

Demonstration For The State Cancer Profiles Web Site and Extensions of Linked Micromap Plots and Conditioned Choropleth Map Plots

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Demo Abstract

This demonstration features The State Cancer Profiles Web Site, linked micromaps plots and conditioned choropleth maps (see Carr, et al. 2003). The State Cancer Profile Web Site is part of the NCI's Cancer Control PLANET, a Web portal that links to resources for comprehensive cancer control. While interest in the topic of cancer control can be more personal than professional, the State Cancer Profiles Web Site should be a substantial professional interest to federal researchers and communicators dealing with graphical displays of quantitative information. The communication issues addressed span all federal agencies collecting and disseminating statistics. This site was based a survey of graphics used by health planners, has been through substantial usability assessment, and has addressed the accessibility issues of Section 508 of the Rehabilitation Act.

The demonstration emphasizes one of the heavily used web site templates: linked micromap plots. This new template links graphics of region-named statistics to small maps call micromaps. The template allows the statistical estimates to be displayed along with their uncertainty and compared to reference values and to values of other regions for evaluation and decision making purposes. The sequence of micromaps reveals spatial patterns. The NCI implementation features selection of variables and geographic resolution, fixed header scroll bars, dynamic sorting, dynamic overviews, drill down and more. The intent is for the enabling Java software to be shared with other agencies where it can be repurposed by changing the underlying database.

The demonstration also includes Conditioned Choropleth Maps (CCmaps) that are planned for future incorporation in the State Cancer Profiles Web Site. This free java application software is immediately available from www.galaxy.gmu.edu/~dcarr/ccmaps. The demonstration covers both applications from different federal agencies and the input of data to create new applications. The purpose of CCmaps is hypothesis generation in a geospatial context. Frequently variables are known to influence spatial patterns. For example the cigarette smoking rates in counties influences the lung cancer mortality rate spatial patterns. Before generating new hypothesis about the spatial pattern in lung cancer mortality rates is important to control for the variation in cigarette smoke rates. CCmaps provide a simple approach to controlling known source of variation through use of new partitioning sliders. This produces partial maps with regions that have similar values for the partitioning variables. The patterns remaining in the partial maps then can suggest that other variables are involved. Frequently the partition variables are only suspected to be associated with primary variable of interest. Attaching suspected variables to the dynamic partitioning slider looking for patterns across the partitioned maps clarifies the situation. Examples include relating gridded biodiversity estimates to environmental variables and county mortality rates to controllable risk factors.

Reference:

Carr, DB. S. Bell, L. Pickle, Y. Zhang, and Y. Li. 2003. The State Cancer Profiles Web Site and Extensions of Linked Micromap Plots and Conditioned Choropleth Map Plots." Proceeding of the Fourth National Conference on Digital Government Research.