COVID-19 Cases and Deaths, Metropolitan and Nonmetropolitan Counties Over Time
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Report
Fall 2020 has seen a dramatic increase in COVID-19 case and mortality rates in the United States. This data brief compares 7-day moving average COVID-19 incidence and mortality rates between metropolitan, micropolitan, and noncore counties in the United States.

Analysis of incidence and mortality data shows that rural areas are being disproportionately impacted by the virus. There was a very modest decline in incidence and mortality rates following the summer peak (in both metropolitan and nonmetropolitan areas), but in early August the nonmetropolitan incidence and mortality rates surpassed those of metropolitan areas. While the incidence rates in micropolitan and noncore areas have been very similar, noncore mortality rates have been the highest of the three geographies since late September (figure 4).

Figure 1. COVID-19 Metropolitan and Nonmetropolitan Incidence Rates

COVID-19 Incidence Rates: 7-day moving average
4/1/2020 - 11/20/2020

Case counts from Johns Hopkins University CSSE COVID-19 Data
https://github.com/CSSEGISandData/COVID-19
Population based on 2018 ACS 5-year estimates.
Figure 2. COVID-19 Metropolitan, Nonmetropolitan, and Noncore Incidence Rates

COVID-19 Incidence Rates: 7-day moving average
4/1/2020 - 11/20/2020

- Metropolitan
- Micropolitan
- Nonmicropolitan

Confirmed cases / 100,000 population

Case counts from Johns Hopkins University CSSE COVID-19 Data
http://github.com/CSSEGISandData/COVID-19
Population based on 2018 ACS 5-yr estimates.

Figure 3. COVID-19 Metropolitan and Nonmetropolitan Mortality Rates

COVID-19 Mortality Rates: 7-day moving average
4/1/2020 - 11/20/2020

- Metropolitan
- Nonmetropolitan

COVID-19 deaths / 100,000 population

Death counts from Johns Hopkins University CSSE COVID-19 Data
http://github.com/CSSEGISandData/COVID-19
Population based on 2018 ACS 5-yr estimates.

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Data
Data on confirmed COVID-19 cases and deaths were obtained from the Johns Hopkins University COVID-19 Data Repository\(^1\). Daily case and death counts in counties were calculated using a 7-day rolling average and total population data, obtained from the 2018 American Community Survey 5-year estimates\(^2\), were used to calculate rates. Counties (or equivalents) in the 50 states and the District of Columbia were classified as metropolitan, nonmetropolitan, or noncore based on Urban Influence Codes\(^3\). Metropolitan counties are those with one or more urban areas with 50,000 or more people; or outlying counties economically tied to core counties as measured by labor-force commuting. All other counties are considered nonmetropolitan which may further be divided into “micropolitan” counties (those nonmetropolitan counties with an urban area with 10,000-49,999 people and economically-tied outlying counties) and “noncore” counties (those with no urban area of 10,000 or more people and not economically tied to metropolitan or micropolitan counties)\(^4\).

References
1. COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University. [https://github.com/CSSEGISandData/COVID-19](https://github.com/CSSEGISandData/COVID-19).