Summary and Comparison of the **NCI/NAACCR Zone Design Project and the CDC Tracking Program Sub-County Data Project**

NCI/NAACCR Zone Design Project

NCI is working on the development of a set of cancer reporting zones across the U.S. that are more suitable for cancer data reporting than counties. In each respective state, the zones will be custom crafted to represent areas that:

- are meaningful to stakeholders in terms of cancer reporting and cancer interventions;
- comprise adjacent census tracts and smaller counties (or portions of counties) that sum to population sizes that are sufficiently large to support stable rates;
- are homogeneous with respect to important sociodemographic characteristics, and are compact in size;
- collectively cover the entire population of the state;
- have large enough case counts for data reporting, without compromising confidentiality; and
- result in a relatively small proportion of areas with suppressed values, although for rarer cancer sites suppression will be inevitable, especially when producing rates stratified by sex and/or race.

Research data released with these zones should be easy to access, with no special data use provisions.

NCI has completed a pilot study using cancer data from several cancer registries, and the resulting zones satisfied the predefined criteria. These zones subdivide large population urban counties and are collections of smaller counties (or portions of counties) and have a minimum population size of 50,000. We are currently expanding these "cancer-centric" zones to other registries and working with our cancer surveillance partners to use these zones for the release of cancer statistics and other sociodemographic factors relevant to understanding the cancer burden and identifying areas in need of interventions.

CDC Tracking Program Sub-County Data Project

CDC's National Environmental Public Health Tracking Program (Tracking Program) is working to increase the availability and accessibility of sub-county data to disseminate via the Environmental Public Health Tracking Network. Please click on the following link https://ephtracking.cdc.gov/ to access the Tracking Network's Data Explorer, Info By Location, and other information.

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- The Tracking Program created standardized sub-county geographies to allow for comparability across all of the Tracking Program's various datasets to be able to compare environmental hazards and exposures, health outcomes associated with those exposures, and other risk factors rather than focusing on one health outcome. The Tracking Program is partnering with CDC's Division of Cancer Prevention and Control to disseminate cancer incidence data using the standardized sub-county geographies.
- The standardized sub-county geographies use census tracts as the foundation, have a hierarchical structure, and nest within county boundaries.
- The standardized geographies were created using the Geographic Aggregation Tool to merge based on the nearest population-weighted centroid until a specified threshold was reached.
- The Tracking Program will disseminate data via standardized sub-county geographies:
  - » Census tract
  - » More common outcome aggregation scheme (minimum total population 5,000 persons)
  - » Rare outcome aggregation scheme (minimum total population 20,000 persons)
- Note that the rare vs. common outcomes are in the context of the Tracking Program's outcomes. Many cancer types may be considered a rare outcome. In some cases, temporal aggregation may also be used to ensure stability of rates and protection of confidentiality.
- Note that the geographies continue to be refined with recipient input and are subject to change, including potential for creating another aggregation threshold and combining small population counties.

Comparison

	NCI/NAACCR Zone Design	CDC Tracking Program Standardized Sub-County Geographies
Primary objective	Cancer reporting	Environmental public health, including cancer
Primary health outcomes	Cancer incidence	Cancer incidence, hospitalizations, and emergency department visits (e.g., heart disease, asthma)
Zone population targets	50,000	• Census tract for very common outcomes (≥17.0 median cases per census tract); • 5,000 for common outcomes (7.3 to 16.9 median cases per census tract); • 20,000 for rare outcomes (1.9 to 7.2 median cases per census tract)
Counties with small populations	Aggregate neighboring counties to meet population target	Potentially aggregate neighboring counties to reach population thresholds.
Homogeneity of zones	Zone design algorithm seeks to identify zones that are homogeneous with respect to poverty, minority population, and urbanicity.	Not currently included in sub-county geography algorithm; reviewed generated areas for homogeneity and found areas to be strongly homogeneous.
Compactness of zones	Zone design algorithm seeks to identify zones that are compact in shape.	Tool used attempts to maximize compactness of sub-county geographies; reviewed generated areas for compactness.
Implementation	Common approach but working state-by-state with some state-level flexibility	Common approach applied across all of the U.S. to create standards so that data are comparable across time, space, and datasets.