Health Policy and the Distribution of Lifetime Income

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MANY DEBATES OVER HEALTH POLICY HAVE considered implications for the distribution of income. For example, proponents of cigarette taxes have been thwarted by the argument of regressivity (Lyon and Schwab 1991). Because the poor are more likely than the rich to smoke, and because the tax is on sales, any cigarette tax is generally viewed as regressive, that is, a higher percentage of the income of poor people than of rich people pays the tax. However, in these debates income has been defined as current rather than lifetime. The poor are more likely than the rich to quit as a result of a tax increase (Grossman 1989). If these quitters subsequently live longer than they otherwise would have, then the cigarette tax may be progressive when calculated on a lifetime income basis.

In this article we first present a simple method for calculating the distribution of lifetime income for women, men, blacks, and whites. We then argue that viewing the distribution of income from a lifetime perspective has implications for health policy debates.

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Background

There is a rich history of empirical studies within economics on gender and race differences in *annual* income. Current estimates of median *annual* incomes for full-time, year-round (FTYR) workers indicate that black men earn about 75 percent of what white men earn, and black women earn about 94 percent of what white women earn (Ehrenberg and Smith 1988, 536; Kaufman 1989, 396). Gender-specific, black/white FTYR income ratios increased from 1939 until 1980; since 1980, black/white ratios have remained fairly constant. A comparison of the current *annual* incomes for FTYR working white women and white men, as well as black women and black men, shows them to be about 63 percent and 79 percent, respectively (Ehrenberg and Smith 1988, 539; Kaufman 1989, 396). Although the black women/black men income ratio has shown steady progress since 1939, the white women/white men ratio has not. These statistics are widely used to measure gender and race income disparities.

In one of the most widely cited economic articles of the past 15 years (Labund 1986), Paglin (1975) argued that income measures accounting for life-cycle effects are superior to annual measures when assessing income inequalities. Young, inexperienced workers will not earn as much as older, experienced workers. During the 1970s, 20 years after the baby boom in the late 1940s and 1950s, there was a disproportionate number of low-income persons because the baby boomers began their careers at that time. Paglin thus saw no cause for alarm in the widening distribution of income during the 1970s, compared with the 1950s.

At virtually every age, blacks of both sexes have higher mortality and morbidity rates than whites (Manton, Patrick, and Johnson 1987, 140–2; Otten et al. 1990, 849). Measured from birth, black life expectancies fall short of whites' by about six years (Manton, Patrick, and Johnson 1987; Otten et al. 1990). Blacks also report more work-limiting disabilities than whites (Bound 1989). Moreover, the disparities in health between blacks and whites appear to be widening (Hilts 1989; National Center for Health Statistics 1992). A different pattern emerges for men and women. At virtually every age, men have higher mortality rates than women. Men live about eight years less than women (Hilts 1989; Verbrugge 1984, 1989; Waldron 1976, 1986). However, morbidity rates vary dramatically over the life cycle for men and women. For example, although men are more likely to experience serious injuries, women are

much more likely to develop rheumatoid arthritis (House et al. 1990; Verbrugge 1984, 1989; Waldron 1986).

We propose a similar, but more extensive, application of the Paglin (1975) life-cycle hypothesis to study gender and race differences. We adjust estimates not only for varying ages, but also for varying survival probabilities from one age to the next.

No recent economic investigators of income inequality that we know of have adjusted income for mortality rates. Slottje (1989, 171), for example, in his recent widely cited book on income inequality, does not list health or mortality or morbidity or disability as one of 13 reasons for income inequality. Even studies that explicitly attempt to measure lifetime income ignore mortality differentials (Creedy and Hart 1979; Hancock and Richardson 1985; Nelissen 1989). At the same time, risk of mortality has played an increasingly important role in empirical work on retirement, wealth accumulation, bequests, and the debate over Social Security rules (David and Menchik 1988; Davies 1981; Gustman and Steinmeier 1989; Hurd 1989; Jianakoplos, Menchik, and Irvine 1989).

Data

We used aggregate U.S. government statistics on income and mortality in our calculations. We analyzed three years—1967, 1979, and 1986—but only present the results for 1986. When we began the study, 1986 data were the most recent available. The 1979 data were selected because they were the oldest available to provide separate age-specific mortality *and* income data on blacks only, rather than "other nonwhite." The 1967 data, which were selected to provide a 19-year comparison with the 1986 data, did not contain information on "black only" age-related mortality rates. The 1986 income data were drawn from *Current Population Reports* (U.S. Bureau of the Census 1988, table 34). Income in these government statistics included wages, salaries, money welfare benefits, Social Security benefits, workers' compensation, interest, dividends, and rent. Capital gains, in-kind government benefits such as food stamps, subsidized housing, and health care were excluded from the government's definition of income. In our analyses, we use the mean rather than the median to measure differences. Income was alternatively measured for all FTYR persons, and also for all persons with any income, whether or not they were employed full time or year

round. In the interest of brevity, we present results in the second category: persons with any income regardless of time employed. Income data were available in age brackets beginning with ages 15 to 19 and ending with ages 70 to 84. The 1986 data were separately available for women, men, blacks, and whites.

The 1967, 1979, and 1986 mortality data were drawn from *Vital Statistics of the U.S. Life Tables* (National Center for Health Statistics 1969, 1984, 1988). Survival rates were available at each age, whereas incomes were available in five-year brackets.

Methods

Because income data were not available for every age, we assumed that the annual earnings within any given age bracket applied to all persons in that age bracket. To calculate undiscounted lifetime income unadjusted for mortality for any of the four groups (black men, white men, black women, white women), we assumed that a representative cohort would move through each age and earn the average income within that age. An example will illustrate the technique.

Suppose we wanted to calculate the lifetime income of a cohort of representative black women who die on their 35th birthday. Further suppose that they have no income until their 20th birthday. Using the 1986 data, the mean income in the 20–24 age bracket was $5,824; in the 25–29 bracket, it was $10,623; in the 30–34 bracket, it was $11,684. These black women's lifetime incomes from birth to age 35 would then be a multiple of

$$(5{,}824 \times 5) + (10{,}623 \times 5) + (11{,}684 \times 5)$$
$$= 29{,}120 + 53{,}115 + 58{,}420 = \$140{,}655.$$

The $140,655 would then be multiplied by the assumed number of black women in the cohort.

To calculate lifetime income that is adjusted for mortality, the same figures would be multiplied by the probability of survival from birth to any given age bracket. For example, again using 1986 data, the mean probability of survival to the 20–24 bracket is .97460; to the 25–29 bracket, it is .97006; and to the 30–34 bracket, it is .96317. Income, adjusted for mortality, would then be

$$(5{,}824 \times 5 \times .97460) + (10{,}623 \times 5 \times .97006)$$
$$+ (11{,}684 \times 5 \times .96317) = \$136{,}173.$$

Discounted lifetime income adjusted for mortality would then be calculated by using the undiscounted lifetime income adjusted for mortality divided by the proper discount rate. We used a 3 percent real discount rate. (The discounted income data are omitted from the text, but are available from the authors.)

Results

Table 1 presents the results for money income ratios for all persons using the most recent 1986 data. The All Persons category includes persons who were in and out of the labor force—unemployed, part-time, full-time, homemakers, full-time students, disabled, retired—but not persons who were institutionalized. The second category includes only

TABLE 1
1986 Income Ratios for All Persons

Comparison groups	Age span	Zero discount[a]		
		Standard ratio	Mortality-adjusted ratio	Mortality adjusted-standard
Black men / White men	20–64 / 20–84	0.6033 / 0.5868	0.5591 / 0.5338	−0.0442 / −0.0530
Black women / White women	20–64 / 20–84	0.9086 / 0.8269	0.8732 / 0.7959	−0.0354 / −0.0310
White women / White men	20–64 / 20–84	0.4491 / 0.4782	0.4724 / 0.5119	0.0233 / 0.0337
Black women / Black men	20–64 / 20–84	0.6764 / 0.6738	0.7376 / 0.7632	0.0612 / 0.0894
Black women / White men	20–64 / 20–84	0.4081 / 0.3954	0.4125 / 0.4074	0.0044 / 0.0012

[a] Probability of survival begins at birth.

FTYR workers (results available from the authors). Numbers in the cells for the ratios may be interpreted as percentages. Thus, .6033 from the first row and Standard ratio column (cell 1) indicates that black men's summed income from 20 to 64 years is 60.33 percent of white men's summed income. The .5591 number at the top of the Mortality-adjusted ratio column indicates that, after adjusting for mortality, the ratio of black men's lifetime income to white men's lifetime income is 55.91 percent. The third subheading, Mortality-adjusted–standard, is the difference between the Mortality-adjusted ratio numbers and the Standard ratio numbers. The numbers under the Mortality-adjusted–standard column also may be interpreted as percentages. The number −.0442, the first entry under the Mortality-adjusted–standard column—indicates that once mortality differentials between black and white men are taken into account, the ratio of black to white men's lifetime income drops 4.42 percent.

Negative numbers in the Mortality-adjusted–standard column indicate that the group in the numerator, compared with the denominator, loses as adjustments are made for mortality differentials.

First, consider the Standard ratio column and the corresponding age spans. The relative position of black to white men worsens as the age span moves from 20–64 to 20–84. The fact that the Standard ratio does not adjust for mortality suggests that the income ratios of black men to white men are smaller after age 64 than before. The same pattern is apparent when considering the ratios of black to white women and of black women to white men. Incomes of black seniors were apparently significantly less than incomes of white seniors. The female/male comparison is not so definitive. The ratio of white women to white men improved as seniors were added (from .4491 to .4782), whereas the black women to black men ratio hardly changed.

With one exception, the same pattern holds when comparing age span ratios in the Mortality-adjusted column for blacks. The percentage of white income earned by blacks is significantly lower for seniors than for individuals aged 20 to 64. However, the pattern in the Standard ratio column does not apply in the Mortality-adjusted column that compares black women with black men. Female black seniors improve their income position compared with black men (.7376 to .7632), probably because of their longer life expectancy.

Turn now to the Mortality-adjusted–Standard ratio columns. Once adjustments are made for mortality, black men aged 20 to 64 lose .0442

compared with white men, and black men aged 20 to 84 lose .0530 compared with white men. Black women lose .0354 (aged 20–64), and .0310 (aged 20–84), compared with white women. White women, on the other hand, gain .0233 (20–64) and .0357 (20–84) compared with white men. Black women gain .0612 and .0894 on black men. Finally, it is interesting to note that mortality adjustments hardly have an effect on the black women/white men comparisons in table 1.

In results available from the authors, calculations were carried out for FTYR workers. Incomes based upon FTYR workers are the ones most frequently analyzed by labor economists interested in comparing incomes across gender and race. Some analysts prefer FTYR incomes because they do not allow for worker decisions regarding part-time employment or unemployment to enter the calculations. On the other hand, some workers may be involuntarily unemployed or underemployed, which suggests that the income ratios from table 1 (All Persons) would be most appropriate.

Because blacks and women experience more unemployment and underemployment than whites and men, the ratios for FTYR workers were found to be higher than those in table 1.

The same general patterns apparent in table 1 were also seen for FTYR workers. The mortality adjustment worked in the expected direction. Blacks worsened their position compared with whites, whereas women improved their position compared with men. Compared with ratios that exclude seniors, ratios that include seniors indicated a larger disparity for blacks compared with whites, whereas a smaller disparity was present comparing white women with white men.

Similar patterns were seen in the 1979 data.

In data from 1966, mortality adjustment improved the position of white women, compared with white men, by a range of from 1.7 to 4.7 percent.

In addition, we carried out all these analyses assuming a 3 percent discount rate beginning at age 20. Similar, but somewhat muted, patterns emerged. For example, after discounting, the disparity between black and white men shrinks compared with the mortality-adjusted ratios in table 1. For the 20–84 age group the black to white female disparity shrank (−.0310 to −.0265), whereas for the 20–64 age span, the disparity grew dramatically, with one exception. Discounting also diminished the importance of accounting for mortality when comparing women with men. The white women to white men aged 20 to 84 undis-

counted change from Standard to Mortality-adjusted was .03370. A similar calculation for the discounted columns was .0262. The smaller numbers in the final column for the black women/black men comparison also indicated that the discounting procedure decreased the disparity differential due to mortality. The one exception was for white women/white men in the 20–64 age span. Discounting magnified differences between the Standard ratio and the Mortality-adjusted ratios.

Discussion

A number of results invite further attention.

1. The disparity in black/white earnings for the same sex widens when adjustments are made for mortality. This widening ranges from 1 to 15 percent, averaging around 5 percent for men and 3 percent for women.
2. The widening is apparent whether or not income is discounted, although discounting generally shrinks it to 3 percent for men and 2 percent for women.
3. Women's positions compared with men's generally improve after accounting for mortality. The improvement ranges from between 1 and 13 percent.
4. Adjusting for mortality increases the black women/white men income ratios by about 1 percent.

Consider point 1 above. The mean drop in the black/white income ratio with and without discounting, both in table 1 and in other calculations, is roughly 5 percent. By historical standards, 5 percent is a large differential. Income ratios move like glaciers. Ehrenberg and Smith (1988) present statistics on historical movements of the black men/white men median income ratios for FTYR workers. In 1959, the ratio stood at .61. By 1984, it was .74. In 25 years, the ratio increased roughly .0052 per year. Our 5 percent (.05) downward estimate is, therefore, roughly equivalent to a nine-year loss. Using similar figures for black and white women, the 3 percent average downward mortality-adjusted correction is roughly equivalent to a seven-year loss. (The tables illustrating these trends are available from the authors.)

However, these losses resulting from the mortality adjustment may be

growing. National Center for Health Statistics (NCHS) studies (1989, 1992) demonstrated a recent turnaround in the longevity of black men. Between 1984 and 1988, black men's longevity decreased. Statistics are not yet available after 1986. This is the first consistent three-year drop in longevity for blacks, whereas white life expectancy has been growing since the NCHS began collecting data and calculating longevity. Although the NCHS reports did not provide a definitive explanation for the turnaround, the AIDS epidemic and increased murder rates were mentioned as likely causes.

The results for men and women present an opposite picture. Once mortality is taken into account, black and white women improve their income position compared with black and white men. By accounting for mortality, the ratio of white women's to white men's income rises on average by 4 percent; the ratio of black women's to white men's income rises by 1 percent. Using estimates from the leading labor economics texts by Ehrenberg and Smith (1988) and Kaufman (1989), these are equivalent to two-year advances for black women. The yearly advances cannot be reliably calculated for white women because the white women/white men annual income ratios reported in labor economics texts have not shown a steady increase in 25 years.

Our method of calculating lifetime income is limited to comparisons across gender and race, rather than rich and poor, because of data restrictions. The government regularly tabulates life expectancies for gender and race groups. Reliable information on the life expectancies for the rich and poor are not available, in part because rich and poor are not fixed categories. The rich can become poor, and vice versa, over time. Nevertheless, most studies of socioeconomic status indicate a sizable influence of the socioeconomic status of parents (Case and Katz 1990; Corcoran et al. 1989). Moreover, the majority of medical, demographic, and economic studies indicate that low education, low income, employment in low-status jobs, and unemployment are positively associated with premature death (Behrman and Wolfe 1989; Berger and Leigh 1989; Carr-Hill 1989; Dardanoni and Wagstaff 1987; Duleep 1989; Garber 1989; Haan, Kaplan, and Camach 1987; Kessler, House, and Turner 1987; Menchik 1992; Morris and Cook 1991; Townsend and Davidson 1988). If the poor die young, then an important implication follows from our analysis: the distribution of lifetime income, regardless of gender or race, would reflect greater inequality between the rich and the poor than the distribution of current income.

There are several possible limitations to our analysis of race and gender differences in lifetime income. First, our age–income curves rely on government statistics drawn from cross-sectional data. Some argue that longitudinal data are preferable because biases may be introduced by assuming that younger cohorts, or generations, will receive the same income later in life as older generations are currently earning. Presumably, technology advances over time so that workers today are more productive than identical workers 30 years ago. Although this argument is compelling, we are unaware of any longitudinal data that could remove this bias. Because our argument involves lifetime incomes, longitudinal data would be needed for at least 50 years. Moreover, Jianakoplos, Menchik, and Irvine (1989) and Menchik (1992) argue that attrition bias may undermine the reliability of longitudinal data.

A second limitation pertains to discounting. The traditional approach is to compare measures of the present value of discounted streams of real (inflation-free) earnings for, say, a black man and a white man, both 20 years of age. (A number of these comparisons were made and are available from the authors.) We prefer to compare real incomes that have not been discounted, however. Although assuming a zero discount rate is controversial, we nevertheless believe it is appropriate for two reasons: The first is that we seek to measure gender and race group differences in lifetime income. The example of the men, cited above, applies the present value approach and selects men at age 20, but the age selection is arbitrary. Using the present value approach with a positive discount rate would necessitate comparisons for every possible age. Beginning at age 20 and assuming a 3 percent discount rate results in estimates that give very little weight to income at age 80. However, income at age 80 is essential for an 80-year-old. We, instead, prefer to create a synthetic cohort of black women, for example, who would live from, say, 20 to 65 or 20 to 84 years, and compare their incomes as a group with those of a cohort of white men in the same age categories.

The second reason for comparing undiscounted real incomes is that gender and race income comparisons are typically considered in ideologically charged policy debates about the economic status of blacks compared with whites, or women compared with men. Ultimately, the debate hinges on subjective beliefs about a "just" society. One view of fairness emphasizes comparisons of people at the same age who contemplate their future income. Another view emphasizes the experience of

groups of people over their lifetimes. Ramsey's famous comment in the introduction to his model on optimal saving (1928) is relevant here: "We do not discount later enjoyments in comparison with earlier ones, a practice which is ethically indefensible and arises merely from a weakness of the imagination." Finally, Robinson (1990) argues that no discounting technique can be viewed as "scientifically correct"; discounting public projects is a political decision according to Robinson (1991).

Going further, some might argue that our estimates are biased by ignoring inflation. However, because we used government statistics from 1967, 1979, and 1986 in separate calculations within any given year, and only compared *ratios* of gender- or race-specific incomes across years, it is not necessary to remove inflationary effects. The 3 percent discount rate is, therefore, a real rate. Three percent is a figure frequently mentioned as a long-run real interest rate (Bronfenbrenner, Sichel, and Gardner 1987).

A final drawback concerns varying morbidities across gender and race. American women live longer than American men by about eight years, but may not enjoy the additional years very much. Verbrugge (1989) points out that, at most ages, women are more likely to visit the doctor or be hospitalized and report more stress and psychological problems. In later years, women are far more likely than men to suffer from osteoporosis, rheumatoid arthritis, lupus, and multiple sclerosis. House et al. (1990) recently presented evidence that, after controlling for age, education, income, race, and marital status, women were in worse health than men on three measures of frailty: number of chronic conditions, functional status, and daily activities. Verbrugge attributes most of the high female morbidity rates to inactivity, nonemployment, and stress. In part, the inactivity and nonemployment factors may become less important as women's participation in the labor force increases.

However, the idea that the typical male has less morbidity than the typical female for any given age is not universally accepted. Men suffer more disabling injuries and accidents and have higher risks for osteoarthritis. Moreover, it may be that women's alleged higher morbidity rates result from their longer life expectancy. As life expectancy for men catches up to that for women, morbidity rates may equalize.

To the extent that women suffer more diseases and disabilities throughout their lives, the results we have described, which suggest a narrower disparity in lifetime income between men and women, ought

to be modified. Future researchers may consider constructing an index of quality of life years (QALYs) or of activities of daily living (ADLs) to be multiplied by income.

The opposite argument applies to black/white comparisons. Data indicate that blacks suffer disproportionately more morbidities and disabilities than whites (Manton, Patrick, and Johnson 1987; Otten et al. 1990). If QALYs or some product of ADLs and years alive were used in our analysis, rather than actual life years, the racial disparities would grow. If the poor, in general, experience more morbidity than the rich at any age, then greater lifetime income inequality between the rich and the poor would result after adjusting for QALYs or ADLs.

Implications for Health Policy

A number of implications can be drawn for health policies surrounding cigarette and beer taxes, occupational safety and health, Medicare and Medicaid, health promotion campaigns, and investments in general education.

Men, blacks, and poor people are more likely to smoke than women, whites, and rich people (Chaloupka 1992; Grossman 1989; Verbrugge 1984, 1989; Waldron 1976, 1986). The burden of a cigarette tax would fall disproportionately on men, blacks, and poor persons. As suggested in the introduction, the burden on the poor is frequently cited as an argument against raising cigarette taxes. From a lifetime income perspective, however, this burden may not be as great as is commonly imagined if higher cigarette taxers encourage quitting. Most studies suggest that the poor are especially sensitive to cigarette price hikes (Grossman 1989). A recent study suggests that black youths also are more likely than white youths to quit when faced with high prices (Hilts 1991). From a lifetime income perspective, the arguments are less compelling that cigarette taxes discriminate against men or blacks, or place an excessive burden on the poor.

The beer and malt liquor tax has been singled out by health economists as due for a substantial increase (Coate and Grossman 1988; Grossman 1989; Grossman, Coate, and Arluck 1987; Manning et al. 1991; Saffer 1989). Beer taxes have not kept pace with either wine or liquor taxes. A disproportionately high number of men, blacks, youths, and the poor drink beer (Grossman 1989; Herd 1990; Johnson and Ok-

sanen 1974; Ornstein and Hanssens 1985; Uri 1986). Again, because of these demographic patterns, the discrimination and regressivity argument against raising cigarette taxes also has been leveled against beer taxes. From a lifetime income perspective, however, these arguments are not as cogent as they are when viewing current income. Raising beer taxes to equal those on wine and liquor has been argued to result in fewer highway fatalities and deaths from heart disease and cirrhosis (Grossman 1989; Saffer 1989). If beer taxes extend life among men, blacks, youths, and the poor, then their burden of the taxes would be less when calculated for lifetime than for current income.

Improvements in occupational safety and health are sometimes viewed as regressive (Ehrenberg and Smith 1988) if "the market" responds by lowering wages among dangerous blue-collar compared with safe white-collar jobs. Again, conventional analyses consider income in current, not lifetime, dollars. Improvements in occupational safety and health may be especially potent for improving the lifetime income of blacks, men, and the poor, but not of women. Blacks, persons with low income, and men hold a disproportionately high number of dangerous jobs, whereas women hold a low number (Leigh 1988; Robinson 1991).

Changes in Medicare and Medicaid spending would also have different implications for the distribution of lifetime and current income. Both Medicare and Medicaid spending are viewed as progressive benefits (Feldstein 1979; Phelps 1992). The progressity is obvious for Medicaid because it is targeted at the poor. Because the benefits paid by Medicare are largely based on medical requirements rather than on patient income, they would represent a larger portion of the income of the poor than of the rich. Hence, Medicare benefits are also viewed as progressive even though women, whites, and the rich are more likely than men, blacks, and the poor to receive Medicare benefits over their lifetimes. Blacks and the poor, on the other hand, are more likely than whites and the rich to receive Medicaid over their lifetimes. Hence, from a lifetime perspective, Medicaid is strongly progressive, whereas Medicare may be regressive.

Many health policy analysts strongly support information campaigns designed to encourage average citizens to stop smoking, wear seat belts, exercise regularly, and eat plenty of fruits and vegetables while restricting fat intake. Yet average citizens are not the first to adopt and maintain healthy habits. Apart from being female, years of schooling remain one of the best predictors of who is more likely to adopt healthy habits

(Farrell and Fuchs 1982; Grossman 1972; Kenkel 1991; Leigh 1990). High levels of education also are strongly correlated with high income (Ehrenberg and Smith 1988; Kaufman 1989). Healthy habits are more quickly adopted and maintained by middle- and upper-income groups. Information campaigns, then, generally result in a widening of the distribution of lifetime income across the rich and poor. On the other hand, laws that require seat-belt or motorcycle-helmet use, or restrict smoking at the job, would result in greater compliance by the poor than educational campaigns, and thus would result in greater equality of lifetime income.

A popular policy option for many health economists involves general education. Studies have suggested that advances in the level of general education will result in increased longevity and decreased morbidity for the American population. Persons with more schooling would presumably exercise more, eat nutritious meals, never smoke, use medical care wisely, and so on (Berger and Leigh 1989; Grossman 1972; Kenkel 1991; Sagan 1987). It has been suggested that spending on general education may be more cost effective than spending on medical care to improve the health of the average American (Feldstein 1979, 26–28). Unlike the specific policies we have just discussed, the effects of increasing levels of education on the distribution of lifetime income are ambiguous. A substantial current and lifetime income differential exists between high-school and college graduates. If higher levels of schooling are obtained by pupils who would have otherwise dropped out of junior high or high school, greater lifetime equality would probably result. If, on the other hand, the average level of schooling rises as a result of increasing numbers of college graduates completing master's degrees, it is likely that greater lifetime inequality would result.

Conclusion

Mortality differences across gender and race cause the distribution of lifetime income to differ from the distribution of current income. The disparity between blacks and whites is wider, whereas that between women and men is narrower with lifetime income than with current income. Moreover, if the poor die before the rich, the overall distribution of lifetime income for all persons would be more unequal than the distribution of current income.

The distribution of income has played a role in policy debates over cigarette and beer taxes, occupational safety and health, Medicare and Medicaid spending, health promotion campaigns, and effects of education on health. We have argued that the effects of these health policies on the distribution and, in turn, the importance of the distribution in the policy debates will be different depending on the definition of income. A lifetime perspective may change our views on (1) cigarette and beer taxes, which may not be as regressive as is commonly thought; (2) improvements in occupational safety and health, which may be especially useful in increasing equality; (3) Medicare, which may be regressive, whereas Medicaid may be more progressive than is commonly believed; (4) health promotion campaigns, which may increase inequality; and (5) investments in education whose effects on the distribution are ambiguous.

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