

# Reproductive Justice and the Pace of Change: Socioeconomic Trends in US Infant Death Rates by Legal Status of Abortion, 1960–1980

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US infant death rates for 1960 to 1980 declined most quickly in (1) 1970 to 1973 in states that legalized abortion in 1970, especially for infants in the lowest 3 income quintiles (annual percentage change = -11.6; 95% confidence interval = -18.7, -3.8), and (2) the mid-to-late 1960s, also in low-income quintiles, for both Black and White infants, albeit unrelated to abortion laws. These results imply that research is warranted on whether currently rising restrictions on abortions may be affecting infant mortality. (*Am J Public Health*. 2015;105:680–682. doi:10.2105/AJPH.2014.302401)

As restrictions increase on access to abortion in the United States,<sup>1,2</sup> it is timely to revisit and build on previous research that examined whether US infant mortality rates were affected by 1960s and 1970s policies that expanded access to abortion.<sup>3–8</sup> Consistent with a reproductive justice framework,<sup>9,10</sup> we hypothesized that between 1960 and 1980, the steepest annual percentage declines in the infant death rate would occur among US states that legalized abortion in 1970, relative to states that decreased restrictions or kept abortion strictly illegal prior to national legalization of abortion in 1973,<sup>11</sup> with the largest changes for infants born in low-income counties. A corollary was that state abortion law status would be less associated with

mid- to late-1960s declines in infant mortality attributed by previous research<sup>6,12–19</sup> to beneficial economic and social changes spurred by passage of the 1964 Civil Rights Act and by the War on Poverty,<sup>20,21</sup> especially among low-income infants, both Black and White.

## METHODS

We computed the infant death rate ([deaths < age 1 year]/[population < age 1 year] in the same calendar year)<sup>22</sup> from 1960 to 1967<sup>23</sup> and 1968 to 1980<sup>22</sup> US national mortality data. We stratified the individual-level mortality records and census denominator data by age, gender, and race/ethnicity and aggregated them to the county level.

We classified states into 3 groups: (1) abortion legalized in 1970 ( $n = 4$ ; Alaska, Hawaii, New York, Washington), (2) a model penal code enacted between 1967 and 1972 that, as stated at the time, reformed (i.e., made less stringent but did not repeal) the state's abortion laws ( $n = 14$ ; California, Colorado, New Mexico, Oregon, Maryland, Delaware, Georgia, North Carolina, South Carolina, Arkansas, Virginia, Kansas, Vermont, Florida), and (3) abortion kept illegal prior to *Roe v Wade* (the remaining 32 states plus the District of Columbia).<sup>3,4,8,11,24</sup>

Because the mortality data contained no socioeconomic information,<sup>18</sup> we linked these data to county median family income obtained from US Census decennial 1960 to 1980 data (missingness < 1%), which we adjusted for inflation and regional cost of living.<sup>18,25</sup> For Alaska, which has a small population and lacks county divisions, we analyzed data as 1 county.<sup>18</sup> We used linear interpolation for intercensal years and then assigned counties to income quintiles, weighted by county population size, which varies greatly.<sup>18</sup>

The only racial/ethnic categories available were White and non-White for 1960 to 1967 and White, Black, and other for 1968 to 1980.<sup>18,22,23</sup> For the 1960 to 1967 data, we followed standard practice by reclassifying non-White persons as Black.<sup>15</sup> This approach is reasonable because in 1960, 92% of US non-White persons were Black, and the mortality rates of these 2 groups were almost identical.<sup>15</sup> One state (New Jersey) did not identify race/ethnicity in 1962 and 1963, precluding use of its data for those 2 years (< 3% of the US population).<sup>23</sup>

We first computed and plotted the 3-year moving average of the infant death rates, stratified by state legal status and income quintile, for the total US, Black, and White population. We then analyzed time trends through joinpoint analyses,<sup>18,26,27</sup> according to the annual count and corresponding denominator data. The joinpoint algorithm employs a grid search method to fit a segmented regression function and enables estimation of both the annual percentage change (APC) in rates and the inflection points where the slope of the APC significantly changes ( $P < .05$ ).<sup>26,27</sup>

## RESULTS

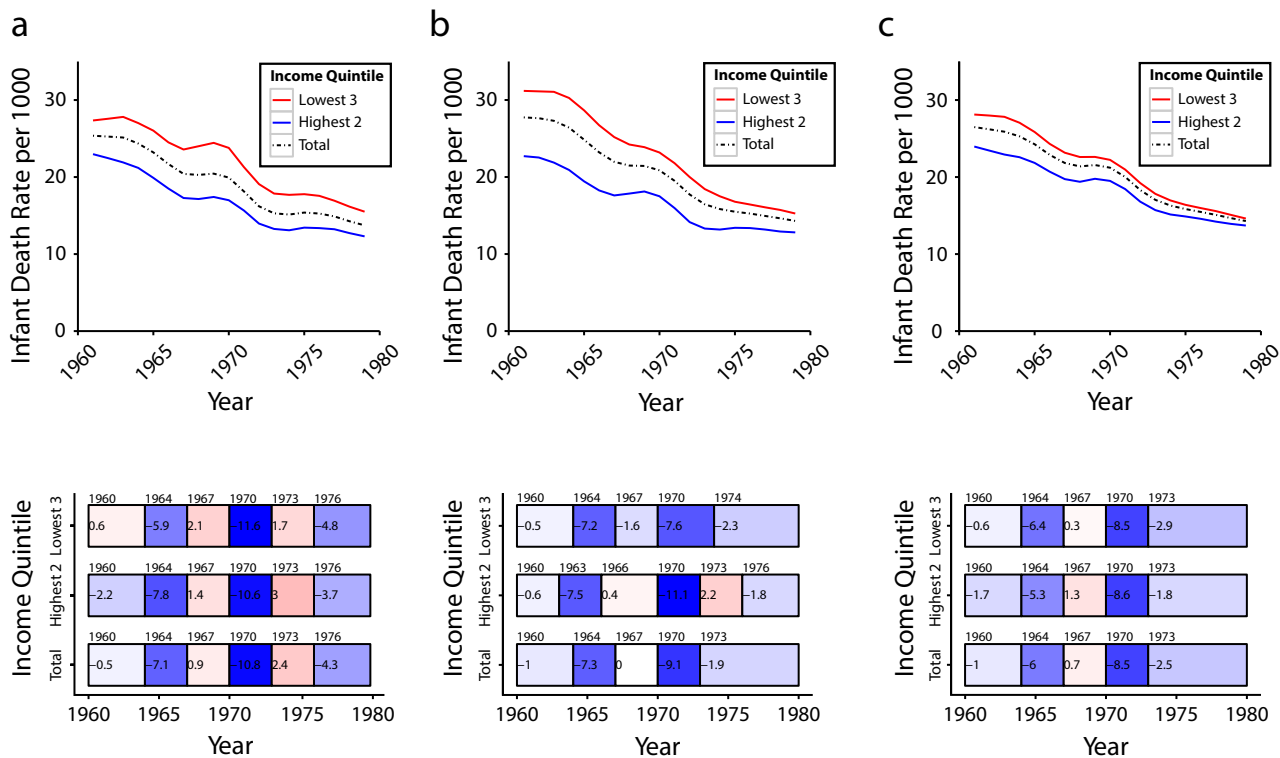
Figure 1 shows infant death rates for 1960 to 1980 for the total US population, overall and by county median family income quintile, in 3 sets of states, stratified by legal status of abortion. In all 3 sets of states, the fastest decline in rates, as measured by the APC, occurred between 1970 and 1973; these declines were evident in the bottom 3 and top 2 income quintiles, and the largest decline occurred in the lowest 3 income quintiles in the states that legalized abortion (APC = -11.6; 95% confidence interval [CI] = -18.7, -3.8; Table A, available as a supplement to the online version of this article at <http://www.ajph.org>).

The only other period in which declines in the APC occurred in both income strata was in the mid-to-late 1960s; these declines were smaller and did not vary by state abortion law status (Figure 1; Table A) and were especially evident for Black and White infants in the lowest 3 income quintiles (Figure 2; Table B, available as a supplement to the online version of this article at <http://www.ajph.org>).

## DISCUSSION

Our descriptive analysis newly extends and integrates previous strands of research that separately examined US trends in infant mortality rates in the 1960s and 1970s in relation to legalization of abortion,<sup>3–8</sup> abolition of Jim Crow laws,<sup>12–14,19</sup> and the War on Poverty.<sup>6,15,17,18</sup>

Presenting a reverse mirror to present-day rising restrictions on abortion rights,<sup>1,2</sup> conjoined with rising economic inequality<sup>28,29</sup> and voter intimidation,<sup>30,31</sup> the results imply that research is warranted on how currently rising restrictions on abortions<sup>1,2</sup> may be affecting US



**FIGURE 1—US infant death rates by county income quintile for the total US population (3-y moving average) and joinpoint analysis of annual percentage change in rates, stratified by (a) abortion legalized in 1970, (b) abortion law reformed between 1967 and 1972, and (c) abortion kept illegal: 1960–1980.**

infant mortality rates and racial/ethnic and economic inequities in these rates.<sup>32–34</sup> ■

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**Contributors**

N. Krieger originated the study, designed and supervised the analyses, led interpretation of the results, and wrote the first draft of the article. All authors designed the study and wrote the article. S. Gruskin helped conceptualize the study and interpret results. N. Singh and

M. V. Kiang conducted the analyses and interpreted results. J. T. Chen obtained the mortality, population, and income data; assembled the study database; and interpreted the results. J. T. Chen, J. Beckfield, and B. A. Coull designed the statistical analyses. P. D. Waterman helped assemble the study database and interpret results. J. Gottlieb helped assemble the state-level policy data to contextualize the study findings.

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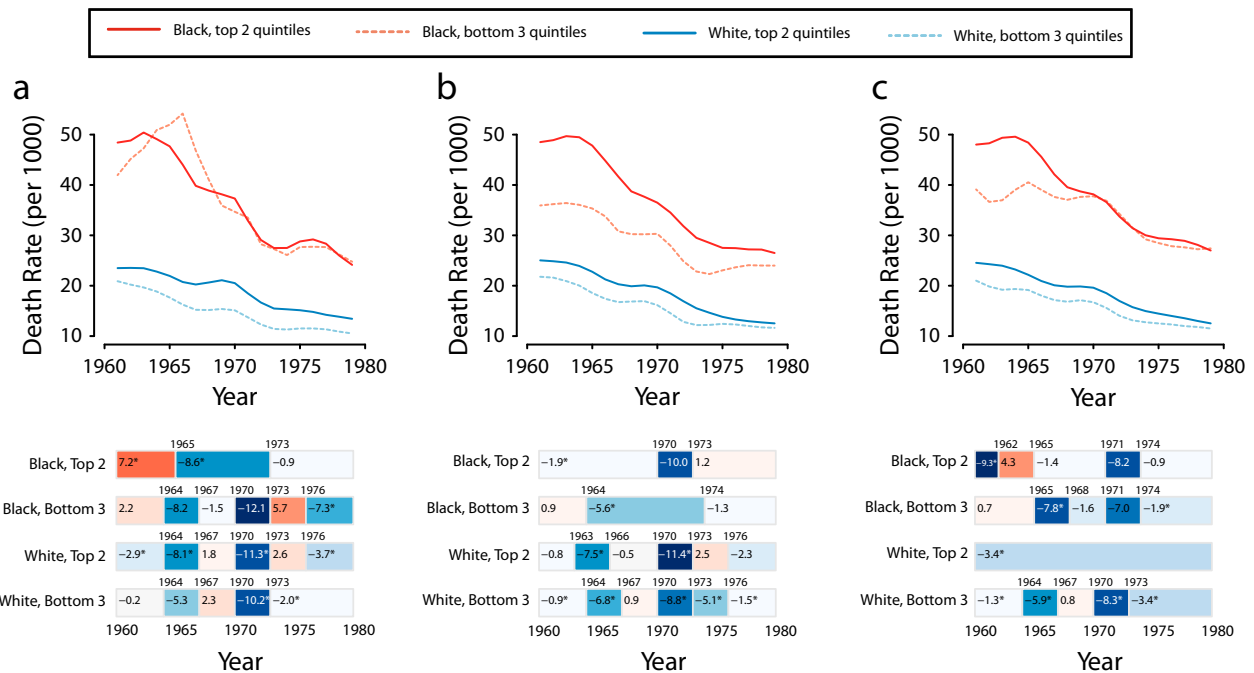
**Human Participant Protection**

Because our analyses are based solely on publicly available de-identified preexisting coded data aggregated to the US county level, our study was exempted from institutional review board review by the Harvard School of Public Health human subjects committee.

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**FIGURE 2—US infant death rates by county income quintile for the Black and White population (3-y moving average) and joinpoint analysis of annual percentage change in rates, stratified by (a) abortion legalized in 1970, (b) abortion law reformed between 1967 and 1972, and (c) abortion illegal: 1960–1980.**

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