Deaths (and Diseases) of Despair: Sounding the Alarm! Rallying Together to Promote Health!
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Injury & Violence Prevention Section
As required by the Alcohol Policy 18 Conference, I/we have signed a disclosure statement and note the following conflict(s) of interest:

None
Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century

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Contributed by Angus Deaton, September 17, 2015 (sent for review August 22, 2015; reviewed by David Cutler, Jon Skinner, and David Weir)

This paper documents a marked increase in the all-cause mortality of middle-aged white non-Hispanic men and women in the United States between 1999 and 2013. This change reversed decades of progress in mortality and was unique to the United States; no other rich country saw a similar turnaround. The midlife mortality reversal was confined to white non-Hispanics; black non-Hispanics and Hispanics at midlife, and those aged 65 and above in every racial and ethnic group, continued to see mortality rates fall. This increase for whites was largely accounted for by increasing death rates from drug and alcohol poisonings, suicide, and chronic liver diseases and cirrhosis. Although all education groups saw increases in mortality from suicide and poisonings, and an overall increase in external cause mortality, those with less education saw the most marked increases. Rising midlife mortality rates of white non-Hispanics were paralleled by increases in midlife morbidity. Self-reported declines in health, mental health, and ability to conduct activities of daily living, and increases in chronic pain and inability to work, as well as clinically measured deteriorations in liver function, all point to growing distress in this population. We comment on potential economic causes and consequences of this deterioration.

the United Kingdom (UK), Canada (CAN), Australia (AUS), and Sweden (SWE). The comparison is similar for other Organisation for Economic Co-operation and Development countries.

Fig. 1 shows a cessation and reversal of the decline in midlife mortality for US white non-Hispanics after 1998. From 1978 to 1998, the mortality rate for US whites aged 45–54 fell by 2% per year on average, which matched the average rate of decline in the six countries shown, and the average over all other industrialized countries. After 1998, other rich countries’ mortality rates continued to decline by 2% a year. In contrast, US white non-Hispanic mortality rose by half a percent a year. No other rich country saw a similar turnaround. The mortality reversal was confined to white non-Hispanics; Hispanic Americans had mortality declines indistinguishable from the British (1.8% per year), and black non-Hispanic mortality for ages 45–54 declined by 2.6% per year over the period.

For deaths before 1989, information on Hispanic origin is not available, but we can calculate lives lost among all whites. For those aged 45–54, if the white mortality rate had held at its 1998 value,
Middle-Aged White Americans Are Dying of Despair

Even as longevity increases across the rich world, uneducated white Americans are living sicker and dying earlier. Two economists speculate on the reasons why.
Mortality Rate for 45-to-54-Year-Olds, By Country

Key: U.S. White non-Hispanics (USW), US Hispanics (USH), and six comparison countries: France (FRA), Germany (GER), the United Kingdom (UK), Canada (CAN), Australia (AUS), and Sweden (SWE). (PNAS)
White Americans Are Dying From A Surge In ‘Deaths Of Despair’

This may help explain Trump, according to economists studying mortality.

By Ann Brenoff
Midlife mortality from “deaths of despair” across countries

Men and women ages 50-54, deaths by drugs, alcohol, and suicide

White non-Hispanic midlife mortality from “deaths of despair” in the U.S. by education

Ages 50-54, deaths by drugs, alcohol, and suicide

Midlife mortality by all causes in the U.S.
Men and women ages 50-54, death by all causes

**Source:** “Mortality and morbidity in the 21st century” by Anne Case and Angus Deaton, Brookings Papers on Economic Activity, Spring 2017.
Alcohol-Related Mortality
100% alcohol-attributable deaths increased at a similar rate as drug overdose deaths between 2000 and 2016.
The age-adjusted rate of alcohol-related deaths in Minnesota increased by 31% between 2001 and 2015.

*Rates age-adjusted using the 2000 US Standard Population

Death Certificate Data, calculated using CDC’s Alcohol-related Disease Impact application www.cdc.gov/ardi
Alcohol-related Deaths, by Gender
Minnesota, 2001 - 2015

Number of Deaths

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-05</td>
<td>784</td>
<td>343</td>
</tr>
<tr>
<td>2006-10</td>
<td>850</td>
<td>419</td>
</tr>
<tr>
<td>2011-15</td>
<td>1,143</td>
<td>602</td>
</tr>
</tbody>
</table>

Death Certificate Data, calculated using CDC’s Alcohol-related Disease Impact application www.cdc.gov/ardi
The largest increase in alcohol-related death has been among Minnesota residents 50 years and older.

Death Certificate Data, calculated using CDC’s Alcohol-related Disease Impact application

www.cdc.gov/ardi
Years of Potential Life Lost Due to Alcohol, by Age Group
Minnesota 2001-2015

Death Certificate Data, calculated using CDC’s Alcohol-related Disease Impact application www.cdc.gov/ardi
Rate of Increase Greater for Women (56%) Than for Men (27%)

Years of Potential Life Lost due to Alcohol, by Gender
Minnesota, 2001 - 2015

<table>
<thead>
<tr>
<th>Years of Potential Life Lost</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-05</td>
<td>22,679</td>
<td>8,679</td>
</tr>
<tr>
<td>2006-10</td>
<td>22,345</td>
<td>10,248</td>
</tr>
<tr>
<td>2011-15</td>
<td>28,734</td>
<td>13,582</td>
</tr>
</tbody>
</table>

Death Certificate Data, calculated using CDC’s Alcohol-related Disease Impact application
www.cdc.gov/ardi
Alcohol-Related Morbidity
Hospital treatments for alcohol-related conditions outnumbered treatments for Opioids among working age adults (25-64 years) in Minnesota from 2001-2016.
The rates of hospital treatment for *alcohol-related injuries* increased more drastically than *all injury* hospital treatments for Minnesota residents, 2000 – 2015.
There was a bimodal distribution of age at treatment for alcohol-related injury, one peak was at age 20-24, and a second peak was seen in middle adulthood.
Hospital-treated alcohol-related injury were more likely to occur in geographic areas with a lower median household income.

![Bar chart showing the rate per 100,000 of hospital-treated alcohol-related injury by median household income at zip code level. The rates are as follows: $0-$24,999: 1,461.8, $25,000-$49,999: 271.6, $50,000-$74,999: 197.6, $75,000+: 139.6.]

**Median household income at zip code level**

- $0-$24,999: 1,461.8
- $25,000-$49,999: 271.6
- $50,000-$74,999: 197.6
- $75,000+: 139.6
Government insurance programs were billed for more than half of the estimated hospital costs for alcohol-related injuries in Minnesota (Dollars adjusted for inflation)

<table>
<thead>
<tr>
<th>Year</th>
<th>Employer-based insurance</th>
<th>Government-based insurance</th>
<th>Other payment source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>15,000,000</td>
<td>25,000,000</td>
<td>5,000,000</td>
</tr>
<tr>
<td>2005</td>
<td>20,000,000</td>
<td>30,000,000</td>
<td>10,000,000</td>
</tr>
<tr>
<td>2010</td>
<td>25,000,000</td>
<td>35,000,000</td>
<td>15,000,000</td>
</tr>
<tr>
<td>2015</td>
<td>30,000,000</td>
<td>35,000,000</td>
<td>20,000,000</td>
</tr>
</tbody>
</table>

4/17/2018

Minnesota Hospital Discharge Data
Substance Abuse & Treatment
Percent of Adults Meeting the Criteria for Substance Abuse or Dependence

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24 years</td>
<td>18.1%</td>
</tr>
<tr>
<td>25-44 years</td>
<td>11.5%</td>
</tr>
<tr>
<td>45-64 years</td>
<td>6.4%</td>
</tr>
<tr>
<td>65 and older</td>
<td>1.3%</td>
</tr>
<tr>
<td>All ages</td>
<td>8.8%</td>
</tr>
</tbody>
</table>
Primary Substance at Admission to Substance Use Disorder Treatment Services for Adults 1995 - 2016

- Alcohol
- Marijuana
- Meth
- Injection drug use
- Heroin
- Other opiates
- Cocaine
- Other

Minnesota Department of Human Services, ADAD, DAANES

4/17/2018
“Public health is the constant redefinition of the unacceptable”

Geoffrey Vickers
Root causes of Deaths of Despair include ...

- Social exclusion
- Unemployment
- Racism
- School suspensions
- Hopelessness
- Crime
- Lack of wealth
- Land use
- Lack of hope
- Poverty
- Poor housing
- Substance use
- Violent neighborhoods
- Childhood Trauma
- Food insecurity
- Incarceration
- Homeless
- Red lining
- Environmental Contamination
- Climate vulnerability
- Physical Abuse
- Sexual abuse
- Disrupted families
- Emotional abuse
- Homicide
Diseases of Disconnection and Despair

Adverse Childhood Experiences

Adverse Societal Conditions

- MOTOR VEHICLE CRASHES
- OBESITY
- HOMICIDES
- PTSD
- ANXIETY
- DEPRESSION
- DEMENTIA
- STDs
- SUICIDES
- MENTAL HEALTH CRISIES
- INJURIES
- HIV
- HEPATITIS C
- CIRRHOSIS
- UNWANTED PREGNANCIES
- DIABETES
- SUBSTANCE ABUSE (ATOD)
- ADDICTIONS (ALCOHOL, DRUGS, FOOD, SEX, GAMBLING, SCREENS)

- DIVORCE/Separation
- ALCOHOL ABUSE
- DRUG USE
- INCARCERATION
- MENTAL ILLNESS
- DOMESTIC VIOLENCE
- ABUSE (PHYSICAL, SEXUAL, VERBAL, EMOTIONAL)

- INEFFECTIVE SCHOOLS
- INCOME INEQUALITY
- CRIME
- POVERTY
- SOCIAL EXCLUSION
- RACISM
- SEXISM
- UNEMPLOYMENT
- SCHOOL SUSPENSIONS
- HOMOPHOBIA
- FOOD INSECURITY
- LACK OF HOPE
- ENVIRONMENTAL CONTAMINATION
- DISRUPTED FAMILIES
- CLIMATE VULNERABILITY
- RED LINING
- VIOLENT NEIGHBORHOODS
- HOUSING INSECURITY
- POOR ACCESS TO HEALTH AND HUMAN SERVICES
What do we need to thrive?

- Peace
- Shelter
- Education
- Food
- Income
- Stable eco-system
- Sustainable resources
- Social justice and equity
- Safe
- Stable
- Nurturing
- Relationships
- Environments

World Health Organization. Ottawa charter for health promotion
http://www.who.int/hpr/archive/docs/ottawa.html
Health is Created in Communities… that can Reduce Deaths of Despair!
A Prevention Strategy for Deaths of Despair

• **Fatality Review Teams (FRTs)** analyze deaths and help us understand the community and context of a death. Successful examples of this approach include motor vehicle crashes (Toward Zero Deaths); child death review; infant mortality review; sudden death in the young; sudden unexpected infant death review; maternal mortality reviews; and community-designed suicide prevention.

• **Emergency incident coordination** is an organizational model for effective emergency management response and enhanced situational awareness. Team members are trained and prepared to respond to injury and violent deaths and the conditions that contribute to their occurrence.

• **Community Action Teams (CAT)** use a collective impact approach to engage sectors of the community including parents, survivors, faith, business, health, education, mental health and chemical dependency treatment experts, leaders and policy makers to contribute qualitative experience from the community to understand and prevent root causes of preventable deaths. Local CATs identify promising approaches and serve as a local backbone for prioritizing urgent community-based strategies. Teams will reduce nonfatal hospitalizations and fatalities and will include representatives from populations most-impacted by preventable deaths, professionals working to prevent overdose (and violent) deaths and those who support survivors, community members, public health, local businesses, community organizations, faith community leaders and others identified by the community.
Now What? A Prevention Strategy for Deaths of Despair

Fatality Review Teams

Emergency Incident Coordination

Community Action Teams
A Prevention Strategy for Deaths of Despair

Analyze deaths-data and community context, and identify improvement opportunities

Organizational model for effective emergency management and coordination response

Use a collective impact approach to engage sectors of the community and prioritize community based strategies
• “Public health is what we, as a society, do collectively to assure the conditions in which (all) people can be healthy.”

• -Institute of Medicine (1988), *Future of Public Health*
In 2016, alcohol use alone was responsible for...

- 1745 Deaths
- 10,303 Inpatient Hospitalizations
- 12,010 Emergency Room Visits
- 14,616 EMS Responses

For every 1 death there were...
- 6 Inpatient Hospitalizations
- 7 Emergency Room visits
- 8 EMS responses
Deaths AND Diseases of Despair: The Disproportionate Role of Alcohol in Minnesota’s Mortality and Morbidity

Jon Roesler, MS; Dana Farley, MS, and Kari Gloppen, PhD, MPH
Minnesota Department of Health

In 2015, Princeton economists Anne Case and Angus Deaton described ‘deaths of despair:’ deaths by suicide, unintentional drug overdose, alcoholic liver disease and cirrhosis. They noted how the increase in these deaths outweigh progress in reducing overall mortality. In Minnesota, there is increased interest in these deaths, with strategies being developed to inform and empower local communities. Methods/Approach: Expanding the concept to ‘diseases of despair,’ we looked at deaths and hospital treatment from 2000 to 2016. We broadened the definition for 100 percent alcohol-attributable conditions to include alcohol poisoning/overdose. We also included alcohol-attributable falls in our analysis of hospital-treated morbidity. Results/Findings: We found that 100 percent alcohol-attributable deaths are comparable in numbers, and in the rate of increase, to drug overdose deaths. In hospital discharge data, the rate of increase is comparable, and the overall numbers greater, for alcohol morbidity compared to unintentional drug overdoses; the leading cause of alcohol-associated morbidity is falls. Conclusions: This analysis is allowing us to communicate to policy makers and the public that the significant mortality and morbidity attributable to alcohol is comparable to, or even exceeds, that of unintentional drug overdose. Minnesota’s participation in CDC’s National Violent Death Reporting System (NVDRS) and State Unexplained Drug Overdose Reporting System (SUDORS) will allow us to better describe the role of alcohol in these deaths. A sample of fall deaths should be included in the NVDRS/SUDORS sample abstraction to help describe the role of alcohol and other drugs among elders that fall.