

The Nature of the Rural-Urban Mortality Gap

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What Is the Issue?

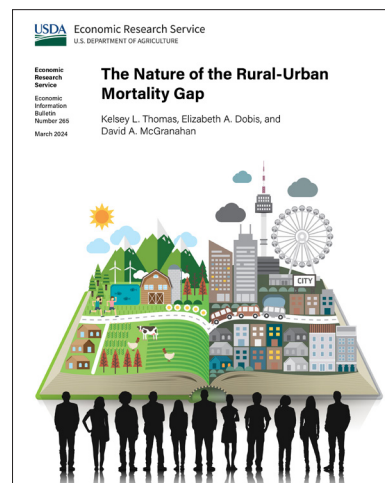
Mortality rates can help measure the overall health and wellness of a particular age group, county, or region. Although recent attention has been given to external factors associated with mortality, such as suicide and accidental overdoses, deaths due to natural causes continue to outnumber deaths due to external factors. Comparing natural-cause mortality (NCM) rates, defined as disease-related deaths per 100,000 residents, between 1999 and 2019 have indicated an increasing mortality gap between rural and urban areas in the United States. Not only did urban area NCM rates decrease more than rural rates between 1999 and 2019, NCM rates increased for rural, prime working-age adults (aged 25–54).

Increased mortality rates in the prime working-age group are an indicator of worsening population health, which can have adverse implications for the economy and employment. Prime working-age individuals with low health quality may work fewer days or be less productive when working. They may also have a lower health-related quality of life (an individual's perceived physical and mental health over time). This report explores how the prime working-age NCM rate varies by select individual characteristics, as well as by regions of the United States. This report also provides an overview of the levels and changes in prime working-age NCM between two 3-year periods, 1999–2001 and 2017–2019. Although we do not address causal relationships between NCM and its potential influencing variables, this work will inform future work on rural mortality.

What Did the Study Find?

Overall NCM

- There is a growing natural-cause mortality gap between rural and urban areas of the United States.
- Over the last 20 years, the difference between age-adjusted NCM rates for the overall population in rural and urban areas grew from being 6 percent higher in rural areas than urban areas in 1999 to 20 percent higher in rural areas than urban areas in 2019.



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Prime Working-Age NCM

- The rural, prime working-age population was the only group to experience an increase in NCM rates, resulting in an even greater increase in the mortality gap between rural and urban areas. In 1999, the NCM rate for the prime working-age population in rural areas was 6 percent higher than in urban areas, growing to 43 percent higher in 2019.
- The more rural the area, the greater the increase in prime working-age NCM rates (or smaller the decrease) over time.

Prime Working-Age NCM by Sex and Race and Ethnicity

- In rural areas, NCM rates for prime working-age females increased more than NCM rates for prime working-age males between the 1999–2001 and 2017–2019 periods.
- Among racial and ethnic groups, Hispanic males and females had the smallest rural-urban NCM rate gaps.
- For both males and females, non-Hispanic White people had the greatest growth in prime working-age NCM rates in rural areas when compared with urban counties over time.
- In rural areas, non-Hispanic American Indian and Alaska Native (AIAN) males and females and non-Hispanic White males and females saw the largest increase in prime working-age NCM rates between the 1999–2001 and 2017–2019 periods (46 percent and 13 percent, respectively). However, the increase was more pronounced for females, with a 55-percent increase for non-Hispanic AIAN females and a 23-percent increase for non-Hispanic White females.

Regional Variation

- The urban-rural gap in prime working-age NCM rates grew in all regions between 1999–2001 and 2017–2019, with the Midwest having the smallest increases.
- The South continued to have the highest prime working-age NCM rates for both sexes in 2017–2019, while the Northeast continued to have the lowest rates.
- Across all regions, rural females had larger increases in prime working-age NCM rates than rural males.

How Was the Study Conducted?

This report used publicly available data based on death certificates from the Centers for Disease Control and Prevention (CDC) Wide-ranging Online Data for Epidemiologic Research (WONDER) database. We queried age-adjusted WONDER mortality data by year of death, sex, race, ethnicity, residence, and cause of death. Deaths are coded using the International Classification of Disease 10th Revision (ICD-10) codes. These codes were adopted in 1999 to classify causes of death and are only broadly comparable to years prior to 1999.

Our analysis is primarily descriptive and focuses on a growing gap in mortality rates between rural (nonmetropolitan) and urban (metropolitan) counties. The authors compared rural and urban changes in CDC NCM data for prime working-age populations aggregated to increase the number of observations and decrease the unreliability of the statistics in two 3-year periods (1999–2001 and 2017–2019) by sex, race, ethnicity, regions, and States.