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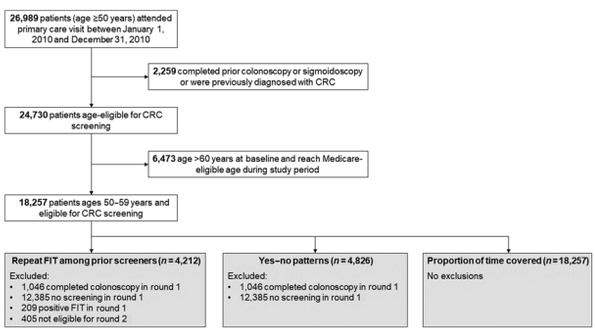
CANCER EPIDEMIOLOGY, BIOMARKERS & PREVENTION

HIGHLIGHTS

Selected Articles from This Issue

Challenges and Approaches to Measuring Repeat FIT for Colorectal Cancer Screening



Murphy *et al.* | Page 1557

Effectiveness of fecal immunochemical test (FIT) for colorectal cancer screening may be compromised when patients do not adhere to a regular schedule, while having no standard measure of repeat FIT presents challenges for assessing effectiveness across patient populations and health systems. To address these challenges, Murphy and colleagues compared three measures of repeat FIT in a large population of screen-eligible patients. Estimates of repeat FIT varied widely by the measure used. For example, using a *prior screeners* measure, 16% of patients completed repeat FIT, whereas 53% of patients completed repeat FIT using *proportion of time covered* measures. An important next step is to examine the association of these measures with clinical outcomes, such as stage of diagnosis and mortality.

Leveraging GWAS and PheWAS in Childhood Leukemia

Semmes *et al.* | Page 1606

Semmes and colleagues developed a novel methodology for incorporating phenome-wide association study (PheWAS) data into genetic association studies. They applied their methodology to childhood leukemia, identifying novel pleiotropic loci contributing to both acute lymphoblastic leukemia risk and variation in platelet count. Risk loci near *IRF1*, *BAK1*, and *ERG* were successfully replicated in a large childhood leukemia dataset from UK collaborators. The authors demonstrated that PheWAS data can help investigators leverage pleiotropy to enhance genetic association studies of cancer, potentially identifying the causal risk alleles underlying association signals.

Hematologic Markers and Prostate Cancer Risk: A Prospective Analysis in UK Biobank

Watts *et al.* | Page 1615

Risk factors for prostate cancer are not well understood. Hematologic measures may be used as markers of exposures that could affect prostate cancer risk. Watts and colleagues investigated the associations of hematologic measures with subsequent prostate cancer risk in 210,000 men. Men with higher red blood cell and platelet counts and lower measures of red blood cell volume had a higher risk of prostate cancer diagnosis. Men with higher white blood cell and neutrophil counts had a higher risk of prostate cancer mortality. These results may support the role of factors including testosterone and inflammation/infection in prostate cancer development and progression.

Cumulative Burden of Chronic Health Conditions in Adult Survivors of Childhood Bone Sarcomas

Bishop *et al.* | Page 1627

Adult survivors of bone sarcomas experience risk of chronic health conditions. Bishop and colleagues comprehensively characterized the cumulative burden of chronic health conditions in survivors of childhood osteosarcoma and Ewing sarcoma, as well as physical and neurocognitive performance, compared to community controls. The authors found that by age 35 years, a survivor was expected to accumulate, on average, 10 or more chronic health conditions, including more than three severe or life-threatening conditions. Survivors demonstrated significantly impaired physical function. Survivors with multiple grade 3–4 conditions had increased risk of executive function. Preemptive action to reduce the cumulative burden of late effects may allow for prolonged survival and improved quality of life.