From Affirmative Action to Health

A critical appraisal of the literature regarding the impact of affirmative action

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EXECUTIVE SUMMARY

The Findings

In this report, the authors explore the empirical evidence, including data and research literature, regarding the connections between affirmative action efforts and health status of individuals and communities. Following the ten findings, several recommendations are offered to policy makers and educators.

1. Based on the literature reviewed, affirmative action efforts can affect health care and health status through a number of intermediary connections, such as health professions diversity and improved educational opportunities.

2. Studies consistently document the underrepresentation of minorities in health professions education and practice. Although women now attend medical schools in rates approximating their representation in the general population, they continue to be underrepresented in medical practice.

3. The data show that education programs with affirmative action policies can increase the number of minorities in those programs.

4. Research indicates that educational opportunities benefit both the individuals who receives the education and society overall. Benefits to the individual include enhanced employment, income, health care coverage, and health status; benefits to society include increased civic participation, leadership, professional service and business and economic development on the part of individuals who receive the education.

5. The literature supports a positive relationship between health professions diversity and improved access to health care for traditionally underserved populations.

6. The literature is limited and mixed regarding the impact of health professions diversity on the quality of care provided.

7. The literature regarding the impact of affirmative action policies on minority employment and contracting, though largely limited to the public sector, generally indicates some positive impact. However, there is also evidence of inconsistencies in impact across minority groups as well as persistent discrimination.

8. Most available data support positive correlations between employment and income and between employment and health care coverage.

9. The literature demonstrates a positive correlation between income and health status regardless of race, ethnicity or gender.

10. The literature shows that race, ethnicity and gender are directly associated with health status. Race, ethnicity and gender are also indirectly associated with health status through mediating factors such as employment, education, income and health care coverage.

The Recommendations

Policy recommendations

In some areas, significant research has been conducted and the findings are consistent. In these areas, policy actions should be taken:

- Educational programs, including health professions schools, seeking to increase the diversity of their student populations can rely on affirmative action efforts as one tool to achieve this goal.
- Legislators, courts and policy makers should rely on scientific data and the research literature when available to make decisions regarding affirmative action efforts.

- Access to relevant data sources should be ensured; this may mean providing incentives to private sector entities to release proprietary information regarding affirmative action efforts.
- Because improved socioeconomic status (indicated for example by education, employment and income) appears to be correlated with improved health status, efforts to improve socioeconomic status should be supported.

Research recommendations

In some of the areas reviewed, the literature is inconclusive and there are numerous potential links and relationships between affirmative action and health status that have not been adequately researched. There are likely numerous potential relationships that may have been documented or researched but were beyond the scope of this project. To more fully explore the connections between affirmative action and health, additional data should be collected and research should be conducted.

Expand data collection, tracking and availability in the following areas:

- Governmental data collection and classification to better track demographic, labor, education and health trends in minority sub-populations, including development of better indicators of social class;
- Development and maintenance of standardized and centralized databases to track the participation of minorities and women in all professional education, as has been done for medical education; and
- Publication of data, trends and studies regarding private sector affirmative action efforts.

Conduct more research and analysis in the following areas:

- The connection between health professions diversity and culturally competent health care;
- Assessments of the impact of health professions diversity and culturally competent health care on the quality of health care delivered;

- The impact of recent changes—through state constitutional amendments, statute or legal decision—to the laws regarding affirmative action efforts on minority participation in education programs and the workforce;
- Employment and practice patterns of graduates of health professions programs, including comparisons between minorities and non-minorities;
- The effect of alternatives to affirmative action efforts, such as academic outreach programs and cultural competency training, that seek to accomplish some of the same goals as affirmative action; and
- Longitudinal studies on changes in health status for individuals and communities that have been affected by affirmative action efforts.

Information dissemination recommendation

To help inform important debates and discussions about both affirmative action and health—and the possible connections between them—the findings in this report should be disseminated to policy makers, professional and educational leaders, and the public.

BACKGROUND

Institutions and individuals in the United States have used affirmative action since the 1960s to increase the participation of women and racial and ethnic minorities in employment, contracting and higher education. The rationale for these efforts can usually be found in pursuit of social equity (fairness of extending the same opportunities to all members of society) or efficacy (improvements in quality or effectiveness of services provided).

With the notable exception of research regarding the practice patterns of minority physicians and their impact on patient access to health care, very little exploration has been conducted of the possible connections between affirmative action policies and health status or to determine patterns, trends and gaps in the research. The purpose of this report is to use a broad perspective to review the data and research literature for insight into the complex relationship between affirmative action and health, particularly for women, minorities and historically underserved populations. In the review, we explore the direct and indirect impacts of affirmative action policies on the health status of individuals and populations.

The scope of the literature review includes fields of health and medicine, education, employment in the public and private sectors, contracting, economics and social sciences. To our knowledge, this is the first attempt to review such disparate sources of literature under the framework of affirmative action's possible impact on health. The report's focus is on empirical evidence, including data and research literature. A vast number of policy and opinion pieces on affirmative action, health, and even possible connections between them, are not reviewed here, although they may offer insight and perspective on these complex topics[1, 2, 3]. The report is not exhaustive of the data sources on these topics. It does, however, intend to provide a comprehensive summary of the most relevant and important materials for many of the topics; in some particularly rich areas of study, as noted below, a representative sampling of the most pertinent literature is provided.

Definitions

Affirmative Action

For the purposes of this report, the term "affirmative action" refers to efforts that societal institutions undertake that are explicitly and consciously designed to increase the participation of minorities and other historically disadvantaged people in institutions or societal activities. Although this definition is broader than some legal definitions[4], it is consistent with popular definitions and descriptions of affirmative action[5]. It is also consistent with the early uses of the term in the United States[6], which permits review of empirical evidence from the 1960s forward. This definition could include efforts to diminish exclusion (*e.g.*, bans on race-based housing discrimination), or improve institutional functioning (*e.g.*, making health care delivery more culturally sensitive or increasing representation of women in health care research). However, the focus of this literature review is on affirmative action efforts in promote inclusion, by targeting, for example, certain groups for education, employment and contracting opportunities.

Minorities and Racial and Ethnic Groups

By "minorities and historically disadvantaged people", we included persons of color and women. Some of the articles and data sources reviewed define "minorities" broadly; others limit the term to underrepresented minorities. For example, in its tracking of medical students, residents and physicians, since 1970 the Association of American Medical Colleges has defined minorities to include African Americans, American Indians, Mexican Americans, and mainland Puerto Ricans[7]. We recognize that racial and ethnic groups are social definitions with changing definitions and implications. For the purposes of this report, we used the broadly accepted categories and indicate more specific groups where appropriate[8].

Health Status

"Health status" will also be used broadly in order to include not only chronic and acute diseases, but also the broader definitions of wellness and health. Thus, proxies for population health (birth rates, mortality and morbidity rates, immunizations, and life expectancies), reproductive health, behavioral health (mental health, smoking, and substance abuse), general lifestyles (nutrition, stress, occupation/employment), and external factors

(social, political, geographic and environmental influences) will also be used when appropriate.

Socioeconomic Status

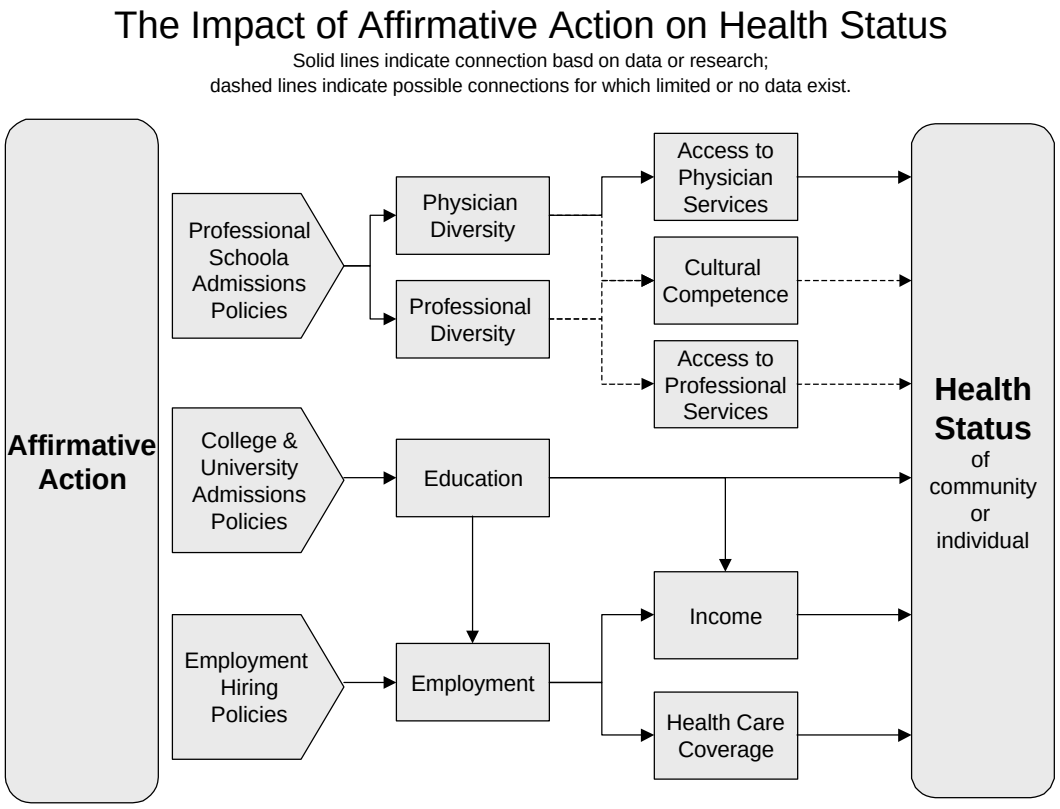
This report uses a widely accepted description of socioeconomic status (SES) to include income, education and occupation, but acknowledges that there are social, economic, cultural, and geographic factors such as wealth, generation in the U.S. and place of residence, that are closely interwoven with SES.

Contracting

We use the term "contracting" to refer to governmental contracting programs, preferential procurement policies, and government set-asides. These are specific contracting award policies or public programs developed concurrent to social legislation taking the form of affirmative action efforts[9]. Government set-asides for minority business enterprises (MBEs) involve the practice of providing minority contractors and subcontractors a certain percentage of a jurisdiction's contract dollars.

The Conceptual Model

Affirmative action efforts are challenging to identify and classify; likewise health status historically has been problematic to measure in valid and reliable ways. With these challenges in mind, we approached our task of assessing a possible relationship between affirmative action efforts and health by using a new conceptual model. This model ties affirmative action to health status through a series of several links. Our hypothesis was that there are a series of links and relationships between affirmative action and health status that can be identified and documented by data or research literature. Our focus then was on finding the data and studies to either support or refute each of the hypothetical links.



This approach attempts to explain the varied ways in which affirmative action and health may be connected. For example:

- The affirmative action effort of recruiting persons of color and women into medical schools might have the immediate effect of increasing diversity within medical student population. It may have the secondary effect of increasing diversity in the health professions. Eventually, this diversity may improve access to culturally appropriate health care providers and such access may lead to improvements in the health status of individuals or communities.

- Affirmative action efforts to increase minority representation in higher education have a hypothetical effect of increasing the earnings potential and income of those individuals. In turn, increased income may be linked to improved health of those individuals and their families.

- An affirmative action recruitment process at a law school might successfully enroll minority students who, upon graduation, return to their communities to establish legal practices that offer assistance for women seeking restraining orders from abusive partners, for tenants seeking removal of asbestos or lead in their homes, or for employees seeking safe working conditions. The net impact on the health status of a minority or underserved population might be positive.

Because each example includes two or more distinct links, we reviewed the literature to determine the validity of each link. Only after tested and viewed together can the separate links be combined to form pathways between affirmative action and health. Although somewhat reductive, this approach allowed us to manage disparate ideas and large amounts of information. It also acknowledged that most data sources deal with one topic (or link) at a time.

Methodology

Two primary methods for data collection were used: 1) literature searches of library resources and 2) consultation with experts in the field. The literature search was conducted primarily through the UCSF computer-based library system[10]. Consultation with experts included written, telephone and in-person conversations; an Affirmative Expert Roundtable of national experts was also convened in October 1998. One of the goals of the Roundtable was to suggest additional materials to review.

Project staff identified and retrieved about 400 articles, studies and data sources relevant to the topic. Using a project-developed review form, staff read and analyzed the materials for publication source, relevance and coverage of the hypothetical links between affirmative action and health. A matrix was developed to track over 50 possible targeted links between the following 12 concepts:

Affirmative action	Contracting awards
Health care quality	Income
Health professions diversity	Health care coverage
Cultural competency	Race/ethnicity/gender
Education	Health status
Employment	Access to health care

Staff monitored the quality of the literature pieces, determined reliability largely on source of the materials, and assigned priority rankings to the articles. Fewer than half of the materials were ranked as high or medium priority by staff reviewers and addressed one or more of the hypothetical links in the conceptual model. Of these, about 100 were empirical in nature; these materials form the subject of this report.

FINDINGS and DISCUSSION

Finding 1

> **Based on the literature reviewed, affirmative action efforts can affect health care and health status through a number of intermediary connections, such as health professions diversity and improved educational opportunities.**

The conceptual model allowed us to focus on numerous potential links, mediating factors, and pathways. Based on our review, there are several links between and among the 12 concepts identified above that are supported by scientific evidence. By combining these links, we can construct pathways between affirmative action and health care or health status. Some of the connections are more strongly supported by the published literature than others. Additional research remains to be done in some areas, particularly around the issue of causation. Beginning with Finding #2 below, we provide more detail about the literature regarding the major individual links. Here, we provide summaries of some the pathways between affirmative action and health that we can discern by combining the results of distinct findings.

Example A

In this example, five links combine to join affirmative action with health status. Although the amount and strength of literature varies from link to link, each one is supported by the literature. The literature strongly supports the first link in this pathway, that **affirmative action efforts can lead to an increased number of higher and professional educational opportunities** for women and traditionally underrepresented minorities. This was one of the links for which we found the highest number of articles and studies, although the vast majority of the literature dealt with college or university education and medical education. The second link in the pathway would be from **education to employment**, which is also supported by the literature; higher levels of education are linked with higher rates of employment. The third link, between **employment and health professions diversity**, is almost definitional: the employment of minorities by the health care system translates in to increased diversity of the health professions. The fourth link, between health professions

diversity and access to care has been explored in several recent studies. Though relatively limited in amount, this research supports the hypothesis that **health professions diversity is positively correlated with increased access to health care**. Finally, the literature supports the hypothesis that increased **access to care is linked to improved health status**.

Example B

In this pathway, it takes only two links—both of which are supported by the literature—to connect affirmative action with health status. The path starts again with **affirmative action efforts' link to education**, which is supported by the literature. The second link in the pathway leads from **education to health status**. We found a significant amount of literature supporting this link, demonstrating for example, an inverse relationship between education and mortality and a positive correlation between education and general health status. In this pathway, any improved health status linked to education is enjoyed directly by the individual (and perhaps that person's family) who benefits from the educational opportunity. Lacking in this area are long-term longitudinal studies tracking an individual's health status and its changes over time.

Example C

In another one of the shortest routes to take between affirmative action and health status, one starts with the link between **affirmative action and employment**. The literature we found was largely limited to public sector employment but did support the hypothesis that properly managed affirmative action efforts lead to jobs for women and minorities. The second link is between **employment and income**; jobs are associated with money for the worker. This link is supported by the literature although we note that the topic is complex and deserves more attention than permitted by this report. The third and final link connects **income to health status**. This link is supported by the literature and can be found as a direct link (people with higher levels of income tend to enjoy higher levels of health status) or can be made via additional mediating factors such as income leading to health coverage which in turn leads to better health status.

Finding 2

Studies consistently document the underrepresentation of minorities in health professions education and practice. Although women now attend medical schools in rates approximating their representation in the general population, they continue to be underrepresented in medical practice.

"Minorities are underrepresented at all levels of medicine."
COGME, 1998

In spite of affirmative action efforts and the evidence regarding physician distribution and practice patterns (*see finding # 5 below*), women and minorities continue to be underrepresented in medical education and practice[11, 12, 13, 14, 15, 16, 17, 18]. Women's participation in the physician workforce has increased significantly, rising from 8% in 1970 to 19% in 1992. However, women remain underrepresented compared to the general population and underrepresented among leaders in medicine[19]. Efforts to increase racial and ethnic minority participation have been less successful and there is evidence of higher rates of attrition for minorities than non-minorities[20, 21, 22].

Because diversity in the health professions depends on the pipeline of diversity in student populations, studies have concluded that the elimination of affirmative action programs in some educational institutions may significantly reduce the number of minority students who are accepted to health professions education programs and the diversity of the professions[23, 24, 25]. The Association of American Medical Colleges estimates that the US would have 17,000 fewer minority physicians if affirmative action efforts had not been in place[26].

For health professions other than medicine, minority participation varies. While minorities have generally participated in increasing numbers over the past two decades in fields such as dentistry, public health and allied health, they continue to be underrepresented in most health professions[27].

Finding 3

The data indicate that education programs with affirmative action policies can increase the number of minorities in those programs.

Formal affirmative action efforts have been used in the United States to increase female and minority participation in schools of higher education, including professional programs, since the 1960s. Despite evidence of widespread non-compliance and compliance inconsistencies with federal affirmative action guidelines among colleges and universities[28], census data show increases in college participation by women and racial and ethnic minorities. However, minority participation continues to lag behind whites, and has not reached parity with minority representation in the general population[29, 30].

Colleges and universities

The most recent and comprehensive study of efforts to improve minority participation in U.S. universities found that the existence of race sensitive admissions policies dramatically increased the number of minorities who attended college over the past 30 years. To explore the potential impact of abandoning affirmative action in colleges, the authors use race-neutral policy models on 1989 data, and estimate that the probability of a black applicant being admitted to selective institutions would drop from 41.9% to 13%. At these schools, this would translate to reductions in black matriculates as a percentage of all matriculates from 7.1% to 3.6% or less[31].

Professional education generally

Participation by women and minorities in professional training is also tracked[32]. Generally, such participation has increased since 1960 but the strength of the increase varies. Although women are now earning some professional degrees in numbers approximating their representation in the general population, large gaps remain between the percent of racial/ethnic minority participation and U.S. demographics[33]. These data collected by the US Census Bureau use gross measures (by grouping all professional training together and by grouping a number of minority sub-populations together) and do not look at causation.

Medicine

Some professions have pursued more focused data collection and analysis. Medicine for example, relies on standardized and centralized databases that track minority and female participants in medical education[34, 35]. The data, and the analyses based on them[36, 37, 38, 39, 40], consistently show that the participation of women and minorities in medical education and training has increased but not met parity with their numbers in the general population over the past three decades. For example, women made up 42.2% of the total first-year enrollment in medical schools in 1993-94, up from 9.5% in 1960[41]. The percentage of underrepresented minority applicants to medical school increased from approximately 3% to 11% from 1968 to 1995 while the percentage of underrepresented minorities in the general population increased from approximately 15% to 21%[42].

To explore the role of affirmative action efforts, the AAMC modeled the impact that no affirmative action (i.e. requiring minority students to have the same level of MCAT scores and grades as white students) would have had on medical school applicants. Using this model, underrepresented minority acceptances in 1996 would have dropped nationally about 80%, from almost 2000 to less than 400, without affirmative action[43].

In addition to implementing selective admissions policies, some medical schools have also developed "enrichment" programs to increase minority representation in medicine. These programs may include an academic component, preparation for the admission process, career counseling, motivation and mentorship. Literature reviews conducted to evaluate the effectiveness of dozens of such programs for pre-college and undergraduate students suggested that enrichment programs may increase minority participation in medical school education, although study designs have been insufficiently rigorous to make strong causal inferences[44, 45, 46].

Health professions

Though more limited, data tracking for women and racial/ethnic minority participation in health professions education other than medicine do exist. As of the early 1990s, women were equally or over-represented in educational programs for optometry (over 50%), pharmacy (over 60%), veterinary medicine (over 60%), nursing (about 90%), public health (over 60%) and allied health (over 70% for all allied health occupations); they were

underrepresented in programs for dentistry (less than 40%), podiatry (less than 30%) and chiropractic (less than 30%).

Racial and ethnic minorities generally increased their participation in health professions education from the 1970s through the early 1990s. However, with few exceptions, they remained distant from achieving parity with their representation in the general population. Where parity was reached or exceeded, it was within a very few occupations in allied health such as medical assistants or medical record technicians, or was largely due to substantially increased representation by Asians in fields such as dentistry. Blacks, Hispanics and American Indians (including Alaskan Natives) continued to be underrepresented in nearly all of the health professions[47]. Our research identified no empirical studies or modeling efforts that explored the impact of affirmative action in non-physician health professions education.

Law, engineering, business

Similarly, the participation of women and racial and ethnic minorities in education programs for professions such as law and engineering, has increased over the past several decades but remains short of parity with the U.S. population[48, 49].

The role of affirmative action in increasing the law and business school participation of women and minorities has also been explored, though to a limited degree. A comprehensive empirical analysis of the impact of affirmative action on law school admissions used a "numbers only" policy model (replacing affirmative action with exclusive reliance on LSAT scores and undergraduate grade-point averages). Using this model to analyze data for the 1990-91 school year, the number of minority applicants who would be denied access to a legal education would have increased sharply; of the 3435 black applicants who were accepted to at least one law school, only 687 would have been accepted. However, no significant differences were found in the graduation rates and bar passage rates between those minority students who would have been accepted to law schools and those who would not[50].

An analysis of business school admissions found that black and Hispanic applicants were nearly three times as likely as white applicants with comparable records to be admitted, from which the inference can be made that the elimination of race sensitive admission

policies would have a significant impact on minority participation in graduate business schools[51].

Potential negative effects

Empirical evidence regarding possible harm to intended beneficiaries of affirmative action is limited but noteworthy. For example, although critics have suggested that affirmative action policies might have negative impacts on the academic success of students admitted under such policies, the evidence runs contrary. Black dropout rates are lower at selective colleges and universities (those using race-sensitive admissions policies) than at non-selective schools and black dropout rates were found to decrease, while black graduation rates to increase, relative to the level of selectivity at the college. Moreover, blacks who attended selective colleges were just as likely as whites to go on to the most demanding professional schools and to become doctors, lawyers and business executives. In contrast are studies that find that minority students do under-perform academically than their test scores would predict, although the reasons remain elusive[52].

Empirical evidence regarding possible harm to individuals who were not the intended beneficiaries of affirmative action is also extremely limited. Using a model to estimate the impact that race-neutral admissions policies would have at colleges currently using race-sensitive policies, one study found that the overall probability of admission for white students would rise about a point and a half, from 25% to 26.5 %. In sharp contrast under the same model is the predicted decrease in black probability from 41.9% to 13%[53].

Finding 4

Research indicates that educational opportunities benefit both the individuals who receives the education and society overall. Benefits to the individual include enhanced employment, income, health care coverage, and health status; benefits to society include increased civic participation, leadership, professional service and business and economic development on the part of individuals who receive the education.

"Many studies have demonstrated that the human capital built by education generates substantial economic returns."

Bowen and Bok, 1998

Employment

Data indicate a positive correlation between higher levels of education attainment and employment; the more education one has, the less likely one is to be unemployed[54]. This finding applies to the total civilian work force and to groups of people of the same gender or same race. More specifically, increased participation by blacks and Hispanics in higher and professional education since 1960 has resulted in significant increases in the percent of these minorities employed as professionals, executives, managers and administrators[55].

Workforce participation for people of the same education level varies, however, between the sexes and between race/ethnicity classifications. For example, a smaller percentage of blacks with less than a high school diploma was employed than whites with less than a high school diploma[56]. The literature also consistently showed underemployment for minorities compared to non-minorities[57, 58, 59]. In addition, data indicate that from 1983 to 1993, although an increasing share of jobs were high-paying occupations that required college training, the largest numerical growth was in jobs that paid below-average wages and did not require a college education[60].

Income

Data also support the hypothesis that higher education is linked to higher income. Although minorities continue to experience lags in earnings behind non-minorities[61, 62], median family

incomes and individual earnings increase with each higher level of education[63, 64]. Low earnings potential can be exacerbated for individuals with low levels of education. Those with high school or less education actually experienced income declines of approximately 1.4% per year for males and 0.1% for females between 1973 and 1995[65]. The impact of an educational degree can also vary depending on the granting institution. For example, two decades after entering selective colleges (those with race-sensitive admissions policies), black male graduates earned twice the average earnings, and black female graduates 80 percent more, than the average earnings of their respective black male and female counterparts with bachelors' degrees nationwide[66].

Health care coverage

Generally, data indicate that the higher the level of education, the shorter the time someone went without health insurance[67, 68]. Workers with high school or less education were more likely to be uninsured than workers with more education[69]. Another study found a positive relationship between parents' education and health coverage; the higher the education, the more likely children were to be privately insured and the less likely they were to be publicly insured or uninsured[70]. In the private sector, higher benefit levels were correlated with higher educational levels[71].

Health status

Higher educational attainment has also been associated with better health status. Studies have found inverse relationships between education and mortality[72, 73, 74, 75], positive, though complex, correlations between education and general health status[76, 77, 78]; and positive correlations between parental education and children's health status[79, 80, 81, 82, 83]. Guralink and colleagues (1993) found a positive relationship between education and life expectancy[84]. However, a Norwegian study found that occupational status, not education, was the most important and most consistent predictor of ill health[85].

Benefits to society

In addition to evidence regarding the benefits to the intended individual beneficiary of selective admissions policies is evidence regarding benefits to society. One of these benefits, the impact of increasing diversity in health professions education and practice, is explored in

detail below at finding #5. In addition is evidence, for example, that black matriculates at selective colleges, especially men, went on to participate at a higher rate than their white classmates in community and civic efforts and to be leaders in social service, youth, and school-related activities. Moreover, among both black and white individuals who attended selective colleges, there is high support for institutional emphasis on enrolling a diverse student body, suggesting increased mutual understanding of whites and minority students and enhanced ability to live and work together successfully[86].

The tracking of individuals admitted under selective policies at non-health related professional schools such as business, law and engineering for the most part ends with matriculation. There have been few if any national, systematic data collection mechanisms to follow practice patterns of subgroups of business executives and entrepreneurs or lawyers. Compared to the tracking done of minorities in medicine, for example, little if any analysis has been done to compare minority and non-minority lawyers in terms of practice specialties, populations served, and practice sites, much less the impact that any of those choices has on health care or health status of individuals and communities. Testing the hypothesis that people admitted to law school under affirmative action policies might be more likely to start domestic violence clinics, immigrant legal services, or lead-abatement programs—all of which in turn might affect the health status of the clients—remains to be done. The American Bar Foundation did report that, as of 1991, women lawyers remained over-represented in government, legal aid and public defender programs and underrepresented in firms[87].

Education impact on cultural competence

Although evidence of the effectiveness of academic or training programs with cultural competence curricula may exist, no data or studies on this topic were located. Searches in this area may not have been exhaustive; additional searches could be done or additional research could be conducted in this field to either support or refute this finding.

Finding 5

The literature supports a positive relationship between health professions diversity and improved access to health care for traditionally underserved populations.

Lack of access to providers is a significant impediment for many people, especially minorities, seeking to access health care[88, 89]. Health professions diversity may play a role in addressing the problem. The first comprehensive study of the impact of those admitted under affirmative action policies versus those who were not found that significantly more minority physicians practiced in federally-designated, health-manpower shortage areas and worked with more Medicaid recipients than non-minorities[90]. Subsequent studies have confirmed or expanded on this landmark research, finding that minority or female physicians were more likely than white or male physicians to practice in underserved or socioeconomically deprived areas and to care for minority, poor, sicker, Medicaid, uninsured or medically indigent people[91, 92, 93, 94, 95]. One study found that women were more likely to participate in preventive screenings if they saw a female doctor rather than a male doctor[96].

Finding 6

The literature is limited and mixed regarding the impact of health professions diversity on the quality of care provided.

An early study on the impact of affirmative action in medical school admissions policies found that after controlling for race and premedical school performance, board-certified physicians served significantly smaller proportions of Medicaid recipients and minorities in their patient populations[97]. One of the inferences that might be drawn from this finding is that less well-trained physicians tended to treat the poor and members of minority groups. Additionally, minorities and other special consideration medical students tended to have lower Medical College Admission Test scores and grade point averages[98, 99, 100]. One study found that race, not economic disadvantage, was the major factor in UC medical school admissions that resulted in admitting students who were "less qualified" as measured by standardized tests and grade point averages[101].

However, a study of post-graduation experiences revealed no differences in completion of residency training, evaluation of performance by residency directors or selection of primary care disciplines[102], which allowed the authors to conclude that there was no evidence of affirmative action efforts diluting the quality of medical school graduates. The Association of American Medical Colleges relied on their own data as well as other studies to conclude that the graduation and medical licensure examination rates for under-represented minorities compare favorably to those of non-minorities[103].

The Council on Graduate Medical Education has discussed the role and importance of health professions diversity in improving quality of health care through cultural competency and sensitivity to specific population issues[104]. In addition, several studies have been conducted regarding language concordance between physicians and patients[105, 106, 107, 108]. However, we found no scientific research or data specifically addressing the effect of health professions diversity on culturally competent health care.

Finding 7

The literature regarding the impact of affirmative action policies on minority employment and contracting, though largely limited to the public sector, generally indicates some positive impact. However, there is also evidence of inconsistencies in impact across minority groups as well as persistent discrimination.

Employment

Increased female and minority participation in professional, managerial and executive jobs has paralleled the implementation of affirmative action policies in employment and education since the 1960s[109, 110, 111]. These data also indicate that certain minority groups and women continue to be underrepresented in most professions while over-represented in lower wage occupations.

Several studies have found that affirmative action efforts in employment have increased minority and female employment and decreased the earnings gaps between some groups[112, 113, 114]. There is also evidence, however, that employment in positions with vertical growth potential has not been realized. For example, black executives were found to have been funneled into "racially-oriented" positions that limited their upward mobility[115]. In addition, companies continue to exhibit wide ranges in percentages of minority employees, minority representation at various occupational levels and number of diversity programs, all of which makes them more or less hospitable to minority job applicants[116].

Contract awards

Government contracts for business forms the third major area (after education and employment) of affirmative action in the United States. Examples of affirmative action contracting programs can be found in preferential procurement programs, set-asides, and "8(a)" programs (designed for firms designated by the Small Business Association as small companies worth less than $250,000 and considered "socially disadvantaged"). They can be found at federal, state and local levels.

Despite affirmative action efforts and impacts, numerous studies showed that at least some of these efforts were ineffective in eliminating the discrimination that adversely affects minority contracting and business enterprises[117, 118, 119, 120, 121]. Additional studies focused on

the relatively minor roles that contract awards played in business success or failure[122, 123, 124]. One study that used disparity and regression analyses of contract awards for the Louisiana Department of Transportation and Development found only week, ambiguous evidence of discrimination and thus argued against the need for affirmative action programs. Several other disparity studies confirmed the presence of discriminatory practices[125]. Minority business enterprises have also been found to experience disparities in contract award dollars, be overutilized in small contracts, and underutilized in large contracts relative to non-minority business enterprises[126].

Estimates of the impact of the 1989 decision, *Richmond v. J.A. Croson Company*[127], which resulted in much more stringent criteria for governmental set-aside programs, have ranged broadly. One study estimates that between 564 and 1394 set-aside programs were affected by the Court's decision[128] while another study found that "dollars spent on minority business enterprises had not declined one year after *Croson*"[129].

In California, during the 1996-1997 fiscal year, overall minority, women, and disabled veterans business enterprise (M/W/DVBE) participation totaled $125 million, or 21% of the state's Department of General Services' (DGS) total contracting of $591 million. MBE participation was $67.5 million or 11.4% of DGS contract dollars (falling short of the 15% goal) and WBE participation was $46.5 million or 7.9% (exceeding the 5% goal)[130].

Finding 8

Most available data support positive correlations between employment and income and between employment and health care coverage.

Income

Significant amounts of data indicate that employment provides benefits to the employed individual. Employment remains one of the primary means of collecting income[131, 132]. However, studies show that earning differentials among gender, race, ethnic and class populations persist[133, 134, 135]. These inequalities can also be found in specific sectors such as the health fields[136], and private small business enterprises[137]. Moreover, poverty and employment may co-exist for individuals and their families. In 1993, for example, 597,000 health care employees were estimated to live in poverty[138].

Health care coverage

Employment status is also closely linked to health care coverage in this country although employment alone does not guarantee coverage. During a 28-month period beginning in early 1992, 87% of full-time workers had continuous health insurance, compared to 74% of part-time workers, and 58% of workers with one or more job interruptions[139]. Parental employment is also closely linked with children's health coverage[140, 141].

Among employed workers, significant differences in health care coverage have been found depending on one's race or ethnicity[142, 143]. Differences in employee coverage may also be found to depend on size of firm[144, 145, 146]. Workers in firms with fewer than 500 employees were significantly less likely to have an employer's health plan than workers in firms with more than 500 employees[147]. The percent of health care workers without health coverage increased from 9% in 1989 to 11.7% in 1993; the percent of health care workers who received any employer contribution toward health insurance decreased from 62.9% in 1989 to 57.2% in 1993[148].

Health status

Employment can be directly associated with health status. A comprehensive Netherlands study found a strong interrelationship between employment status, income and health[149]. Moreover, lack of employment, certain types of employment, low job status, and job strain

are risk factors for poor health and mortality[150, 151, 152, 153, 154, 155]. One recent study found that increasing unemployment levels were correlated with decreasing rates of detecting breast cancer at earlier stages, particularly for African American women[156]. Parental employment status is also linked to children's health status; children in families with unemployed parents were less likely to be in excellent health and more likely to be in fair or poor health than families with either one or two working parents[157].

Despite these demonstrated correlations between employment and health status, we are unaware of significant data or research specifically regarding an *individual's* change in health status after that person obtains or loses employment. Such research would add considerably to the discussion.

Finding 9

The literature demonstrates a positive correlation between income and health status regardless of race, ethnicity or gender.

Significant amounts of empirical evidence, a sampling of which is provided here, indicate both direct and indirect links between income level and health status. Generally, the higher the income, the better the health status and the lower mortality rates[158, 159, 160]. Poor individuals were significantly more likely than middle or high income individuals to report fair or poor health status or an unmet health care need; individuals with low family incomes died at younger ages than those with higher incomes[161].

The inverse relationship between mortality and socioeconomic status not only persisted but also strengthened between 1960 and 1986[162]. After controlling for other socioeconomic indicators, the association between income and health has also been found to be stronger than that between occupation or education and health[163]. At the same time, the complexity and interaction of various factors including education, income, poverty, employment, and marriage status on health status has been recognized and explored[164, 165, 166]. Income has also been correlated with specific health conditions and diseases; it is one of several significant predictors of late-stage breast cancer[167]. An investigation of cumulative economic hardship on health status concluded that sustained economic hardship led to poorer physical, psychological, and cognitive functioning[168].

Family income has been correlated with children's health in particular. Family income has been found to be inversely related to infant mortality rates[169, 170]. Children from lower income families report a greater number of health problems, experience them more severely, and report lower overall health than children from high-income families[171]. While low family income and poverty was a consistent risk factor for poor health status, racial discrepancies have persisted in all income groups[172, 173, 174].

Positive correlations between income and education[175, 176], health care coverage[177, 178, 179, 180, 181, 182] and financial or provider access[183, 184, 185, 186] have also been documented. As discussed elsewhere in this report, education, health care coverage and access to health care have all been linked to the health status of individuals or communities.

Finding 10

The literature shows that race, ethnicity and gender are directly associated with health status. Race, ethnicity and gender are also indirectly associated with health status through mediating factors such as employment, education, income and health care coverage.

For this report, we provide only a few examples of the numerous research studies and data collection efforts that have been undertaken to explore the connections between one's race, ethnicity or gender and health status. People of different races and ethnic backgrounds experience different infant mortality rates in the United States[187]. Life expectancy rates vary by race, ethnicity and sex[188]. Disease, illness and health are experienced differently depending on one's race, ethnicity or gender[189, 190, 191]. In addition, the most recent research documents race and gender-based bias in health care that cannot be fully explained by differences in health insurance or socioeconomic status[192].

Rates of employment and levels of education and income are also correlated with race, ethnicity and gender[193]. In-depth studies illuminate persistent discrepancies. For example, an analysis of California private sector wages and earnings since employment-based affirmative action policies were implemented found ongoing gaps across race, ethnicity and gender. Moreover, although the wage and earning gap between White men and three groups of minority men declined in the 1960s, groups were affected differently with only Asian American men closing the gap. African-American men made no more progress in closing the gap after the 1970s while Hispanic men experience an increasing gap during both the 1970s and 1980s[194].

For individuals in the same earnings quartile, health insurance coverage rates were lower for blacks and Hispanics than for non-blacks and non-Hispanics[195]. In a study of workers with employer-based health coverage, minorities holding jobs comparable to those of whites had a disproportionately lower rate of health insurance[196].

CONCLUSION and RECOMMENDATIONS

Although women and minority participation has not reached parity with representation in the general population, selective admissions and hiring policies have resulted in expanded opportunities for many. As shown by the evidence, such educational and employment opportunities are correlated with benefits to the individual and to the community. Benefits to the individual include higher levels of education, higher rates of employment, better income, and increased rates of health care insurance coverage, all of which in turn have positive effects on one's health status. Benefits to the community include higher levels of diversity among medical practitioners, which in turn are linked to better access to health care for minority patients. They may also include benefits such as increased civic participation and economic development, the impacts of which on community health remain to be assessed.

The findings in this report provide a broader approach to exploring the impacts of affirmative action on health than has been used to date. They also highlight the need to conduct additional data collection and research. This includes questioning why significant differences in health status and health care remain between the genders, races and ethnic groups in this country and assessing whether past and current affirmative action efforts offer the best means to address those disparities. Based on the report's findings, recommendations in three broad arenas—policy, research and information dissemination—are provided below as appropriate next steps.

Policy recommendations

In some areas, significant research has been conducted and the findings are consistent. In these areas, policy actions should be taken:

- Educational programs, including health professions schools, seeking to increase the diversity of their student populations can rely on affirmative action efforts as one tool to achieve this goal.
- Legislators, courts and policy makers should rely on scientific data and the research literature when available to make decisions regarding affirmative action efforts.

- Access to relevant data sources should be ensured; this may mean providing incentives to private sector entities to release proprietary information regarding affirmative action efforts.
- Because improved socioeconomic status (indicated for example by education, employment and income) appears to be correlated with improved health status, efforts to improve socioeconomic status should be supported.

Research recommendations

In some of the areas reviewed, the literature is inconclusive and there are numerous potential links and relationships between affirmative action and health status that have not been adequately researched. There are likely numerous potential relationships that may have been documented or researched but were beyond the scope of this project. To more fully explore the connections between affirmative action and health, additional data should be collected and research should be conducted.

Expand data collection, tracking and availability in the following areas:

- Governmental data collection and classification to better track demographic, labor, education and health trends in minority sub-populations, including development of better indicators of social class;
- Development and maintenance of standardized and centralized databases to track the participation of minorities and women in all professional education, as has been done for medical education; and
- Publication of data, trends and studies regarding private sector affirmative action efforts.

Conduct more research and analysis in the following areas:

- The connection between health professions diversity and culturally competent health care;
- Assessments of the impact of health professions diversity and culturally competent health care on the quality of health care delivered;

- The impact of recent changes—through state constitutional amendments, statute or legal decision—to the laws regarding affirmative action efforts on minority participation in education programs and the workforce;
- Employment and practice patterns of graduates of health professions programs, including comparisons between minorities and non-minorities;
- The effect of alternatives to affirmative action efforts, such as academic outreach programs and cultural competency training, that seek to accomplish some of the same goals as affirmative action; and
- Longitudinal studies on changes in health status for individuals and communities that have been affected by affirmative action efforts.

Information dissemination recommendation

To help inform important debates and discussions about both affirmative action and health—and the possible connections between them—the findings in this report should be disseminated to policy makers, professional and educational leaders, and the public.

Epilogue

As this report goes to print, relevant research continues to be published. For example, a report by the Center for California Workforce Studies at the University of California, San Francisco, documents dramatic reductions in the number of underrepresented minorities who are applying to, gaining admission to, and matriculating in medical schools in California since the decision of the Regents of the University of California to end selective admissions for racial and ethnic minorities in 1995 and the passage of Proposition 209 in 1996[197]. Such research underscores the changing definitions, uses and impacts of affirmative action on health in the United States. It also highlights the importance of ongoing research and analysis of affirmative action and its relation to health.

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