cancer (AF=2.0%–5.2%, 460–1180 cases), followed by solar radiation, with 415 skin cancers (AF=1.3%). Workplace exposure to environmental tobacco smoke (ETS) was associated with 5.8% (~60 cases) of lung cancers among never-smoking women, and radon exposure in buildings resulted in almost 80 lung cancers (AF=0.7%). AFs were overall higher for men, but similar between men and women for radon and ETS among never smokers.

**Conclusion** In burden studies, assessing the impact of uncertainty in exposure and risk estimates is a challenge. The impact is, however, amplified among women because estimates are derived from studies primarily on male workers.

## Oral Presentation

### Dusts and Fibres

**0380** **MESOTHELIOMA MORTALITY IN GREAT BRITAIN: AN UPDATED ANALYSIS OF TRENDS BY GEOGRAPHICAL AREA AND OCCUPATION 1981–2014**

1Kevin Shepherd, 2Damien McElvenny, 3Andrew Darnton*. 1Health and Safety Executive, Bootle, UK; 2Institute of Occupational Medicine, Edinburgh, UK

10.1136/oemed-2017-104636.313

**Background** Mesothelioma mortality rates in GB have increased tenfold over the last four decades and are currently the highest of any country worldwide. The mesothelioma register contains all deaths mentioning mesothelioma and includes area of residence and occupation of the deceased.

**Aim** to update descriptive analyses of mortality trends by geographical area and last occupation of the deceased to provide evidence about past sources of mesothelioma risk in the GB population.

**Methods** Standardised Mortality Ratios (SMRs) were calculated for local and unitary authority areas; Proportional Mortality Ratios (PMRs) were calculated for categories derived from Standard Occupation Classification coding of job titles from death certificates. Temporal trends in SMRs and PMRs over the period 1981–2014 were examined using Generalised Additive Models (GAMs).

**Results** The influence of geographically-specific sources of past asbestos exposure is still seen in recent mesothelioma mortality rates; areas with the highest SMRs in males tend to be those known to contain large industrial sites that used asbestos such as shipyards. However, the strong effect of asbestos exposures in jobs associated with construction work – which would have been geographically less heterogeneous – is seen in analyses by occupation, and temporal trends suggest that such exposures continued for longer than those associated with specific locations.

**Conclusions** These results reflect the legacy of widespread industrial asbestos use in GB and particularly emphasise the effect of exposures within the building industry which are likely to have continued after those in specific industries such as shipbuilding and manufacturing were substantially reduced.

## Oral Presentation

### Working Conditions

**0381** **THE POTENTIAL IMPACT OF THREE WORKPLACE ACTIONS ON RETURN TO WORK AFTER A WORK-RELATED MUSCULOSKELETAL OR PSYCHOLOGICAL INJURY**

1Peter Smith*, 2Malcolm Sim, 3Anthony L’Abbé, 4Rebecca Lilley, 5Sheilah Hogg-Johnson. 1Institute for Work and Health, Toronto, Ontario, Canada; 2Monash University, Melbourne, Victoria, Australia; 3Deakin University, Melbourne, Victoria, Australia; 5University of Otago, Otago, New Zealand

10.1136/oemed-2017-104636.314

The objective of this study was to examine the impact of three workplace actions on return to work (RTW) following a musculoskeletal (MSK) or psychological injury. The three workplace actions were: a positive supervisor or co-worker response at the time of injury; a low stress interaction with the workplace RTW coordinator; and an offer of modified duties. We used a longitudinal cohort of 869 Victorian workers’ compensation claimants. Respondents were interviewed at baseline (approximately 4 months after injury), and again 6 and 12 months later. Our analytical sample was 703 respondents who had complete information on all workplace factors and potential covariates. Of our sample, 40% of respondents reported all three positive workplace actions and 12% reported none of the positive actions. Using a potential outcomes modelling approach, we estimated difference in RTW rates at baseline, 6 months and 12 months if all respondents received all positive actions, versus all respondents received no positive actions. Inverse probability weights were used to balance the sample in relation to covariates including respondent age, sex, injury time, time since injury, workplace size, pre-injury job autonomy and pre-injury physical demands at work. At baseline, if all respondents received all three workplace actions, 51% of respondents would have sustained RTW compared to 22% if all respondents received none of the actions. At 6 months the comparable rates were 73% versus 46%, and 67% versus 50% at 12 months. Our study demonstrates the importance of the workplace actions on RTW rates at multiple points following injury.

## Oral Presentation

### Injuries

**0382** **INCREASING MALE/FEMALE INEQUALITIES IN RATES OF WORKPLACE VIOLENCE IN ONTARIO BETWEEN 2002 AND 2014: A COMPARISON OF TWO DATA SOURCES**

1Peter Smith*, 2Cynthia Chen. 1Institute for Work and Health, Toronto, Ontario, Canada; 2Monash University, Melbourne, Victoria, Australia

10.1136/oemed-2017-104636.315

The objective of this study was to examine the association of gender with workplace violence (WPV) and to track changes in male/female violence rates in Ontario from 2002 to 2014 using two data sources. The two data sources were the Workplace Injury and Violence Reporting System (WIVRS) and the Ministry of Labour Workplace Violence and Harassment Survey (WVHS). Regression analyses were used to examine changes in the gender gap in WPV rates between 2002 and 2014. The results showed that the gender gap in WPV rates increased significantly between 2002 and 2014, with a larger increase in the male WPV rate compared to the female WPV rate. This increase in the male WPV rate was due to increases in the rate of physical violence, while the female WPV rate remained relatively stable. The findings suggest that there may be a need for targeted interventions to address the gender gap in WPV.