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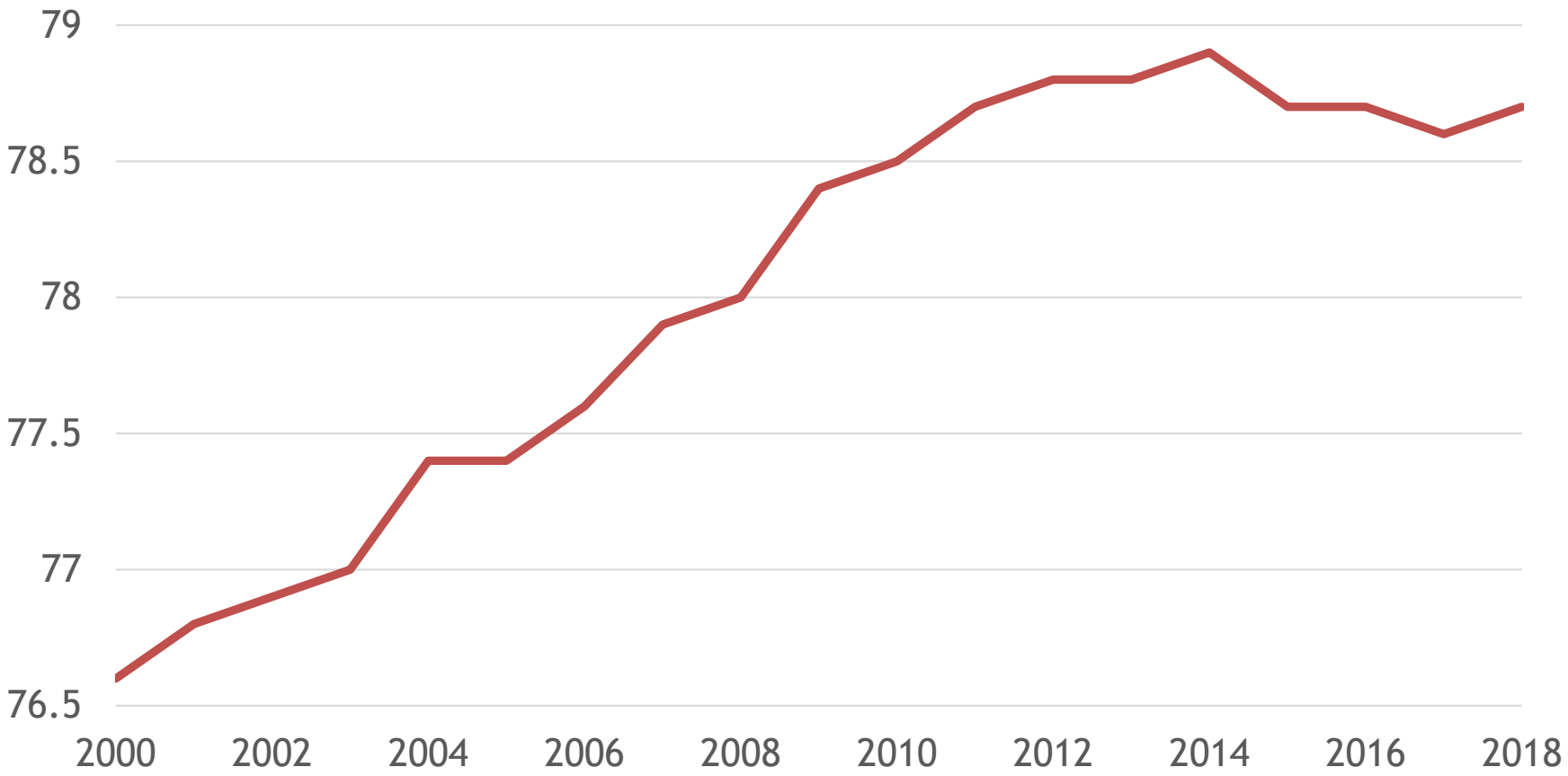
COMMITTEE ON POPULATION (CPOP) & COMMITTEE ON NATIONAL STATISTICS (CNSTAT)

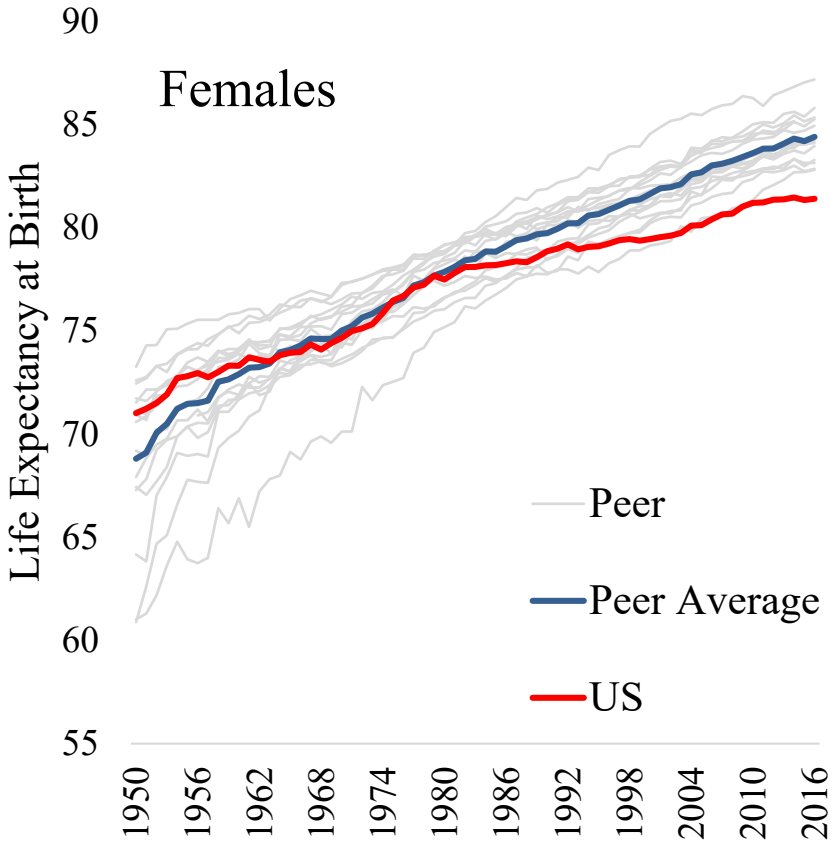
High and Rising Mortality Rates Among Working-Age Adults: Suicide and Mental Health

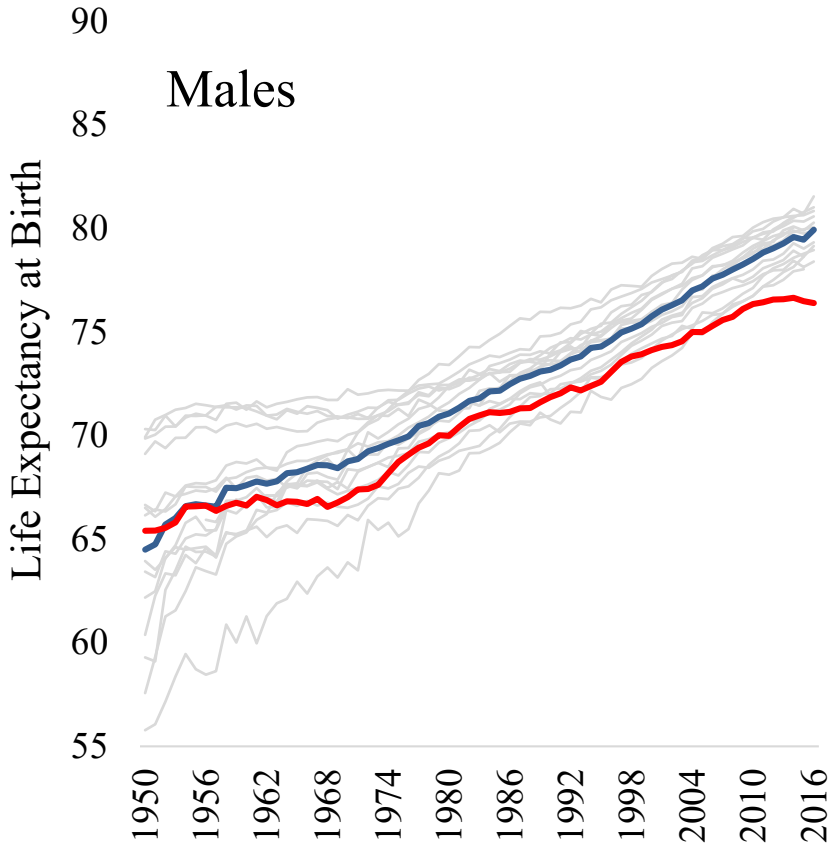
Committee on Rising Midlife Mortality Rates and Socioeconomic Disparities

The Problem: U.S. Life Expectancy Fell Between 2014 and 2017



The Problem: U.S. Life Expectancy has Been Diverging from Peer Countries





Study Background

- Sponsors:
  - National Institute on Aging
  - Robert Wood Johnson Foundation
- Task
  - Identify the key drivers of increasing mortality and concomitant widening social differentials
  - Identify modifiable risk factors to reduce mortality and health disparities
  - Make recommendations for future research and explore potential policy implications

Committee Members

- **KATHLEEN MULLAN HARRIS** *(Chair)*, Department of Sociology, Carolina Population Center, University of North Carolina at Chapel Hill
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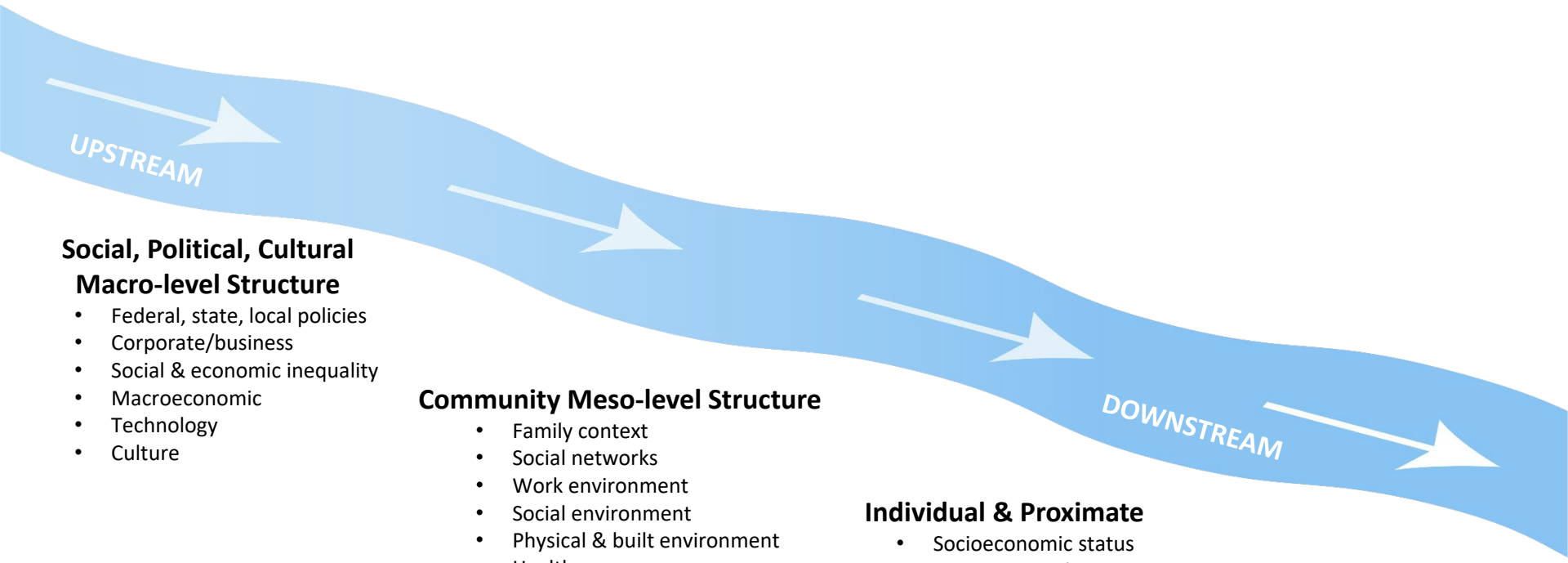
Scope of Report

- Examined mortality trends for working age adults (ages 25-64) by age-group, sex, race/ethnicity, geography
- Conducted independent data analysis using restricted-access National Vital Statistics death certificate data (1990-2017)
- Conducted robust review of the literature to identify explanations and implications for policy and research

Conceptual Framework: A life course multilevel model of factors involved in high and rising mortality among working-age adults



Social, Political, Cultural Macro-level Structure

- Federal, state, local policies
- Corporate/business
- Social & economic inequality
- Macroeconomic
- Technology
- Culture

Community Meso-level Structure

- Family context
- Social networks
- Work environment
- Social environment
- Physical & built environment
- Health care

Individual & Proximate

- Socioeconomic status
- Psychological factors
- Behavior
- Health care utilization
- Biology

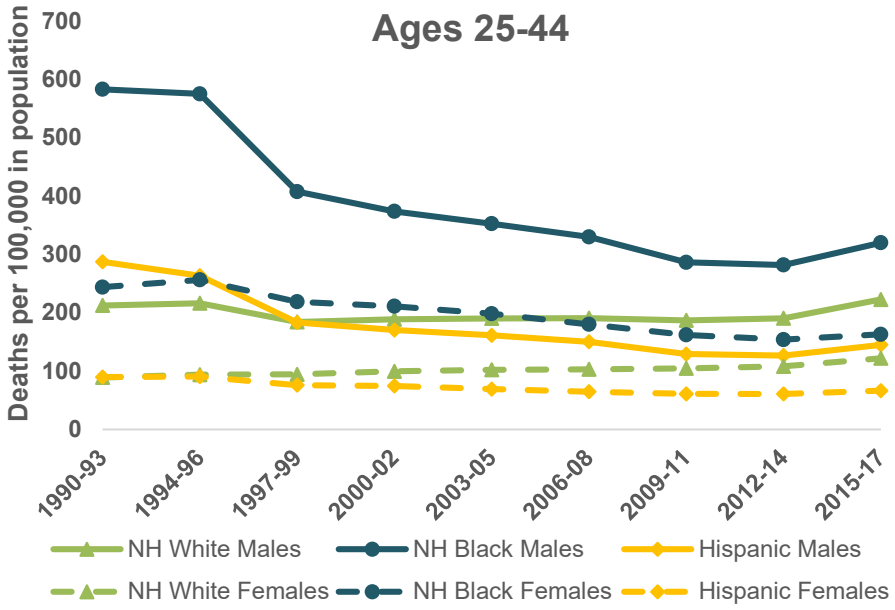
Morbidity

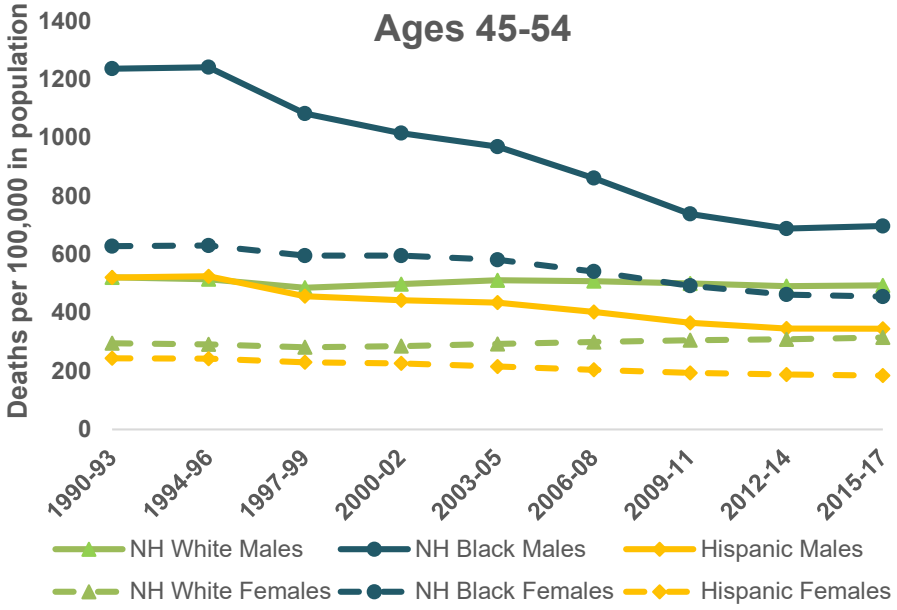
Death

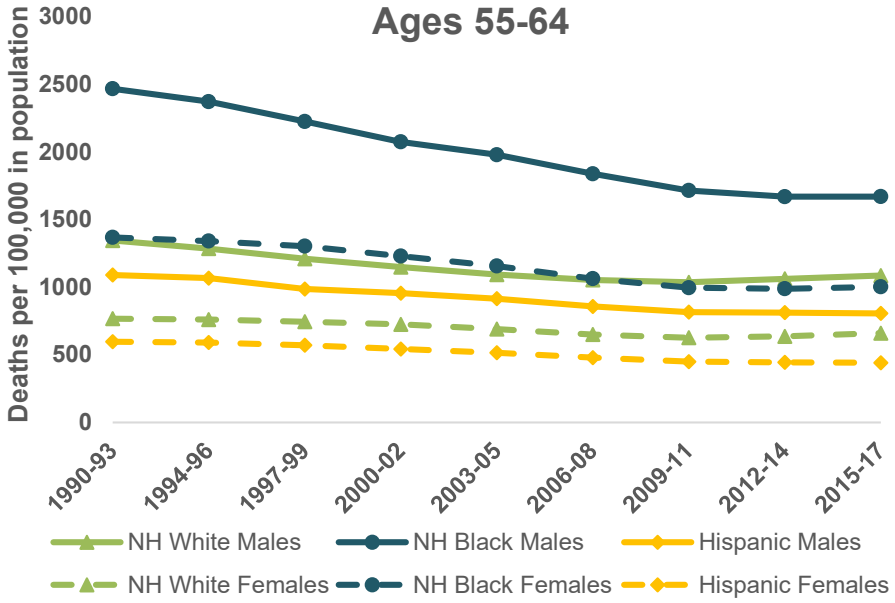
Age

Within or across stages of the life course: gestation, birth, childhood, adolescence, young adulthood, middle adulthood

Trends and Differentials in Working-Age Mortality in the U.S.,1990-2017







Mortality Trends: 1990-2017 by Age Group, Sex, and Race-Ethnicity

Disparites in All-Cause Mortality

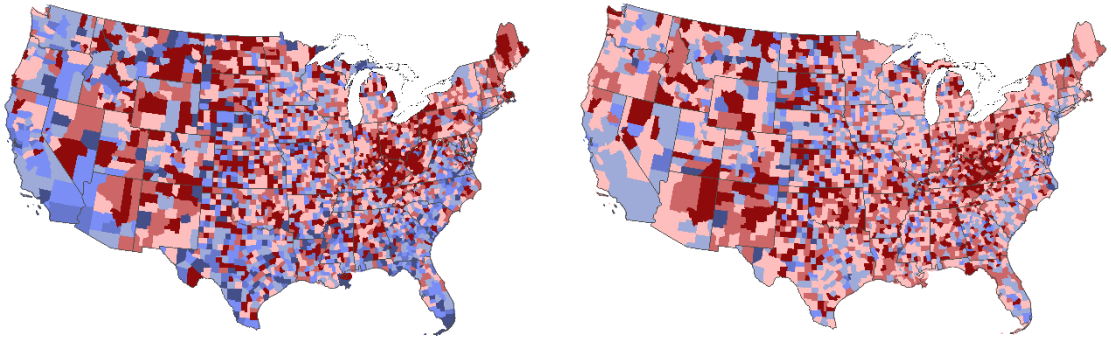
- Blacks and American Indians have consistently experienced much higher mortality
- Disparities in mortality by SES have widened substantially among working-age Whites, and there is a stable but persistent gap in mortality among Black adults that favors those with higher SES

Trends in All-Cause Mortality

(Change in mortality, males and females)

Males

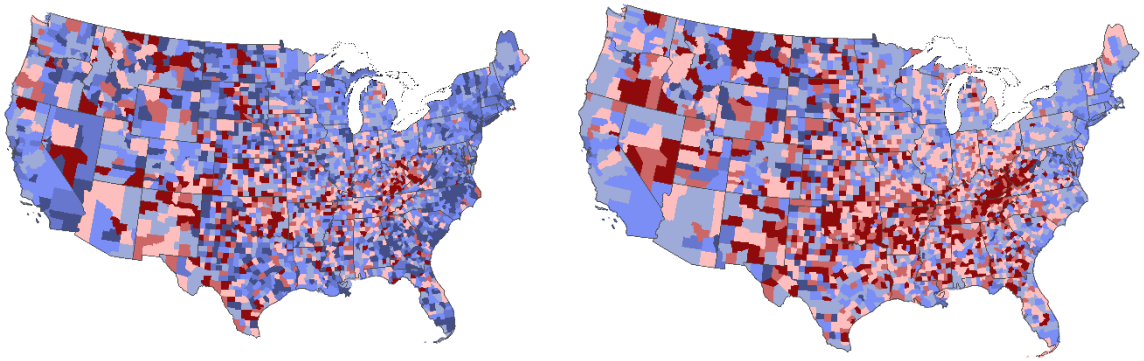
Females



Absolute Change in Mortality Rate (ages 25-44) 1990-92 to 2015-17

Deaths per 100,000 Population

<-150 | -150 to -100 | -100 to -50 | -50 to 0 | 0 to 50 | 50 to 100 | >100



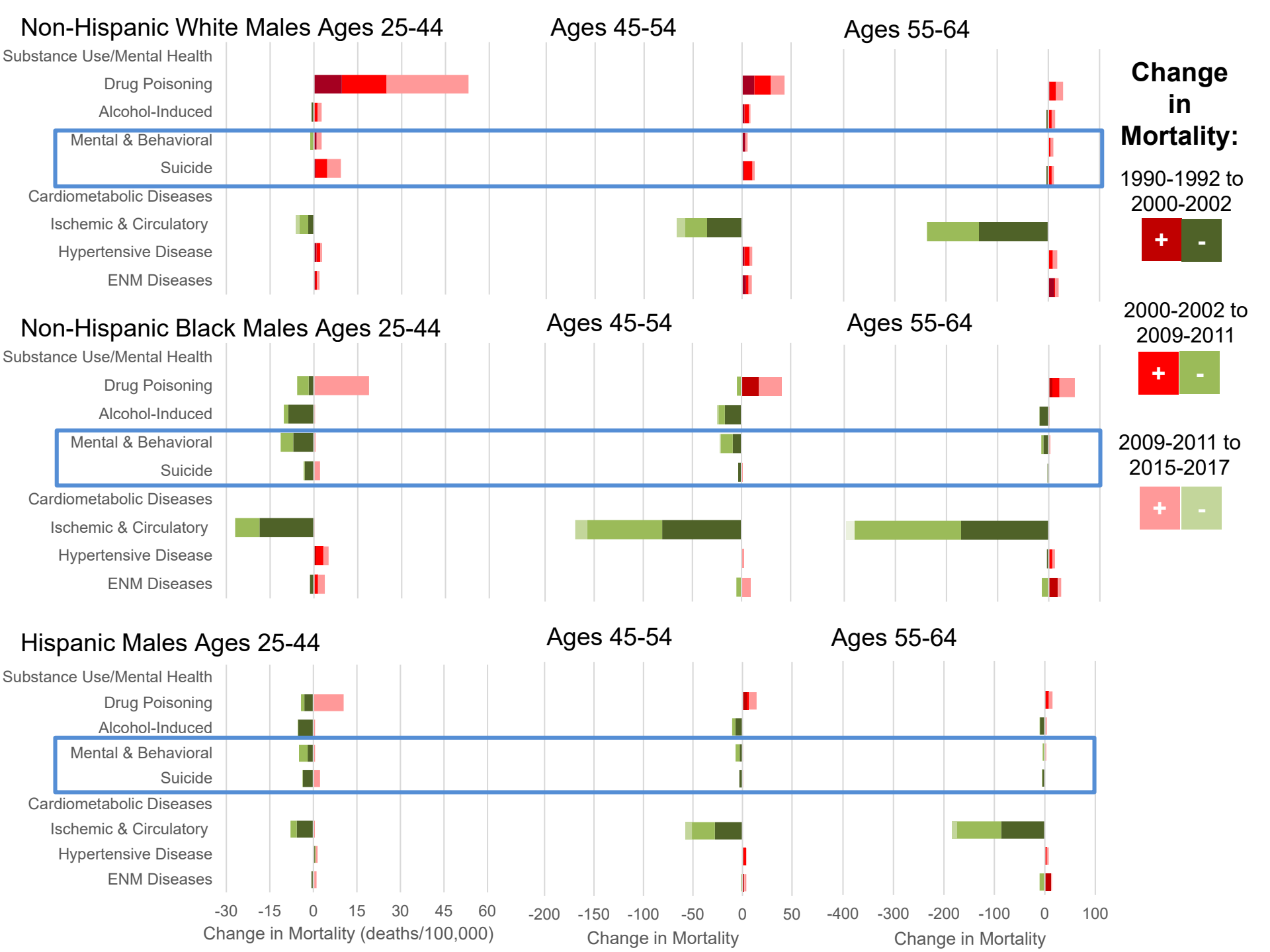
Absolute Change in Mortality Rate (ages 45-64) 1990-92 to 2015-17

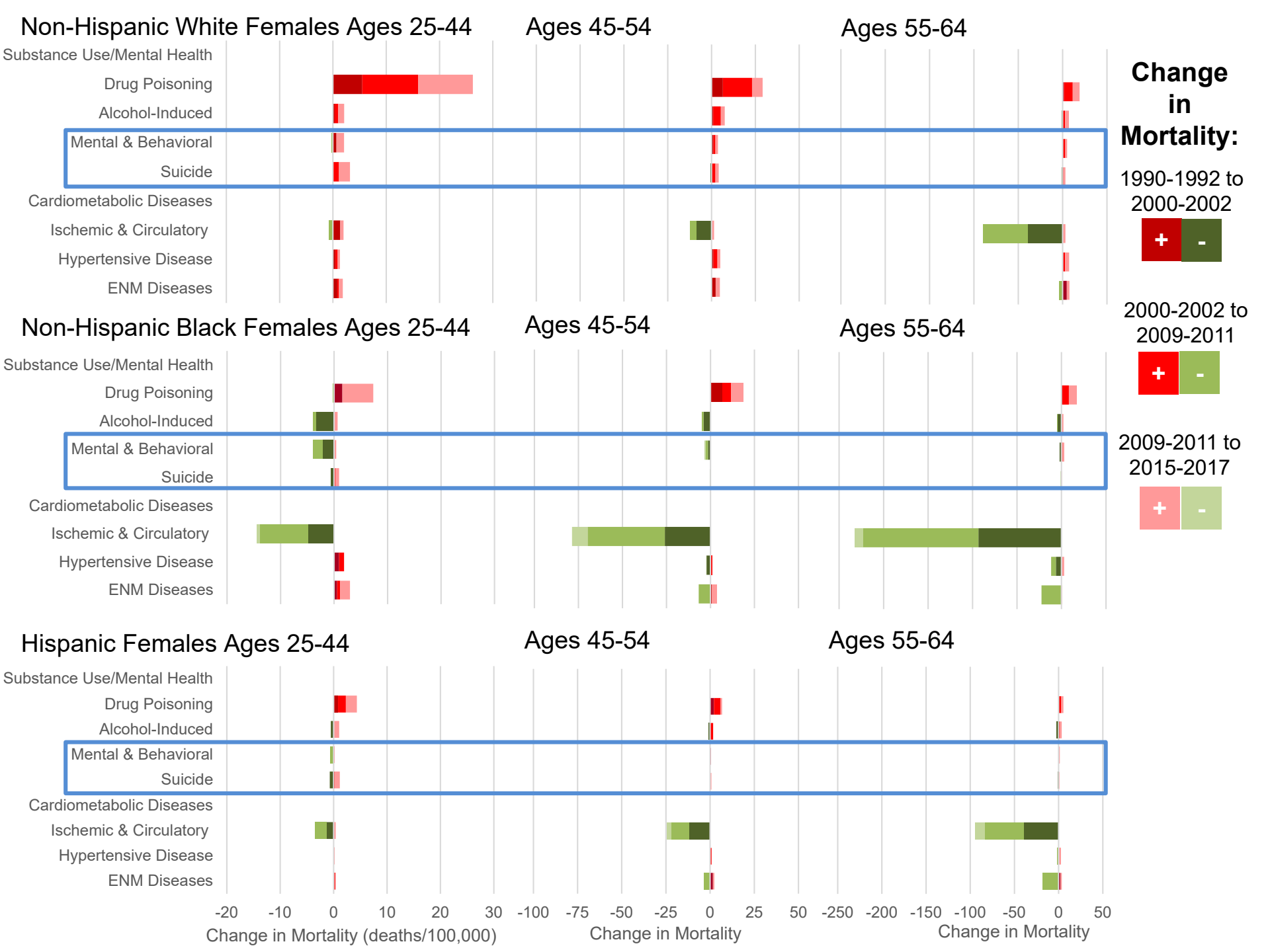
Deaths per 100,000 Population

<-300 | -300 to -200 | -200 to -100 | -100 to 0 | 0 to 100 | 100 to 200 | >200

Main Drivers of the Rise in Working-age Mortality:

1. Drug poisonings and alcohol-induced causes
2. Suicide
3. Cardiometabolic diseases


Non-Hispanic White Males Ages 25-44
Ages 45-54
Ages 55-64
Substance Use/Mental Health
Drug Poisoning
Alcohol-Induced
Mental & Behavioral
Suicide
Cardiometabolic Diseases
Ischemic & Circulatory
Hypertensive Disease
ENM Diseases
Non-Hispanic Black Males Ages 25-44
Ages 45-54
Ages 55-64
Hispanic Males Ages 25-44
Ages 45-54
Ages 55-64
-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
Change in Mortality:
1990-1992 to 2000-2002
+
-
2000-2002 to 2009-2011
+
-
2009-2011 to 2015-2017
+
-


Non-Hispanic White Females Ages 25-44
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Substance Use/Mental Health
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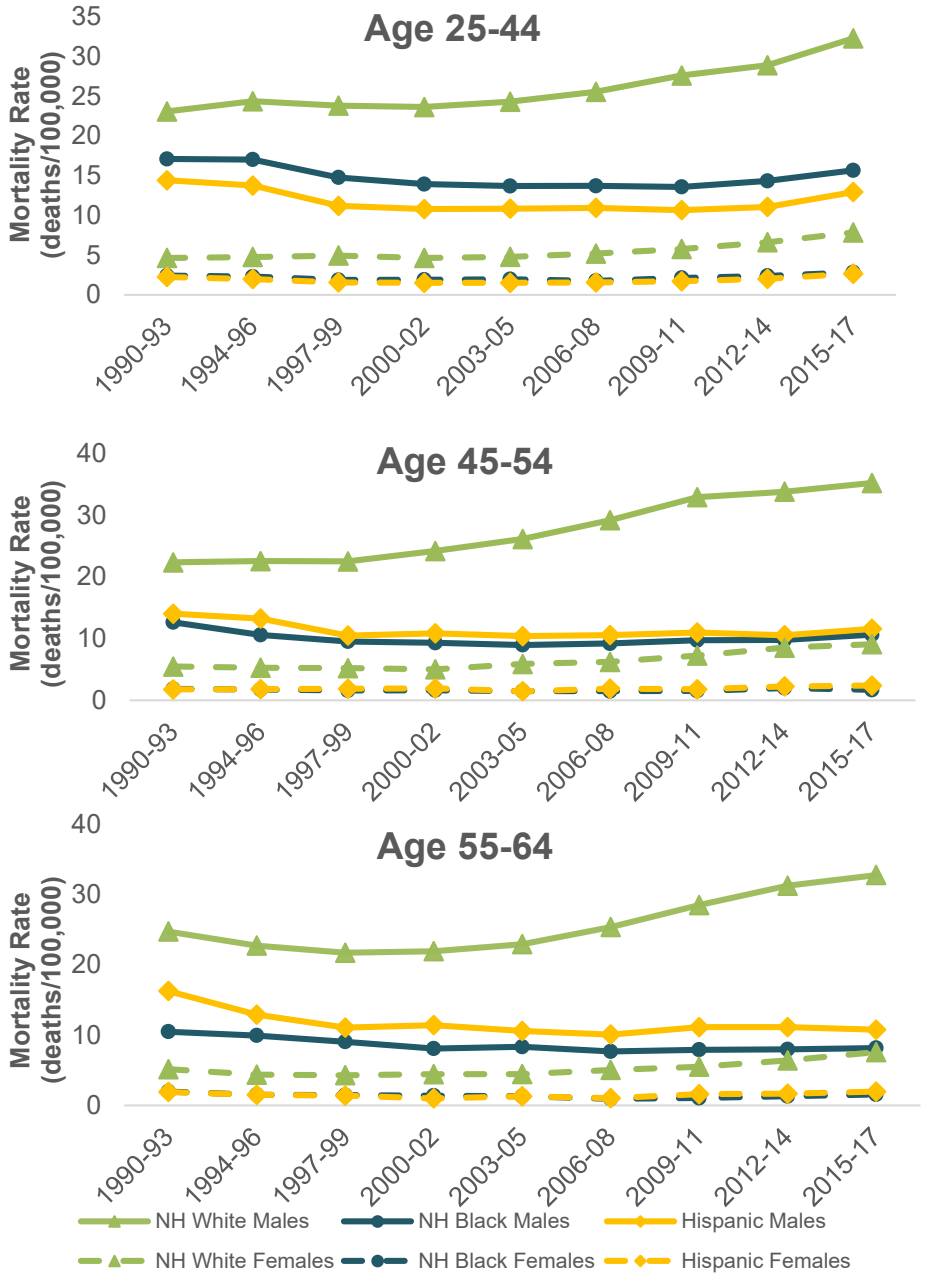
Ages 45-54
Ages 55-64
-20 -10 0 10 20 30
Change in Mortality (deaths/100,000)
-100 -75 -50 -25 0 25 50
Change in Mortality
-250 -200 -150 -100 -50 0 50
Change in Mortality
Change in Mortality:
1990-1992 to 2000-2002
+
-
2000-2002 to 2009-2011
+
-
2009-2011 to 2015-2017
+
-

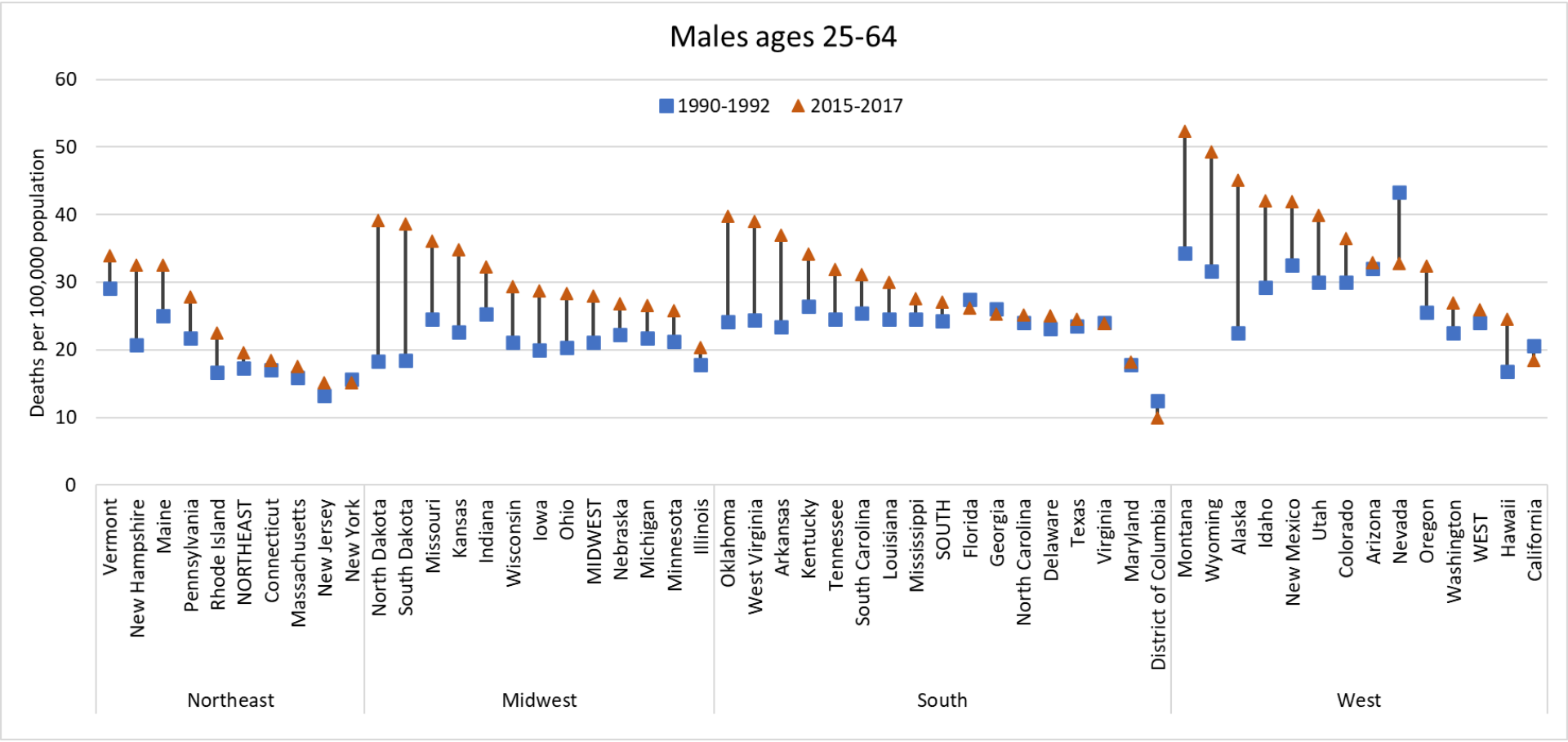
The Role of Suicide and Mental Health in Shaping Mortality Trends

Suicide



- Rates increased primarily among NH Whites, especially NH White males
- Blacks and Hispanics experienced increases after 2012-2014

Suicide Rates by State



Explanations for Suicide Trends

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

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

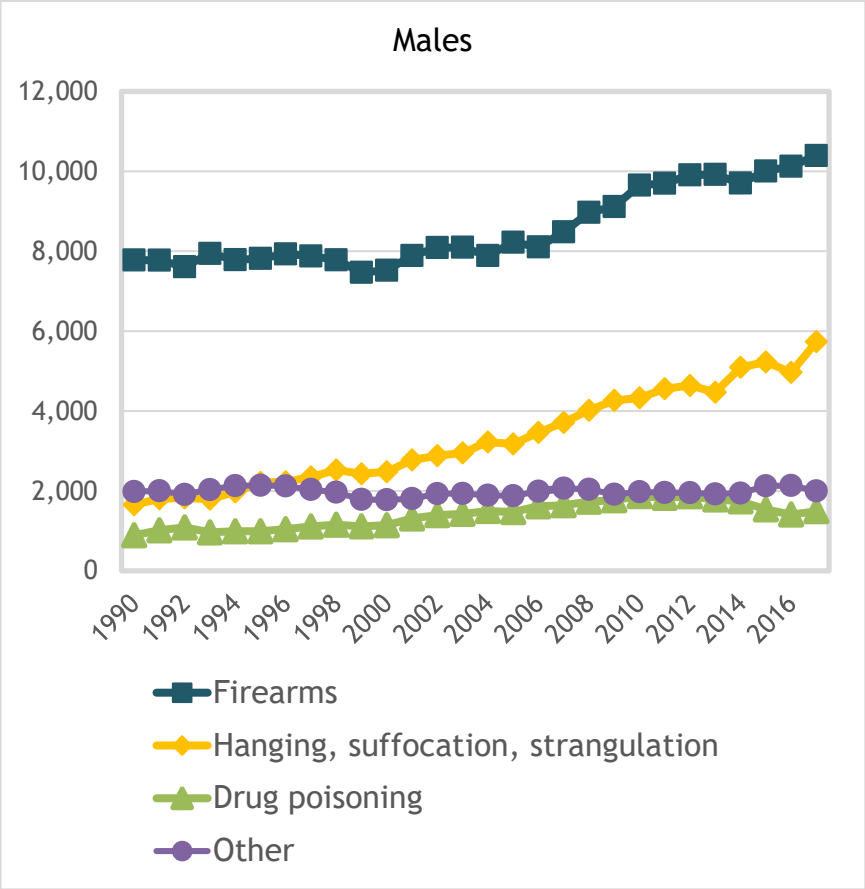
Social engagement, religious participation, and social support

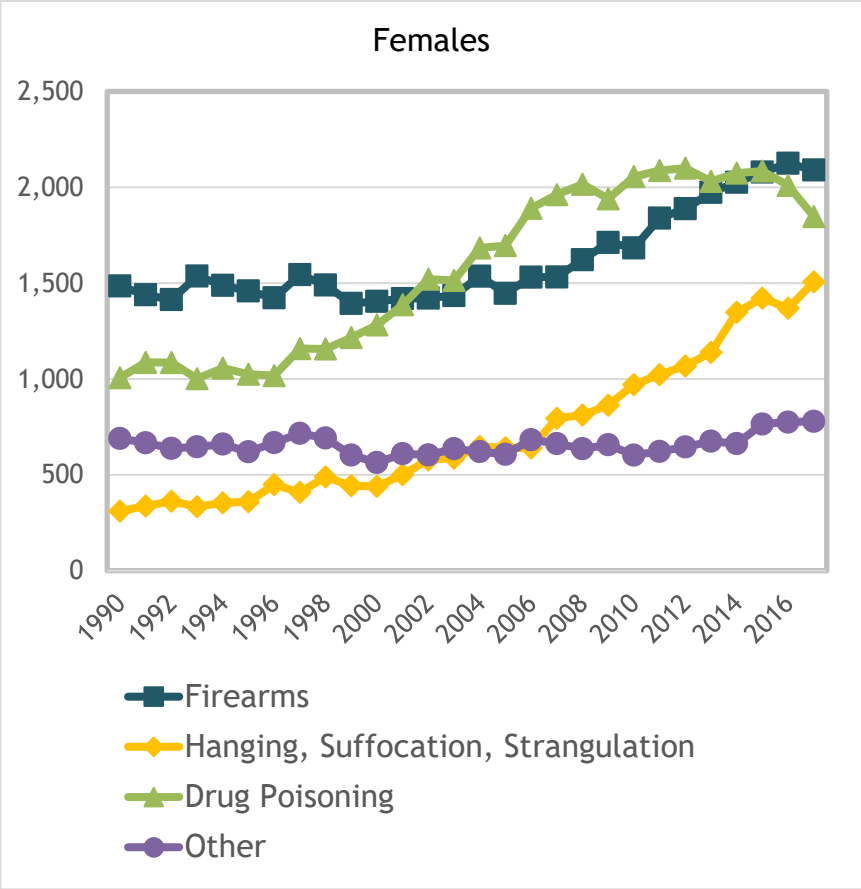
- Loss of employment-based social networks
- Declines in civic participation
- Decrease in religious affiliation and church attendance
- Falling marriage and increasing divorce rates
- Increases in single parent families

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





Mental, Emotional, Physical Health

General Causes of Death in Mental Illness:

- Majority are "natural causes" (e.g., cancer, heart disease)
- Increased unnatural causes:
  - Homicide
  - Social trauma (fights, etc.)
  - Acute poisonings (drugs, alcohol, pesticides)
  - Acute undocumented events
  - Suicide
- Combinations of the above

Risks of Suicide:

- Family history/ genetics
- Psychiatric disorders
- Social adversity
- Impulsivity
- Stressful life events
- Acute social situations
- Prior attempts

Mental, Emotional Health Issues

Population Measurement:

- Population surveys complex, lengthy, expensive
- Access to most severely ill patients difficult

Lack of Community Data

- Lack of ongoing diagnosis/ accurate labelling
- “Protected” psychiatric records

Lack of Acute and Routine Care/Continuity/Resources

- Inadequate numbers of trained mental health professionals
- Low levels of insurance; availability of chronic/institutional care
- Special training for substance use disorders
- Inadequate acute resources (emergency depts./jails)
- Separate care from general medical services

Physical Health Effects of Mental Illnesses

- Varying severity/intermittency of mental conditions
- Inadequate social support to help navigate illnesses
- Substance use and disorders:
  - Systemic effects of alcohol and tobacco
  - Systemic effects of illicit drugs and their contaminants
  - The “poly-drug” problem
  - Infections and other conditions related to injection
- Psychiatric and physical co-morbidity (brain disorders/addiction); related disabilities
- Pain syndromes and their consequences
- Adverse effects of psychiatric treatments

Despair

- “Hopelessness” as an explanation for rising suicide rates
- Several attempts at studying the epidemiology of despair: not an easy, reproducible syndrome (e.g., low self-esteem; depression; loneliness)
- Many other related “trans-diagnostic” characteristics of mental illness; e.g., apathy, suffering
- Mental illness premature deaths occur at all ages (and many different illnesses)
- Many deaths not due directly to mental illness-related processes
- Probably more complex than deemed originally

Implications for Data and Research

- Research on causes and solutions for increasing working-age mortality and disparities across populations and geography is complex, multilayered, and sparse
- The committee's research recommendations are extensive

Data Recommendations

- Add geographic indicators to mental health and substance use surveys [7-4]
- Conduct periodic or ongoing population surveys of important mental health conditions, using common data elements [7-5]
- Add questions about adverse childhood experiences to national health surveys [7-6]
- Link longitudinal survey data to the National Death Index [8-2]

Research Recommendations

- Effectiveness of behavioral health interventions in reducing mental illness and its consequences, mental health and substance use treatment, and harm reduction approaches [7-2]
- Increase in use of different suicide modalities, with special attention to the role of gun control laws and gun availability [8-1]

Research Recommendations (Cross-Cutting)

- Better track physical pain and psychosocial indicators (stress, distress, despair, hopelessness, coping, resilience, grit), their sources, and their relationships to morbidity/mortality [11-2]
- Use multiple causes of death codes [11-3]
- Identify macrostructural factors (e.g., social, economic, policy) affecting mortality [11-4]
- Mixed-methods, interdisciplinary, multilevel designs [11-6]
- Cross-national research to identify why trends have unfolded differently in the U.S. [11-7]

Policy Conclusions and Recommendations

Like the phenomena driving the crisis, policy responses need to be multilevel, focusing on both:

- Proximal causes of death (e.g., mental illness)
- Upstream "causes of the causes" (e.g., living conditions that increase vulnerability of communities, families, and individuals)

Policy Considerations

- *Policy Conclusion*: Economic policies are needed to address the economic and social strains that made communities vulnerable [7-1]

- *Policy Recommendation*: Expand Medicaid in the 12 states that have not yet expanded access [11-1]

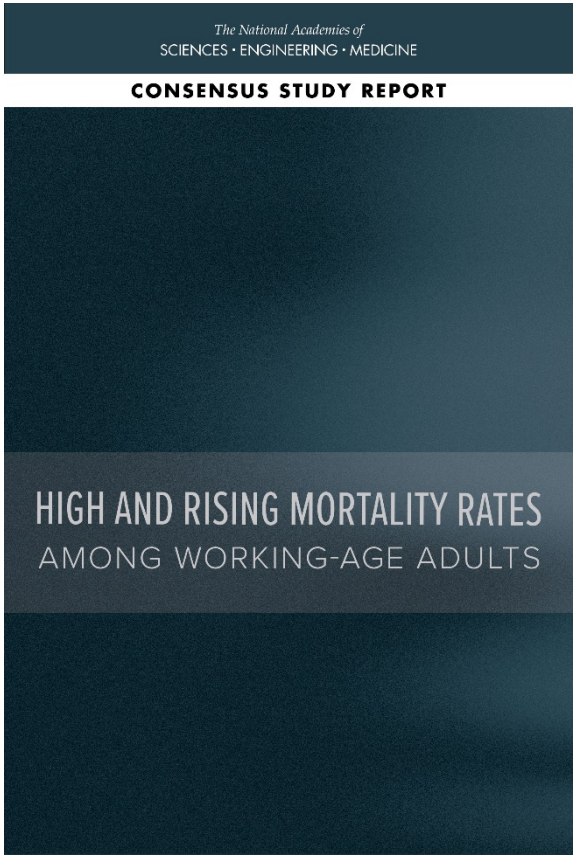
Lessons from the COVID-19 Pandemic

- Increased working-age mortality our report documents represent risk factors for COVID-19 morbidity and mortality
- Evidence that stressors of the pandemic led to an increased consumption of alcohol and drugs as a coping mechanism and suicide rates have increased among young adults
- COVID-19 pandemic has exacerbated disparities in working-age mortality

Summary

- All-cause working-age mortality has been increasing since 2010, cause-specific death rates increasing since 1990s
- Not happening in peer countries
- Working-age mortality increased across all racial/ethnic groups, in rural and urban areas
- Proximal causes: drug overdoses, alcohol-related disease, suicides, and cardiometabolic diseases
- Suicide rates increased mainly among White men, though rates rising for Blacks and Hispanics since 2014
- Multiple drivers at multiple levels (no single factor)
- COVID likely to exacerbate existing trends and disparities

Thank you!



For more information, please visit:

www.nationalacademies.org/RisingMortality

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