

Catalogue no. 11-522-XIE

**Statistics Canada International  
Symposium Series - Proceedings**

**Symposium 2006 :  
Methodological Issues in  
Measuring Population Health**

2006



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## **Geovisualization of Health and Social Capital Data Derived from Statistics Canada Surveys**

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### **Abstract**

The classification and identification of locations where persons report to be more or less healthy or have more or less social capital, within a specific area such as a health region, is tremendously helpful for understanding place and health associations. The objective of the proposed study is to classify and map areas within the Zone 6 Health Region (Figure 1) of Nova Scotia (Halifax Regional Municipality and Annapolis Valley regions) according to health status (Dimension 1) and social capital (Dimension 2). We abstracted responses to questions about self-reported health status, mental health, and social capital from the master files of the Canadian Community Health Survey (Cycles 1.1, 1.2 and 2.1), National Population Health Survey (Cycle 5), and the General Social Survey (Cycles 13, 14, 17, and 18). Responses were geocoded using the Statistics Canada Postal Code Conversion File (PCCF+) and imported into a geographical information system (GIS) so that the postal code associated with the response will be assigned to a latitude and longitude within the Nova Scotia Zone 6 health region. Kernel density estimators and additional spatial interpolators were used to develop statistically-smoothed surfaces of the distribution of respondent values for each question. The smoothing process eliminates the possibility of revealing individual respondent location and confidential Statistics Canada sampling frame information. Using responses from similar questions across multiple surveys improves the likelihood of detecting heterogeneity among the responses within the health region area, as well as the accuracy of the smoothed map classification.

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