                                                        |                                                        |
Pleural plaques
Supreme Court judgement

• The Supreme Court dismisses the insurers appeal
  – All seven Lords in agreement
  – “judgment of the Scottish Parliament was not without reasonable foundation”
  – Accepts that the 2009 Act pursues a legitimate aim
  – Should respect the judgment of the elected body and not outside the legislative competence of the Scottish Parliament
Pleural plaques
Supreme Court judgement

• Reasonably proportionate to the aims sought to be realised as:
  1) Claims can only be brought if asbestos exposure was caused by the employer’s negligence;
  2) Insurers obligation to indemnify inevitably entailed a risk that unforeseen circumstances would increase the burden of their liability; and
  3) Preserving the status quo prior to the Rothwell judgement.

• No verdict on quantum

• Appeal to EU?
Key points and Next steps
Key points

- Two years of experience little cause for changes
  - Mesothelioma number of claims and costs in-line with estimate (Claimants to Deaths Ratios are stable)
  - Shift between Asbestosis and Pleural Thickening claims
- Claim to claimant ratio is higher than the 2.0 assumed
- Government share lower than 20% estimated
- TSCE projections close to those using the 2009 latency model
- Pleural plaques & EL trigger - Still uncertain
What will the AWP do now?

• Release a excel copy of the TSCE model
• Continue to collect market data on a yearly basis
  – Next due for March 2012
Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

The views expressed in this presentation are those of the presenter.