

The Role of Suicide and Mental Health in Shaping Mortality Trends

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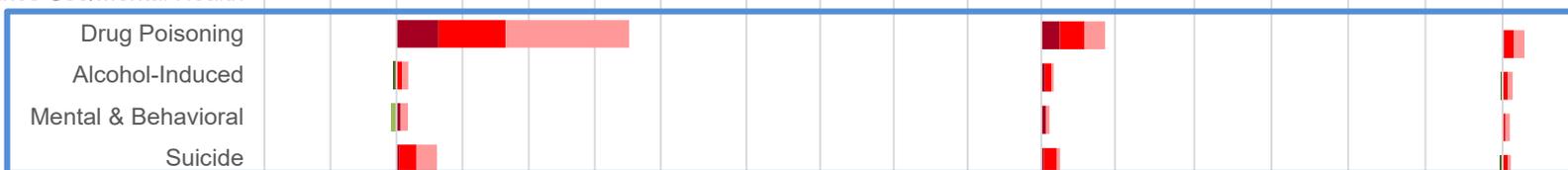
National Academies of Sciences, Engineering, and Medicine 2021. *High and Rising Mortality Rates Among Working-Age Adults*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25976>.

Non-Hispanic White Males Ages 25-44

Ages 45-54

Ages 55-64

Substance Use/Mental Health



Change in Mortality:

1990-1992 to 2000-2002



2000-2002 to 2009-2011



2009-2011 to 2015-2017



Non-Hispanic Black Males Ages 25-44

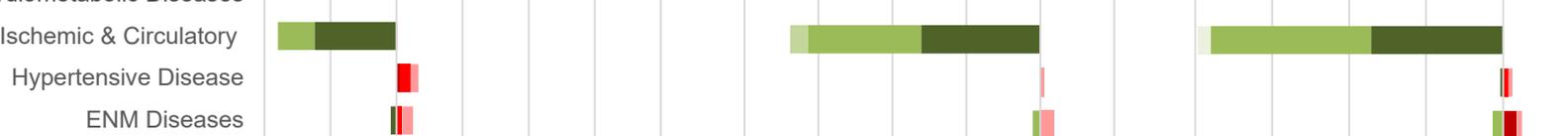
Ages 45-54

Ages 55-64

Substance Use/Mental Health



Cardiomatobolic Diseases



Hispanic Males Ages 25-44

Ages 45-54

Ages 55-64

Substance Use/Mental Health



Cardiomatobolic Diseases



-30 -15 0 15 30 45 60
Change in Mortality (deaths/100,000)

-200 -150 -100 -50 0 50
Change in Mortality

-400 -300 -200 -100 0 100
Change in Mortality



Non-Hispanic White Females Ages 25-44

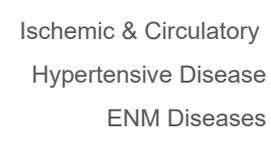
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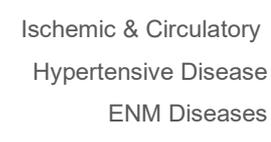
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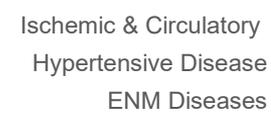
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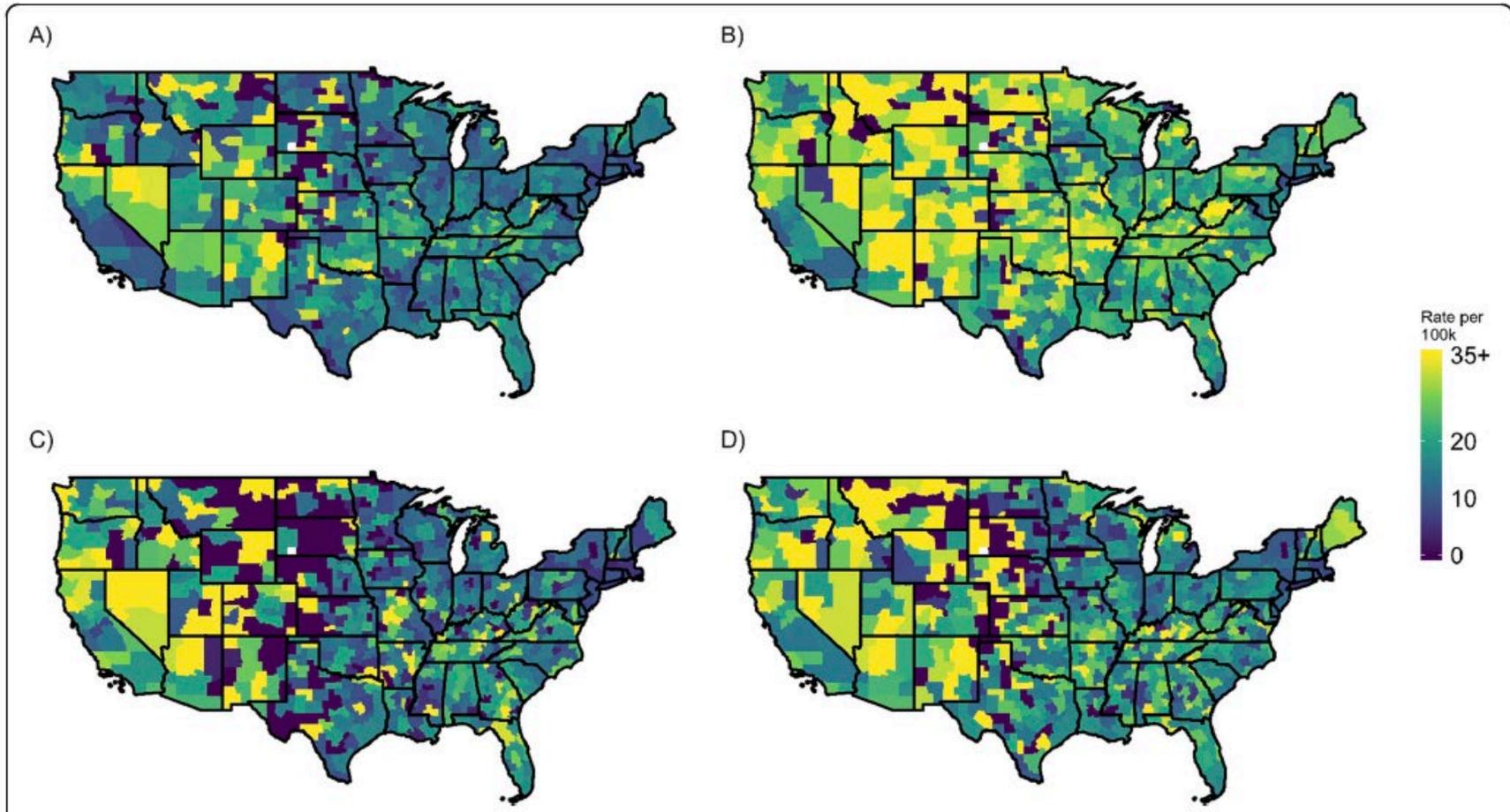
-20 -10 0 10 20 30
Change in Mortality (deaths/100,000)

-100 -75 -50 -25 0 25 50
Change in Mortality

-250 -200 -150 -100 -50 0 50
Change in Mortality

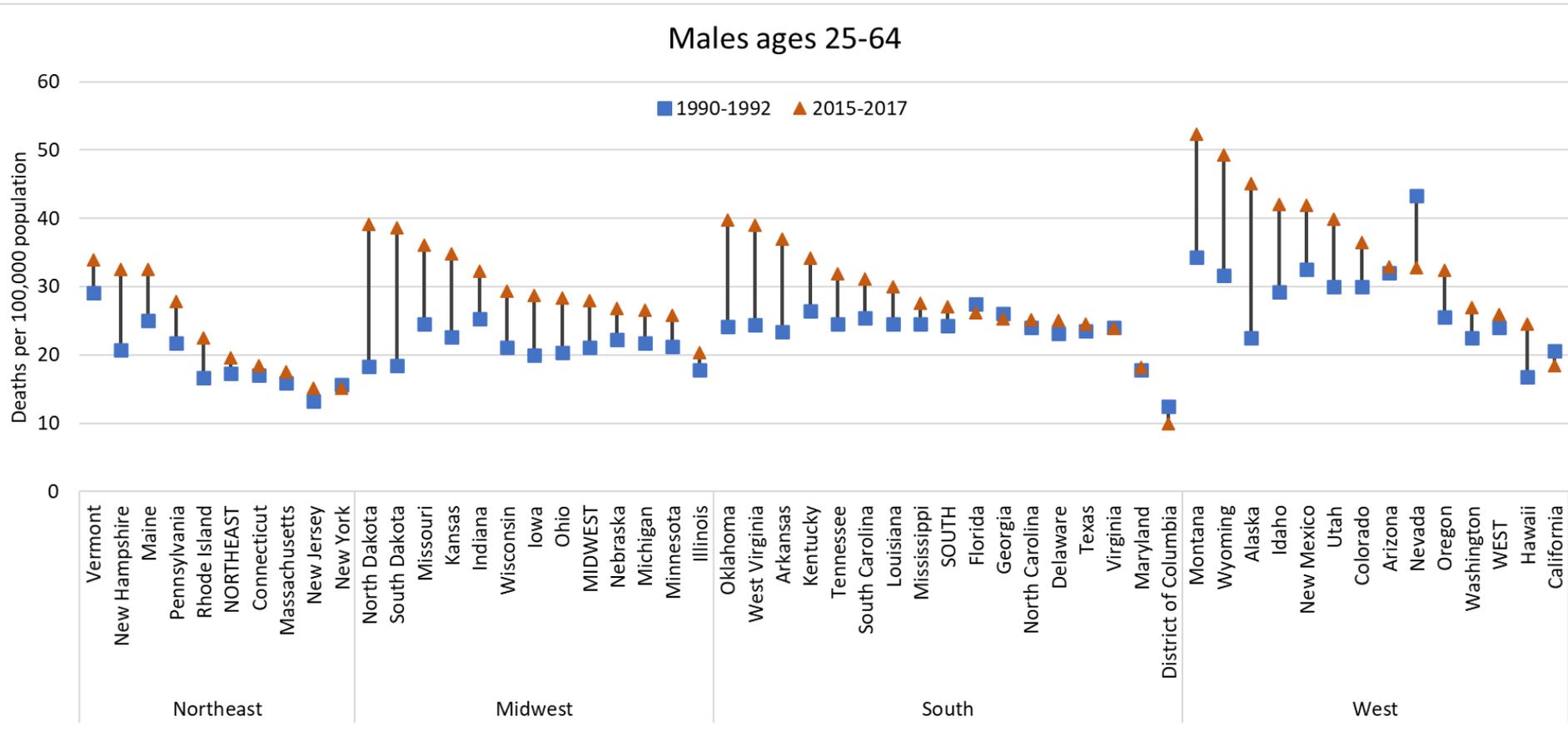


Fig. 1 Age-standardized rates of suicide mortality (both-sex) by (a) commuting zones for ages 20–64 in 1999–2001 and (b) 2015–2017, and (c) ages 65+ in 1999–2001 and (d) 2015–2017. All choropleths were obtained from publicly available Census data using the *tmap* R package. [55]



Graetz, Nick, Samuel H. Preston, Morgan Peele, and Irma T. Elo. 2020. Ecological factors associated with suicide mortality among non-Hispanic whites. *BMC Public Health* 20:1339 <https://doi.org/10.1186/s12889-020-09379-w>.

Suicide Rates by State



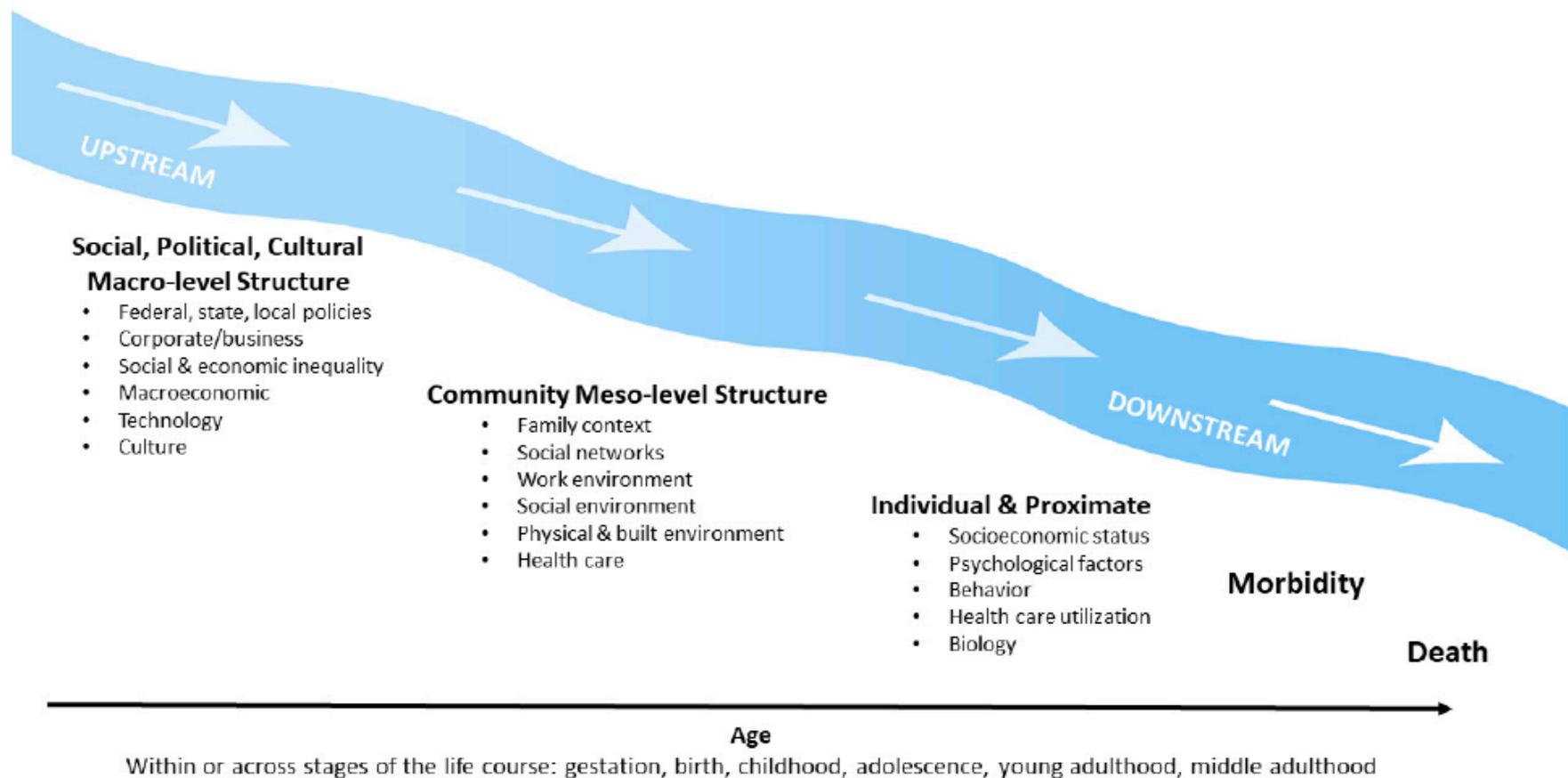


FIGURE 6-1 Conceptual framework: A life course multilevel model of factors involved in high and rising mortality among working-age adults.

Explanations for Suicide Trends

- 1) Mental and emotional health
- 2) Economic factors
- 3) Social engagement, religious participation, and social support
- 4) Access to lethal means (e.g., firearms)

Mental and Emotional Health: Risk of suicide

- Rise in hopelessness, stress, and poor mental health
- Stressful life events
- Acute social situations
- Psychiatric disorders
- Impulsivity
- Prior attempts
- Family history

Economic Factors

- Geographic distribution of economic decline
 - Loss of manufacturing and mining jobs
 - Stagnating or declining wages for blue collar workers
 - Increases in poverty
- Changing requirements for safety net programs
- Increases in foreclosure rates
- Rise in hopelessness, stress, and poor mental health
- Affecting mostly individuals with low levels of schooling

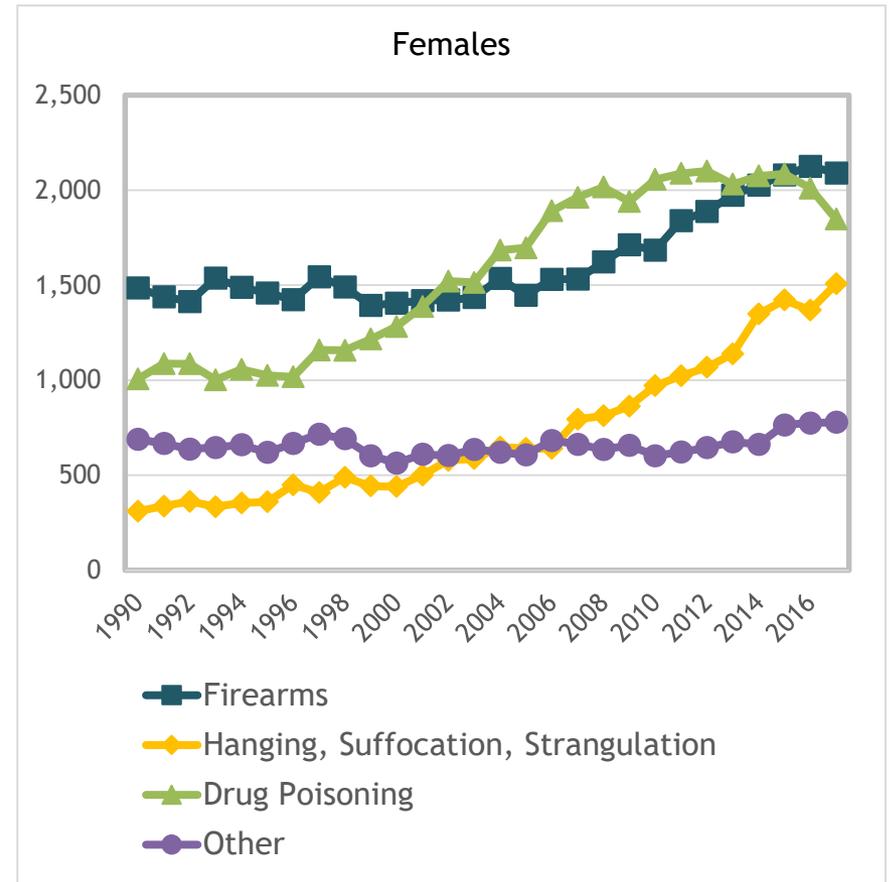
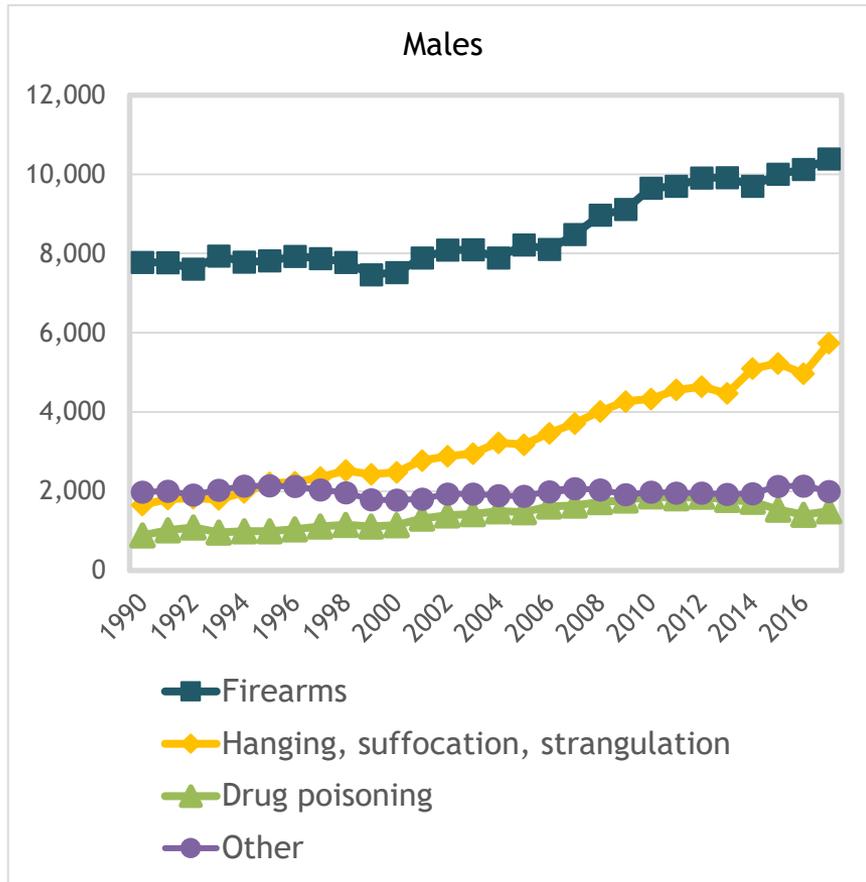
Social engagement, religious participation, and social support

- Loss of employment-based social networks
- Declines in civic participation
- Decrease in religious affiliation and church attendance
- Falling marriage and increasing divorce rates
- Increases in single parent families

Access to Lethal Means

- Looser gun regulations - higher firearm-related suicides
- More gun ownership - higher firearm-related suicides
- High firearm-related suicides in nonmetropolitan areas
- Men are more likely than women to use firearms
- Increases in suicides over study period not limited to firearms

Suicide Modalities



Thank you!