

# Increased mortality for white middle-aged Americans not fully explained by causes suggested

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I read with interest the article by Case and Deaton (1) on increased morbidity and mortality among middle-aged white non-Hispanic Americans, recently published in PNAS. I was puzzled, however, by some of the conclusions. Figure 1 in ref. 1 indicates that mortality has been decreasing in this demographic group fairly consistently in many wealthy nations. The data suggest that this decrease is about 100 deaths per 100,000 in 1990 to 2013. If this rate is approximately linear, then this corresponds to a decrease of about 4.5 deaths per year. Table 1 in ref. 1 shows that the mortality rate has increased by 34 deaths per 100,000 for white Americans from 1999 to 2013. Extrapolating from the trends in table 1 of ref. 1, white Americans should have expected a decrease in mortality of 63 deaths per 100,000, so the actual deficit is 97 deaths.

The authors state that this decrease is largely accounted for by increasing death rates from drug and alcohol poisonings, suicide, chronic liver disease, and cirrhosis. Figure 2 in ref. 1 indicates that the increases in death rates per 100,000 from these causes over that period is about 20 for poisonings, 10 from suicides, and 5 from liver disease. This total of 35 only accounts for one-third of the total deficit in mortality. Therefore, other causes are also operating. Although I agree with the conclusion that the increased rates are specific to the United States and that part of the cause is related to these factors, which suggest poor quality of life, I wonder where the other two-thirds of the effect arises. I would also surmise that the rates might differ between males and females and would have liked to have seen the data broken out that way.

<sup>1</sup> Case A, Deaton A (2015) Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century. *Proc Natl Acad Sci USA* 112(49):15078–15083.

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The author declares no conflict of interest.

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