

## Authors Develop a Conceptual Framework for Multilevel Analysis in Rural Cancer Control

Researchers from the [Rural and Minority Health Research Center](#) (Arnold School of Public Health, University of South Carolina) partnered with the Department of Geography and Geographic Information Science at the University of Illinois Urbana-Champaign developed a conceptual framework for how “rural” can be conceptualized in multilevel analysis in cancer control. With [Whitney Zahnd](#) as lead author, the team published their paper in [Preventive Medicine](#) as part of a [special issue](#) from the Cancer Prevention and Control Research Network.

“Rural populations experience a myriad of cancer disparities ranging from lower screening rates to higher cancer mortality rates,” says Dr. Zahnd. “These disparities are due in part to individual-level characteristics like age and insurance status, but the physical and social context of rural residence also plays a role.”

In this paper, the authors sought to develop a multilevel conceptual framework describing how rural residence and relevant micro, macro, and supra-macro factors can be considered in evaluating disparities across the cancer control continuum. They also outlined the unique considerations of multilevel statistical modeling in rural cancer research.

“Our conceptual framework can guide researchers in conceptualizing multilevel statistical models to evaluate the independent contributions of rural-urban status on cancer while accounting for important micro, macro, and supra-macro factors,” says Dr. Zahnd, whose team drew upon several formative frameworks that address the cancer control continuum, population-level disparities, access to health care services, and social inequities to develop their conceptual framework. “While using framework can guide analyses, researchers should also consider potential collinearity of multilevel model predictive variables, model structure, and spatial dependence in multilevel analyses applied to rural cancer control.”