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UK asbestos working party

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IMPORTANT

ALL FIGURES PRESENTED IN THIS WORKSHOP ARE DRAFT

FINAL ESTIMATES WILL BE PUBLISHED IN OUR PAPER EARLY 2020

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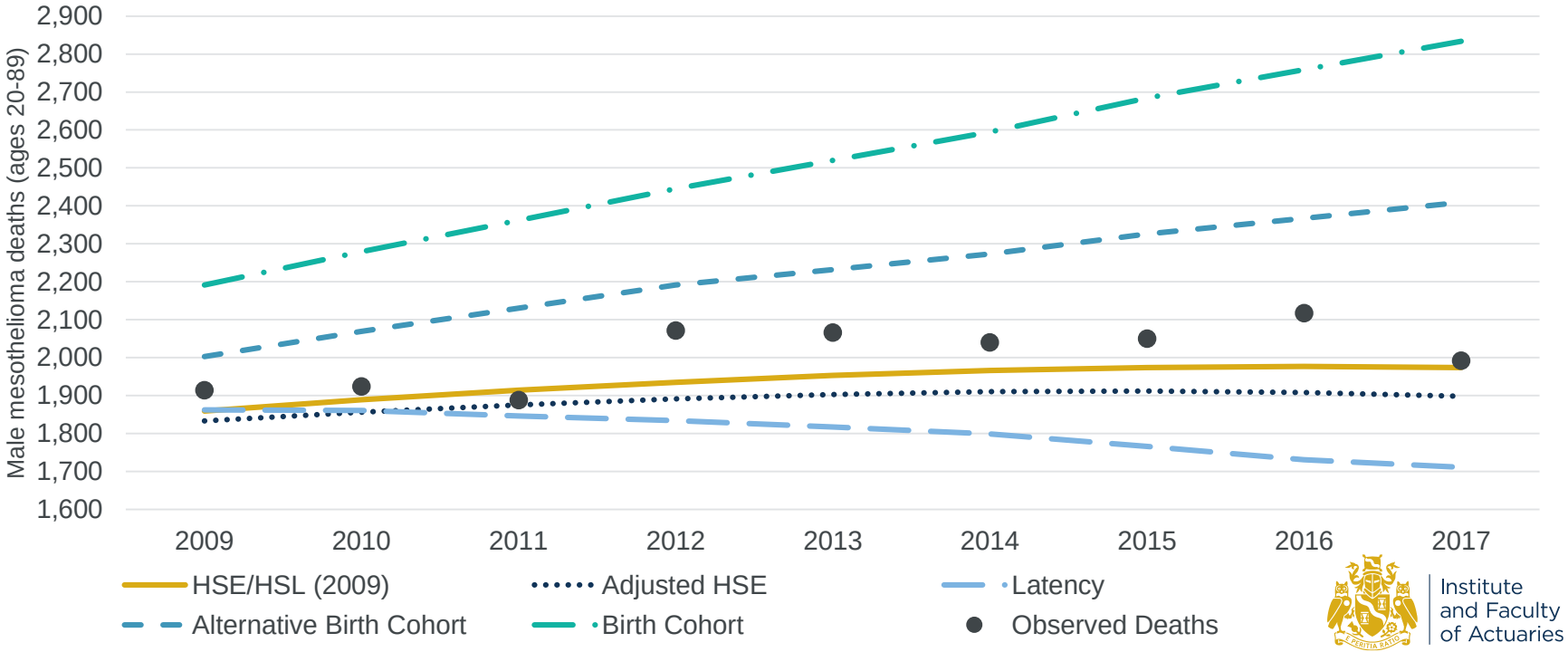
Mesothelioma deaths

Actual male GB deaths

Mesothelioma deaths (ages 20-89)

Recap



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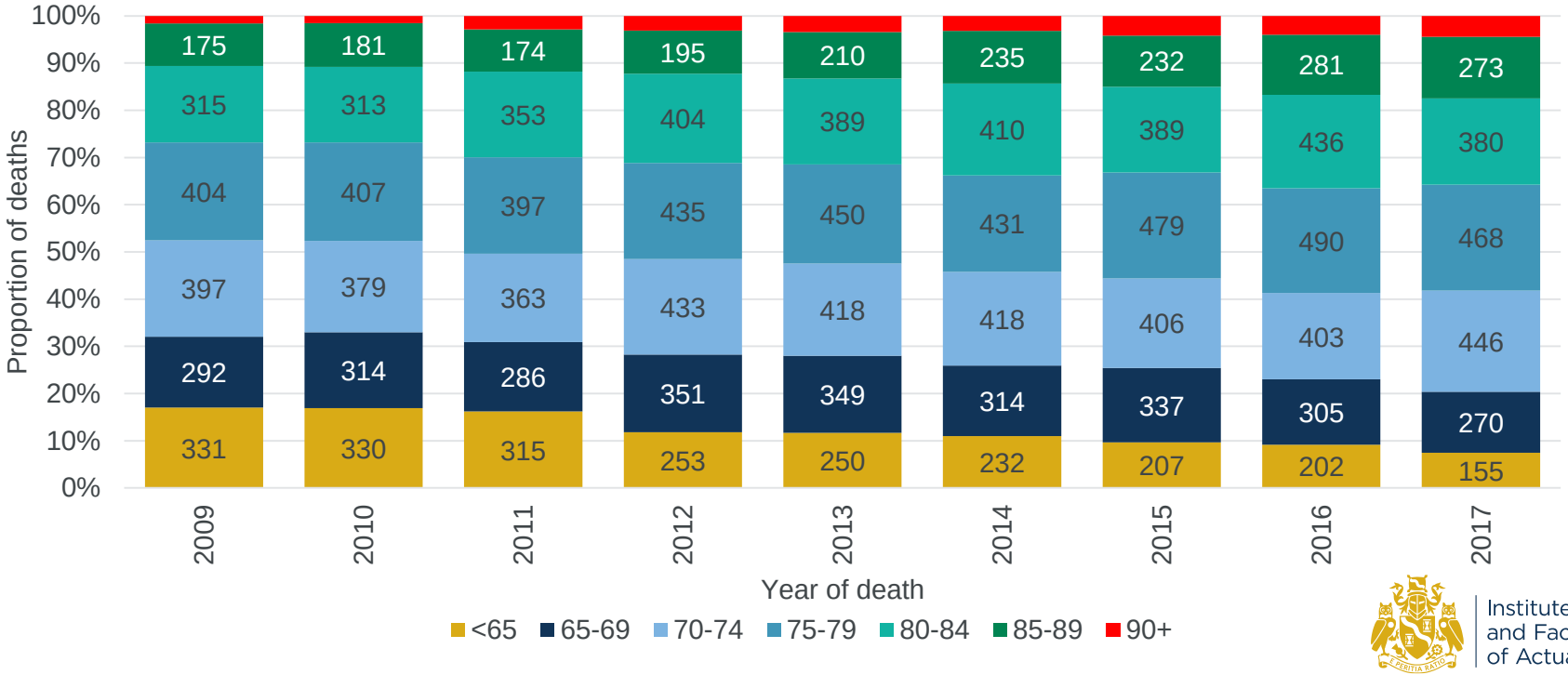
Mesothelioma deaths

Age profile of observed and modelled GB male deaths



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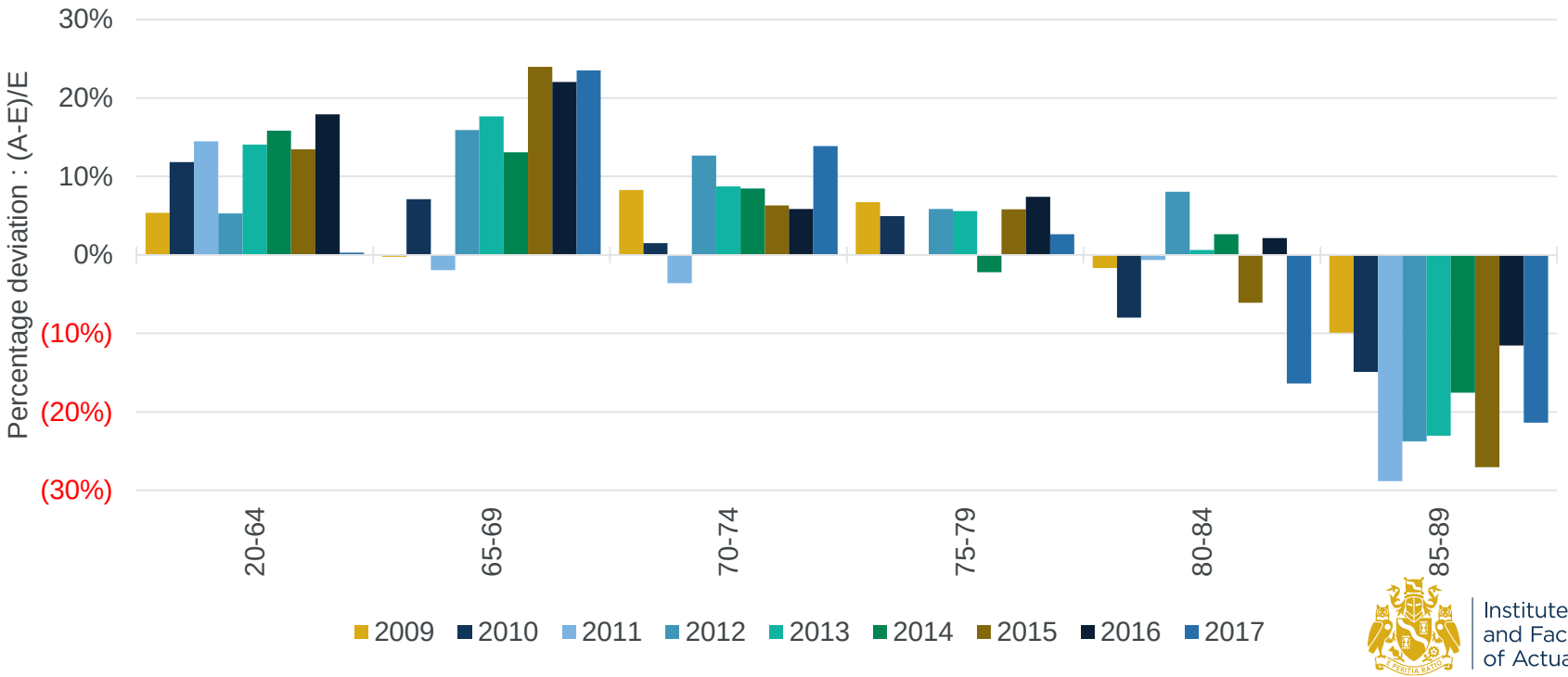
Mesothelioma deaths

Average age: HSE/HSL (2009) vs. experience



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Mesothelioma deaths

Heat map

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Mesothelioma deaths

HSE model

Mesothelioma deaths: HSE

Overview

- In July this year, HSE published an updated set of model parameters based on 2017 deaths data (published numbers go up to 2050 vs 2030 previously)
- An HSE paper is expected in late 2019/early 2020 once females model has been finalised
- Key change is that HSE have adopted a cap on the increase in the exponent of time from exposure – adopting the main modification made in the AWP 2009 model
- We have replicated the new HSE model and considered alternative scenarios
- Deaths age 20-89 still exhibit similar shape of future curve, rescaled for recent deaths experience
- We will update our model based on this final parameterisation and publish along with a full paper

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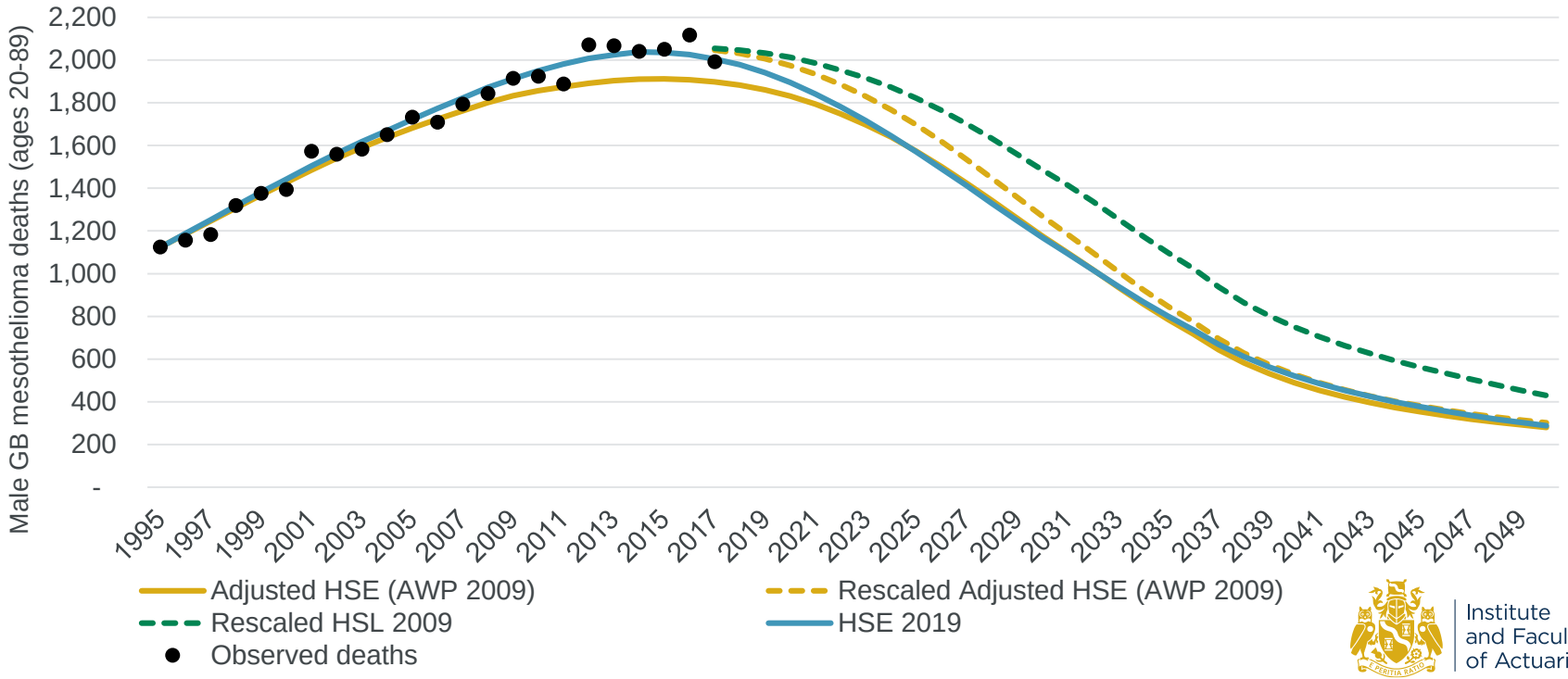
Mesothelioma deaths (ages 20-89)

HSE published curve (July 2019)



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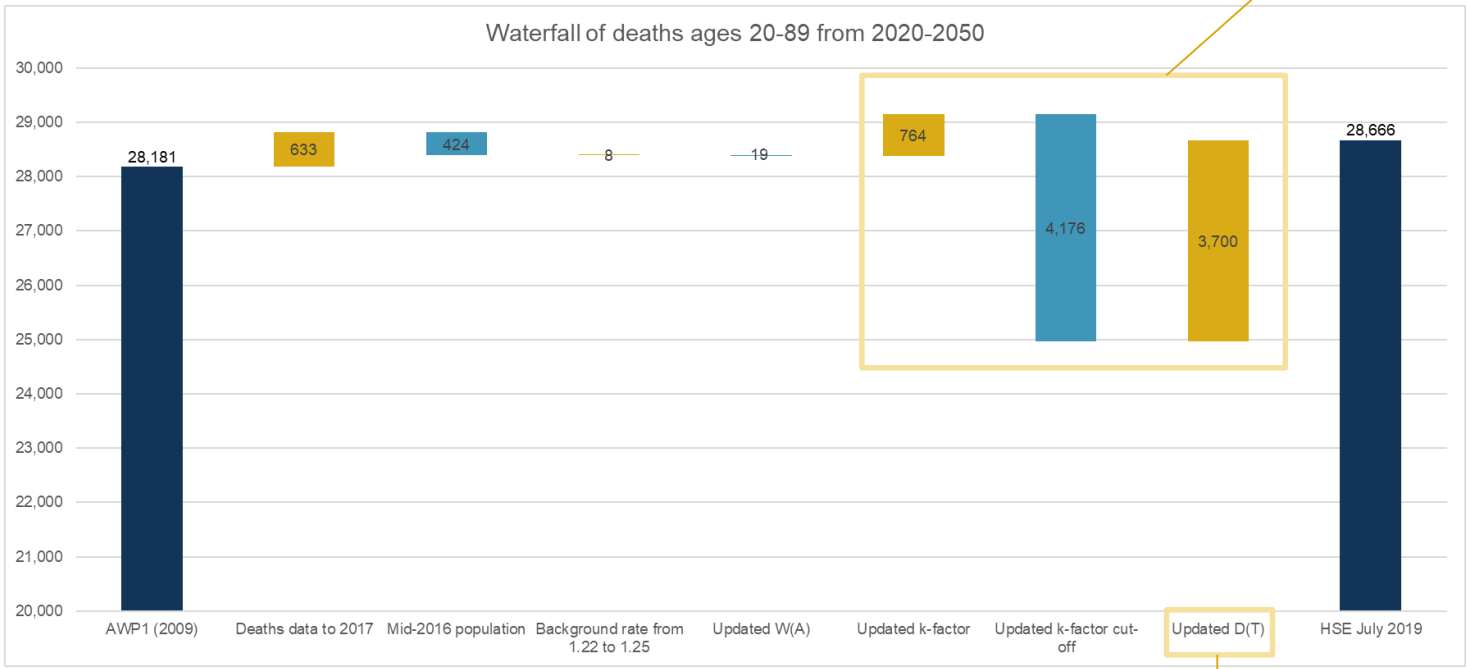
Mesothelioma deaths: HSE

Bridge from 2009 to latest model



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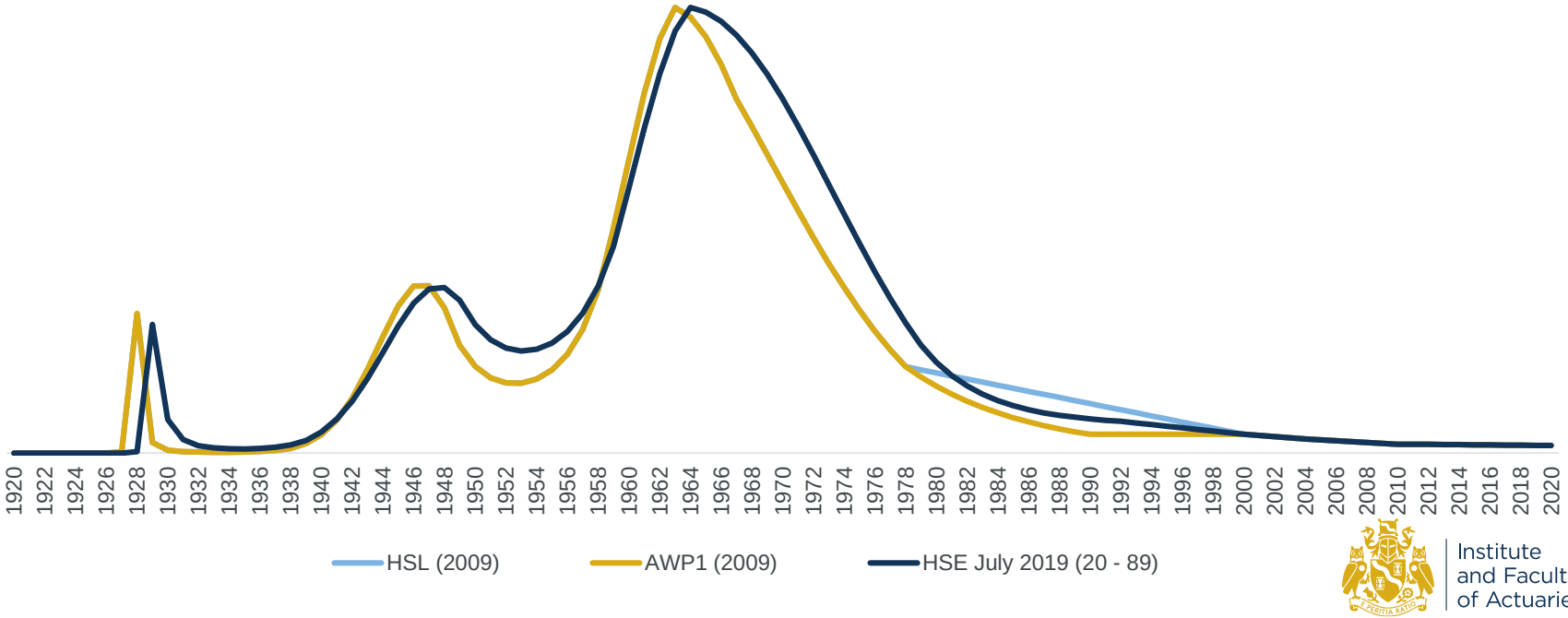
Mesothelioma deaths: HSE

Bridge from 2009 to latest model – exposure profile



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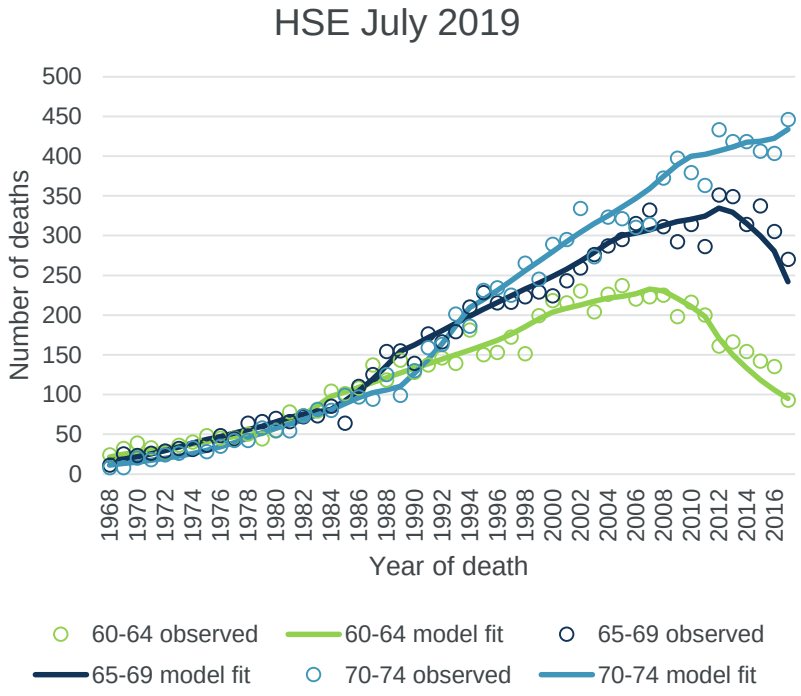
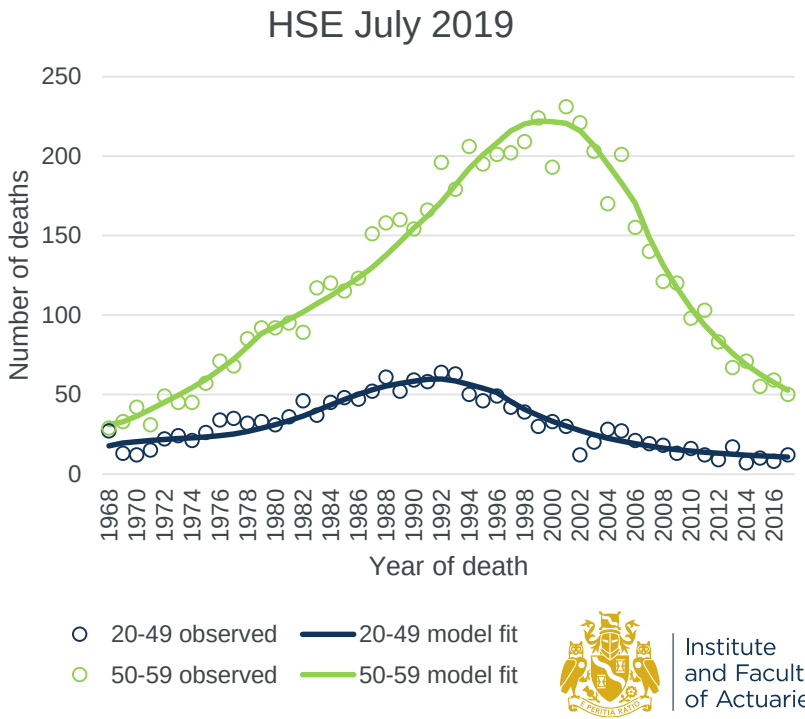
Mesothelioma deaths: HSE

HSE model fit by age band (1)





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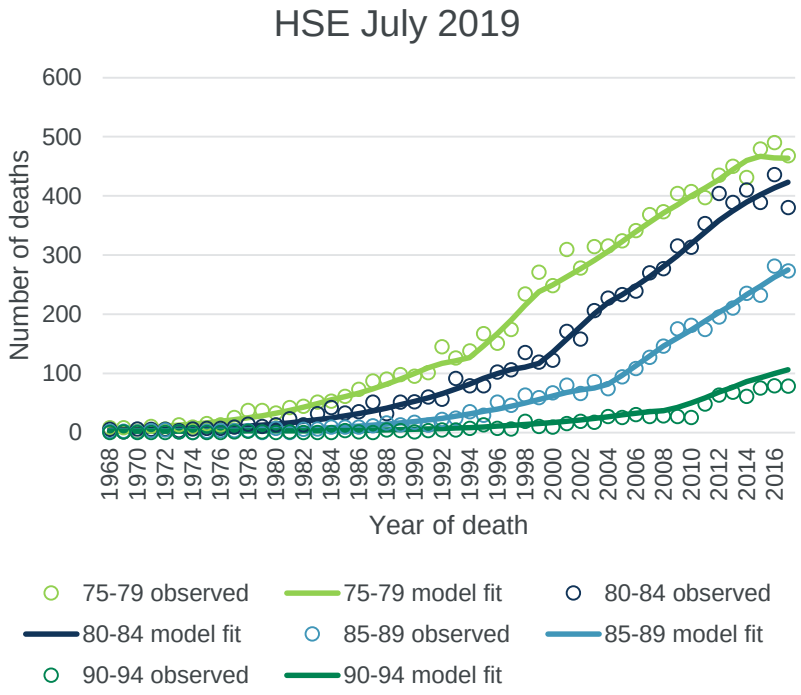
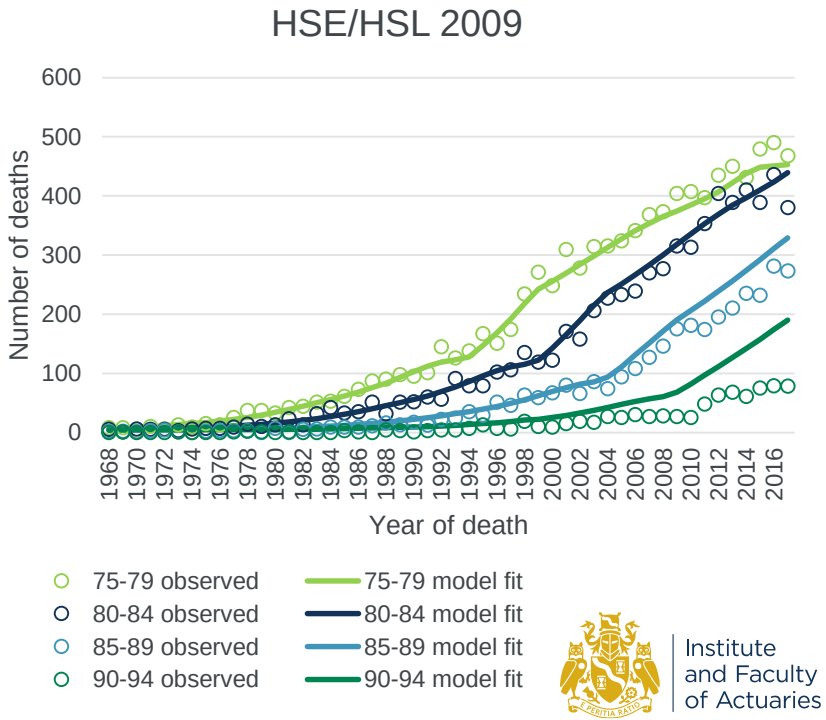
Mesothelioma deaths: HSE

HSE model fit by age band (2)





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Mesothelioma deaths: HSE
Exposure adjustments

- Individual practitioners will have the best view of exposure relevant to the modelled claims
- We have considered example adjustments to the tail of the exposure curve in the context of the goodness of fit to market claims experience
- Practitioners should determine a suitable end date for the projection based on the exposures modelled
  - Example adjustments shown here are based on a reduction to near zero non-background deaths in 2060 (HSE 2019 model: 2050 GB deaths = 327)
- We expect to extend the curve in the updated AWP model to emphasise this point

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Mesothelioma deaths: HSE
Exposure sensitivity (1)

- AWP 1 – recreate post 1978 exposure adjustment from 2009 paper. Less steep exposure decay than updated HSE profile
- AWP 2 and 3 aim to adjust onto deaths driven by insurance exposure. Both have around 0 exposure by 2018 and 2060 deaths approaching background deaths only figure
  - For reference, background deaths in 2060 = 35
- AWP 2 – 20% exposure decay per year post 1979
  2060 modelled deaths including background = 39
- AWP 3 – 30% exposure decay per year post 1989
  2060 modelled deaths including background = 40

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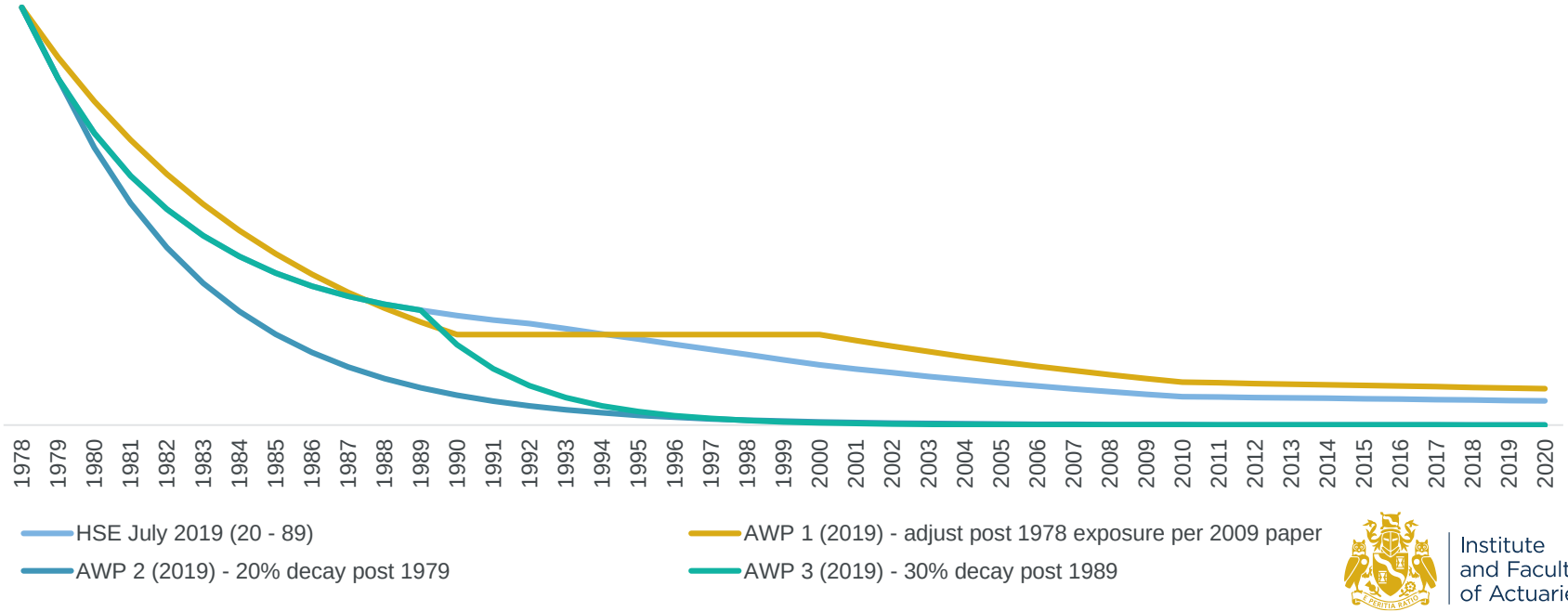
Mesothelioma deaths: HSE

Exposure sensitivity (2)



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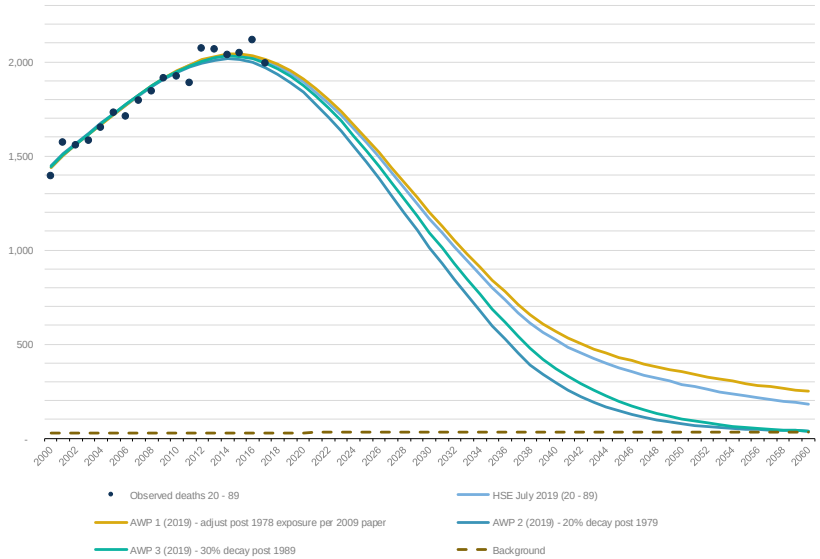
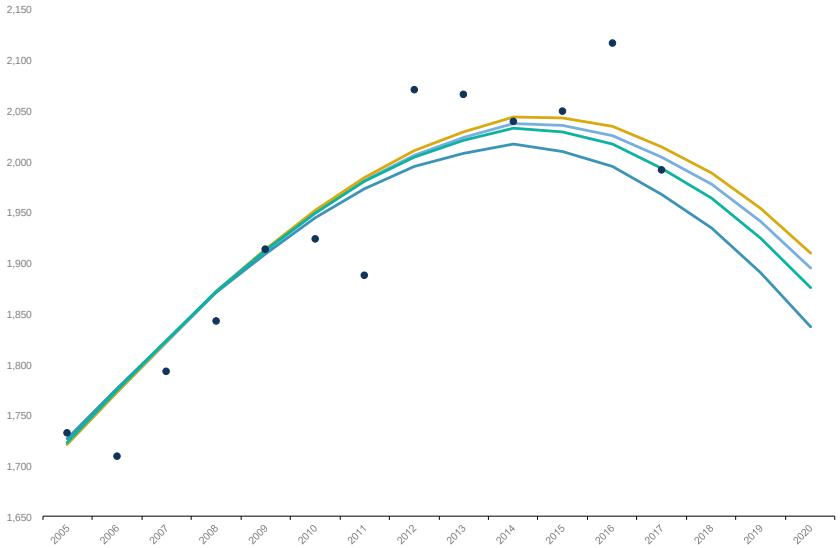
Mesothelioma deaths: HSE

Exposure sensitivity (3)





Comparison of male aged 20 - 89 death projections (includes background)	AWP1 (2009)	HSE July 2019 (20 - 89)	AWP 1 (2019) - adjust post 1978 exposure per 2009 paper	AWP 2 (2019) - 20% decay post 1979	AWP 3 (2019) - 30% decay post 1989
1968 - 2060 deaths	82,529	86,570	88,481	79,317	81,500
2020 - 2050 deaths	28,181	28,666	29,882	23,240	25,262
2020 - 2060 deaths	28,181	30,899	32,786	23,739	25,859
(2020 - 2050) / 2019 multiplier	15.1	14.8	15.3	12.3	13.1
(2020 - 2060) / 2019 multiplier	15.1	15.9	16.8	12.6	13.4
% change in 2019+ multiplier from AWP1 (2009):					
2020 - 2050		-2%	1%	-19%	-13%
2020 - 2060		5%	11%	-17%	-11%
Average squared difference projected versus observed deaths (age 20 - 89 and 1968 - 2017 period)	3,774	1,172	1,148	1,411	1,223

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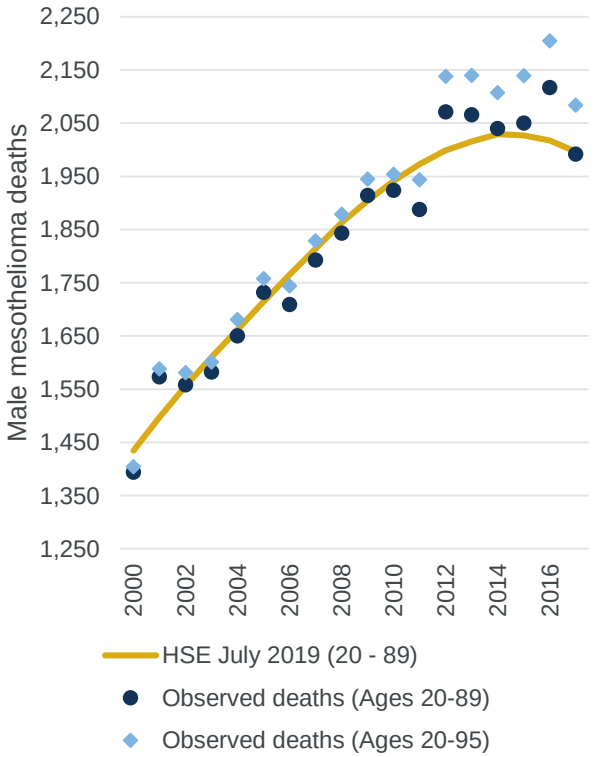
Mesothelioma deaths: HSE
Age 90+ sensitivity (1)

- Extension of the model to project deaths age 90+ is a key area of uncertainty
- We have discussed with the HSE and compared a number of approaches*:
  a. Linear extrapolation of deaths ratio age 90+ to deaths age 20-89 (HSE approach) Y = mX + C. HSE uplift on numbers of deaths increases from 5% in 2018 linearly to 15% in 2050.
  b. Exponential fit of the form Y = Exp [-1 / (mX + C)]
  c. Exponential fit of the form Y = C.Exp (bX)
  d. Extension of HSE model to fit deaths up to age 94 (based on May 2019 draft parameter set)

  *All AWP curves have been fit on 2013 – 2017 data points, Y = uplift
- We present a range of sensitivities and consider the impact on the multiplier of future deaths over 2019 calendar year deaths
- Propensity to claim at these older ages is another key issue for the market estimate



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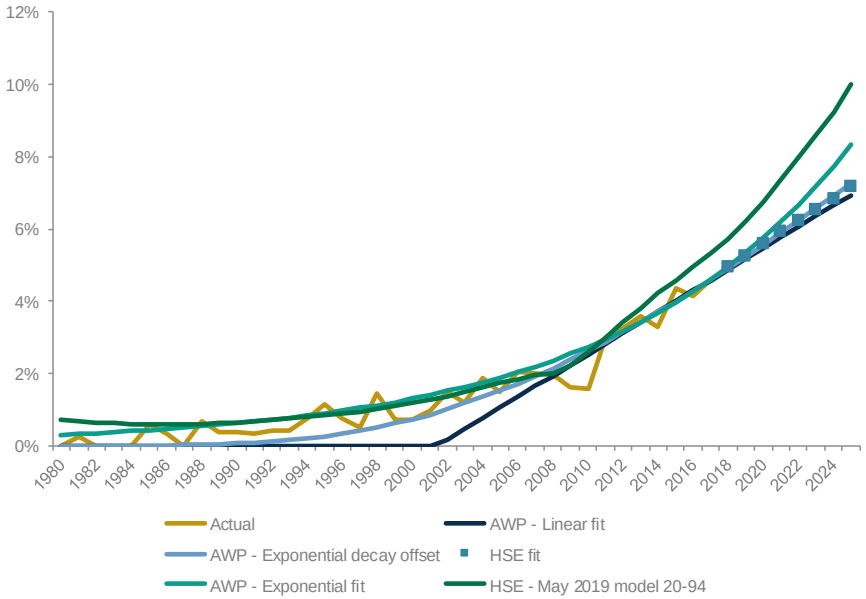
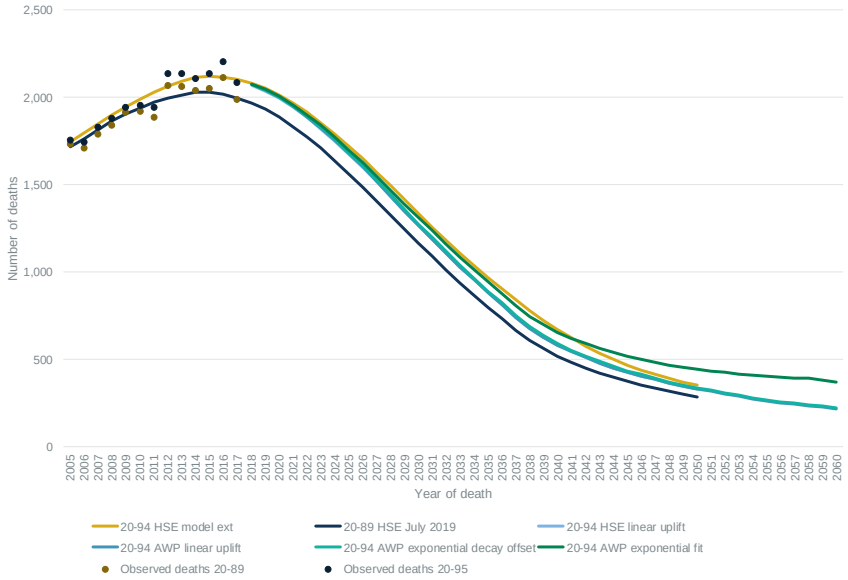
Mesothelioma deaths: HSE

Age 90+ sensitivity (2)





Uplift to all ages including 90+

	HSE July 2019 20 - 89 forecast	HSE uplift	AWP - Linear fit	AWP - Exponential decay offset	AWP - Exponential fit	HSE - May 2019 model 20-94
2020 - 2050 deaths	28,666	31,198	31,079	31,296	32,884	32,721
2020 - 2060 deaths	30,899	33,767	33,665	33,947	36,879	35,463
(2020 - 2050) / 2019 multiplier	14.8	15.3	15.2	15.3	16.1	16.1
(2020 - 2060) / 2019 multiplier	15.9	16.5	16.5	16.6	18.0	17.4
HSE uplift						
(2020 - 2050) / 2019 multiplier	0%	3%	3%	4%	9%	9%
(2020 - 2060) / 2019 multiplier	0%	4%	4%	4%	13%	9%

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Mesothelioma deaths: HSE
Population sensitivity

- HSE projection is based on ONS 2016 population projection and mid-2016 actuals (actuals used up to 2016 year)
- 2009 model was based on ONS 2006 projection and 2006 actuals
- AWP 2019 projection uses consistent assumptions with HSE 2019
- As sensitivities, we have also reviewed the impact of using actual figures up to 2018 (negligible impact) and the ONS projection with zero net migration (circa 1% reduction in deaths from 2020)
- ONS will release updated population projection on 21 October 2019 – to be consider in final published model

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Mesothelioma deaths

Age-Birth GLM model

Mesothelioma deaths: Age-Birth GLM

Overview

- Updated parameters for 2017 deaths
- Limited impact of re-parameterisation
- Alternative scenarios based parameters based on uncertainty at older ages (85+) and birth cohorts (1960 and onwards)
  - Scenario 1: Deaths at ages 85+ and birth cohorts post 1950 will be lower than currently reported
  - Scenario 3: Deaths at ages 85+ and birth cohorts post 1950 will be higher than currently reported
- A potential range of outcomes but by no means provide an upper or lower bound
  - Practitioners may wish to consider or use the alternative parameterisations

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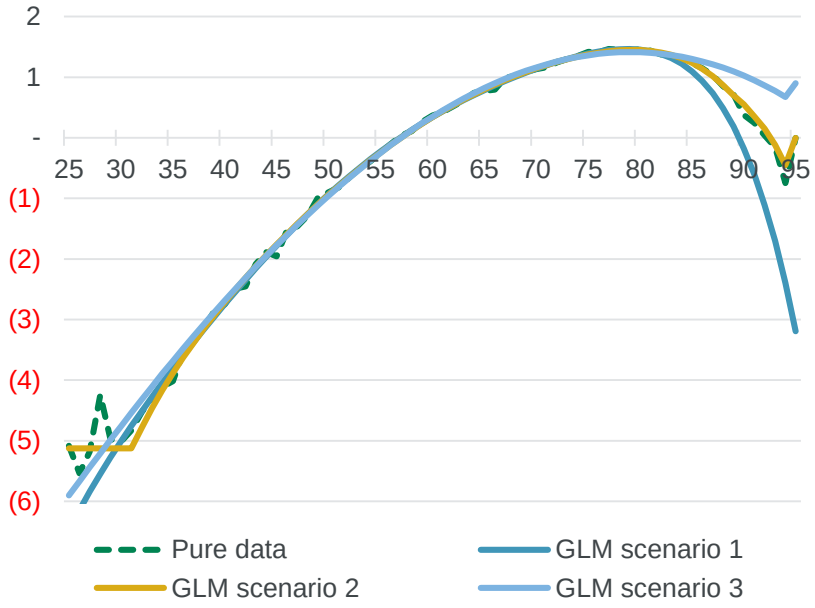
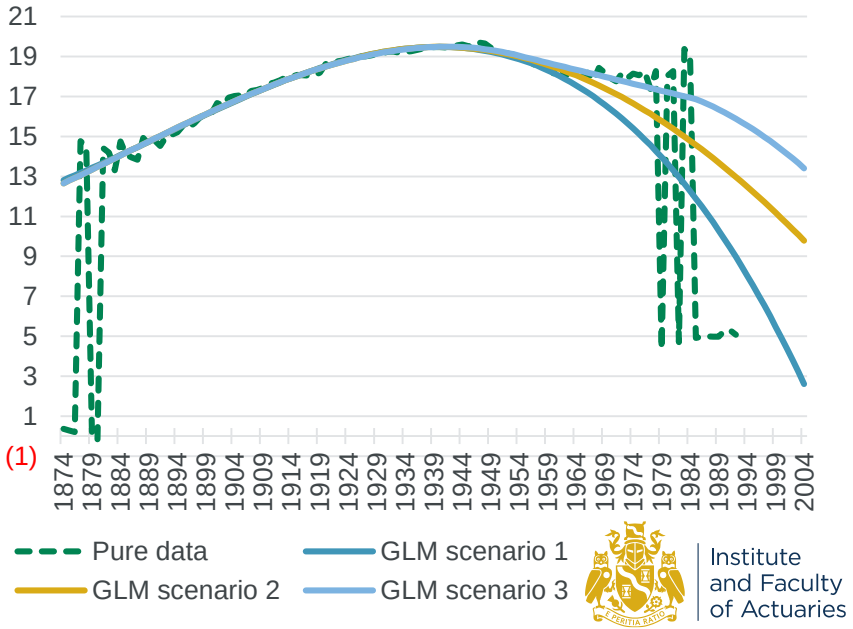
Mesothelioma deaths: Age-Birth GLM

Parameters

Age parameters



Birth parameters



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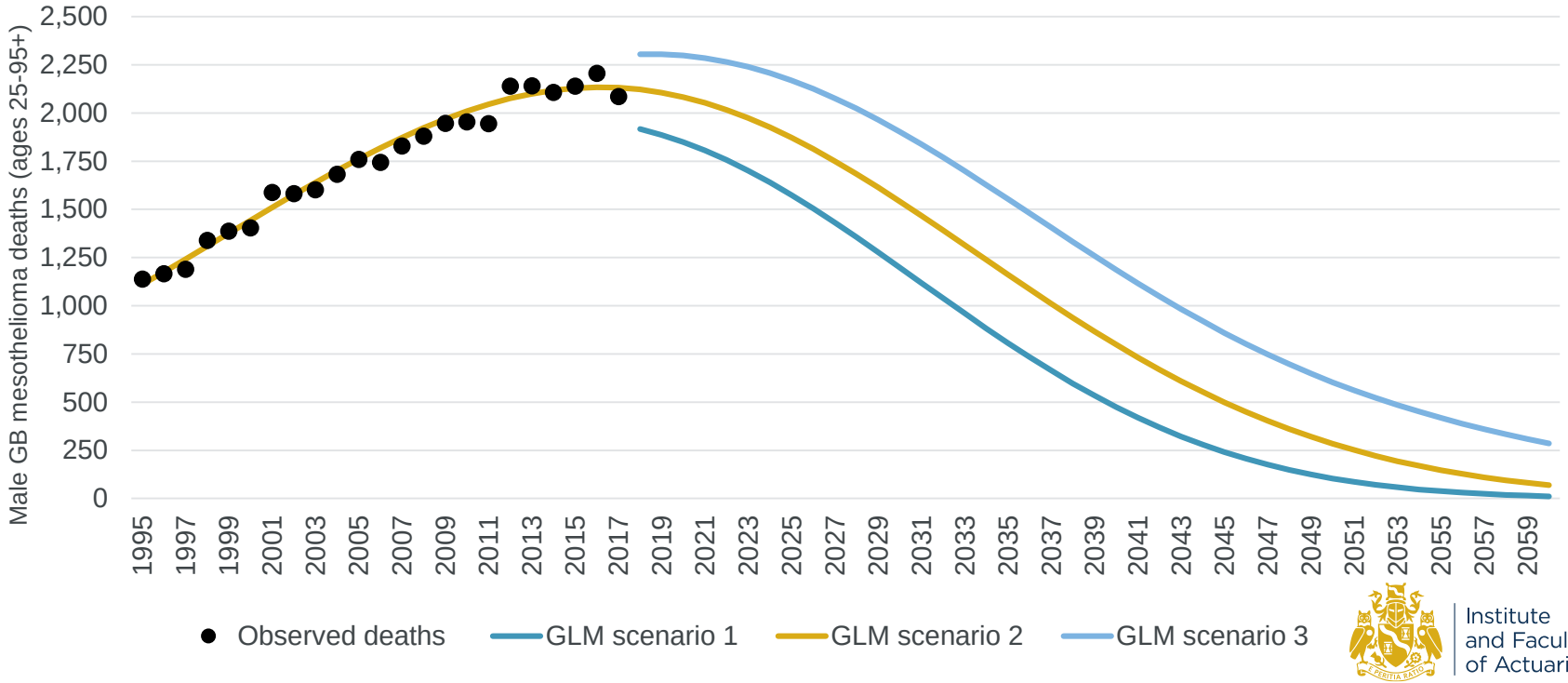
Mesothelioma deaths: Age-Birth GLM

Scenarios



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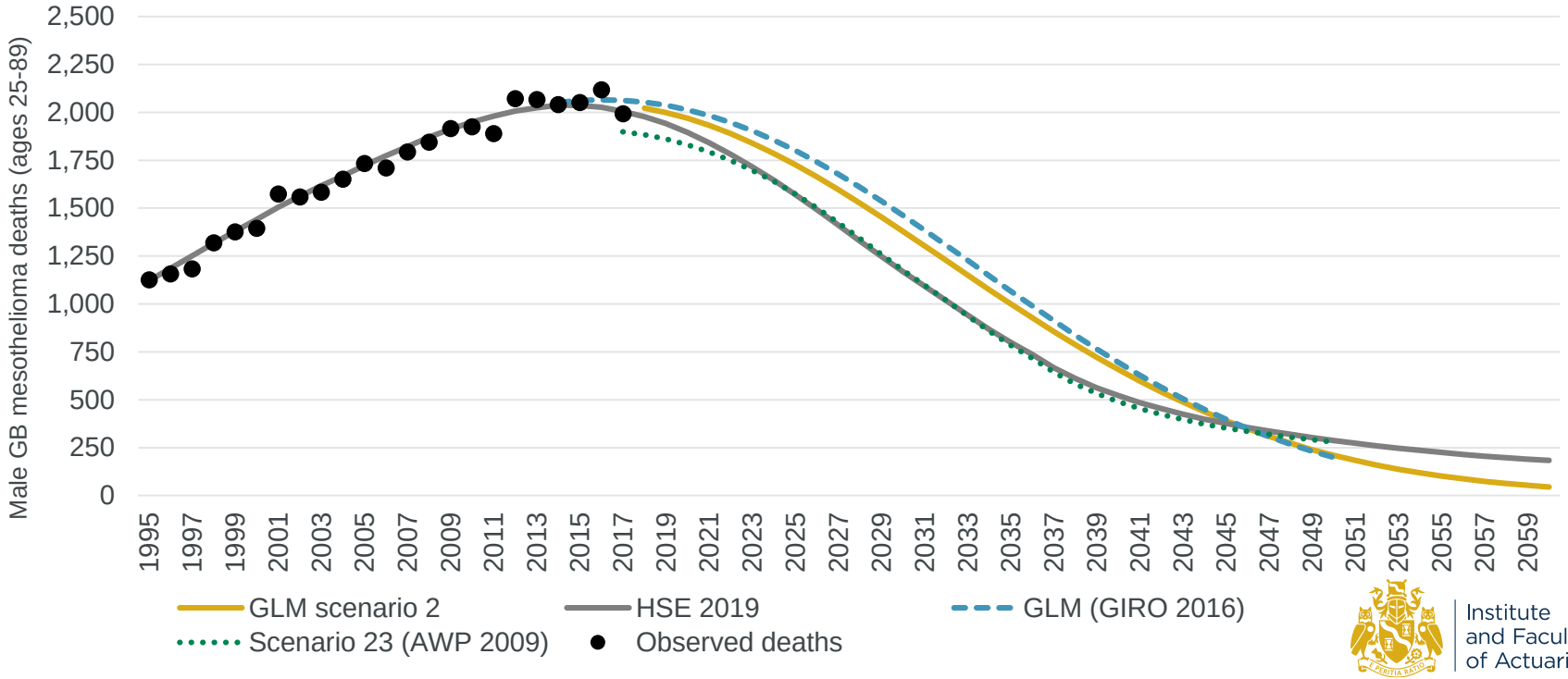
Mesothelioma deaths

Comparisons



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Mesothelioma average cost

Mesothelioma average cost

Overview

Model based on 2008 detailed data

Key changes:

- General Damages (new guidelines and reduced court inflation)
- Ogden multipliers and discount rate
- Proportion living at settlement from market survey
- Settlement pattern

Using Ogden discount rate at -0.25%, but showing scenarios at 2.5% and 0.5%

Model allows for a different Ogden discount rates

Three cost scenarios by considering the future inflation by each type

Inflation type	Scenario A	Scenario B	Scenario C
RPI	1.5%	2.5%	3.5%
Wage	2.5%	4.0%	5.5%
Court	1.5%	3.5%	5.5%
Ogden uplift %	2.0%	4.0%	6.0%
Ogden uplift every	6 years	5 years	4 years
Implied p.a. inflation	*2.2%*	*4.1%*	*6.0%*

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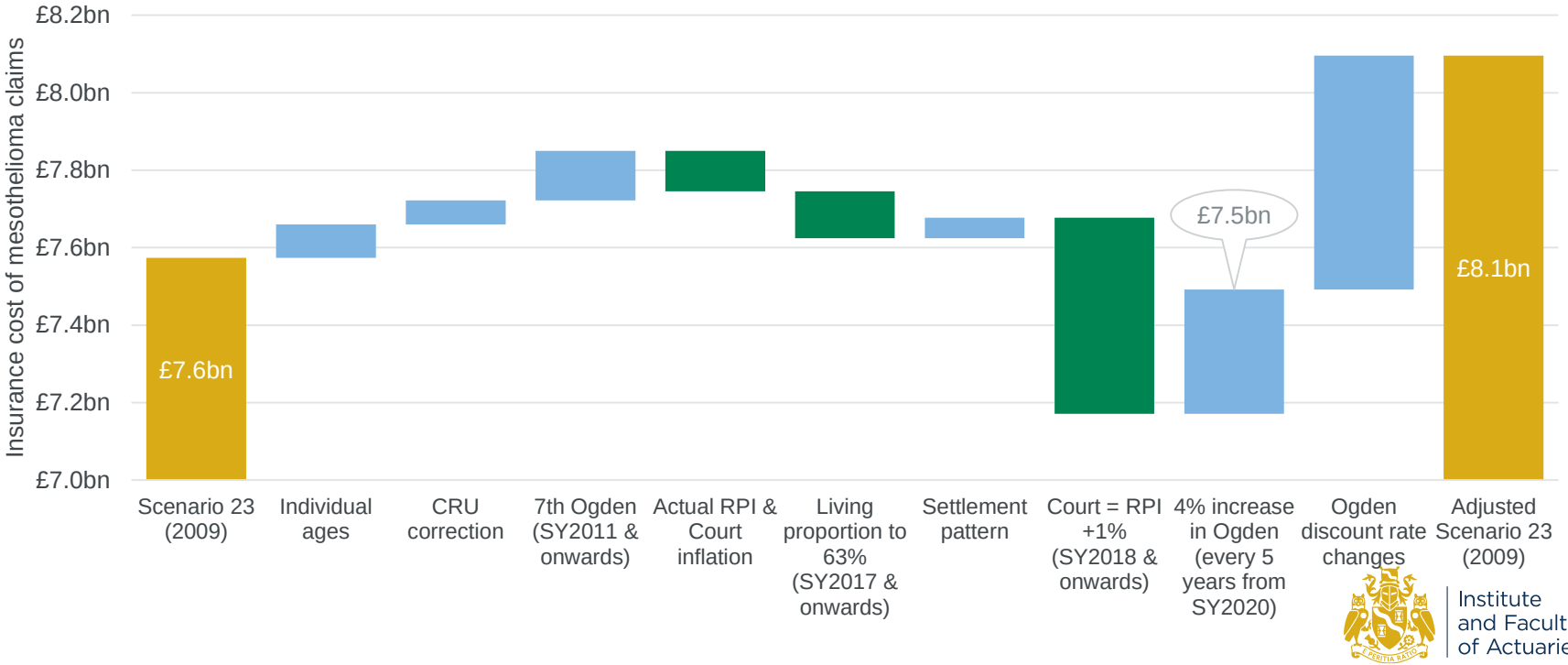
Mesothelioma average cost

Impact on 2009 Scenario 23 (years 2019 to 2050)



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Mesothelioma average cost

Further developments

Considering changes based on:

- qualitative views from claims handers; and
- quantitative analysis from CRU and survey data
  - Increasing the payment pattern (also evidence by survey data)
  - Changes to heads of damage by age
  - Claims to claimant ratio consistency with propensity to make a claim
- Next steps comparing implied claims to claimant ratio and survey average costs

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Mesothelioma claims to deaths

Propensity to make a claim and claims per claimant

Mesothelioma claims to deaths

CRU data – Background

- The Compensation Recovery Unit (CRU) is informed of all asbestos-related claims giving rise to compensation, whether from the insurance industry or the Government, and an insurer must notify CRU of a claim within 14 days, so should be minimal delay in notification dates compared to insurance notification date
- The last **full** set of data received from the CRU (under a Freedom of Information (FOI) request) was for notification years 2007 to 2015, received in February 2016
- **The FOI for 2016 and 2017 data have since been rejected based on the cost to produce the data, however, we managed to get aggregated data for 2016 (partial), 2017 and 2018 after multiple data requests and attempt to contact the CRU.** We continue to send data requests.
- Anonymised Customer Number provided to enable us to "group multiple claims for each customer", i.e. to produce a "claimant" list rather than "claim" list. Where a claimant has more than one data field classification, we have used the following "priority" order to map:
  - IP's Sex: Male, Female
  - Liability Type: Employer, Public, Other, Clinical Negligence
  - Type: Non-State, Local Authority, National Industry, NHS, Government Department
  - Country: England, Scotland, Wales, Northern Ireland, Channel Islands, Isle of Man
  - Claim Status: Live, Settled, Withdrawn
- Reduces 22,319 claims to 15,023 claimants, which the claim experts agree should represent all claimants who bring a claim (although the claim data will be inconsistent)

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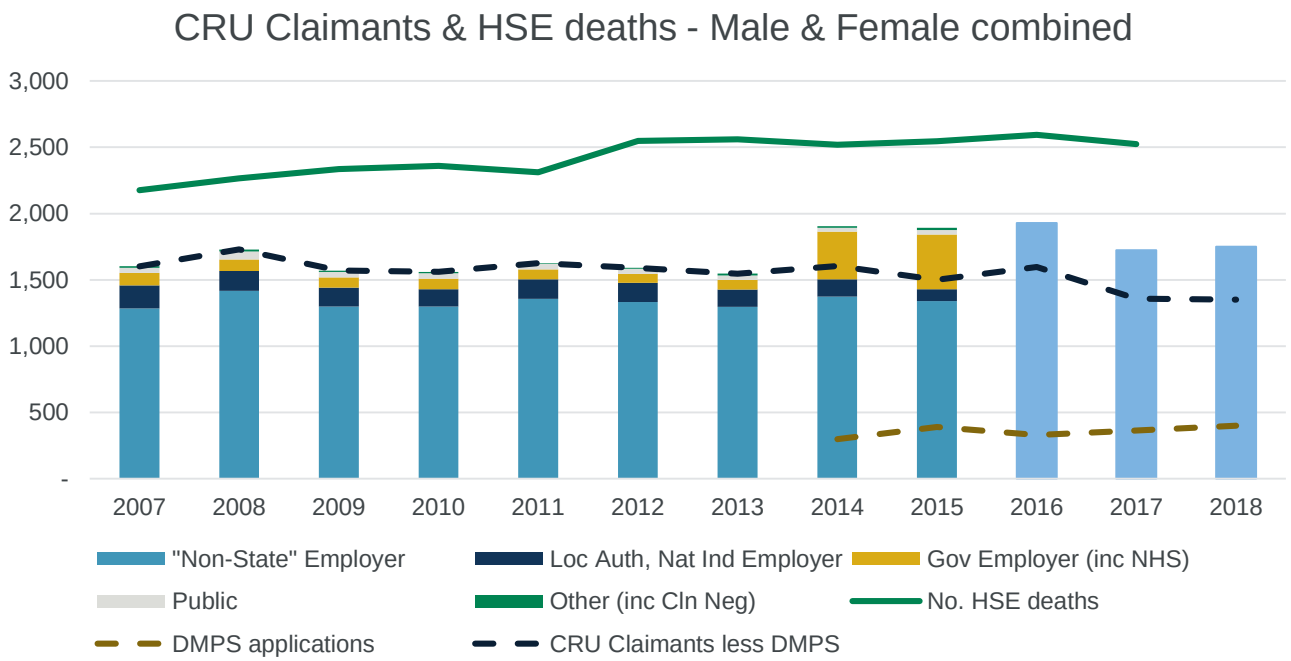
Mesothelioma claims to deaths

CRU data by notification year & HSE deaths



- Male Employer (ex Gov) claims consistently around 1,330 to 1,420 for 2007-2015
- Female Employer (ex Gov) claims consistently around 90 to 110 for 2007-2015
- Increase in Government claims for 2014-2018 due to DMPS, increase broadly consistent with claim numbers announced by DMPS
- HSE Deaths have been decreasing (latest HSE 2017) for male, but up for female – The number is slightly down for 2017 but flat overall

No CRU split available for 2016, 2017 and 2018
2016 is pro-rated as data was only provided for April-December

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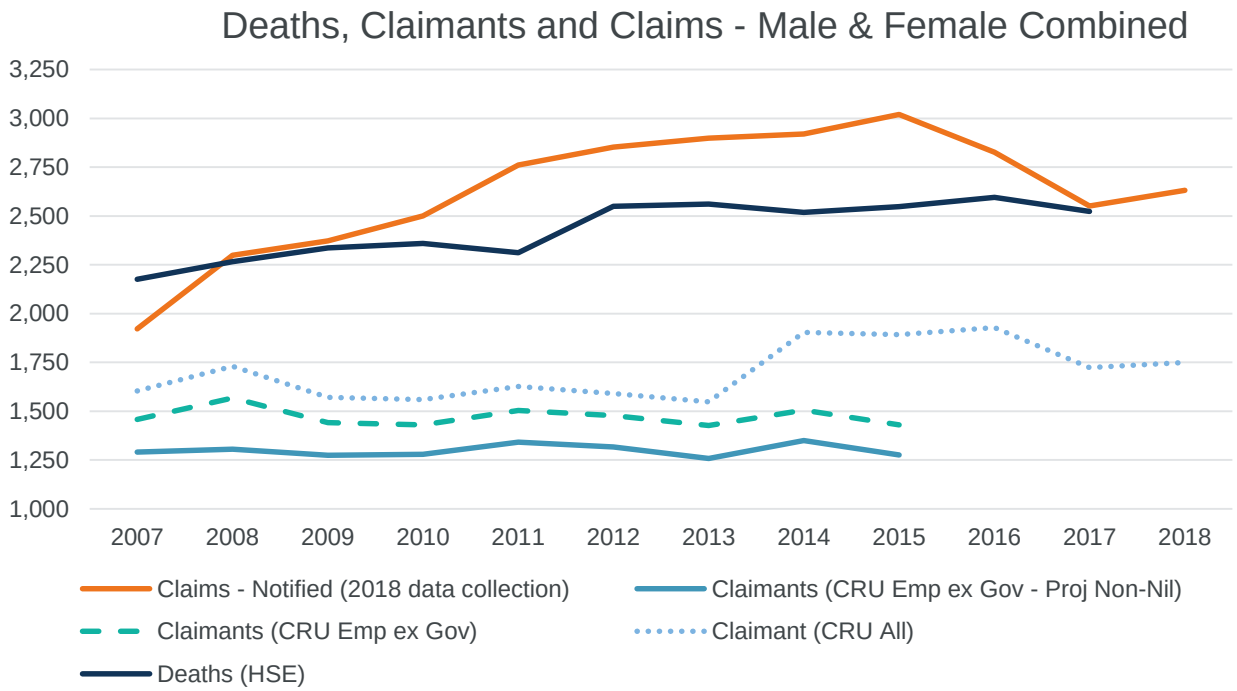
Mesothelioma claims to deaths

Conflicting trends in deaths, claimants and claims



- Deaths have been decreasing (latest HSE 2017) for male, but up for female – The number is slightly down for 2017 but flat overall
- BUT notified claims have been flat then reducing for 2015 to 2017 – then up for 2018
- Previous CRU data suggests non-government employer claimants has been flat
- Note that the claims are from the data collection, so roughly 80% of the market

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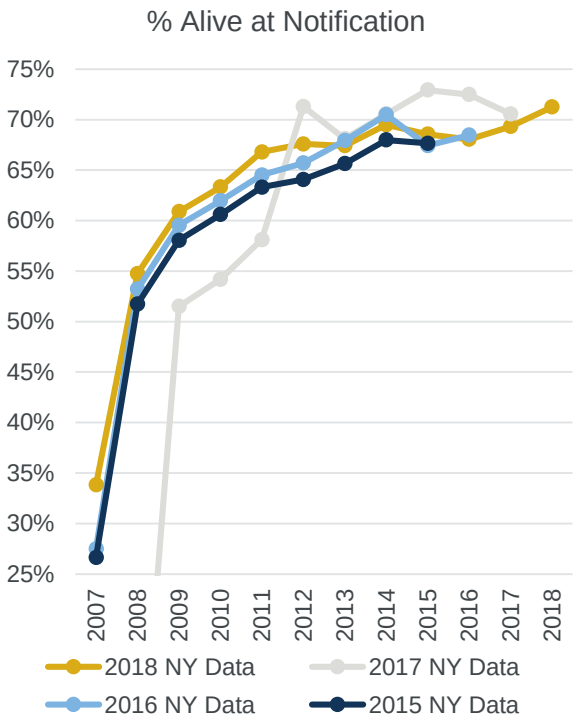
Mesothelioma claims to deaths

Proportion live at notification



- Proportion of Live claimants from the data collection has increased over time but looked to be stabilising until 2017
  - Slightly up in 2018
- Additional background from claims experts
  - Historically Scottish claims waited until after death to get higher claim for multiple dependants, but legislation in 2012 and 2014 changed this
  - Diagnosis is earlier, and also people living longer
  - Anecdotally, it was felt that the length of time between diagnosis and notification has shortened over the last five years but has plateaued around 4-6 months for the last two years
  - Potential of data being provided to help us investigate trends in length of time between notification and death
  - One view was that while the live proportion appears to have levelled off, immunotherapy will give it another boost with people claiming earlier to secure treatment rather than purely to support dependents

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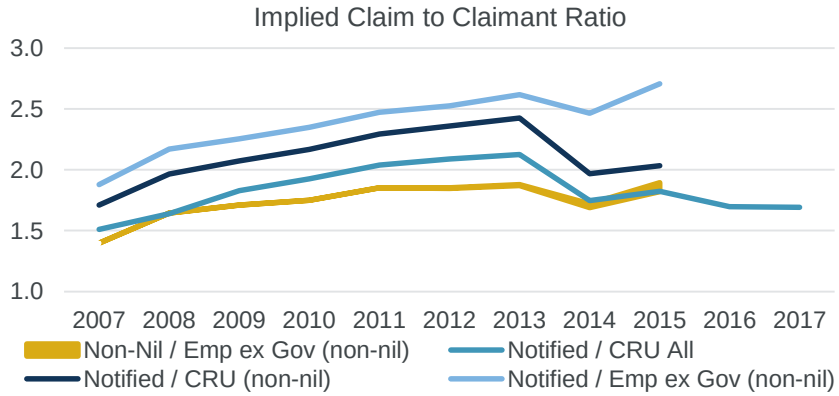
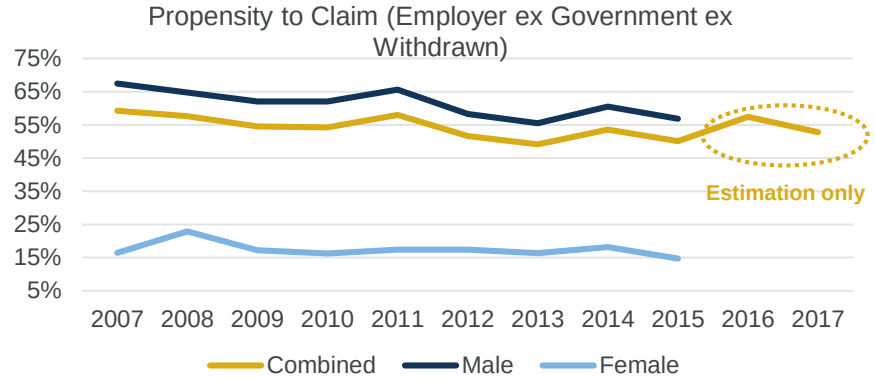
Mesothelioma claims to deaths

Moving parts between deaths and claims

- Notification earlier, more likely when still alive due to:
  - Diagnosis earlier
  - Scotland legislation
  - Immunotherapy (and other private medical treatments)
- Potential longer survival
  - Claimants living longer due to medical advances, not just due to earlier diagnosis
- Lower propensity to claim from older ages
  - Propensity stable or slightly increasing for a particular age, but aging population will reduce the aggregate propensity





- Changing claim to claimant:
  - Claim manager view is that the number of cases with multiple defendants is reducing in line with the UK exposure profile, e.g. classic multiple defendant case is a lagger
  - Could the number of insurance claims be reducing due to market consolidation
  - Ratio comparing non-nil claims compared to CRU Employer (ex Government) claimants pretty stable since 2011

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Mesothelioma claims to deaths

Moving parts underlying the trends

- Implications of these underlying changes:
  - Where we previously assumed claim notifications were spread fairly evenly before and after date of death, there seems to be evidence that the notification date is now (on average) earlier than deaths
  - Will impact the propensity to claim assumed over recent years and projected going forward.
  - Will also impact the claim to claimant assumption
- How do we plan to model propensity to claim going forward:
  - Estimate the future live vs deceased proportion
  - Estimate the delay between notification and death or death and notification as appropriate
  - Combine to produce a matrix mapping notification year to death year (and visa-versa)
  - Use this along with (updated) CRU claimant data *(if we ever get it!)* and HSE death data to get a better understanding of propensity to claim when looking at consistent groups of people.
- How do we plan to model claim to claimant going forward:
  - Combine the market survey data with the CRU claimant data (for Employer, Non-Government claimants only) to see what trends are emerging
  - Combine with qualitative data from the market to project going forward.

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Non-mesothelioma insurance cost

Non mesothelioma claims

Overview

- Not detailed models for claim numbers or costs
- Numbers judgemental, given epidemiological and non-epidemiological impacts
  - 3 scenarios based on scaling Age-Birth GLM mesothelioma patterns:
  - 1 scenario based on AWP 2009* number 2 curves
- Costs based on settled (reported and settlement year basis) and incurred, recent year averages
- Projections include nils – historical trends on nil rates have been reasonably stable
- Included pleural plaques for Scottish and Northern Irish exposures

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* AWP 2004 for pleural plaques with Scottish and Northern Irish exposures

Legal and Other

Legal and Other
Equitas vs MMI

How should insurers allocate mesothelioma claims to reinsurance contracts

- Court found that "spiking“ of mesothelioma claims settled under employers' liability insurance policies should not extend to a reinsurance context
- Insurers not entitled to present their reinsurance claims to any policy year of their choice and must present the claims on a pro rate time of risk basis
- Court of Appeal granted MMI permission to appeal. Anticipated that the case will be heard by the Supreme Court in the first half of next year

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Legal and Other
Ogden and Immunotherapy

Ogden

- Lord Chancellor announced 15 July 2019 a change in the Ogden Discount rate which has moved from -0.75% to -0.25%. This new rate effective in England and Wales as of 5 August 2019.
- This is in line with the discount rate used in Scotland of -0.25%, under the Damages (Investments Returns and Periodical Payments) (Scotland) Act 2019.
- Left open the possibility of dual rates
- Statute requires that the discount rate be reviewed within 5 years

Immunotherapy

- For mesothelioma claims reported in 2018, 5% have requested immunotherapy treatment for the sufferer
- Low settled proportion, 0.4% on average of those have settled with an agreed settlement on immunotherapy treatment

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Summary and next steps

Summary

- Not a significant change, but an increase in the insurance market estimates
- Uncertainty around when mesothelioma claims peak and how they run-off
  - HSE have adopted AWP capping of k
- Extending to 2060, but practitioners should consider their own exposure
- Looking at impact of 90+ ages given limited data at these ages

Next Steps

- Assess the model and adjust parameters
- Finalise mesothelioma and non-mesothelioma scenarios
- Models and spreadsheets on website
- Paper outline results and key sections from previous papers

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Questions

Comments

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