Declines in Health and Widening Socioeconomic Inequalities Among the Working-Age Population and Their Implications for Work-related Disability: Evidence from the National Health Interview Survey 1997-2018

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This paper documents both an overall decline in health and a widening gap in health between the more and less educated among the US population aged 25-64 between 1997 and 2018 in the National Health Interview Survey (NHIS). It then considers the implications of these trends for trends in work-related disability in this population. The NHIS is an annual nationally representative cross-sectional survey of the US civilian non-institutionalized population and is one of the largest and most detailed health surveys available for that population. All medical and health information in the NHIS is self-reported and there is no independent medical assessment of respondents.

Overall health status declined in this population even after controlling for the rise in age. Increases were found in the prevalences of major activity limitations (difficulty with walking, problems with memory, difficulties with independent living, and difficulties with self-care activities like bathing and dressing) and of functional limitations (difficulties with basic physical and social activities such as walking short distances, stooping, climbing steps, lifting things, going out, and socializing). Medical conditions that exhibited increasing prevalence included diabetes, hypertension, musculoskeletal problems, mental and emotional disorders, congenital disorders, cancer, asthma, and liver problems. Offsetting these increases were declines in heart problems, declines in respiratory disorders other than asthma (chronic bronchitis and emphysema), and declines in physical injuries. The declines in health conditional on age are found in both genders and across racial/ethnic groups.

I assess the contribution of different conditions to the decline in overall health and find that some of the biggest contributors are obesity-related illnesses such as diabetes and hypertension and their associated complications. Other large contributors are increases in mental and emotional disorders, especially in women, and musculoskeletal disorders.

These patterns match those of the associated risk factors. Average body mass index and obesity increased substantially over this period. Smoking rates meanwhile declined and average educational attainment increased. In a regression analysis, however, the trends in risk factors do not explain the declines in health since the improvements in smoking and education should have outweighed the increase in obesity but apparently did not.

I also assess the changes in inequality in health by socioeconomic status. I measure socioeconomic status with years of education and group the population into equal thirds by years of education within age group, gender, and survey year since educational attainment was rising throughout this period. Since there is bunching at 12 and 16 years of education, which are also often the boundaries of the thirds, I follow Bound et al. (Health Affairs, 2015) and randomize individuals on the boundaries to education groups. Since the bottom two thirds were similar in terms of health trends, I group them together and compare them with the top third.

I find widening gaps between the two groups in overall health measures and in the prevalences of many conditions such as diabetes, hypertension, musculoskeletal problems, and respiratory disorders. Women, who generally report greater increases in inequality of overall health than men, also have increasing inequality in mental and emotional disorders, heart problems, and liver problems. Matching these patterns are patterns in associated risk factors. Both sexes report greater inequality between education groups in smoking and women report greater inequality in obesity. Women also report widening inequality between groups in years of education while men do not. Inequality in obesity and inequality in smoking have different sources. Inequality in obesity and related conditions increases because obesity and prevalences of those conditions increase in both groups but increase more among the less educated. Inequality in smoking and related conditions meanwhile increases because smoking and the prevalences of those conditions decline in all groups but decline more in the more highly educated.

Trends in work-related disability, both self-reported and as measured by participation in federal disability programs, are similar to that of overall health. Work-related disability increased overall after controlling for age. The more highly educated saw slight reductions in work-related disability while work-related disability was increasing significantly among the less educated. The increase in inequality in work-related disability was larger among women than among men.

An Oaxaca decomposition comparing work-related disability outcomes as a function of health and activity limitations in 1997-2001 versus 2015-2018 showed that the disability increases are almost entirely driven simply by the reductions in the level of health and increases in activity limitations. There is no sense in which individuals are reporting greater levels of disability conditional on the same level of health or limitation and some evidence that they are reporting fewer limitations in their ability to work conditional on having a purely physical activity or functional limitation.

I consider the implications of these results for future projections of labor force participation. While increases in the obesity rate have slowed in recent years, obesity shows no signs of declining and therefore the outlook for the prevalence of diabetes, hypertension, and musculoskeletal disorders is not optimistic. Moreover obesity is higher among younger cohorts so work-related disability may set in at an earlier age for them than it did for older cohorts. The results here indicate that these conditions can have a serious detrimental effect on the ability to work; the consequences for future labor force participation and employment are likely not positive.