

# Historical Trends in the Representativeness and Incomes of Black Physicians, 1900–2018



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## INTRODUCTION

Increasing the racial diversity of the physician workforce can reduce Black-White gaps in life expectancy.<sup>1</sup> However, relative to the 13% of the US population who are Black, the proportion of physicians who are Black remains low at 5%.<sup>2</sup> Alongside this low representativeness are substantial racial differences in physician incomes, particularly among male physicians.<sup>3</sup> Historical trends in the racial diversity of physicians and in racial differences in their incomes are unknown and may provide a better sense of progress made in these areas.

## METHODS

We used the Decennial Census long form, a nationally representative, US Census-administered survey, from 1900 to 2000. This survey was replaced by the American Community Survey (ACS). We used ACS data from 2010 and 2018. Response rates are above 90%.<sup>4, 5</sup>

Occupation and race are self-reported. Specialty is not included. We estimated percent of the total US population who were Black and percent of US physicians who were Black for each survey year. Then, for the years 1960–2018 for which we had self-reported personal income data, and limiting to those aged 35 and older to focus on those who had completed training,<sup>3</sup> we estimated median income for Black and White male physicians. We focused on male physicians because there are significant racial income differences in this population<sup>3</sup> and because of the small number of Black female physicians in earlier time periods. We examined median income because income was censored above an upper bound (topcoded).<sup>3</sup> We compared differences between years in percent of physicians who were Black using t-tests and compared racial differences within years in median income using Mann-Whitney tests. We used Census-provided sampling weights to make

nationally representative estimates. The UCLA IRB determined that this was not human subjects research.

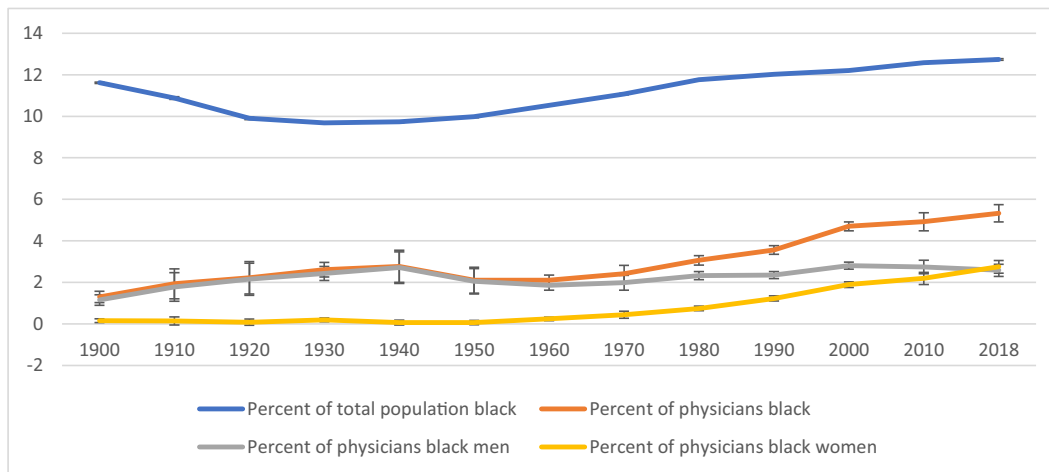
## RESULTS

Our sample included 149,840 physicians, including 4891 Black physicians (3286 Black men and 1605 Black women). In 1900, 11.6% of the population were Black, but only 1.3% of physicians were Black (Fig. 1). In 1940, 9.7% of the population were Black, but only 2.8% of physicians were Black; 2.7% of physicians were Black men and 0.1% of physicians were Black women. In 2018, 12.8% of the population were Black, but only 5.4% of physicians were Black; 2.6% of physicians were Black men and 2.8% of physicians were Black women. We failed to find a statistically significant difference in the percent of physicians who were Black men between 1940 and 2018 (difference of  $-0.1$  percentage point [95% CI  $-1.0$  to  $0.7$ ]). The percent of physicians who were Black women grew 2.7 percentage points (95% CI 2.2 to 3.1) between 1940 and 2018.

When examining median income (in 2018 dollars), the difference between Black and White male physicians was about \$68,000 in 1960 and \$50,000 in 2018 (Fig. 2). These racial income differences were statistically significant in each survey year. Results were unchanged when performing a median (quantile) regression and controlling for age and state.

## DISCUSSION

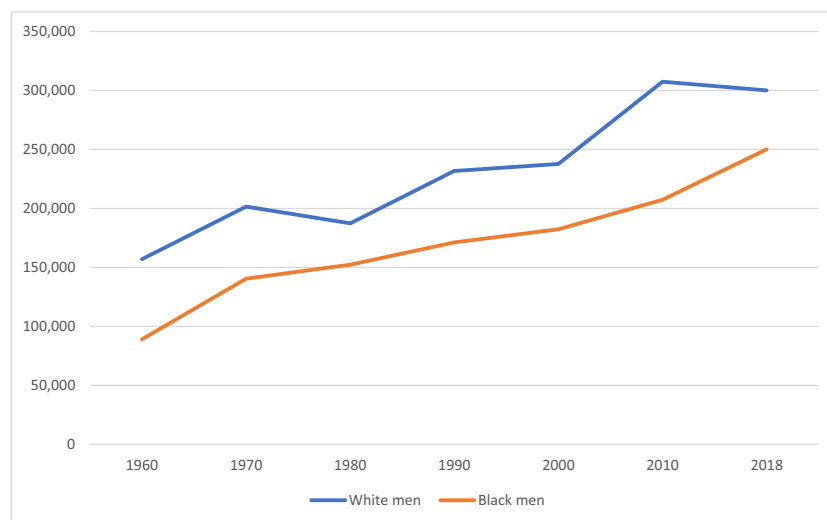
Little progress has been made in increasing the representativeness of the physician workforce and in achieving racial equity in physician pay. The proportion of physicians who are Black has increased by only 4 percentage points over the course of 120 years. The proportion of physicians who are Black men remains essentially unchanged since 1940, with the increase since then in proportion of physicians who are Black coming from an increase in Black women. The decrease in proportion of physicians who were Black that occurred after 1940 may be a consequence of closure of historically Black medical schools earlier in the century.<sup>6</sup> Furthermore, income differences between Black and White male physicians have only modestly improved



**Figure 1** Percent of physicians and of total population in the USA who are Black, 1900–2018. Author’s calculation using the Decennial Census from 1900 to 2000 and the American Community Survey (ACS) data in 2010 and 2018. All data are publicly available through IPUMS. Results are weighted using Census-provided sampling weights to represent the US population. Occupation and race are self-reported. The bands are 95 percent confidence intervals.

since 1960 and remain substantial. One possible cause of these persistent racial income differences may be fewer Black physicians being in more well-reimbursed specialties. Other possible reasons include pay discrimination and Black physicians being more likely to treat Medicaid patients. Our results highlight the need for much more effective policies to diversify the physician workforce, including diversifying specialties.<sup>2</sup> One limi-

tation is lack of physician specialty; however, we are unaware of evidence that Black physicians prefer lower-paying specialties or sub-specialties, and racial differences in specialization or sub-specialization may represent unequal opportunities for Black physicians. Another limitation is use of historical self-reported survey data; however, we are not aware of a historical registry of physicians with race and income information.



**Figure 2** Median income of Black male versus White male physicians in 2018 dollars, 1960–2018. Author’s calculation using the Decennial Census from 1960 to 2000 and the American Community Survey (ACS) data in 2010 and 2018. All data are publicly available through IPUMS. Results are weighted using Census-provided sampling weights to represent the US population. Occupation and race are self-reported. Sample limited to those aged 35 and older who were employed the previous year. Income adjusted to 2018 dollars using the consumer price index. Income differences by race were statistically significant in each survey year using Mann-Whitney tests.

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**Declarations:**

**Conflict of Interest:** The author declares that he does not have a conflict of interest.

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