Exploratory Analysis of the Use of ArcGIS Online to Expand Data Analysis and Accessibility for Multidisciplinary Comprehensive Cancer Research

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1. Background

Virginia Commonwealth University (VCU) Massey Comprehensive Cancer Center Catchment Area Data Analytics (CADA) team provides essential data to support the advancement of research and how we serve our diverse populations. By leveraging these data, we deepen our understanding of cancer patterns and health disparities. A key challenge is ensuring these data are accessible and digestible. Demographic, socioeconomic, and community profile data provide important information in the understanding of catchment area populations. Often, the time and knowledge needed to process community level data can be a barrier for inclusion in cancer-related research.

2. Goals

This exploratory analysis will test the efficacy of Esri GeoEnrichment as a tool to analyze community catchment area profile data at the Census boundary and zip code boundary scale.

3. Solutions and Methods

Esri ArcGIS data apportionment using ArcGIS Business Analyst and ArcGIS Online GeoEnrichment will be used to analyze and summarize census, socioeconomic, and neighborhood characteristics within the Massey Comprehensive Cancer Center catchment area. Esri ArcGIS Pro will be used to process U.S. Census data, employing standard GIS methods of downloading and processing. The outputs will be compared for completeness and accuracy.

4. Outcomes

Esri GeoEnrichment and Business Analyst may provide an accessible and digestible tool for researchers to analyze and access robust community profile datasets, making inclusion in research more accessible as compared to desktop or open-source geospatial analysis and processing of community profile data.

5. Lessons Learned and Future Directions

This study will explore the potential of ArcGIS Online, an agile solution for the VCU Massey Comprehensive Cancer Center CADA team. The capability to understand place in the context of health outcomes is critical to support cancer research impact.