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UK asbestos working party

Robert Brooks, Mark Hart & Rhiannon Seah



IMPORTANT

ALL FIGURES PRESENTED IN THIS
WORKSHOP ARE DRAFT

FINAL ESTIMATES WILL BE PUBLISHED IN OUR
PAPER LATER WHEN WE CONCLUDE OR
WORK ON MESOTHELIOMA



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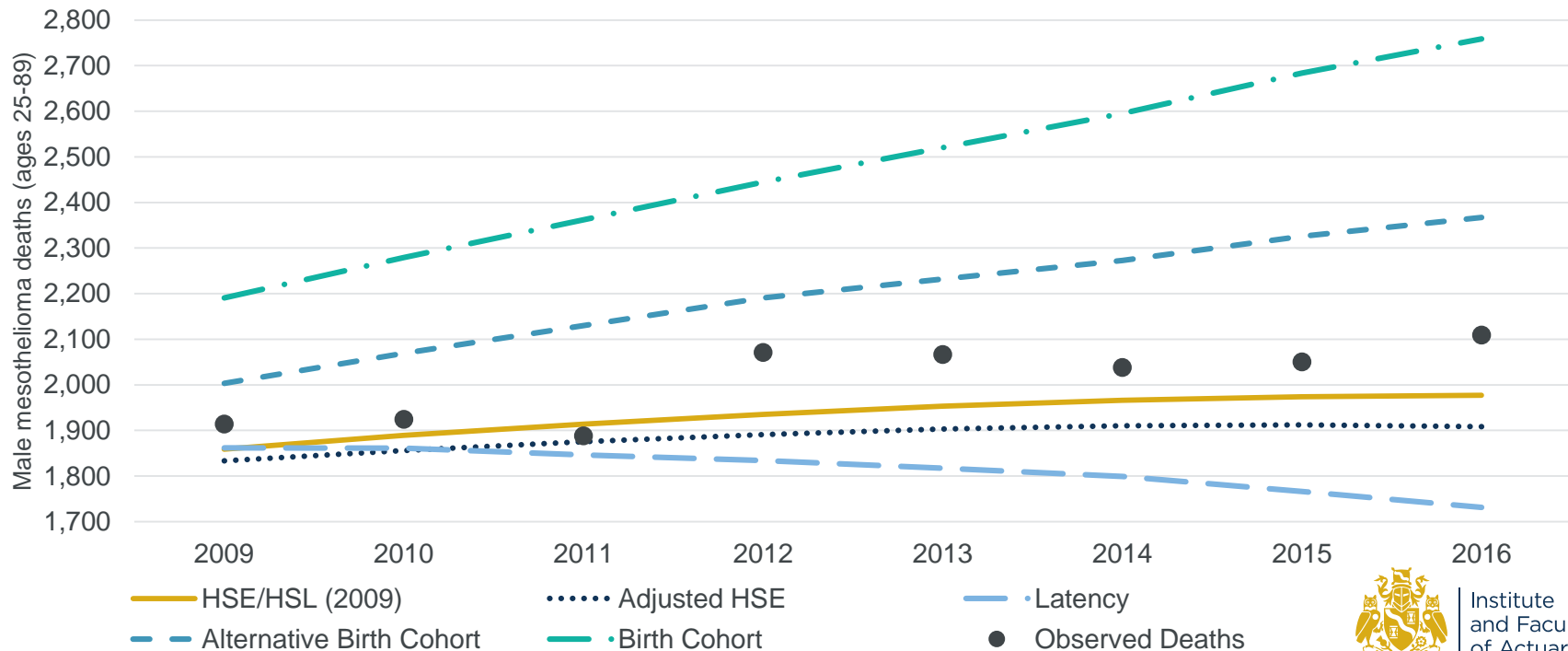
Mesothelioma deaths

Two models: Age-Birth GLM model and HSE model



Mesothelioma deaths

Recap



Mesothelioma deaths: HSE

Overview

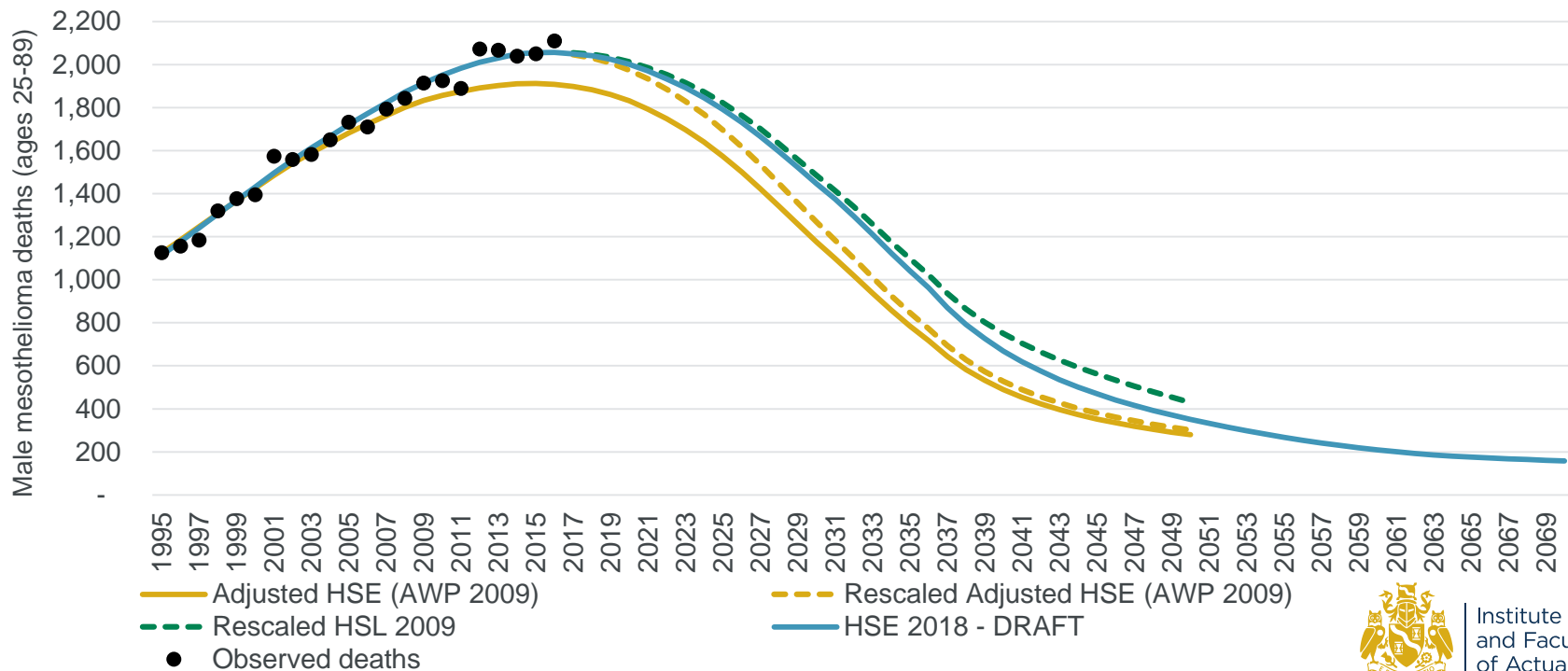
- HSE have updated their draft parameters for 2016 deaths data and to project deaths beyond 2050
- They are working on finalising the female parameterisation and reviewing projected deaths at older ages before publishing updated paper with selected parameters
- We have replicated HSE model and considered alternative parameterisations
- Deaths age 20-89 still exhibit similar shape of future curve, rescaled for recent deaths experience
- HSE aim to have an updated projection for ages 20-89, and a reassessment of the over 90s projection, based on deaths stats to 2016 ready by the time of the of their main annual statistics release at the end of October, with formal publication via a paper to follow
- We will then update our model based on this final parameterisation



Mesothelioma deaths

HSE latest curve

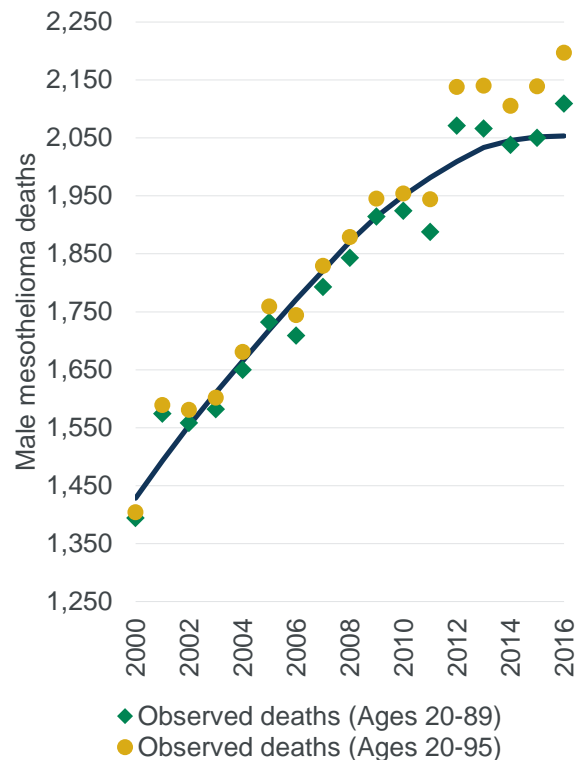
NOTE: HSE 2018 model parameters subject to change



Mesothelioma deaths: HSE

Age 90+

- Extension of the model to project deaths age 90+ is a key area of uncertainty
- We have discussed with the HSE and are comparing a number of approaches:
 - a. Linear extrapolation of actual deaths age 90+ to deaths age 20-89 (HSE prior approach)
 - b. Using our GLM output to inform the death rates above age 90 in the HSE model
 - c. Judgementally applying death rates based on HSE model output for younger age bands
 - d. Full model parameterisation by HSE to fit deaths up to age 95
- Depending on the outcome of (d), we will determine if we have a preferred method or a set of alternatives / sensitivities
- Propensity to claim at these older ages is another key issue for the market estimate



Mesothelioma deaths: Age-Birth GLM

Overview

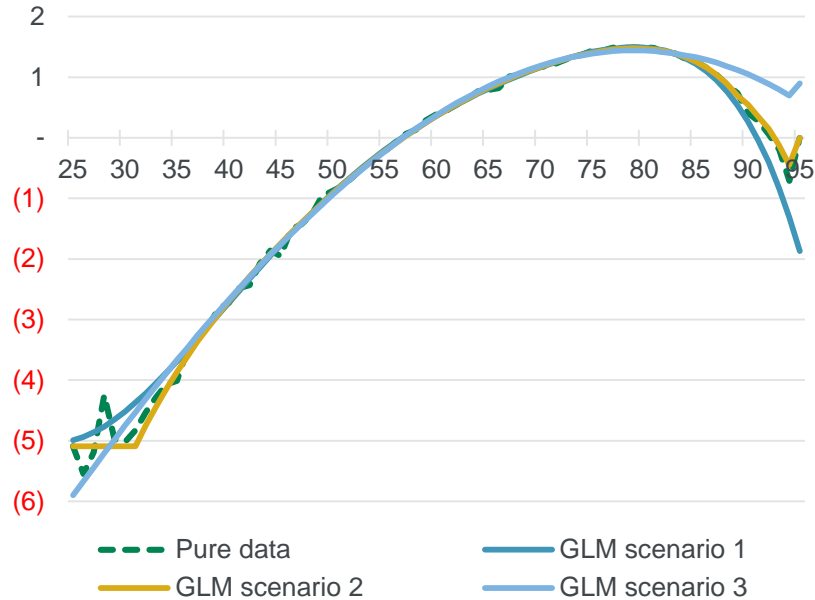
- Updated parameters for 2016 deaths data
- Limited impact of re-parameterisation
- Alternative scenarios based parameters based on uncertainty at older ages (85+) and birth cohorts (1960 and onwards)
 - Scenario 1: Deaths at ages 85+ and birth cohorts post 1950 will be lower than currently reported
 - 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



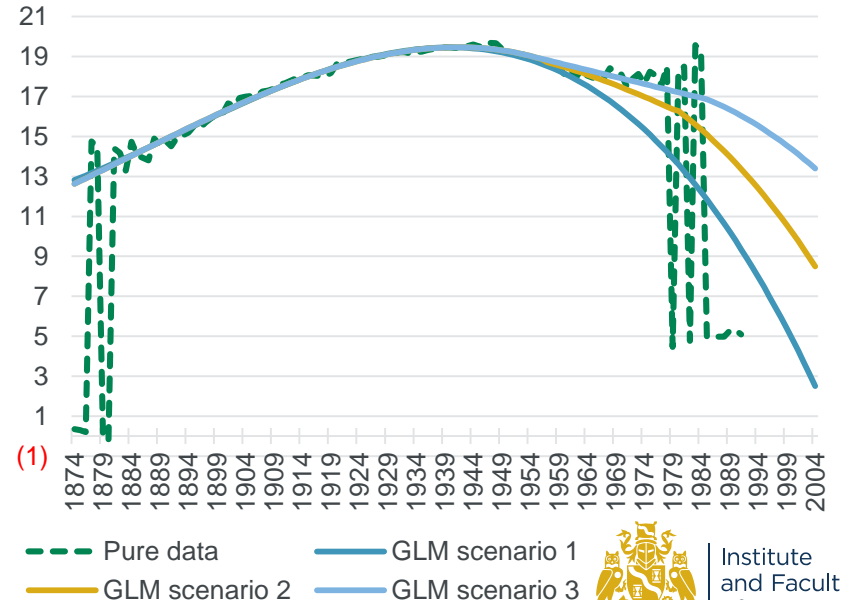
Mesothelioma deaths: Age-Birth GLM

Parameters

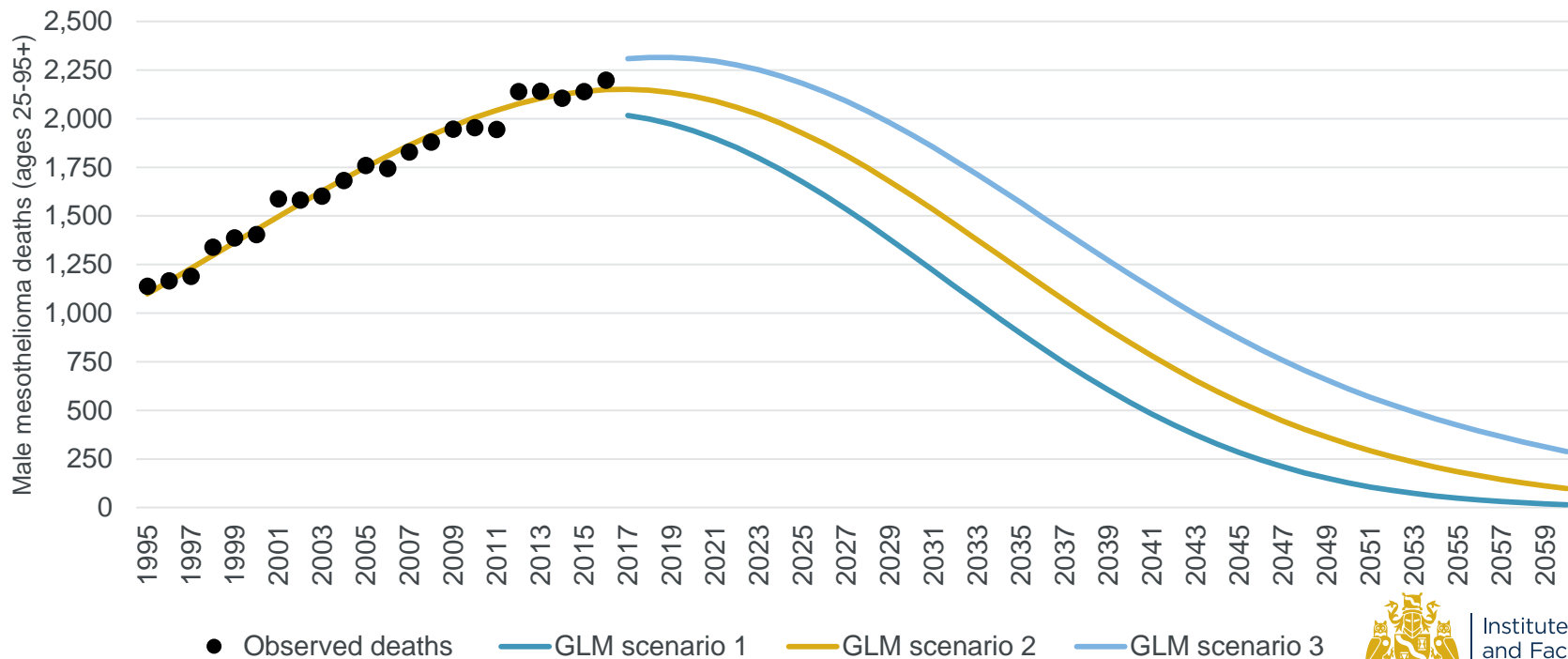
Age parameters



Birth parameters



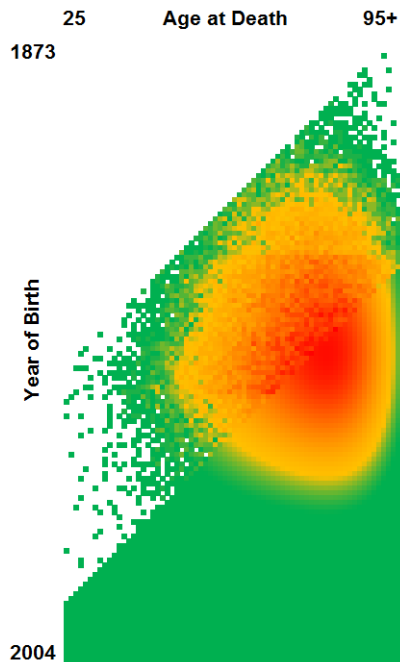
Mesothelioma deaths: Age-Birth GLM Scenarios



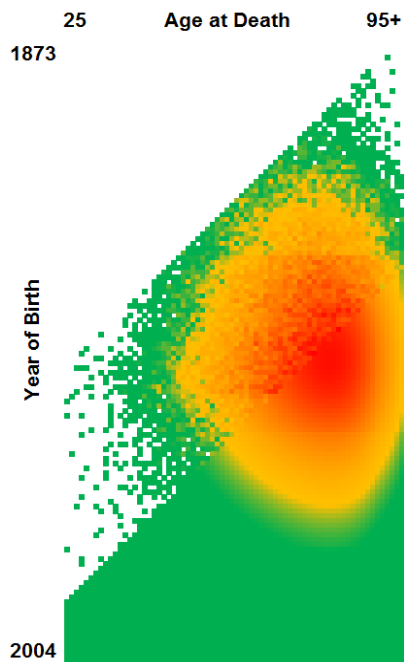
Mesothelioma deaths: Age-Birth GLM

Heat maps

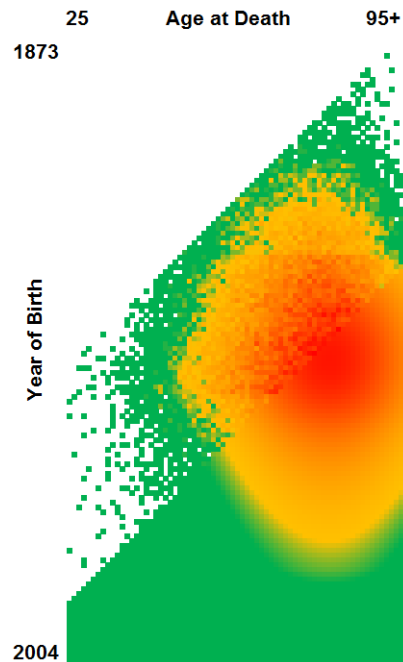
GLM scenario 1



GLM scenario 2

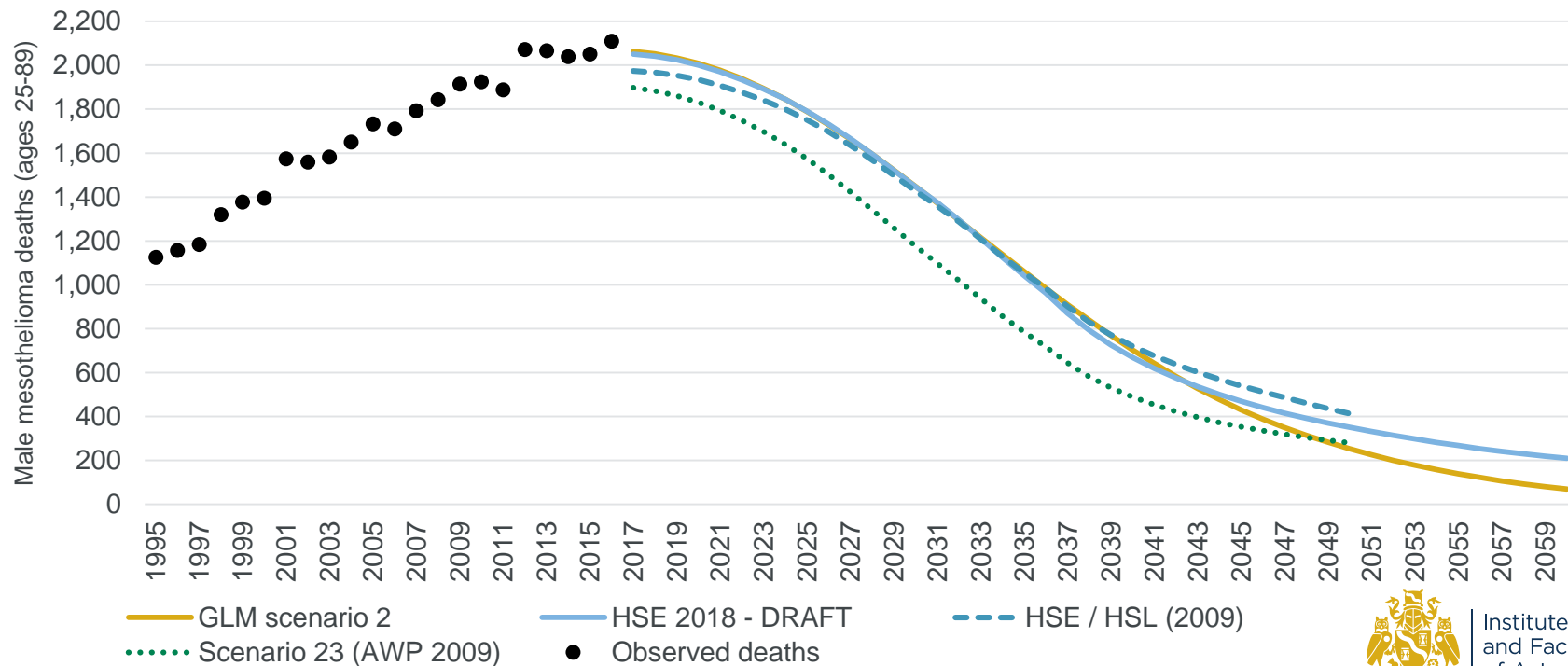


GLM scenario 3



Mesothelioma deaths

Comparisons



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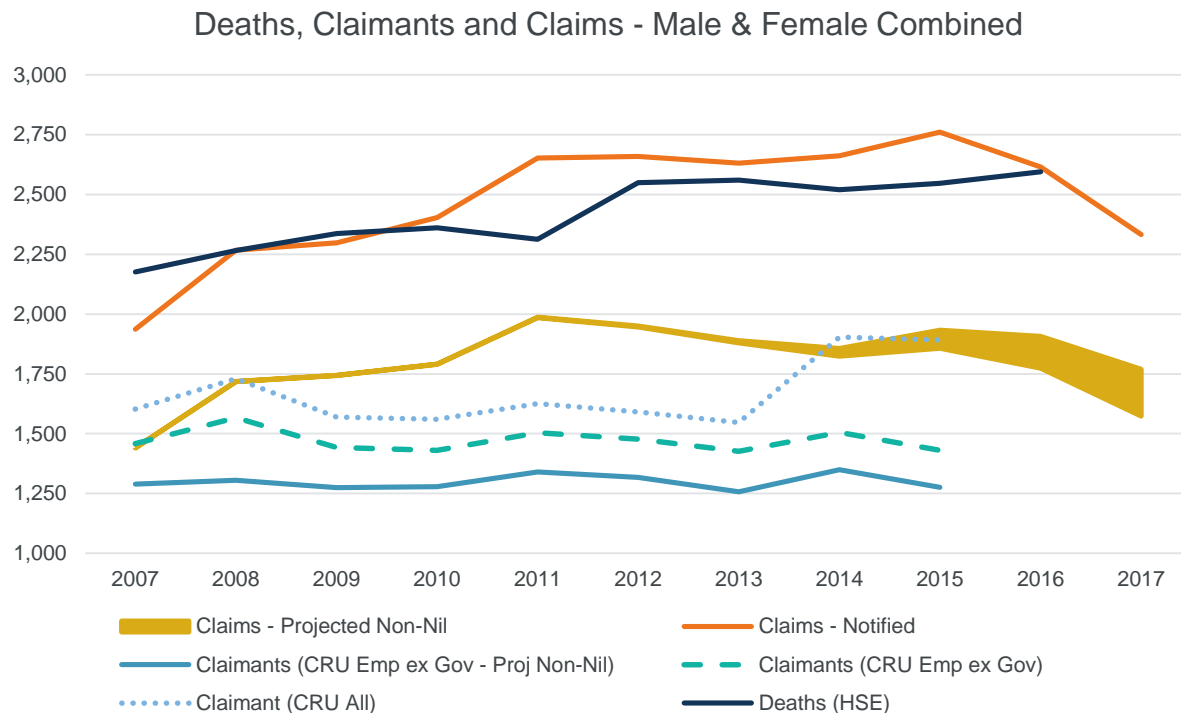
Mesothelioma claims to deaths

Propensity to make a claim and claims per claimant



Mesothelioma claims to deaths

Conflicting trends in deaths, claimants and claims

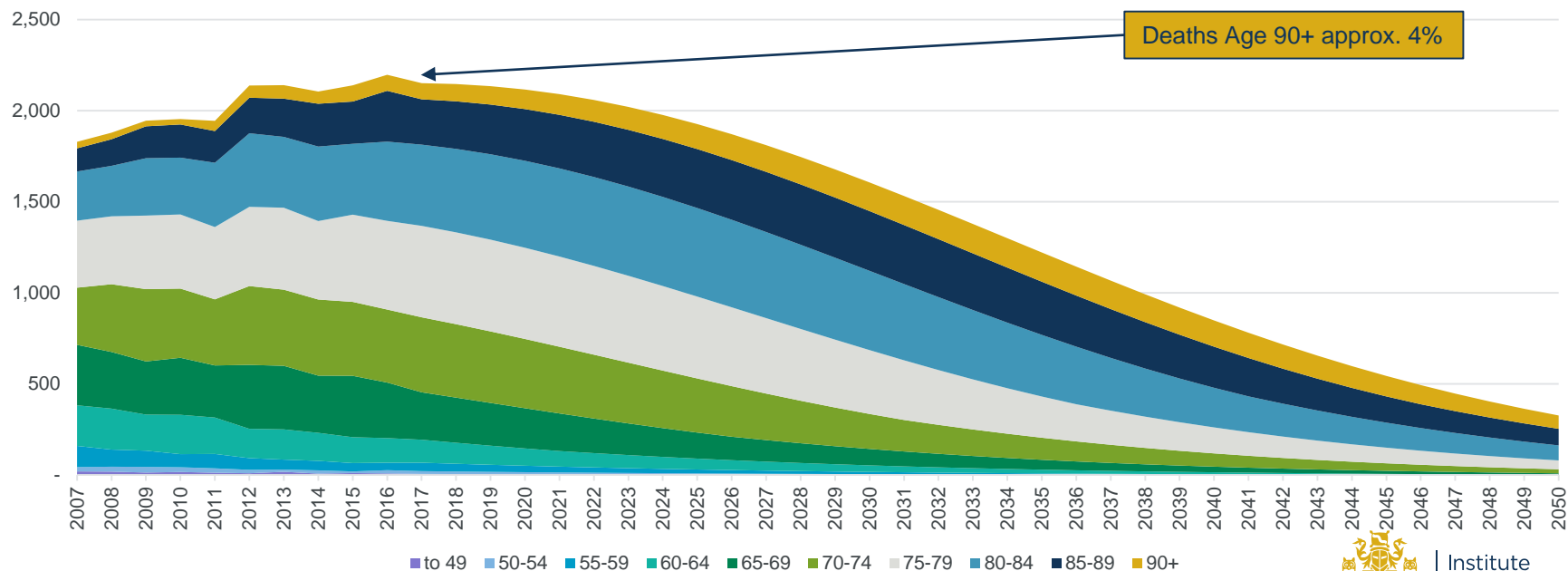


- Deaths have still been increasing (especially males)
- BUT notified claims have been flat since around 2011 then reducing
- Non-nil claims have generally been reducing since 2011
- CRU data (only available to 2015) suggests non-government employer claimants has been flat
- Note that the claims are from the data collection, so roughly 80% of the market

Mesothelioma claims to deaths

Deaths : Changing age profile

Male deaths by age band - Actual to 2016 then projected



- Partially more deaths at older ages mitigated by lower propensity to claim as age increases

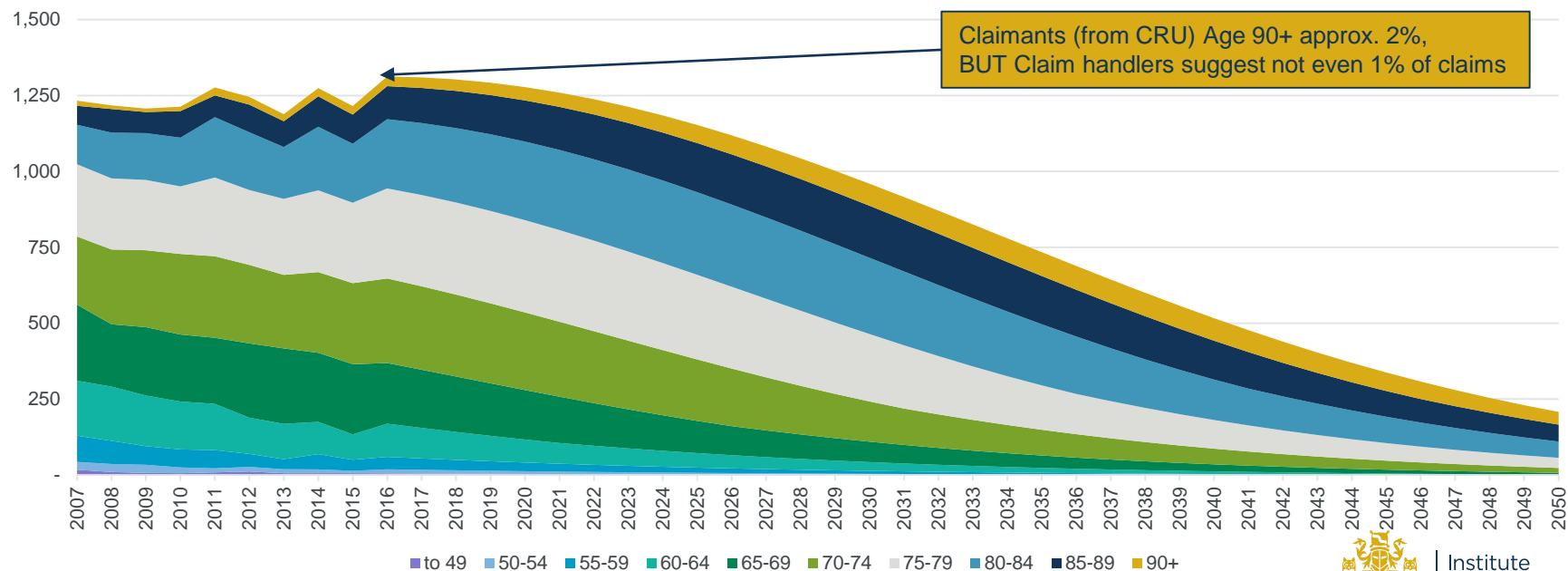


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Mesothelioma claims to deaths

Claims : Changing age profile

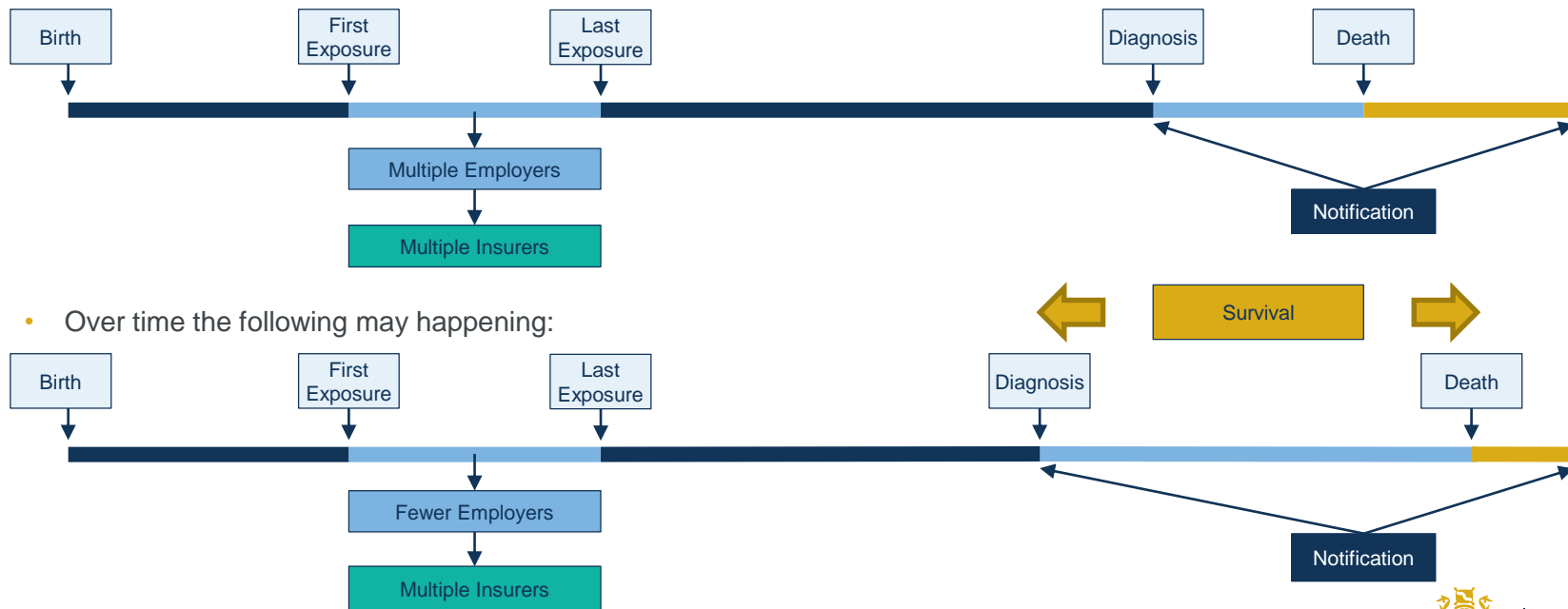
Male claimants by age band - Actual to 2015 then projected



- The above uses the slightly increasing propensity, so the impact would be greater if flat propensity

Mesothelioma claims to deaths

Moving parts underlying the trends



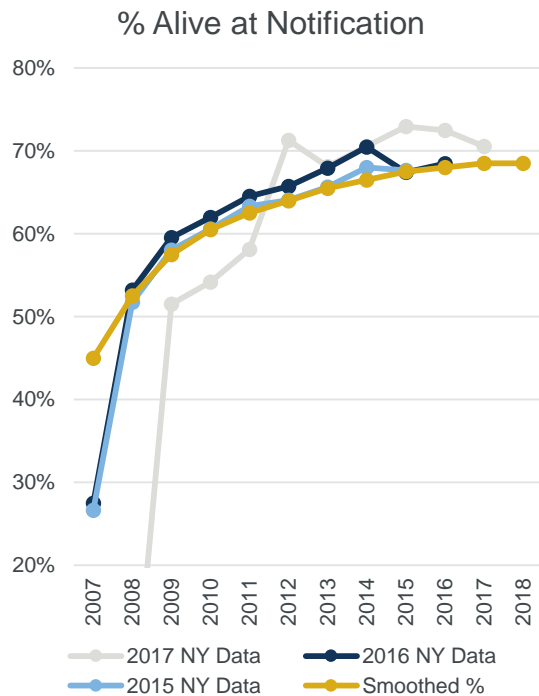
- Over time the following may happen:

- We discussed some of these issues with some claims managers in the market to help us interpret the data



Mesothelioma claims to deaths

Proportion live at notification



- Proportion of Live claimants from the data collection has increased over time but looks to be stabilising
- 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



Mesothelioma claims to deaths

CRU data – Background

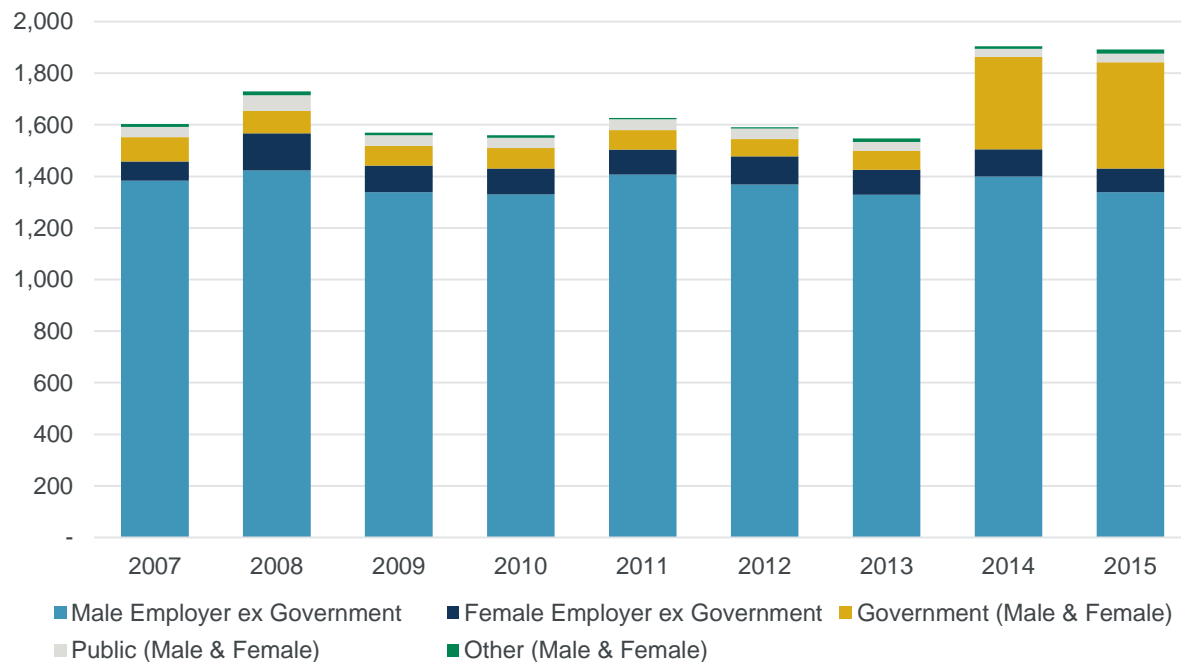
- The Compensation Recovery Unit (CRU) is informed of all asbestos-related claims giving rise to compensation, whether from the insurance industry or the Government, and an insurer must notify CRU of a claim within 14 days, so should be minimal delay in notification dates compared to insurance notification date
- The last 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, which we are currently appealing. We also plan to ask for “date of death” to be added to the data in future
- 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)



Mesothelioma claims to deaths

CRU data by notification year

CRU Claimants (including withdrawn)

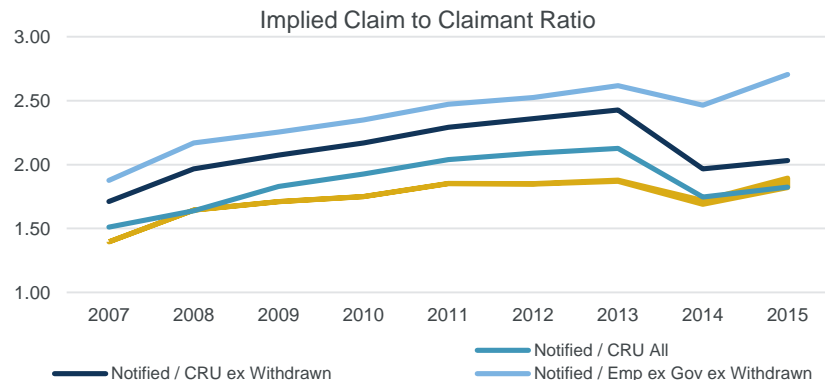
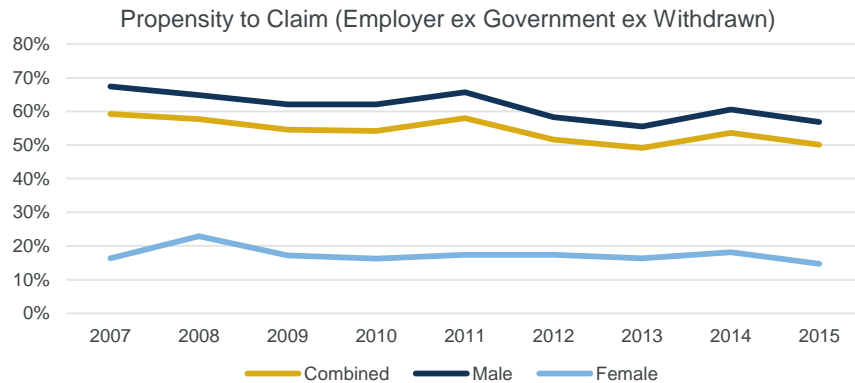


- Male Employer (ex Gov) claims consistently around 1,330 to 1,420 for 2007-2015
- Female Employer (ex Gov) claims consistently around 90 to 110 for 2007-2015
- Increase in Government claims for 2014-2015 due to DMPS, increase broadly consistent with claim numbers announced by DMPS
- Public & Other combined quite stable around 45-50 claims per year, but these make up a higher proportion of female claims

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



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 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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Mesothelioma average cost

Per claimant 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 -0.75%, but showing scenarios at 2.5% and 0.5%

Model allows for a different Ogden discount rates

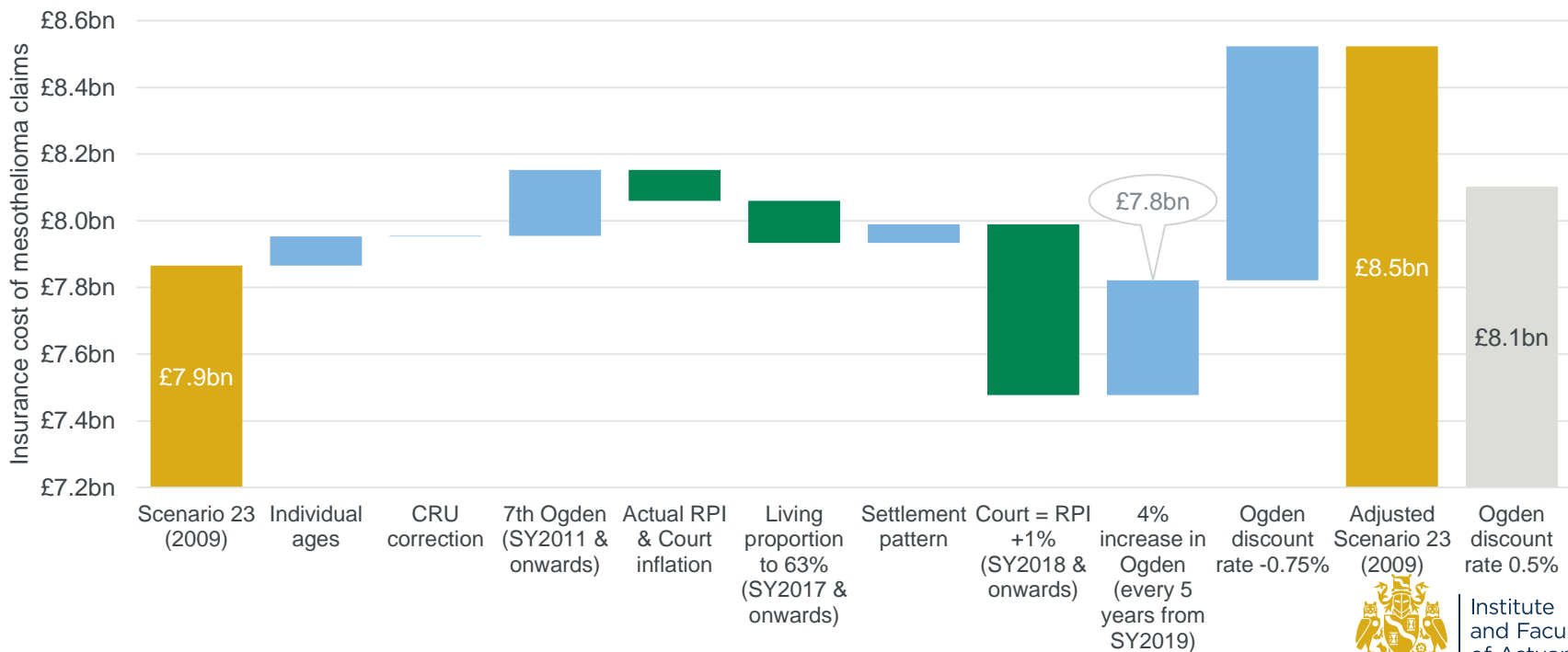
Three cost scenarios by considering the future inflation by each type

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
<i>Implied p.a. inflation</i>	2.2%	4.1%	6.0%



Mesothelioma average cost

Impact on 2009 Scenario 23 (years 2018 to 2050)



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Mesothelioma average cost

Further developments

Considering changes based on:

- qualitative views from claims handlers; 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



Mesothelioma average cost

Areas of uncertainty

Areas of practitioner consideration:

- Inflation over a 20+ year period
- Mortality changes and impact on Ogden multipliers
- Ogden discount rate
- Treatment (Immunotherapy) / Cure – drugs, care costs, etc.
- Legal and legislative changes



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Mesothelioma insurance cost



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Mesothelioma claims

Overview – Illustrative numbers (Ogden discount = 2.5%)

- Scenario 23 = £7.9bn undiscounted (2018-2050)
 - 1% decrease updated deaths, propensity and inflation
 - 7% increase extending to 2060
 - 6% increase including ages 90+
 - 16% increase extending to 2060 & ages 90+
- Extremely difficult to project:
 - Deaths and propensity to make a claim at ages 90+
 - Deaths in 2040+ and their link to an employers liability claim



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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Non-mesothelioma insurance cost



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Non mesothelioma claims

Overview

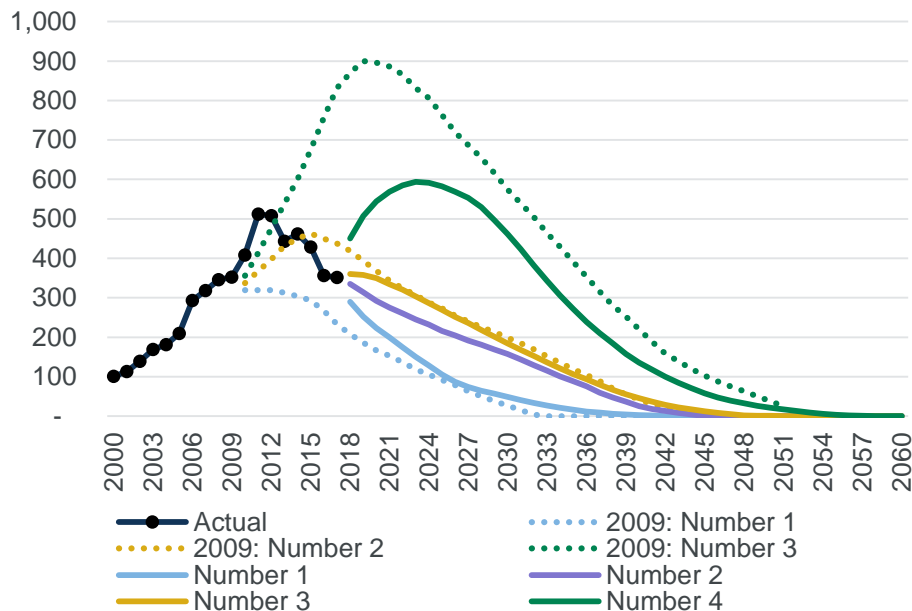
- Not detailed models for claim numbers or costs
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- Costs based on settled (reported and settlement year basis) and incurred, recent year averages
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Non mesothelioma claims

Lung cancer

Number of claim assumptions



Cost assumptions

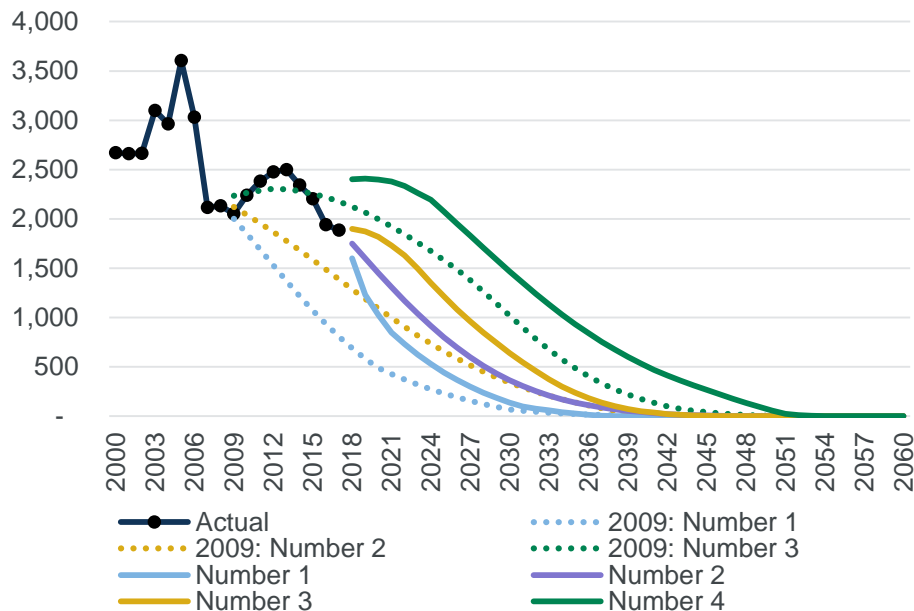
Inflation p.a.	Cost A	Cost B	Cost C
2009	1%	3%	5%
2017	1%	3%	5%

ACPC as RY2018	Cost A	Cost B	Cost C
2009	£45,995	£55,959	£67,825
2017	£18,500	£28,000	£45,000

Non mesothelioma claims

Asbestosis and pleural thickening

Number of claim assumptions



Cost assumptions

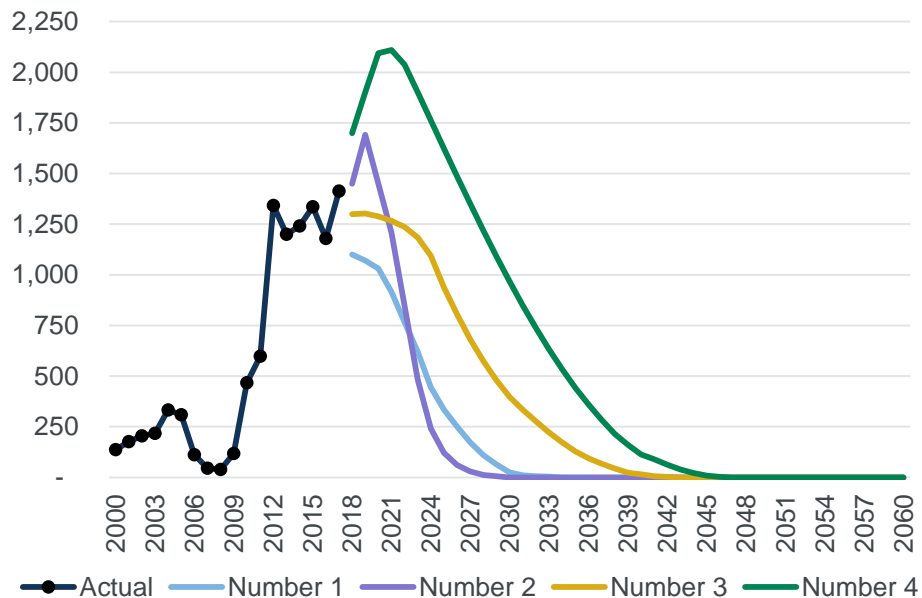
Inflation p.a.	Cost A	Cost B	Cost C
2009	1%	3%	5%
2017	1%	3%	5%

ACPC as RY2018	Cost A	Cost B	Cost C
2009	£18,612	£25,611	£35,087
2017	£15,000	£18,500	£23,000

Non mesothelioma claims

Pleural plaques (Scottish and Northern Ireland exposure only)

Number of claim assumptions



Cost assumptions

Inflation p.a.	Cost A	Cost B	Cost C
2017	1%	3%	5%

ACPC as RY2018	Cost A	Cost B	Cost C
2017	£5,500	£7,500	£10,000

Non mesothelioma claims

Insurance cost

All non-mesothelioma diseases

	Number 1	Number 2	Number 3	Number 4
Cost A	£213m	£346m	£554m	£1,002m
Cost B	£303m	£514m	£842m	£1,608m
Cost C	£446m	£796m	£1,327m	£2,697m

Lung cancer

	Number 1	Number 2	Number 3	Number 4
Cost A	£39m	£79m	£97m	£212m
Cost B	£66m	£140m	£175m	£398m
Cost C	£120m	£269m	£340m	£808m

Asbestosis and pleural thickening

	Number 1	Number 2	Number 3	Number 4
Cost A	£134m	£225m	£375m	£638m
Cost B	£180m	£312m	£542m	£967m
Cost C	£244m	£442m	£796m	£1,508m

Pleural plaques

(Scottish and Northern Ireland exposure only)

	Number 1	Number 2	Number 3	Number 4
Cost A	£39m	£43m	£81m	£153m
Cost B	£58m	£61m	£125m	£243m
Cost C	£82m	£85m	£190m	£381m



Non mesothelioma claims

Comparisons to 2009 (2018 to 2050)

Asbestosis and pleural thickening

	Number 1	Number 2	Number 3	Number 4
Cost A	£134m	£225m	£375m	£637m
Cost B	£180m	£312m	£542m	£966m
Cost C	£244m	£442m	£796m	£1,504m

Lung cancer

	Number 1	Number 2	Number 3	Number 4
Cost A	£39m	£79m	£97m	£210m
Cost B	£66m	£140m	£175m	£394m
Cost C	£120m	£269m	£340m	£796m

AWP 2009: Asbestosis and pleural thickening

	Number 1	Number 2	Number 3
Cost A	£82m	£124m	£189m
Cost B	£230m	£352m	£545m
Cost C	£543m	£866m	£1,396m

AWP 2009: Lung cancer

	Number 1	Number 2	Number 3
Cost A	£59m	£78m	£102m
Cost B	£230m	£330m	£476m
Cost C	£709m	£1,059m	£1,607m



Non mesothelioma claims

Drivers of changes

Lung cancer

- Reduced ACPC as AWP 2009 excluded nils from ACPC selection
 - 50% reduction on scenario Cost 2

Asbestosis and pleural thickening

- Increased number of claims due to levels not reducing as expected
 - 36% to 48% increase on scenarios Number 2 and 3
- Decrease / increase in shape of number of claims for scenario Number 2 / Number 3
- Reduced ACPC as AWP 2009 excluded nils from ACPC selection



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Summary and Next steps



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
 - We will only know we peaked with 5 years of data after the peak
 - Limited deaths and claims at 89+ ages – difficult to assess

Plans

- Awaiting HSE confirmation of the re-parameterisation of their model for latest deaths
- 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



Questions

Comments

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