Creating an Overall Environmental Quality Index: Assessing Available Data

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Background and Objectives: The interaction between environmental insults and human health is a complex process. Environmental exposures tend to cluster, and disamenities such as landfills or industrial plants are often located in neighborhoods with a high percentage of minority and poor residents. Yet, no single exposure can be held responsible for either good or poor health. To address this need, we propose to develop an overall environmental quality index (EQI) for all counties in the United States. This project focuses on the assessment of potential data sources for use in the development of the EQI.

Methods: Four main domains were identified that contribute to environmental quality: air, water, land, and built environment/social determinants. An inventory of possible data sources representing each of the four domains was created; data sources were identified using Web-based search engines (e.g., Google), site-specific search engines (e.g., federal data sites, state data sites), literature-reported data sources (e.g., PubMed, Science Direct, Toxnet), and word of mouth (e.g., colleagues, other data owners). Data sources were evaluated for appropriate spatial and temporal coverage and data quality.

Results: The data inventory identified 7, 80, 40, and 7 data sources for the air, water, land, and built environment/social determinants domains, respectively. Currently, 3 air sources, 6 water sources, 25 land sources, and 7 built environment/social determinants sources are being further evaluated for use in the EQI.

Conclusion: Potential data sources are available for each domain. However, differences in data quality, geographic coverage, and data availability exist among the four domains.