

Visualization Tools Used to Explore and Disseminate Cancer Statistics

B. Sue Bell (National Cancer Institute)
sb401e@nih.gov
Linda Williams Pickle and Daniel Carr

Abstract

The National Cancer Institute (NCI) is developing a website to improve the dissemination of cancer statistics to the policy makers who plan for and prioritize cancer control efforts. To accomplish this goal, NCI is collaborating with the National Science Foundation's Digital Government, Quality Graphics (dgQG) initiative. NCI is now working to deploy several products of that research. The goal is to communicate complex health statistics in a way that makes them understandable to and useful for a diverse audience that includes state epidemiologists and health journalists. We will present the latest versions of these interactive graphics and discuss usability test results.

Specifically, we will present templates from NCI prototypes that include linked micromap (LM) plots, change point regression plots, bar plots, and conditioned choropleth (CC) maps. LMplots, implemented as a JAVA applet, allow users to interact with their data in various ways including sorting and drilling down. The template allows a policy maker to view simultaneously an outcome statistic for a cancer such as the mortality rate, a risk factor statistic such as the prevalence of a behavior associated with that cancer, and the Healthy People 2010 targets for the outcome and risk factor statistics. A second template presents the results of a JoinPoint regression that summarizes a long-term trend as a series of linear segments. A third template answers the question of how much each major cancer site is contributing to the recent trend in the overall cancer rate using bar plots. Finally, we will demonstrate how dynamically conditioned CCmaps can be used to interactively evaluate areas for targeting cancer control efforts. Using CCMaps, a cancer control planner can explore relationships among an outcome variable, a risk factor variable, a demographic variable, and the spatial distribution of each variable.