



UK Asbestos Working Party: New insurance market estimate

Overall Objective: Since reforming in 2007 the UK Asbestos Working Party (“AWP”) is a source of expertise within the profession on matters relating to UK asbestos related diseases. It has been working towards a new UK insurance market estimate to provide assistance to actuaries having to estimate the reserves relating to UK asbestos related claims.

Output: The Working Party has produced a central estimate, together with the models used to generate that estimate, to assist actuaries in setting their year-end reserves relating to UK asbestos related claims.

Further scenarios and full report on the Working Party’s findings will released early in 2021.

It should be noted that whilst the Working Party conducted their usual market survey during 2020 (collecting data as at December 2019), the initial number of participants was lower than usual and was not comparable to past years. We are in the process of adding data from other market participants who have since agreed to contribute, but this data was not available in time for us to be able to take it into account as part of the parameterisation. As such, any scaling of the market data has been done on the market survey data as at December 2018 (collected during 2019). Commentary on how the survey data as at December 2019 compares to the projections will be included in the full report.

The estimate produced by the parameters discussed below may change in the report as the Working Party makes small adjustments allowing for the 2019 survey data. However given the experience between to the surveys is broadly consistent, the Working Party does not expect that any changes would be material.

The Working Party encourages practitioners to consider the key issues and sensitivities outlined below to select their own estimate of the cost of these claims:

- Underlying population exposed to asbestos and the levels of their exposure;
- Whether there will be changes in the propensity of mesothelioma sufferers to make insurance claims by age in the future, including changes due to different generational behaviours or legal developments; and
- Cost impacts due to medical advances, legal developments, inflationary shocks and changes in long-term inflation.

Mesothelioma claim cost:

The Working Party has estimated that the undiscounted cost of UK mesothelioma-related claims to the UK Insurance Market for the period 2020 to 2060 could be around £4.4bn.

Of this figure, £4.2bn relates to the period 2020 to 2050, which is £3.1bn less than the estimate of £7.3bn for the same period that was presented in the 2009 paper (as per Scenario 23). The estimate made in 2009 did not include periods after 2050.

The key drivers of this reduction are as follows:

1. Although the peak of deaths is higher in the latest projection, the run off in the tail is faster. This is a combination of changes by the UK Health and Safety Executive ("HSE") to their model parameters including the age cap on the k factor that the Working Party modelled in their 2009 estimate and the removal of deaths predicted by background exposure (as these are unlikely to make a successful Employers Liability claim)
2. The use of a static propensity of mesothelioma sufferers to make an insurance claim by age band, which reduces the claims in the tail of the projection. This is based on the evidence from the Compensation Recovery Unit (CRU) which shows a reducing propensity by age over the last 6 years; and
3. Lower average costs principally due to the reduced court inflation on special damages.

The updated estimate is highly uncertain, and it is possible that the actual outcome could be appreciably more or less than this amount.

The 2009 estimate only projected claims up to ages 89 whereas the new estimate projects claims from ages 90 and above. The impact of explicitly including claims from ages 90 and over, in the period 2020 to 2050, for the new estimate is £0.2bn.

The UK mesothelioma-related claims cost is based on assumptions on the number of mesothelioma deaths, a propensity for a mesothelioma sufferer to make a successful insurance claim and claimant average cost. The key changes to these assumptions are discussed below:

Mesothelioma deaths:

The Working Party has used the latest UK Health and Safety Executive ("HSE") GB male mesothelioma deaths projection model, published in July 2019 (parametrised using deaths up to 2017), making the following adjustments to the parameters:

- HSE assume that post 1989 exposure decays linearly up to 2000, at which point exposure reflects 4.2% of the peak. By 2055, HSE's assumed exposure decreases to around 0.8% of peak exposure. We have assumed that exposure post 1989 decays at a constant rate of 15% per year, resulting in exposure in 2000 that is 1.3% of the peak and 2055 exposure of zero. The impact of this change is to reduce the number of projected future (post 2017) deaths by c.4,000. The rationale for this change is:
 - The fit of the model improves in younger age groups (under age 60).
 - The time horizon for the claims forecast is 2060, after which zero insurance claims are assumed. The HSE model results in 172 non-background deaths in 2060, compared to 32 non-background deaths in our adjusted model. Our adjustment reduces the step change from 2060 to 2061, which improves the internal consistency of the projection.
 - The level of exposure after 1989 is particularly uncertain as there are currently few deaths caused by exposure in this period, so the assumption is difficult to calibrate. In our view various regulations and changes in the law effected in the 1980s and early 1990s justify a steeper decrease in exposure, namely:
 - A ban on the use, import and supply of crocidolite and amosite asbestos from 1 January 1986.
 - 1987 Control of Asbestos at Work Regulations, introduced to protect workers from fibre exposure when working with asbestos containing materials.
 - 1990 Control of Asbestos in the Air Regulations, preventing and reducing environmental pollution by Asbestos.
 - Ban on Chrysotile in 1999
 - 2002 Control of Asbestos at Work Regulations, which oblige businesses to identify and manage asbestos in their properties.

The major sources of uncertainty in the deaths model arise from the calendar year exposure assumption, the population projection used, and the loading for deaths in males aged 90 and over.

An alternative, simpler model that uses a chain ladder with a generalized linear model ("GLM"), (developed by Maria Miranda, Bent Nielsen and Jens Nielsen) has been used to benchmark the output from the HSE model and derive alternative scenarios.

Mesothelioma propensity to claim:

The Working Party has combined data on mesothelioma claimants and data on number of deaths attributable to mesothelioma to estimate the propensity to claim for males in Great Britain over recent years and then projected this forward.

The claimant data was created by aggregating data provided by the Compensation Recovery unit (CRU), part of the Department for Work & Pensions (DWP), under a number of Freedom of Information (FOI) Requests. The role of the CRU is to register claims for compensation, ensure that double compensation does not occur and recover relevant monies from compensators. As such, all claims for compensation should be captured in this data. The data provided included a unique anonymised customer number, which was used to aggregate multiple claims to give number of claimants.

The data on number of deaths was provided by the HSE split by age separately for males and females.

We allocated the HSE male deaths (by age) to CRU notification year under a variety of assumptions, including:

1. that calendar year of death was the same as the calendar year of claim (consistent with the 2009 Working Party)
2. that the deaths were spread out as follows:
 - a. 5% of deaths occur in the calendar year before the calendar year the claim was made
 - b. 55% of deaths occur in the same calendar year as a claim is made (before or after)
 - c. 30% of deaths occur in the calendar year after the calendar year in which a claim is made
 - d. 10% of deaths occur in the calendar year two years after the calendar year in which a claim is made

These proportions were selected so that the proportion of claims from live claimants was broadly in line with the average live % from the survey data over that period (67.5%).

3. that calendar year of death was the calendar year after the calendar year of claim
4. that calendar year of death was two calendar years after the calendar year of claim

The assumptions in (2) were used.

As per the assumption made by the 2009 Working Party, it is clear that there is a reducing propensity to claim by age. The 2009 Working Party assumed in scenarios 2 to 5 that the absolute propensity to claim at a given age would increase over time. However, the updated data does not support this, and more recent years look like the propensity to claim has been reducing slightly.

For the best estimate selection we have assumed that the propensity to claim for 2019 is based on a linear fit through ages 60 to 93 of the average propensity to claims over CRU notification years 2012 to 2018. This leads to a propensity to claim of 81.33% for age 59 & under, dropping to 29.18% for age 94 and over, a gradient of -1.49% per year of age. We have assumed that this propensity to claim is

the same for all future calendar years. As the average age of mesothelioma sufferers increases over time, the aggregate propensity to make an insurance claim will decrease under this scenario.

For the low estimate we have started with the same 2019 position as above, but allowed for the recent trend of reducing propensity to claim to continue at its current rate of around 1% per annum for the next 5 years and then to remain flat.

For the high estimate we have started with the same position as above for 2019, but applied an age translation factor of 50%, meaning that the propensity at age A is equal to the propensity in the previous year at age A - 50% (so in 2 years an 80 year old will be as likely to claim as a 79 year old is now). This gives a propensity to claim which increases by individual age for future calendar years compared to the current calendar year.

It is important to note that the 2004 Working Party, assumed that the propensity to make an insurance claim for mesothelioma sufferers was constant at a third of sufferers making a claim. In the 2009 estimate this had increased due to changes in sufferers journey, due to changes like the National Mesothelioma Framework. Although the last 6 years of data is now showing a reduction in the propensity, practitioners should think carefully about whether this may change in the future.

Mesothelioma inflation:

The Working Party has used the 2009 average claimant cost model updating the underlying assumptions based on the experience to date. The Working Party was not been able to access a more recent sample of mesothelioma claims costs. As a result the Working Party reviewed the underlying assumptions and sense checked the outputs by head of damage and overall claimant costs against solicitor and claim handlers experience.

It is import to remember that average cost model is no designed to provide an accurate claimant cost at each year and age, but to understand how mesothelioma inflation changes over time due to the different components of the award and the increasing average age of mesothelioma sufferers.

Key changes made have been:

- An allowance for Future Ogden Tables. New editions of the Ogden Tables will be based on the life expectancy at the time of publication. The Working Party has made for an allowance for a new Ogden Table every 4 years using GADs projected future life expectancy.
- Ogden Table discount rate of -0.75% in settlement years 2017-2018, with -0.25% in settlement year 2019 and onwards. The selection of a future discount rate of -0.25% is based on the current legislation around the discount rate for personal injuries. The Working Party acknowledges that this could change in the future, but considers future legislation on the discount rate used in Ogden multipliers outside of its scope of work. [Although there is different Ogden discount rate used in Scotland, as the Working Party is not projecting future changes in the Ogden discount rate, this does not effect the future inflation used in this scenario. Practitioners with significant Scottish exposure should consider adjustments to the average cost model to allow for a different mix of Scottish claims than the 10% within the overall Insurance market estimate]
- Future Court inflation, which affects General Damages, has been reduced from RPI+2% to RPI+0.4%. This reduction is based on a simple average of mid award within the Judicial College Guidelines for the assessment of damages in personal injury cases ("JC Guidelines") from the 5th to 15th editions. The more recent JC Guidelines for mesothelioma have moved in-line with RPI.

- Special damages are inflated at 3% pa in the future based on the triple lock introduced to the UK state pension in 2010. Given the average age of mesothelioma sufferers most special damages will relate to lost of pensions and the Working Party feels that this is a more appropriate figure to use.
- Changing the following heads of damage to be effected by CPI instead of RPI: (i) CRU excl PWCA (those not offsettable), (ii) Funeral expenses, (iii) Bereavement award and (iv) Miscellaneous costs. The Working Party believes that CPI is more appropriate measure on inflation on these heads of damage, based on discussions with claims handlers. Please note that for the Bereavement award an additional 40% has been applied in settlement year 2011.
- Future long-term CPI to be 2% in-line with the Bank of England's long-term target (with future RPI being CPI+0.5%).
- Other updates include changes for historical RPI, CPI, and new editions of the Ogden Tables and JC Guidelines.

Other minor changes have been around changing the the CRU costs by age and the settlement rate, which have been highlighted in the Working Party's previous GIRO presentations. These have a de minimis impact on the inflation.

Overall this produces a lower overall inflation than estimated in 2009, principally due to the reduction in Future Court inflation.

Please note that no allowance in the central estimate has been made for immunotherapy, as at the moment only a small number of claims settle with immunotherapy costs. It also makes no account for the economic impact of the UK Government's response to COVID-19, the potential impacts of Brexit nor any legal changes to the level of awards given to mesothelioma sufferers.

Although there is evidence in the survey that more claims are being reported where the mesothelioma sufferer is alive, this has not transferred into a higher proportion of awards for a living mesothelioma sufferer. So the Working Party has kept the proportion of living:deceased claimants constant at 50:50 as per the 2009 estimate. Changes to the proportion of living:deceased claimants have a secondary impact when considered along side the Ogden Table discount rate and future inflation.

The output from the average cost model has been scaled to the uplifted survey data. This has been done as the mesothelioma inflation model would suggest that claims to claimant ratio is slightly higher than the 2 from the CRU data around 2.2. One reason for this difference is that the mesothelioma inflation model uses claims award data for males only whereas the survey data for the EL market will include insurers costs and female claims (which are on average lower than male claims). It is possible that the survey data also includes some costs-only claims which would reduce the implied average cost / increase the implied claims to claimant ratio. This ratio has been calculated based a 5 year average excluded the most recent survey year (as we know the most recent year of incurred generally has savings with the case estimates).

Non-mesothelioma asbestos related claim costs:

The Working Party has estimated the undiscounted cost of UK non-mesothelioma asbestos-related claims to the UK Insurance Market for the period 2020 to 2050 could be around £0.5bn. Note that we are projecting no liability for these disease types after 2050. This estimate is highly uncertain, and it is possible that the actual outcome could be appreciably more or less than this amount.

The Working Party has undertaken separate projections for three different types of non-mesothelioma asbestos-related diseases: lung cancer; asbestosis and pleural thickening; and pleural plaques. Asbestosis and pleural thickening claims have been combined together for the purposes of projecting.

This is based on the similarity of their claims characteristics and that in recent years the claim types have been used interchangeably.

The Working Party has taken a more high-level approach to estimating the Insurance Market cost from each non-mesothelioma disease as:

1. There does not exist any publicly available epidemiological models for non-mesothelioma diseases to build a projection of claim numbers;
2. They have shorter average latency periods than mesothelioma;
3. There is limited to no data that will allow us to measure the propensity to make a claim for these disease types, this also makes it difficult to separate out epidemiological and non-epidemiological impacts to the number of claims; and
4. Overall non-mesothelioma asbestos claims are a smaller proportion of total asbestos reserves of either the 2009 Insurance Market estimate or individual insurers reserves, compared to mesothelioma claims.

As result, for its central estimate of claim numbers for each disease type, the Working Party has constructed projections based on judgementally scaling the central estimate mesothelioma death pattern. This scaling is time dependent, generally with the ratio of non-mesothelioma claims to mesothelioma deaths decreasing over time to allow for the difference in average latency. This scaling is also intended to implicitly allow for the propensity to claim.

For comparison purposes, the Working Party has also considered a claim number scenario for each disease type based on the 2009 number 2 claim number projections for lung cancer and asbestosis and pleural thickening claims, and the 2004 number 2 pleural plaque claim number projections for pleural plaques with Scottish and Northern Irish exposures. These claim number projections have been scaled to the most recent experience (and in the case of the pleural plaque projection, the pattern has been shifted forward).

The Working Party has selected a central estimate of average costs for each disease type based on the recent experience of settled claims (on a reported and settlement year basis) and incurred claims, as per the 2018 survey data. For each disease type, we have selected a central estimate of average cost for notification year 2019 and we have assumed that these average costs will increase over time consistent with an annual inflation rate of 3%. Given past experience, we believe a 3% inflation rate is a reasonable central estimate selection across these claim types, but this is a pragmatic selection and we recognise that inflationary pressures may vary between disease types. Practitioners are advised to exercise their own judgement in their choice of inflation assumptions.

Consistent with last year, the selected numbers and average costs include nil claims. The historical trends on nil rates have been reasonably stable for each disease type. Therefore, we have assumed that this experience will continue into the future.

The Working Party's undiscounted central estimates for claims reported between 2020 and 2050 amount to around £400m for asbestosis and pleural thickening, £100m for lung cancer and £20m for pleural plaques. The Working Party's 2009 central estimates (i.e. claims scenario 2 combined with average cost scenario B) for asbestosis and pleural thickening combined for the period 2020 to 2050 totalled \$288 million. We are therefore projecting an increase in the cost of these claims. This results primarily from an increase in the projected volumes of these claims, with numbers reported in recent years having been materially greater than were previously expected. We have also selected a slightly slower decay in the expected reporting frequency of these claims than had been selected in 2009. However, our average cost selection for these claims is reduced. We have selected average costs for claims reported in 2020 of approximately £21k, whereas the equivalent selection from the 2009 analysis was around £27k.

With regard to lung cancer, our latest central estimate of about £100m compares to the 2009 central estimate of £286m for the years 2020 to 2050. The Working Party's estimate is therefore materially reduced. This results, in particular, from a significantly reduced selected average cost for these claims. Our latest central estimate for claims reported in 2020 is about £26k, whereas the 2009 average cost selection for 2020 was approximately £59k. Claim numbers have also been less than expected in the last few years, and we have assumed that claims will tail off slightly more quickly than had been assumed in the 2009 projection.

No specific projection was made for pleural plaque claims in 2009 and so comparisons for these claims, which are not expected to be material relative to those from other asbestos-related disease types, are not available.

Impact of COVID-19 on asbestos related claims

This short note is designed to cover the key impacts that the actuaries should consider on due to the COVID-19 pandemic will have on UK EL asbestos related claims.

It is particularly important that actuaries continue to consult with claim teams to understand the impact the pandemic is having on claim reporting and on both internal and external claim management.

Short-term reporting patterns

If a current sufferer of a disease such as mesothelioma dies of COVID-19, and if the mesothelioma is deemed to be a material contributor to their death, then the defendant remains liable in full. On the other hand it is considered unlikely that the disease will lead to a claims spike in reported disease claims through the acceleration of identification of previously undiagnosed cases. This means that COVID-19 of itself is unlikely to lead to a material *direct* change in short term claim volumes.

However, with (i) the “lockdown” of the population, (ii) the healthcare system prioritising the treatment of COVID-19 and (iii) possible workflow constraints within the claim reporting process, there could be a significant *indirect* delay in diagnosis and reporting of asbestos related diseases. It's likely that any such delay would result in a subsequent acceleration of claim reporting once infection rates have subsided.

Short term changes in reporting patterns should therefore be treated with caution.

Longer term claim volumes

COVID-19 has a more severe impact on sectors of the population suffering, or at increased risk of suffering, asbestos related disease:

- older males, who are more likely to have been exposed to asbestos at work
- people with lung conditions and other co-morbidities.

It is therefore likely that an increased share of the sufferer and potential sufferer population will die of COVID-19 rather than of asbestos related disease.

This will affect longer term asbestos related claim reporting, although it should be noted that even in the more extreme scenarios for the future progress of the disease, the likely percentage impact is small.

Average claim costs

It is likely that there will in the short term be an increase in the proportion of deceased claimants.

As discussed above, if a current sufferer of a disease dies of COVID-19, and if the disease is deemed to be a material contributor to their death, then the defendant is liable in full. This also applies to conditions such as asbestosis and therefore may lead to an increase in wrongful death claims with an associated increase in average costs.