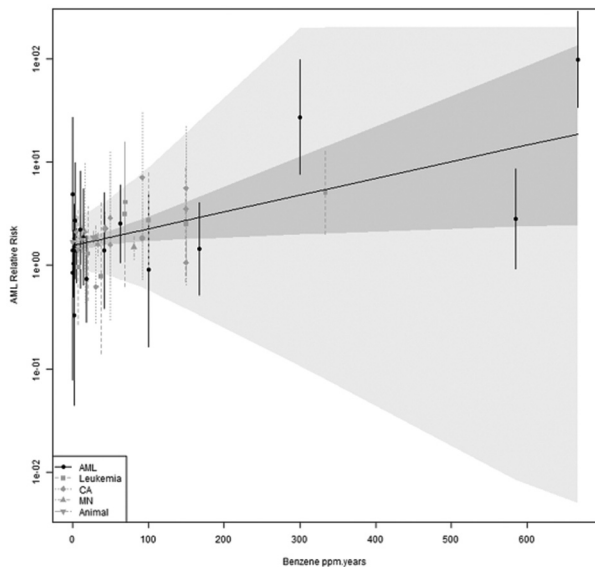


# CANCER EPIDEMIOLOGY, BIOMARKERS & PREVENTION HIGHLIGHTS

## Selected Articles from This Issue

### Estimation of the Exposure Response Relation between Benzene and Acute Myeloid Leukemia



Scholten *et al.* | Page 751

There is consensus that benzene exposure is causally related to acute myeloid leukemia (AML), but accurate description of the AML-benzene exposure response curve (ERC) is still needed for risk assessment. Scholten and colleagues hypothesized that using data from both human and animal studies could increase precision of the estimated ERC for benzene induced AML. The authors found that risk estimates based on the complete dataset (23 experimental and observation studies) were more precise, but also that harmonization steps required to fit the Bayesian meta-regression model involve a range of assumptions that need to be critically evaluated, as they seem crucial for successful implementation.

### AHRR (cg5575921) Methylation Safely Improves Specificity of Lung Cancer Screening Eligibility Criteria

Jacobsen *et al.* | Page 758

Screening reduces lung cancer mortality, but the low specificity of current eligibility criteria has blocked implementation. Risk biomarkers (e.g. AHRR methylation of leukocyte DNA) might mitigate this. Jacobsen and colleagues utilized the Copenhagen City Heart Study which included >9,200 individuals with detailed smoking information and >20 years of lung cancer follow-up. AHRR methylation was added to 7 established eligibility criteria. NLST criteria plus AHRR methylation <55% led to a 22% lower predicted screening burden and a specificity for 5-year lung cancer of 84.0%. AHRR hypomethylation provides predictive lung cancer risk information on top of detailed smoking history and might be useful in lung cancer screening.

doi: 10.1158/1055-9965.EPI-31-4-HI

### Too Good to Be True? Evaluation of Colonoscopy Sensitivity Assumptions Used in Policy Models

Rutter *et al.* | Page 775

Policy models used to examine the effectiveness of colorectal cancer screening and surveillance assume colonoscopy is very sensitive for detection of adenomas. This simulation study by Rutter and colleagues examined these assumptions and found evidence that colonoscopy sensitivity circa 1990 was lower than generally assumed for adenomas smaller than 10 mm, and potentially much lower for adenomas smaller than 6mm. These findings highlight the importance of evaluating model assumptions. Colonoscopy is a highly effective screening and diagnostic test, though it may have been less effective for colorectal cancer prevention than previously estimated.

### Oncotype DX Risk Recurrence Score and Total Mortality for Early-Stage Breast Cancer by Race/Ethnicity

Moore *et al.* | Page 821

Oncotype DX recurrence score (ODX-RS) is a prognostic biomarker for early-stage, node-negative, estrogen receptor-positive (ER+) breast cancer. Using data from the clinical oncology National Cancer Database, this study of 227,259 eligible breast cancer cases by Moore and colleagues found that white patients were more likely to receive an ODX-RS test compared with Black, Hispanic, and Asian American patients. Furthermore, black patients had higher proportions of high-risk scores compared with non-black patients. ODX-RS was similarly predictive for total mortality across all races/ethnicities. These findings emphasize the importance of developing strategies to increase ODX-RS uptake among racial/ethnic minorities and call for more investigations on potential racial/ethnic differences in breast cancer biology.