BREAST CANCER RISK IN 40,000 DANISH WOMEN
IMPLICATIONS OF THE WORKPLACE GENDER
RISK OF POSTMENOPAUSAL BREAST CANCER AND
white-collar jobs.

Conclusion Work-related diseases aggregated in five distinct components, supporting the need for a shift from a disease-by-disease approach towards a worker-centered approach.

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BREAST CANCER RISK IN 40,000 DANISH WOMEN
BY INDUSTRY
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Background Occupational exposures have been hypothesized as contributors to breast cancer. Nevertheless, studies exploring the risk of breast cancer by occupation or industry generally show somewhat inconsistent results. In addition to small study size and lack of lifetime work history, potential confounders, such as reproductive history, have often not been taken into account and mortality has often been used as outcome. We conducted a nationwide register based nested case-control study in order to explore associations between occupation and incidence of breast cancer, including reproductive history.

Methods A total of 38,347 employed women born in Denmark during the period 1946 to 1995, and diagnosed with breast cancer 1970–2015 were identified in the nationwide Danish Cancer Registry. Five control subjects, work active and born in Denmark, and free of breast cancer at the date of diagnosis of the corresponding case, were chosen randomly from the Danish Civil Register. Using the unique personal identification number assigned to all residents in Denmark, we obtain lifetime employment history from the nationwide Pension Fund Register, which on an individual level has kept detailed information on all employments in Denmark, we obtain lifetime employment history from the Danish Civil Register. Using the unique personal identification number assigned to all residents in Denmark, we obtain lifetime employment history from the nationwide Pension Fund Register. Odd’s ratios (ORs) with 95% confidence intervals (CIs) were estimated by conditional logistic regression analysis.

Preliminary results: Risk elevations were e.g. seen in the military (2.1; 1.49–2.90), printing (1.6; 1.22–2.06), airline transportation (2.4; 1.33–4.47), automobile service (1.3; 95% CI 1.12–1.49), and workplaces is an important expression of social structure. We find that modest increases in the percent women employed in male-dominated workplaces experience decreased job satisfaction and increased work-related stress. Female workers in particular are more likely to experience gender discrimination, sexual harassment, and social isolation. Nevertheless, systematic evidence regarding the association between workplace gender composition and worker mental healthcare utilization remains limited.

Methods Using data from the American Manufacturing Cohort Study (AMC), we examined the association between workplace gender composition and risk of depression-related outpatient visits among hourly workers employed at one of 32 U.S. aluminum plants between 2003 - 2013. Using generalized additive models (GAM) with a logit link, we modeled risk of depression-related outpatient visits as a function of annual workplace gender composition (i.e. percent women) and covariates (baseline age, race, sex, plant, and calendar year). We captured potential nonlinear relationships using cubic smoothing splines. We used g-computation to summarize the counterfactual risk of depression-related outpatient visits under three hypothetical interventions wherein women comprised at least 10, 20, or 30 percent of the workforce at all plants for all years of follow-up. We compared these counterfactual risks to the risk under no intervention (the observed data).

Results Across all 32 U.S. plants, the final study sample included 5,279 female and 24,124 male hourly workers. We observed significant reductions in the number of depression-related outpatient visits when women comprised at least 20% (RD= -0.62, 95% CI -0.85, -0.36) and 30% (-1.46; 95% CI -1.90, -1.02) of the workforce. Findings were consistent within subgroups of male and female workers.

Conclusion The gender composition of industries, occupations, and workplaces is an important expression of social structure. We find that modest increases in the percent women employed in otherwise male-dominated work environments can lead to measurable reductions in the frequency of depression-related outpatient visits among male and female hourly workers.