

**Uses of Community Level Indicators in the National Children’s Study:
Assessing Segment Representativeness, Evaluating Recruitment Performance, and Building Multi-
Level Analytic Models Quantifying the Impact on Developmental Outcomes of Interactions
between Individual and Community-Level Risk Factors**

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Introduction. Community-level demographic, socioeconomic, physical, built environment and social environment characteristics are known to be important predictors of developmental outcomes. There is a great deal of value in linking spatially referenced (community-level) data to National Children’s Study (NCS) counties, to geographically defined NCS segments and to NCS study subjects. Such linkages can be used to: 1) assess the representativeness of NCS segments within a county selected for inclusion in the NCS; 2) evaluate operational performance, e.g. ensure that recruitment of eligible subjects is not affected by demographic differences between segments; 3) identify interactions between community and individual-level characteristics with respect to developmental outcomes.

Methods. The Queens Vanguard Center (QVC) has assembled a large Geographic Information System (GIS) containing key community level indicators for tracts containing Queens NCS segments, and tracts not containing NCS segments. Nine domains of community characteristics have been established to date: 1) Demographics; 2) Socio-economic; 3) Household; 4) Maternal; 5) Transit-related; 6) Parks and Greenery; 7) Social Disorder; 8) Land Use; 9) Pollution Sources.

Results. Of the 613 populated census tracts in Queens, 44 tracts contain portions of the identified segments in which recruitment is currently taking place. There are statistically significant relationships between a number of recruitment indicators and certain community characteristics. We found that census tracts containing NCS segments are representative of Queens as a whole with respect to both average values and variability.

Conclusions: Quantitative community-level characteristics are readily available and have considerable potential operational and research value in conducting the National Children’s Study.

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