1959 and 1978 at two boatbuilding plants. The a priori hypothesis: leukaemia and lymphoma excesses would be found
Method Standardised mortality ratios (SMR), standardised rate ratios (SRR), and 95% confidence intervals (CI) were calculated using Washington State rates and a person-years analysis program, LTAS. NET, controlling for age, calendar period, race, and gender. The SRR analysis compared tertiles of estimated cumulative styrene exposure.
Results Overall, 484 cancer deaths occurred (SMR 1.20, CI 1.10–1.31), with excess mortality for respiratory cancers (n = 171, SMR 1.33, CI 1.14–1.55) and prostate cancer (n = 41, SMR 1.44, CI 1.03–1.96). Among 2063 workers highly exposed to styrene and fibreglass there were excesses of mesothelioma (n = 3, SMR 5.28, CI 1.09–15.4) and ovarian cancer (n = 6, SMR 2.94, CI 1.08–6.41). The SRR analysis did not find strong associations between tertiles of styrene exposure and cancer mortality.
Conclusions We found no excess leukaemia or lymphoma mortality. Unanticipated excess mesothelioma and ovarian cancer mortality are difficult to interpret and could be due to fibreglass exposure or employment elsewhere, or could be chance findings.

0115 IS GENDER ADEQUATELY STUDIED IN AGRICULTURAL WORKERS' HEALTH RESEARCH?

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Objectives Gender-sensitive research strategies address men's and women's health problems by identifying physiological, ergonomic and socio-cultural gender characteristics that shape study outcomes. These strategies have been inadequately accounted for in many occupational health researches on agriculture workers. In reviewing the occupational health literature on agriculture workers, this paper assesses the processes employed to analyse how gender affects work-related health outcomes.
Method Peer-reviewed articles concerned with male and female agricultural workers' health and published between 2000 and 2011 in PubMed were evaluated. Articles that use gender stratification were identified and analysed for their approaches toward sampling, data analysis, task differentiation and use of other exposure indicators.
Results Out of 176 articles, only 26 (15%) analysed the associations between occupational health exposures and health outcomes using gender stratification. Many studies failed to recruit adequate female participants or have marginalised gender at an early stage of the research. The role of females as homemakers was also inadequately conceptualised. Several others did not collect adequate task or exposure information to identify established risk factors relating to study outcomes.
Conclusions Occupational health research on farm workers struggle to incorporate gender analysis into research design and analytical approaches. The role of gender in shaping health outcomes is evident in occupational health research. Developing methodologies, study designs, and analysis that are gender-sensitive will improve the quality of research and help tailor sound interventions and policies. This could be through incentives and support from research funding agencies and through incorporating gender perspectives into academic journal editorial policies.

0118 LIFETIME OCCUPATIONAL EXPOSURE TO DIESEL EXHAUST AND BLADDER CANCER AMONG MEN IN NEW ENGLAND

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Objectives We examined the association between lifetime occupational diesel engine exhaust (DEE) exposure and risk of bladder cancer in 1171 cases and 1418 controls in a population-based case-control study.
Method Lifetime occupational histories combined with additional exposure-oriented questionnaires were administered to obtain detailed information on DEE. We estimated the probability, frequency and intensity of exposure to respirable elemental carbon (REC) ($\mu g/m^3$), a primary surrogate for DEE. Unconditional logistic regression was used to calculate odds ratios (ORs) and 95% confidence intervals (CIs), adjusting for smoking and other risk factors.
Results DEE was associated with an increased risk of bladder cancer, with the highest level of cumulative REC (>252.8 $\mu g/m^3$ per year) having a 35% elevated risk (95% CI = 0.86–2.13) compared to those with no exposure. Among nonsmokers, we observed a significant trend in risk with increasing cumulative REC (p-trend = 0.03), with heavily exposed subjects having an OR=2.80 (95% CI =1.08–7.22). Time-period analyses by decade of first DEE-exposed job showed a statistically significant increased risk among men first exposed in the 1950s (heavily exposed: OR=2.73, 95% CI =1.29–5.79, p-trend = 0.009).
Conclusions The overall risk observed is modest, but similar in magnitude to those observed at comparable levels of exposure in previous studies of bladder and lung cancer. Greater risk for those first exposed in the 1950s may reflect secular trends in risk or a long latency for bladder cancer. Our results provide additional evidence that DEE is related to an increased bladder cancer risk.

0121 HOME CARE WORKER ERGONOMIC HAZARDS

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Objectives Home care workers (HCW) are at high risk of musculoskeletal disorders related to consumer care and housekeeping tasks and need of ergonomic interventions (Arlinghaus, *et al*., 2013; Baron and Habes, 2004; Hodsonetal *et al*., 2010). The goal of this project is to explore HCW experiences and perceptions to document potentially hazardous tasks to inform intervention and policy.
Method In 2012 researchers partnered with a labour union (SEIU) representing HCWs to recruit those with at least 3 years of experience with consumers needing moving assistance. Forty six mostly African Americans participated in four focus groups and a validation session. Participants were asked to review a