American Journal of Law & Medicine (2024), 50: 1-2, 121–127
doi:10.1017/amj.2024.19

American Society of Law, Medicine & Ethics
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ARTICLE

Preventive Care and Health Equity: The Educational Divide

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Abstract

The preventive services at the center of *Braidwood Management, Inc. v. Becerra* contribute to reducing inequities in life expectancy in the United States. Critical preventive are currently fully covered by insurance as preventive care under the Affordable Care Act. Reducing affordable access to such screenings and medicines is most likely to impact those with lower incomes and less education, and contribute to widening existing inequities in health outcomes.

Recent research has identified a large and growing mortality gap between those with and without college degrees. On average, individuals without college degrees are likely to die about 8.5 years earlier than those with such degrees. In recent decades, cancer death rates fell nearly two times faster among the college educated. Mortality from heart disease fell by nearly two-thirds among those with college degrees but by less than one-third for all others.

Disparities in life expectancy in the United States reflect the uneven progress against the leading causes of death among different populations. The *Braidwood* decision, if upheld, will raise the costs to patients for interventions that have contributed to recent gains in life expectancy. This Article analyzes the impact of *Braidwood* on preventive health interventions in the context of growing life expectancy gaps within the United States.

Keywords: Braidwood; preventive care; health equity; life expectancy; heart disease; college degree

Introduction

In March 2023, the United States District Court in the Northern District of Texas determined that much of preventive care coverage required under the Affordable Care Act (ACA) was unconstitutional. The ruling means that the preventive services recommended by the U.S. Preventive Services Task Force (USPSTF) since 2010 are no longer required to be covered by insurance without a cost to patients.[1] Under the ACA, preventive services with strong evidence ratings that are recommended by the USPSTF are required to be fully covered by private insurance plans and state Medicaid expansion programs.[2] The implications of the case are profound when it comes to the nation's leading causes of mortality and the significant inequities that continue to shape health outcomes.

[1]Final Judgment at 1, Braidwood Mgmt. v. Becerra, 666 F. Supp. 3d 613 (N.D. Tex. 2023) (No. 4:20-cv-00283-0) ("The U.S. Preventive Service Task Force's (PSTF) recommendations operating in conjunction with 42 U.S.C. § 300gg-13(a)(1) violate Article II's Appointments Clause and are therefore unlawful. Therefore, any and all agency actions taken to implement or enforce the preventive care coverage requirements in response to an 'A' or 'B' recommendation by the PSTF on or after March 23, 2010 are VACATED …").

[2]42 U.S.C. § 300gg-13(a) (2018) ("A group health plan and a health insurance issuer offering group or individual health insurance coverage shall at a minimum provide coverage for and shall not impose any cost sharing requirements for– (1) Evidence-based items or services that have in effect a rating of 'A' or 'B' in the current recommendations of the United States Preventive Services Task Force.").

In 2021, about one in four deaths in the United States involved cardiovascular disease (CVD) as an underlying cause.[3] That year, CVD caused 931,578 deaths in the United States.[4] Specifically, heart disease has been the leading cause of death for about 100 years.[5] This disease is estimated to touch nearly half of all adults in the country,[6] and its burden falls unequally across a range of demographic groups.[7] Among these disparities is a growing gap based on education.[8]

In 2016, the USPSTF issued a recommendation that doctors prescribe statin therapy for all adults between forty to seventy-five years old with at least one risk factor for CVD and a greater than ten percent risk of experiencing a cardiovascular event, such as a heart attack or stroke.[9] Pursuant to the preventive care provisions of the ACA, this recommendation meant that eligible patients could not be charged for the cost of statins.[10] Instead, an insurance provider would typically absorb the cost of these medications.[11]

The preventive services provisions of the ACA expanded patient access to important interventions to enable earlier diagnosis and treatment for the leading causes of death in the United States. The district court's decision in *Braidwood Management, Inc. v Becerra* alters this basic formulation and, if upheld, would likely trigger significant out-of-pocket costs for access to statins.

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[3] *See 2024 Heart Disease and Stroke Statistics Update Fact Sheet: At-a-Glance*, Am. Heart Ass'n (Jan. 24, 2024) [hereinafter *Heart Disease Fact Sheet*], https://www.heart.org/-/media/PHD-FIles-2/Science-News/2/2024-Heart-and-Stroke-Stat-Update/2024-Statistics-At-A-Glance-final_2024.pdf [https://perma.cc/5AK2-SQSZ] ("Cardiovascular disease (CVD), listed as the underlying cause of death, accounted for 931,578 deaths in the United States in 2021.").

[4] Jiaquan Xu et al., Ctrs. for Disease Control & Prevention, Nat'l Ctr. for Health Stats., Data Brief No. 456, Mortality in the United States, 2021, at 6 (2022), https://www.cdc.gov/nchs/data/databriefs/db456.pdf [https://perma.cc/E3AG-5FC6] ("In 2021, a total of 3,464,231 resident deaths were registered in the United States.")

[5] *See Heart Disease Fact Sheet*, *supra* note 3; Seth S. Martin et al., *2024 Heart Disease and Stroke Statistics: A Report of US and Global Data from the American Heart Association*, 149 Circulation e347, e348 (2024) ("Heart disease has been the leading cause of death in the United States since 1921.").

[6] *See Heart Disease Fact Sheet*, *supra* note 3 ("Between 2017 and 2020, 127.9 million US adults (48.7%) had some form of CVD.").

[7] *See* David A. Frank et al., *Disparities in Guideline-Recommended Statin Use for Prevention of Atherosclerotic Cardiovascular Disease by Race, Ethnicity, and Gender: A Nationally Representative Cross-Sectional Analysis of Adults in the United States*, 176 Annals Internal Med. 1057, 1057, 1064-65 (2023); Nat'l Ctr. for Health Stats., Ctrs. for Disease Control & Prevention, *Health, United States Spotlight*: Racial and Ethnic Disparities in Heart Disease (Apr. 2019), https://www.cdc.gov/nchs/hus/spotlight/HeartDiseaseSpotlight_2019_0404.pdf [https://perma.cc/7QVJ-VWZP]; Mariana Garcia et al., *Cardiovascular Disease in Women: Clinical Perspectives*, 118 Circulation Rsch. 1273, 1286-87 (2016).

[8] *See* Anne Case & Angus Deaton, *Accounting for the Widening Mortality Gap Between American Adults with and Without a BA* 18 (Brookings Papers on Econ. Activity Conf. Draft, 2023), https://www.brookings.edu/wp-content/uploads/2023/09/1_Case-Deaton_unembargoed.pdf [https://perma.cc/S6D6-46SR].

[9] *Final Recommendation Statement: Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: Preventive Medication*, U.S. Preventive Servs. Task Force (Nov. 13, 2016), https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/statin-use-in-adults-preventive-medication-november-2016 [https://perma.cc/RQR7-X8YT]. The USTPF 2022 Recommendation with a grade of "B" was "that clinicians prescribe a statin for the primary prevention of CVD for adults aged 40 to 75 years who have 1 or ore CVD risk factors (i.e. dyslipidemia, diabetes, hypertension, or smoking) and an estimated 10-year risk of a cardiovascular event of 10% or greater." *Final Recommendation Statement: Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: Preventive Medication*, U.S. Preventive Servs. Task Force (Aug. 23, 2022), https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/statin-use-in-adults-preventive-medication [https://perma.cc/NSE5-FFYS].

[10] 42 U.S.C. § 300gg-13(a) (2018).

[11] Off. of Health Pol'y, Assistant Secr'y for Plan. & Evaluation, Access to Preventive Services Without Cost-Sharing: Evidence from the Affordable Care Act, HP-2022-01, at 2 (Jan. 11, 2022). An estimated 151.6 million Americans are covered by private insurance with such preventive service coverage according to the Office of the Assistant Secretary for Planning and Evaluation within the U.S. Department of Health and Human Services. *Id.* The *Braidwood* decision applies to private health insurance plans but it also could impact coverage under Medicaid expansion since the Affordable Care Act requires states to cover "essential health benefits" including the same preventive services required of private insurance plans. *Id.*

I. Cardiovascular Risk and Prevention

Although CVD remains the leading cause of death in the United States, progress against cardiovascular mortality reflects the significant impact of prevention tools in recent decades.[12] The initial USPSTF recommendation in 2016, and the updated version in 2022, are both grounded in a comprehensive analysis of the impact of statins on mortality and morbidity.[13] The USPSTF based its statins recommendation on the role of these drugs in reducing cholesterol levels that heighten the risk of cardiovascular events.[14] Although other interventions, including diet modification and exercise, can also contribute to lowering cholesterol levels for many adults, statins are the leading medical tool for doing so and are the most widely prescribed drug in the United States.[15]

The primary prevention trials for statins, which focused on those who had not experienced a cardiovascular event, demonstrated significant reductions in cholesterol levels and overall cardiovascular risk.[16] The USPSTF's review found that for "adults at increased CVD risk but without prior CVD events, statin therapy for primary prevention of CVD was associated with reduced risk of all-cause mortality, and CVD events. Benefits of statin therapy appear to be present across diverse demographic and clinical populations …"[17] Meta-analysis of existing studies suggests that statins can reduce mortality by nearly thirty percent.[18]

The number of people in the United States taking statins increased from 31 million shortly before the passage of the ACA to 92 million shortly after publication of the USPSTF's recommendation that led to statins coverage without cost to patients.[19] There remain significant disparities in the use of statins across demographic groups[20] and there are similar disparities in the lifetime cardiovascular risk experienced by adults.[21]

Many factors contribute to these health disparities, including varying insurance coverage and health care access,[22] physician prescribing practices,[23] and other social determinants of health. One factor that

[12]William M. Schultz et al., *Socioeconomic Status and Cardiovascular Outcomes: Challenges and Interventions*, 137 Circulation 2166, 2167 (2018).

[13]*See* Roger Chou et al., *Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: A Systematic Review of the U.S. Preventive Services Task Force*, 328 JAMA 754, 755-56 (2022).

[14]*Id.*

[15]Lisa Catanese, *Statins: Types, Uses, Side Effects, and Alternatives*, Harv. Health Publ'g (Nov. 29, 2023), https://www.health.harvard.edu/diseases-and-conditions/statins-types-uses-side-effects-and-alternatives [https://perma.cc/T4FQ-6K55].

[16]Chou et al., *supra* note 13, at 764 (highlighting the findings of statin trials on cholesterol reduction: "difference in LDL-C 14.2% in ALLHAT-LLT compared with 26% to 50% in other large primary prevention trials").

[17]*Id.* ("There was no clear evidence of a differential effect of statin therapy based on demographic or clinical characteristics for any outcome."). The review also found "no differences in harms of statin therapy based on within study analyses stratified according to age, sex or race and ethnicity." *Id.*

[18]Marcin M. Nowak et al., *Effects of Statins on All-Cause Mortality in Adults: A Systematic Review and Meta-Analysis of Propensity Score-Matched Studies*, J. Clinical Med., Oct. 1, 2022, at 9.

[19]Amri Matyori et al., *Statins Utilization Trends and Expenditures Before and After the Implementation of the 2013 ACC/AHA Guidelines*, 31 Saudi Pharm. J. 795, 797 (2023).

[20]*See* Frank et al., *supra* note 7, at 1057 (finding lower statin use among a range of groups that were not explained by other factors: "Statin use disparities for several race-ethnicity-gender groups are not explained by measurable differences in medical appropriateness of therapy, access to health care, and socioeconomic status."); *see also* Elizabeth A. Jackson et al., *Is Race or Ethnicity Associated with Under-Utilization of Statins Among Women in the United States: The Study of Women's Health Across the Nation*, 43 Clinical Cardiology 1388, 1388 (2020) ("In this cohort of multiethnic women, rates of statin use among women who would benefit were low, with Black women having lower odds of statin use than White women."); *see also* Dinesh K. Kalra, *Bridging the Racial Disparity Gap in Lipid-Lowering Therapy*, J. Am. Heart Ass'n, Jan. 5, 2021, at 1 ("Despite dyslipidemia being more prevalent in certain ethnic minorities, they are prescribed lipid-lowering therapy less frequently …").

[21]*See* Jared W. Magnani et al., *Educational Attainment and Lifetime Risk of Cardiovascular Disease*, 9 JAMA Cardiology 45, 45 (2023) ("Lower education was associated with lifetime CVD risk across adulthood; higher education translated to healthy longevity.").

[22]Joshua Jacobs et al., *Prevalence of Statin Use for Primary Prevention of Atherosclerotic Cardiovascular Disease by Race, Ethnicity and 10-Year Disease Risk in the US National Health and Nutrition Examination Surveys, 2013 to March 2020*, 8 JAMA Cardiology 443, 443 (2023) ("Among other factors, routine health care access and health insurance were significantly associated with higher statin use in Black, Hispanic, and White adults.").

[23]*See* Michael Dorsch et al., *Effects of Race on Statin Prescribing for Primary Prevention with High Atherosclerotic Cardiovascular Disease Risk in a Large Healthcare System*, J. Am. Heart Ass'n, Nov. 19, 2019, at 4-5.

is especially relevant to *Braidwood* is the ultimate cost to patients of using statins and the impact of these costs on health outcomes. Most research on the topic finds that introducing patient cost-sharing in the form of copayments ("copays") generally reduces the utilization of statins.[24] Requiring copayments for statins presents a significant barrier to medication adherence, even among patients previously hospitalized for coronary heart disease, a form of CVD.[25] Lower statin adherence is also associated with elevated mortality for patients with CVD.[26] However, much of the impact of increased copayments on reducing medication adherence and increasing mortality is mitigated by higher levels of education.[27]

The significant impact of introducing copayments for statins was demonstrated in British Columbia, where statin coverage shifted from a zero-copay approach to patient cost-sharing under a major insurance plan.[28] The introduction of required copayments for statins "significantly reduced" statin adherence.[29] In fact, the shift in cost to patients "almost doubled the risk of stopping statins."[30] Relatedly, a randomized trial in the United States found that eliminating out-of-pocket costs for statins dramatically increased patient adherence in terms of taking the medication regularly and also reduced disparities between different populations.[31] These findings are consistent with experiments reducing cost-sharing and copayments for other health services, which suggest that the impact is greatest on vulnerable patients and lowering these costs can reduce health disparities.[32]

II. Disparities in Cardiovascular Outcomes

Just as there are wide disparities in the use of statins, so too are there significant differences in the health outcomes for those living with CVD. Heart disease risk is linked to education, income, and race, among other demographic factors. While research has revealed the critical impact of each of these dimensions on health in general, recent studies have highlighted the growing significance of education in shaping

[24]Nicole Fusco et al., *Cost-Sharing and Adherence, Clinical Outcomes, Health Care Utilization and Costs: A Systematic Literature Review*, 29 J. Managed Care & Specialty Pharmacy 4, 10-11 (2023); Teresa Gibson et al., *Impact of Statin Copayments on Adherence and Medical Care Utilization and Expenditures*, Am. J. Managed Care SP11, SP11 (2006) ("Lower statin copayments were associated with higher levels of statin adherence."); Pinar Karaca-Mandic et al., *Association of Medicare Part D Medication Out-of-Pocket Costs with Utilization of Statin Medications*, 48 Health Servs. Rsch. 1311, 1311 (2013) ("Greater [out of pocket] costs for statins are associated with reductions in statin utilization."); Andrew Davis et al., *A National Assessment of Medication Adherence to Statins by the Racial Composition of Neighborhoods*, 4 J. Racial Ethnic Health Disparities 462, 462 (2017) ("In black and Hispanic neighborhoods, good adherence was associated with copays under $10, the use of 90-day refills, and payers other than Medicaid.").

[25]Xin Ye, *Association Between Copayment and Adherence to Statin Treatment Initiated After Coronary Heart Disease Hospitalization: A Longitudinal, Retrospective, Cohort Study*, 29 Clinical Therapeutics 2748, 2753-754 (2007).

[26]Fatima Rodriguez et al., *Association of Statin Adherence with Mortality in Patients with Atherosclerotic Cardiovascular Disease*, 4 JAMA Cardiology 206, 206 (2019) ("[L]ow adherence to statin therapy was associated with a greater risk of dying.").

[27]Sarah C. Van Alsten & Jenine K. Harris, *Cost-Related Nonadherence and Mortality in Patients with Chronic Disease: A Multiyear Investigation, National Health Interview Survey, 2000-2014*, Preventing Chronic Disease, Dec. 3, 2020, at 5 ("For example, having a college degree or higher was inversely associated with both CRN [cost-related nonadherence] and mortality, such that adjustment would likely move estimates closer toward the null."); *see also* Gibson et al., *supra* note 24, at SP16 ("Patients living in … areas with higher college graduation rates were more adherent to statins.").

[28]Sebastian Schneeweiss et al., *Adherence to Stain Therapy Under Drug Cost Sharing in Patients with and Without Acute Myocardial Infarction*, 115 Circulation 2128, 2129 (2007).

[29]*Id.* at 2128; *see* Jonathan H. Watanabe et al., *Association of Copayment with Likelihood and Level of Adherence in New Users of Statins: A Retrospective Cohort Study*, 20 J. Managed Care & Specialty Pharmacy 43, 43 (2014); Karaca-Mandic et al., *supra* note 24, at 1311; Teresa B. Gibson et al., *The Effects of Prescription Drug Copayments on Statin Adherence*, 12 Am. J. Managed Care 509, 509 (2006); *see generally* Niteesh K. Choudhry et al., *Full Coverage for Preventative Medications After Myocardial Infraction*, 365 New Eng. J. Med. 2088 (2011).

[30]Schneeweiss et al., *supra* note 28, at 2128.

[31]*See* Choudhry et al., *supra* note 29, at 2088 ("Enhanced prescription coverage improved medication adherence and rates of first major vascular events and decreased patient spending without increasing overall health costs.").

[32]*See* Fusco et al., *supra* note 24, at 10; *see also* Praful Schroff et al., *Vulnerabilities to Health Disparities and Statin Use in the REGARDS (Reasons for Geographic and Racial Differences in Stroke) Study*, J. Am. Heart Ass'n, Aug. 2017, at 9.

mortality.[33] The mortality divide based on education in the United States has grown dramatically in recent decades, especially with respect to CVD mortality. In 1992, the cardiovascular mortality rate for those without a college degree was twenty-six percent greater than for those with a college degree.[34] By 2019, this disparity grew nearly four times larger:[35] those without a college degree experienced almost double the risk of dying from CVD.[36]

Falling mortality from CVD has been one of the key drivers of overall gains in life expectancy in the United States and elsewhere.[37] In the decade before 2014, CVD deaths in the United States fell by more than twenty-five percent.[38] The gains against cardiovascular mortality were experienced across all levels of education in the period before 2010.[39] However, after 2010, significant progress only continued for those with a college degree.[40]

Lower levels of education are associated with a higher lifetime risk of cardiovascular events across adulthood. As compared with those who completed college, the risk of a cardiovascular event was thirty percent greater for individuals with no college degree and fifty-eight percent greater for those who did not complete high school.[41] Lower educational attainment is linked to a higher risk of coronary artery disease independent of an individual's level of income.[42] The heart risk for those without a college education is comparable to those with a prior heart attack and higher levels of education:

> Patients without college education and prior history of MI [myocardial infarction] had the highest risk for all-cause mortality during follow-up. Notably, all-cause mortality incidence was similar in patients who were college educated and had a prior MI as those who were not college educated but had no history of MI.[43]

Looking across U.S. states with different levels of compulsory education provides a window into the different levels of cardiovascular risk based on education. Greater education is associated with improvements in major risk factors for CVD.[44] Higher levels of education in two different national health surveys were associated with lower levels of cardiovascular risk factors, including smoking and improved HDL cholesterol.[45] The relationship between education and cumulative cardiovascular risk is consistent across years of schooling and demonstrates an "inverse dose-response relationship."[46]

Lower levels of education are also associated with relatively worse outcomes after a cardiovascular event. Studies have found that this result holds both for short-term outcomes over thirty days and long-term outcomes spanning more than one year for patients that experienced a heart attack.[47] Although

[33] Case & Deaton, *supra* note 8, at 2.
[34] *Id.* at 18.
[35] *Id.*
[36] *Id.*
[37] *Id.* at 14 ("The main driver of mortality declines since the 1970s has been falling mortality from cardiovascular disease, driven by reductions in smoking, and the use of hypertensives and statins.").
[38] Schultz et al., *supra* note 12, at 2167.
[39] *See* Case & Deaton, *supra* note 8, at 20-21 (showing falling mortality rates for both American adults with and without a 4-year college degree from 1990 to 2010).
[40] *See id.* ("The long-term decline [of cardiovascular mortality] … stopped falling altogether after 2010 for those without the degree.").
[41] Magnani et al., *supra* note 21, at 49.
[42] Heval M. Kelli et al., *Low Educational Attainment is a Predictor of Adverse Outcomes in Patients with Coronary Artery Disease*, J. Am. Heart Ass'n, Sept. 3, 2019, at 9.
[43] *Id.* at 5.
[44] Rita Hamad et al., *Educational Attainment and Cardiovascular Disease in the United States: A Quasi-Experimental Instrumental Variables Analysis*, PLoS Med., June 25, 2019, at 2 ("Increased education was consistently associated with improvements in several cardiovascular risk factors: smoking, high-density lipoprotein, and depression.").
[45] *Id.* at 1.
[46] Karen Huynh, *Low Educational Attainment Linked to High CVD Risk*, 14 Nature Revs. Cardiology 442, 442 (2017).
[47] Schultz et al., *supra* note 12, at 2168.

patients with less education have more underlying health challenges on average, they generally receive less medical intervention and are less likely to be referred for higher levels of cardiac care.[48] While studies suggest that approximately half of the elevated cardiovascular risk experienced by those with less education can be explained by traditional risk factors, these cannot account for the rest of the disparity.[49]

Slowing progress against CVD was a central explanation for the reversals in overall life expectancy in the United States before the COVID-19 pandemic.[50] The growing gap in cardiovascular mortality between those with college degrees and those with lower levels of educational attainment is one of the most important factors in understanding disparities in overall life expectancy in the United States.[51]

Conclusion

Cardiovascular mortality is higher in the United States than in comparable high-income countries,[52] and the United States is unique among its peers with respect to the growing divergence in health outcomes between college graduates and those who have not completed college.[53] A decade ago, scholars recognized that life expectancy gains in the United States were not keeping pace with those of other industrialized nations.[54] In response, some highlighted the potential for a focus on educational attainment to enhance health outcomes and significantly reduce health disparities.[55] For those in the United States with a college degree, life expectancy rose until the beginning of the COVID-19 pandemic. The magnitude of life expectancy gains for U.S. college graduates between 1992 and 2019 were second only to the overall gains in the best performing high-income country: Japan.[56] By contrast, the United States ranked last among twenty-two high-income countries in terms of overall life expectancy for those nearly twenty years before the pandemic.[57]

One key to explaining this growing divergence is that the life expectancy for those in the United States without a college degree peaked in 2010.[58] Since then, overall life expectancy in the United States remained essentially flat before the pandemic while other high-income nations continued to register significant gains.[59] In many ways, the recent crisis of life expectancy in the United States is a product of the experience of the two-thirds of Americans without a college degree.

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[48] *Id.* at 2168.

[49] *Id.* at 2167-68.

[50] *See* Hao Ma et al., *Cardiovascular Health and Life Expectancy Among Adults in the United States*, 147 Circulation 1137, 1137 (2023) ("Equivalently, participants with high CVH had an average of 8.9 more years of life expectancy at age 50 years compared with those with low CVH. On average, 42.6% of the gained life expectancy at age 50 years from adhering to high CVH was attributable to reduced cardiovascular disease death.").

[51] *See* Case & Deaton, *supra* note 8, at 14; *see also* Max Roberts et al., *Contributors to the Black-White Life Expectancy Gap in Washington, D.C.*, Sci. Reps., Aug. 27, 2020, at 6 (finding that heart disease contributes more than any other cause of death in accounting for disparities in life expectancy).

[52] Enrique Acosta et al., *Cardiovascular Mortality Gap Between the United States and Other High Life Expectancy Countries in 2000-2016*, 77 Js. Gerontology Series B: Psych. Scis. & Social Scis. S148, S151-53 (2022).

[53] Anne Case & Angus Deaton, *Without a College Degree, Life in America is Staggeringly Shorter*, N.Y. Times (Oct. 3, 2023), https://www.nytimes.com/2023/10/03/opinion/life-expectancy-college-degree.html.

[54] *See, e.g.*, Steven H. Woolf, *Falling Behind: The Growing Gap in Life Expectancy Between the United States and Other Counties, 1933–2021*, 113 Am. J. Pub. Health 970, 972–75 (2023).

[55] *See* Robert M. Kaplan et al., *Educational Attainment and Life Expectancy*, *in* Policy Insights from the Behavioral and Brain Sciences 189, 189 (Susan T. Fiske et al. eds., 2014) ("medical care only explains about 10% of the variance in health outcomes, whereas behavioral and social factors outside of health care explain 50%. Evidence suggests that educational attainment may be one of the strongest correlates of life expectancy. As a baseline cancer screening and optimizing established risk factors for premature death typically extend life expectancy by less than 1 year. In contrast, remediating health disparity associated with low educational attainment might enhance life expectancy by up to a decade.").

[56] *See* Case & Deaton, *supra* note 8, at 12.

[57] *See id.* at 11.

[58] *See id.*

[59] *See id.* at 11-12.

The district court holding in *Braidwood*, if upheld by reviewing courts, will likely worsen existing disparities in life expectancy in the United States. The preventive coverage at risk involves the diseases that cause the greatest mortality. Heart disease remains the leading killer in the United States — and yet the ruling would impose new cost barriers on the most widely prescribed treatment for preventing cardiovascular mortality. The existing data on the impact of copays on preventive service uptake and mortality rates strongly suggest that such a change would have a disproportionate impact on those with less education.

Effectively reversing these growing mortality disparities in the United States requires a broader range of strategies at the individual and community levels. Recent work found that including such socioeconomic risk factors in clinical decision-making reduced socioeconomic disparities.[60] Incorporating socioeconomic factors like educational attainment into clinical decision-making might better address the cardiovascular treatment gap, even though it could raise other challenges.[61]

A broader research agenda is needed to better understand and address the causes of growing disparities in heart health and life expectancy in the United States. More insight into the underlying mechanisms that contribute to the growing education gap is crucial to more effectively responding to this challenge. However, existing research already makes clear that reducing access to the current tools against leading causes of mortality — like preventive services at risk in the *Braidwood* litigation — will only increase the life expectancy gap in the United States.

[60] *See* Hamad et al., *supra* note 44, at 14 (stating that higher levels of education were associated with higher BMI in both surveys).

[61] *See* Dorien M. Kimenai et al., *Socioeconomic Deprivation: An Important, Largely Unrecognized Risk Factor in Primary Prevention of Cardiovascular Disease*, 146 Circulation 240, 244 (2022); *see also* Kelli et al., *supra* note 42, at 7-9.

Cite this article: Gartner, D. (2024), 'Preventive Care and Health Equity: The Educational Divide', *American Journal of Law & Medicine*, **50**, pp. 121–127. https://doi.org/10.1017/amj.2024.19