# Table of Contents

## Highlights

1285  Selected Articles from This Issue

## Review

1287  Updated Review of Major Cancer Risk Factors and Screening Test Use in the United States in 2018 and 2019, with a Focus on Smoking Cessation  
Priti Bandi, Adair K. Minihan, Rebecca L. Siegel, Farhad Islami, Nigar Nargis, Ahmedin Jemal, and Stacey A. Fedewa

## Commentaries

1300  A Rare Cancer Opportunity  
James V. Lacey Jr.  
See related article, p. 1305

1302  Sex Hormone and Colorectal Cancer: The Knowns and Unknowns  
Dong Hang and Hongbing Shen  
See related article, p. 1336

## Research Articles

1305  Epidemiologic Research of Rare Cancers: Trends, Resources, and Challenges  
See related commentary, p. 1300

1312  Solid Organ Transplantation and Survival among Individuals with a History of Cancer  
Eric A. Engels, Gregory Haber, Allyson Hart, Charles F. Lynch, Jie Li, Karen S. Pawlish, Baozhen Qiao, Kelly J. Yu, and Ruth M. Pfeiffer

Joanne T. Chang, Juan C. Vivar, Jamie Tam, Hoda T. Hammad, Carol H. Christensen, Dana M. van Bemmelen, Babita Das, Uliana Danilenko, and Cindy M. Chang

1328  Tobacco Smoking and the Fecal Microbiome in a Large, Multi-ethnic Cohort  
Ajay Prakash, Brandilyn A. Peters, Emilia Cobbs, Dia Beggs, Heesun Choi, Huilin Li, Richard B. Hayes, and Jiyoung Ahn

1336  Circulating Levels of Testosterone, Sex Hormone Binding Globulin and Colorectal Cancer Risk: Observational and Mendelian Randomization Analyses  
See related commentary, p. 1302

1349  Genetically Predicted Circulating C-Reactive Protein Concentration and Colorectal Cancer Survival: A Mendelian Randomization Consortium Study  
Comparison of Survival among Colon Cancer Patients in the U.S. Military Health System and Patients in the Surveillance, Epidemiology, and End Results (SEER) Program
Jie Lin, Katherine A. McGlynn, Craig D. Shriver, and Kangmin Zhu

Associations of Household Income with Health-Related Quality of Life Following a Colorectal Cancer Diagnosis Varies With Neighborhood Socioeconomic Status
Jamaica R.M. Robinson, Amanda I. Phipps, Wendy E. Barrington, Philip M. Hurvitz, Lianne Sheppard, Rachel C. Malen, and Polly A. Newcomb

Socioeconomic Inequalities in Premature Cancer Mortality Among U.S. Counties During 1999 to 2018
Suhang Song, Yuqi Duan, Junjie Huang, Martin C S Wong, Hongda Chen, Michael G. Trisolini, Kenneth A. Labresh, Sidney C. Smith Jr, Yinzi Jin, and Zhi-Jie Zheng

Cancer Mortality Disparities among Asian American and Native Hawaiian/Pacific Islander Populations in California
Heidy N. Medina, Karen E. Callahan, Cyllene R. Morris, Caroline A. Thompson, Adugna Siweya, and Paulo S. Pinheiro

Tumor-Associated Stromal Cellular Density as a Predictor of Recurrence and Mortality in Breast Cancer: Results from Ethnically Diverse Study Populations
Mustapha Abubakar, Jing Zhang, Thomas U. Ahearn, Hela Koka, Changyuan Guo, Scott M. Lawrence, Karun Mutreja, Jonine D. Figueroa, Jianming Ying, Jolanta Lissowska, Ning Lyu, Montserrat Garcia-Closas, and Xiaohong Rose Yang

Robert B. Hines, Asal M. Johnson, Eunkyung Lee, Stephanie Erickson, and Saleh M.M. Rahman

A Pooled Case-only Analysis of Reproductive Risk Factors and Breast Cancer Subtype Among Black Women in the Southeastern United States
Maureen Sanderson, Tuya Pal, Alicia Beeghly-Fadiel, Mary Kay Fadden, Steffie-Ann Dujon, Chrystina Clifton, Cecilia Jimenez, Jennifer Davis, Michele Fortune, Jasmine Thompson, Kiera Benson, Nicholas Conley, Sonya Reid, Ann Tezak, Xiao-Ou Shu, Wei Zheng, William J. Blot, and Loren Lipworth

Pritesh S. Karia, Corinne E. Joshu, and Kala Visvanathan

Predictors of Palliative Care Knowledge: Findings from the Health Information National Trends Survey
Motolani E. Ogunsanya, Elizabeth A. Goetzinger, Oluwatomi F. Owopetu, Paulette D. Chandler, and Lauren E. O’Connor

Anemia May Increase the Overall Risk of Cancer: Findings from a Cohort Study with a 12-Year Follow-up Period in South Korea
Tak Kyu Oh and In-Ae Song

LETTERS TO THE EDITOR

Cigarette Filter Ventilation and Biomarkers—Letter
Peter Lee and John Fry

Cigarette Filter Ventilation and Biomarkers—Reply
Dana Mowls Carroll and Dorothy K. Hatsukami

ASPO REPORT

2020 and 2021 Cullen & Fraumeni Awards Presented At ASPO’s 45th Annual Meeting
ABOUT THE COVER

The cover image is adapted from Figure 1 in the article "Tobacco smoking and the fecal microbiome in a large, multi-ethnic cohort," by Prakash and colleagues. The figure shows beta diversity and ordination of microbiome by smoking status. Increasing evidence suggests that tobacco smoking, a well-known driver of carcinogenesis, influences the gut microbiome; however, these relationships remain understudied in diverse populations. The authors performed an analysis of smoking and the gut microbiome in a subset of 803 adults from the multi-ethnic NYU FAMiLI study. Results showed that the overall composition of the fecal microbiome in former and current smokers differs significantly from that of never smokers, while the taxa Lachnospira and Tenericutes were depleted, relative to never smokers. These shifts were consistent across racial and ethnic subgroups. The findings suggest common mechanisms of smoking associated microbial change across racial subgroups, regardless of initial microbiome composition. The correlation of these differentials with reactive oxygen species (ROS) exposure pathways may suggest a role for these taxa in the known association between smoking, ROS and carcinogenesis. For more information, see the article beginning on page 1328.