

App State Multidisciplinary Research Projects to address COVID-19- related issues

1. Factors contributing to the spread of COVID-19 in Nursing Homes

Determination of nursing home characteristics are the best predictors of the spread of COVID-19 in nursing homes in the southeast United States.

Research findings can assist policymakers, emergency management agencies, public health, regional, state and county health leaders as well as nursing home organizations in their prevention planning and mitigation strategies.

(Sandi Lane, PhD, associate professor of nutrition and healthcare management, and her team)

2. Social Distancing and Physical Activity on Greenways and Rail Trails

Assessment of the social distancing practices and physical activities of trail users on the Boone, NC greenway and Morgantown, WV rail trail during the COVID-19 pandemic.

The project will also be evaluating the effectiveness of a health education campaign on social distancing practices of trail users during the COVID-19 pandemic.

The results of the project will inform local health departments and trail land managers to promote social distancing practices among trail users in their communities during COVID-19 and to plan for future pandemics.

(Richard Christiana, PhD, assistant professor of public health, and his team are)

3. A spatiotemporal investigation of crisis events among adolescents and young adults following the COVID-19 pandemic in Rural Environments

Examining Crisis Text Line (CTL) data to identify high-risk geographic cluster and crisis events (e.g., stress, anxiety) among adolescents with a focus on rural environments.

And development of more effective preventive and early intervention crisis service delivery to mitigate the psychological distress and provide for targeted youth interventions during and after the COVID-19 pandemic.

(Maggie Sugg, PhD, assistant professor of geography and planning, and her team)

4. Assessing and Mapping the Socioeconomic Determinants of COVID-19 Risk

Examining the underlying disparities in COVID-19 risk factors at a sub-county level to produce a series of maps highlighting populations particularly vulnerable to COVID-19, which will enable targeted interventions and resource allocations across North Carolina.

(Lauren Andersen, Geographic Information System (GIS) lab supervisor and instructor of geography and planning, and her team)

5. Modeling the Spread of COVID-19 at a University Situated in a Seasonally Variable Community

Developing a model of disease spread in the Watauga County area which can predict the likelihood of an outbreak on the App State campus and/or within the community

Determining the effectiveness of different potential interventions in the event of an outbreak.

(Quinn Morris, PhD, assistant professor in the department of mathematical sciences, and his team)

6. Integrative Physiologic Consequences of COVID-19

Investigation of the long-term health consequences of contracting COVID-19 on pulmonary, autonomic, and vascular function during recovery from COVID-19.

(Stephen Ratchford, PhD, assistant professor in the department of health & exercise science - human bioenergetics, and his team)

7. Preparing for High-Impact Research by Appalachian State University Scholars through Stakeholder Consultation and Participatory Health Systems Modeling

Developing a comprehensive and accurate system maps/models, which can effectively identify health services gaps, unintended consequences, and system vulnerabilities, in consultation with health officials, representatives of business and agricultural sectors, as well as vulnerable groups.

(Brian Burke, PhD, associate professor of sustainable development, with a background in anthropology, and his team)