**Supplemental Digital Content Table 1:**

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| **Definition** | **Agency** | **Dichotomy** | **Resolution** | **Rural Decision** | **Notes** |
| [Rural-Urban Commuting Areas](https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/documentation/) [(RUCAs)](https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/documentation/) | USDA | Multi-level | Census Tract | Values greater than or equal to 4 were considered rural. | 10 categories spanning urban metropolitan to rural non-metro. Incorporates population and commuting data as a proxy for ‘connectedness’.  |
| [Core-Based Statistical Areas (CBSAs)](https://www.census.gov/programs-surveys/metro-micro/about.html) | OMB | Dichotomous | County | Non-core counties were considered rural. | Definition categorizes counties as being a part of a metropolitan statistical area, a micropolitan statistical area, or being ‘noncore’: neither metro- nor micropolitan. |
| [Urban Areas/](https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html)[Urban Clusters (UAs/UCs](https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html)) | Census Bureau | Dichotomous | Variable | Tracts that did not have their population-weighted centroid inside of an UA/UC were considered rural. | The Census Bureau defines UAs/UCs each decennial census, and anywhere not inside these areas is considered rural. |
| [Federal Office of Rural Health Policy](https://www.hrsa.gov/rural-health/about-us/definition/index.html)[(FORHP)](https://www.hrsa.gov/rural-health/about-us/definition/index.html) | HRSA | Dichotomous | Census Tract  | N/A | The FORHP definition we used includes nonmetro counties AND all tracts with RUCAs greater than or equal to 4. |
| [National Center for Health Statistics Rural Classification Scheme](https://www.cdc.gov/nchs/data_access/urban_rural.htm#:~:text=NCHS%20has%20developed%20a%20six,of%20nonmetropolitan%20%E2%80%9Cnoncore%E2%80%9D%20counties.) | CDC | Dichotomous | County | When a county was designated as rural, all tracts within the county were also considered rural in line with the definition. |  |
| [Rural-Urban Continuum Codes](https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/)[(RCCs)](https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/) | USDA | Multi-level | County | Values greater than or equal to 7 were considered rural for all tracts within the county.  | 9 categories spanning urban metropolitan to rural non-metro.  |
| [Urban Influence Codes](https://www.ers.usda.gov/data-products/urban-influence-codes/) [(UICs)](https://www.ers.usda.gov/data-products/urban-influence-codes/) | USDA | Multi-level | County | Values greater than or equal to 9 were considered rural for all tracts within the county. | 12 categories spanning urban metropolitan to rural non-metro. |
| [Frontier and Remote Access Codes](https://www.ers.usda.gov/data-products/frontier-and-remote-area-codes/documentation/)[(FAR Codes)](https://www.ers.usda.gov/data-products/frontier-and-remote-area-codes/documentation/) | USDA | Multi-level | ZIP Code | Any tracts with their population-weighted centroid inside of a ZIP code classified under any of the four FAR categories were considered rural.  | 4 categories spanning the most remote areas of the United States – no category includes metro or micropolitan areas. Population data are used in conjunction with travel time to approximate distance and isolation.  |

**Supplemental Digital Content 1 (Table): Characteristics of the eight federal rural definitions included in analysis.** Each of the eight federal rural definitions included in our analysis is listed under “Definition” with a hyperlink to the definition’s web page. “Agency” refers to the federal agency from which the definition is derived, ”Dichotomy” refers to the way the definition breaks up rurality, with ‘multi-level’ indicating that there are several categories on a rural-urban spectrum, and ‘dichotomous’ indicating the definition either lists areas as ‘rural’ or ‘urban.’ “Resolution” refers to the geographic level of the raw data for the definition, with ‘variable’ geography indicating that the rural/urban geographies change based on population characteristics, ‘ZIP code’ indicating that areas are defined as rural/urban at the ZIP code level, and ‘County’ indicating that areas are defined at the Census-based country level, and ‘Census Tract’ indicating the data is at a tract level. “Rural Decision” describes our analytical decisions to dichotomize multi-level definitions with rural cutoff points, based on common programmatic and research practices. We include additional details about definitions for the eight federal rural definitions in the “Notes” column.