

Executive Summary: Health Impact Review of SB 6406

Restoring the fair treatment of underserved groups in public employment, education, and contracting
(2017-2018 Legislative Sessions)

Evidence indicates that SB 6406 has the potential to result in public institutions of higher education using race-conscious admissions and public employers using race-conscious hiring, which has the potential to increase the representation of people of color in higher education and public employment, which has the potential to improve health outcomes and decrease health inequities.

BILL INFORMATION

Sponsors: Senators Chase, Hasegawa, Saldaña, McCoy, Wellman, Keiser, and Kuderer

Summary of Bill:

- Repeals RCW 49.60.401, Discrimination, preferential treatment prohibited. Approved in 1998 as Initiative 200 (I-200), language prohibits discrimination and preferential treatment to any individual on the basis of race, sex, color, ethnicity, or national origin in the operation of public employment, education, or contracting.

HEALTH IMPACT REVIEW

Summary of Findings:

This Health Impact Review found the following evidence regarding the provisions in SB 6406:

Pathway 1: Higher Education

This review makes an informed assumption that repealing I-200 would result in some public institutions of higher education implementing race-conscious admissions policies as part of holistic applicant reviews. This informed assumption is based on discussions with key informants, evidence from Texas, and publicly available information from the University of Washington.

- **Strong** evidence that the use of race-conscious admissions by public institutions of higher education would likely result in increased representation of people of color in applications, admissions, and enrollment at these institutions.
- **A fair amount** of evidence that increased representation of people of color in enrollment at public institutions of higher education would increase diversity of the healthcare workforce.
- **Very strong** evidence that increased diversity in the healthcare workforce would likely result in improved access to and quality of healthcare for communities of color.
- **Very strong** evidence that increased access to and quality of healthcare for communities of color would result in improved health outcomes for communities of color.
- **A fair amount** of evidence that increased representation of people of color in enrollment at public institutions of higher education would likely result in increased educational attainment of those affected.
- **Very strong** evidence that increased educational attainment of people of color would increase the earning potential for those affected.
- **Very strong** evidence that increased earning potential would likely result in improved health outcomes.
- **Very strong** evidence that increased educational attainment of people of color would result in improved health outcomes for those affected.

Pathway 2: Public Employment

This review makes an informed assumption that repealing I-200 would result in some public employers implementing race-conscious hiring policies as part of holistic applicant reviews.

- **A fair amount** of evidence that using race-conscious hiring would likely increase representation of people of color working in public employment.
- **A fair amount** of evidence that increased representation of people of color in public employment would result in increased access to health insurance for those affected.
- **Very strong** evidence that increased access to health insurance would result in improved health outcomes for those affected.
- **Very strong** evidence that improved health outcomes for those affected would likely result in decreased health inequities experienced by American Indian/Alaska Natives, Asians and Pacific Islanders, Black/African Americans, and Hispanic/Latinos.

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Health Impact Review of SB 6404

Restoring the fair treatment of underserved groups in public employment, education, and contracting

(2017-2018 Legislative Sessions)

October 31, 2018

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Acknowledgement

We would like to thank the key informants who provided consultation and technical support during this Health Impact Review.

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Introduction and Methods

A Health Impact Review is an analysis of how a proposed legislative or budgetary change will likely impact health and health disparities in Washington State ([RCW 43.20.285](#)). For the purpose of this review ‘health disparities’ have been defined as the differences in disease, death, and other adverse health conditions that exist between populations ([RCW 43.20.270](#)). This document provides summaries of the evidence analyzed by State Board of Health staff during the Health Impact Review of Senate Bill 6406 ([SB 6406](#)) from the 2017-2018 legislative sessions.

Staff analyzed the content of SB 6406 and created a logic model depicting possible pathways leading from the provisions of the bill to health outcomes. We conducted an objective review of the literature for each pathway using databases including PubMed, Google Scholar, and University of Washington Libraries. More information and detailed methods is available upon request.

Since there is limited research on the impacts of affirmative action bans on public employment and limited information about whether institutions of higher education and state government would use race-conscious admissions or hiring (respectively) if I-200 were repealed, we conducted key informant interviews to gather additional supporting evidence. In total, we conducted 12 key informant interviews with researchers from across the country and with relevant Washington State staff. A full list of key informants is available upon request.

Interviews were conducted within time and process constraints. The primary intent of key informant interviews was to gather supporting evidence and to understand how repealing I-200 would impact institutions of higher education and state agencies in Washington State. Interview questions were tailored to provide the most information and focused on current changes in federal affirmative action policies and potential impacts of repealing I-200 in Washington State. We also solicited additional data, research, and reports. Interviewees were selected purposively, with emphasis on key researchers identified through the literature review and relevant Washington State staff. Since we did not intend to gather all potential viewpoints or understand all possible impacts of the repeal, results should not be construed as comprehensive or representative of all perspectives. Detailed methods are available upon request.

The following pages provide a detailed analysis of the bill including the logic model, summaries of evidence, and annotated references. The logic model is presented both in text and through a flowchart (Figure 1). The logic model includes information on the strength of the evidence for each relationship. The strength-of-evidence has been defined using the following criteria:

- **Not well researched:** the literature review yielded few if any studies or only yielded studies that were poorly designed or executed or had high risk of bias.
- **A fair amount of evidence:** the literature review yielded several studies supporting the association, but a large body of evidence was not established; or the review yielded a large body of evidence but findings were inconsistent with only a slightly larger percent of the studies supporting the association; or the research did not incorporate the most robust study designs or execution or had a higher than average risk of bias.
- **Strong evidence:** the literature review yielded a large body of evidence on the relationship (a vast majority of which supported the association) but the body of evidence did contain some contradictory findings or studies that did not incorporate the most robust study designs or execution or had a higher than average risk of bias; or there were too few studies to reach the rigor of ‘very strong evidence’; or some combination of these.

- **Very strong evidence:** the literature review yielded a very large body of robust evidence supporting the association with few if any contradictory findings. The evidence indicates that the scientific community largely accepts the existence of the association.

This review was subject to time constraints, which influenced the scope of work for this review. The annotated references are only a representation of the evidence and provide examples of current research. In some cases only a few review articles or meta-analyses are referenced. One article may cite or provide analysis of dozens of other articles. Therefore the number of references included in the bibliography does not necessarily reflect the strength-of-evidence. In addition, some articles provide evidence for more than one research question so they are referenced multiple times.

Analysis of SB 6406 and the Scientific Evidence

Summary of relevant background information

- Affirmative Action was first defined by the Kennedy Administration's Executive Order 10925 in 1961. The order required government contractors to “take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin.”^{1,2} This definition was expanded in 1965 to include sex as well.²
- In 1998, Washington voters passed Initiative Measure No. 200 (I-200) becoming the second state to ban the use of affirmative action in public education, public employment, and public contracting.³
- [RCW 49.60.400](#) states, “The state shall not discriminate against, or grant preferential treatment to, any individual or group on the basis of race, sex, color, ethnicity, or national origin in the operation of public employment, public education, or public contracting.”³
- Arizona (2010), California (1996), Florida (1999), Michigan (2006), Nebraska (2008), New Hampshire (2011), Oklahoma (2012), and Washington (1998) currently ban the use of affirmative action in public education, public employment, and public contracting.⁴ To date, no state affirmative action ban has been repealed.

Higher Education

- Affirmative action policies and practices have been clarified and decided on in the courts. Relevant judicial rulings related to the use of affirmative action in higher education include:
 - *Regents of the University of California v. Bakke* (1978)—The Supreme Court of the United States (SCOTUS) applied *strict scrutiny*, a legal test that “requires an institution have a compelling interest in the policy and that the policy be implemented in a way that is ‘narrowly tailored’ to that interest.”⁵ The decision rejected all but one of the university’s justifications for a compelling interest: the educational benefits of diversity.⁵ The Court determined that schools do have the right to use race and ethnicity as a “plus factor” on top of other considerations for admission.⁶
 - *Hopwood v. University of Texas Law School* (1996)—The U.S. Court of Appeals for the Fifth Circuit suspended the University of Texas Law School’s affirmative action admissions program. The ruling extended to universities in Mississippi and Louisiana. In 1997, the decision was extended to prevent the consideration of race in areas beyond admissions (e.g., financial aid, scholarships, fellowships, recruitment, and retention).⁷
 - *Grutter v. Bollinger* (2003)—In a 5-4 decision, SCOTUS ruled that race could be used as one of several factors in professional school admissions. It found the University of Michigan Law School’s policy which considered race in addition to other factors, with no quota or predetermined weight, was constitutional and appropriate “to further a compelling interest in obtaining the educational benefits that flow from a diverse student body.”⁸ Thus, reversing the *Hopwood* decision.
 - *Gratz v. Bollinger* (2003)—SCOTUS deemed the University of Michigan’s undergraduate admissions policy (i.e., to assign extra points to underrepresented students based on race and determine admissions status based on cumulative point totals) was unconstitutional as it was too mechanical and failed to consider the individual’s contribution to the educational environment.⁸⁻¹⁰

- *Fisher v. University of Texas at Austin* (2013)—SCOTUS held the University’s race-conscious admissions program in use at the time of the petitioner's application was lawful under the Equal Protection Clause. Evidence shared throughout the case demonstrated that race-neutral admission efforts had not “provided education benefits of a diverse student body...to all of the University's undergraduate students.”⁸ The Court determined “it is the University's ongoing obligation to engage in constant deliberation and continued reflection regarding its admissions policies.”⁸
- *Currently at trial* (October 2018): Students for Fair Admissions (SFFA), a non-profit organization that opposes the use of affirmative action, filed lawsuits against Harvard University (2015) and University of North Carolina (2017) for their use of race-conscious admissions.^{5,11,12} SFFA alleges Harvard University admissions policies discriminate against Asian students. The *SSFA v. Harvard* case began trial in the U.S. District Court for the District of Massachusetts on October 15, 2018.¹³ The ruling is expected to be appealed and heard by SCOTUS.
- Relevant executive branch actions related to affirmative action:
 - U.S. Department of Justice (DOJ), Office for Civil Rights Division redirected agency resources to investigate claims of discrimination at institutions that employ race-conscious admissions policies.⁵
 - DOJ re-opened the investigation of a complaint filed by a Chinese American student against Harvard University, a complaint that the U.S. Department of Education had previously evaluated and dismissed in 2015.⁵
 - U.S. Department of Education rescinded guidance on race-conscious admissions issued during the Obama administration and provided guidance that discourages the use of constitutionally permissible race-conscious policies in postsecondary admissions.⁵

Public Employment

- Relevant policies related to the use of affirmative action in public employment include:
 - *Executive Order 10925* (1961)—President John F. Kennedy required federal government contractors to take affirmative action based on race, creed, color, and national origin, and established the federal Committee on Equal Employment Opportunity.²
 - *Civil Rights Act* (1964)—Title VII of the Civil Rights Act made it illegal to discriminate on the basis of race and gender in hiring, firing, compensation, and any other terms of employment.²
 - *Executive Order 11246* (1965)—President Lyndon B. Johnson clarified the definition of affirmative action, specified that the goal was to actively improve the employment status of minorities, extended policies to include women, required federal contractors to prepare annual affirmative action plans outlining hiring and recruitment efforts, and outlined penalties for non-compliance.²
 - *Washington State Executive Order 12-02* (2012)—Governor Christine O. Gregoire required that all Washington State cabinet agencies and boards and commissions develop and implement diversity recruitment, hiring, development, and retention strategies.¹⁴ The order stated, “it is the policy of Washington State to proactively build a diverse, inclusive, and culturally competent workforce by eliminating barriers to growth and opportunity, allowing each employee to contribute his or her full measure of talent, and building our capacity to

deliver innovative, effective, and culturally relevant services to all the people of Washington.”¹⁴

- [WAC 357-25: Affirmative Action](#)—Outlines the function of the state affirmative action program and the process of state affirmative action reporting. The chapter was established in 2005, and last updated in 2018. The purpose of the chapter is “to provide guidance to employers on affirmative action regarding the development and implementation of affirmative action goals and the monitoring of progress toward those goals.”¹⁵ While agencies may be required to report additional demographic data, affirmative action tools (e.g., efforts to recruit or screen potential candidates by demographic factors) may only be used to increase the representation of persons with disabilities, Veterans, and persons over age 40 if it is determined that these groups are underrepresented in a particular job group.¹⁵

Summary of SB 6406

- Repeals RCW 49.60.401, Discrimination, preferential treatment prohibited. Approved in 1998 as Initiative 200 (I-200), language prohibits discrimination and preferential treatment to any individual on the basis of race, sex, color, ethnicity, or national origin in the operation of public employment, education, or contracting.

Health impact SB 6406

Evidence indicates that SB 6406 has the potential to result in institutions of higher education using race-conscious admissions and public employers using race-conscious hiring, which has the potential to increase the representation of people of color in higher education and public employment, which has the potential to improve health outcomes and decrease health inequities.

Pathways to health impacts

The potential pathways leading from the provisions of SB 6406 to decreased health inequities are depicted in Figure 1.

Pathway 1 represents the most direct pathway between the provisions in the bill, higher education, and health outcomes. This review makes the informed assumption that repealing I-200 would result in some public institutions of higher education implementing race-conscious admissions policies as part of holistic applicant reviews. This informed assumption is based on discussions with key informants, evidence from Texas,^{16,17} and publicly available information from the University of Washington.^{18,19} There is strong evidence that the use of race-conscious admissions by public institutions of higher education would likely result in increased representation of people of color in applications, admissions, and enrollment at these institutions.^{9,16,17,20-24} A fair amount of evidence exists that increased representation of people of color in enrollment at public institutions of higher education would increase diversity of the healthcare workforce.²⁵⁻²⁸ There is very strong evidence that increased diversity in the healthcare workforce would likely result in improved access to and quality of healthcare for communities of color.^{25,26,28-33} There is also very strong evidence that increased access to and quality of healthcare for communities of color would result in improved health outcomes for those communities.^{29,33-35} A fair amount of evidence exists that increased representation of people of color in enrollment at public institutions of higher education would likely result in increased educational attainment of those affected.^{9,17,36-40} There is very strong evidence that increased educational attainment of people of color would increase the earning potential for those affected.⁴¹⁻⁴⁴ There is very strong

evidence that both increased earning potential^{41,45-56} and increased educational attainment of people of color would result in improved health outcomes for those affected.^{41,45,46,48,50,53,57-61}

Pathway 2 represents the most direct pathway between the provisions in the bill, public employment, and health outcomes. This review makes the informed assumption that repealing I-200 would result in some public employers implementing race-conscious hiring policies as part of holistic applicant reviews. This informed assumption is based on discussions with key informants. There is a fair amount of evidence that using race-conscious hiring would likely increase representation of people of color working in public employment.^{1,2,62,63} There is also a fair amount of evidence that increased representation of people of color in public employment would result in increased access to health insurance for those affected.⁶⁴⁻⁶⁷ Very strong evidence exists that increased access to health insurance would result in improved health outcomes for those affected.^{33,34,68,69}

Finally, there is very strong evidence that improved health outcomes for those affected would likely result in decreased health inequities experienced by American Indian/Alaska Natives (AI/ANs), Asians and Pacific Islanders, Black/African Americans, and Hispanic/Latinos.^{48,50,70,71}

Due to time limitations, we only researched the most direct connections between the provisions of the bill and decreased health inequities and did not explore the evidence for all possible pathways. For example, potential pathways that were not researched include:

- Evidence for how repealing I-200 might influence public contracting. In 2015, Governor Jay Inslee created the Governor’s Business Diversity Subcabinet to improve the diversity in Washington State contracting. As a part of this effort, the state is conducting a statewide disparity study to evaluate whether minority-, women-, and veteran-owned businesses have equal access to contracting opportunities in the state. The study will also evaluate barriers and recommend solutions. As a result of this comprehensive disparity study, and at the request of Senator Hasegawa who requested this review, we scoped out impacts on contracting from this analysis.
- Evidence for how repealing I-200 might affect K-12 education.
- Evidence related to the educational value and workplace value of diversity.

In addition, while affirmative action policies have historically sought to increase representation by race/ethnicity and sex, this review focuses primarily on the impacts of affirmative action policies and outcomes on communities of color since women typically experience better health outcomes than men.^{50,70,71}

Magnitude of Impact

In 2016 the total population of Washington State was 7,073,146.⁷² Approximately 77% of people living in Washington were white, 12% were Hispanic/Latino, 7.8% were Asian, 3.6% were Black/African American, 1.3% were American Indian/Alaska Native (AI/AN), and 0.6% were Native Hawaiian/Pacific Islander.⁷²

Higher education

State bans on affirmative action decreased representation of underrepresented minority students (African American, AI/AN, and Hispanic/Latino) in higher education.^{22,25,73,74} Immediately following I-200, representation of students of color decreased in applications and admissions at University of Washington (UW).^{1,16} There are limited publically-available data and analyses about the long-term impacts of I-200

on student enrollment at public institutions of higher education in Washington State. Although we cannot predict the magnitude of impact, we anticipate that repealing I-200 would increase representation of underrepresented minority students in enrollment at public institutions of higher education in Washington State.

Currently, for the fall 2018 quarter, UW enrolled 47,392 students at their main campus in Seattle, including undergraduate, graduate, professional, and non-matriculated students.⁷⁵ Approximately 42.1% of students were white, 24.9% were Asian, 7.5% were Hispanic/Latino, 3.9% were African American, 1.2% were American Indian, and 0.9% were Hawaiian/Pacific Islander.⁷⁵ Approximately 54% of students were women, and 60% of students were from Washington State.⁷⁵ For the same time period, Washington State University (WSU) enrolled 21,022 students at their main campus in Pullman, and 29.8% were students of color, 49.7% were women, and 74% were from Washington State.⁷⁶

Public employment

State bans on affirmative action decreased representation of people of color (African American, AI/AN, Asian, and Hispanic/Latino) in public employment.⁷⁷ There has not been any research looking at the impact of I-200 on public employment in Washington State. Although we cannot predict the magnitude of impact, we anticipate that repealing I-200 would increase representation of people of color in public employment in Washington State.

Currently, in Washington State, persons of color account for 19.6% of state employees in the executive branch of state government.⁷⁸ This percentage has remained approximately the same for the past five years (range 18.7% to 20.2%).⁷⁸ Of executive branch employees, 80% are Caucasian/Not Assigned; 7% are Asian and Pacific Islander; 6% are African American; 5% are Hispanic/Latino; and 2% are AI/AN.⁷⁸ Asians and Hispanics/Latinos are underrepresented in state government compared to state demographics overall.⁷² People of color and women were also underrepresented in management positions. For example, approximately 20% of non-managers were people of color, compared to 14% of managers.⁷⁹ Overall, the current Washington State workforce is similar in diversity to the private sector in the state, though people of color were slightly less represented in public employment.¹

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Logic Model

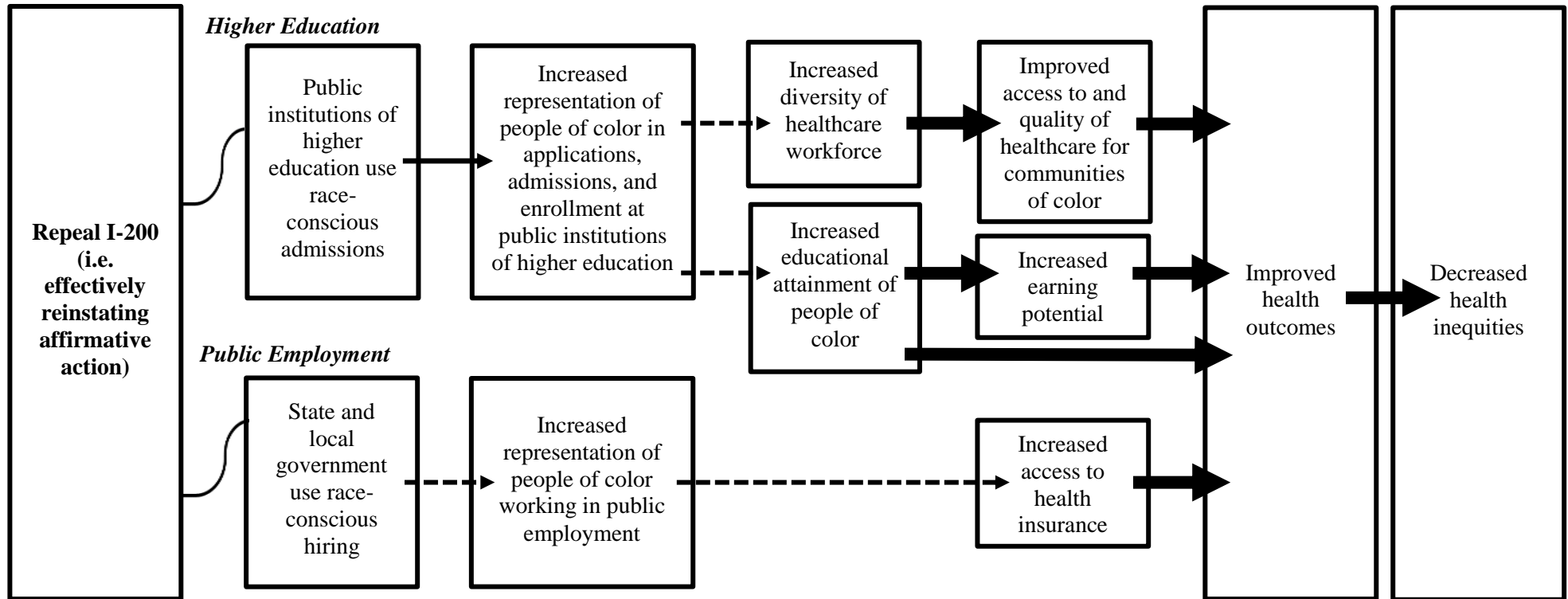
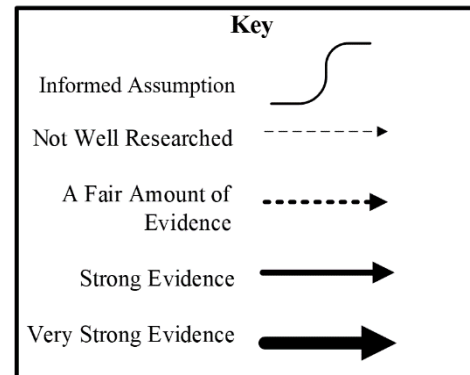


Figure 1
Senate Bill 6406
Restoring the fair treatment of underserved groups in public employment, education, and contracting



Summaries of Findings

Higher Education

Will repealing Initiative I-200 result in public institutions of higher education using race-conscious admissions?

We have made the informed assumption that repealing I-200 would result in some public institutions of higher education using race-conscious admissions. Texas is the only state in which a race-conscious admissions ban was established and subsequently lifted. The *Hopwood* (1996) judicial ruling suspended the University of Texas Law School's affirmative action admissions program. However, the judicial ban was overturned by the *Grutter v. Bollinger* (2003) decision, thereby providing public universities in Texas the opportunity to use race-conscious admissions policies. In 2004, the University of Texas at Austin (UT-Austin) chose to reinstate a race-conscious admissions program, while Texas A&M University (Texas A&M) did not.¹⁶ Evidence from Texas indicates that lifting affirmative action bans may prompt some highly selective public universities to implement race-conscious admissions policies.^{16,17}

As the state's two public research universities, the University of Washington (UW) and Washington State University (WSU) represent the most selective public universities in the state and the only two public institutions with schools of medicine. For example, recent data indicate that undergraduate admission to UW has become increasingly competitive,^{80,81} and the acceptance rate to UW's medical school is roughly 20.4% for Washington, Wyoming, Alaska, Montana, and Idaho applicants and 0.6% for out-of-region applicants.⁸² Evidence indicates that highly selective universities are more likely to use race-conscious admissions than less selective schools because there is greater demand for enrollment than there is supply of enrollment slots. In a 2018 letter to the Chair and Members of the Washington State Senate Committee on State Government, Tribal Relations, and Elections, UW President Ana Mari Cauce explained that I-200 "hampers [UW's] ability to attract and enroll the strongest students from underrepresented backgrounds, who are so highly sought after by other [public and private] universities because having a diverse student body creates a richer learning environment for all students."¹⁸

Based on publicly available information from UW, the letter from President Cauce, other public statements by President Cauce, and the fact that the UW Law School defended its use of affirmative action in *Smith v. University of Washington, Law School* (2004),¹⁹ this review makes the informed assumption that, if provided the opportunity, UW would likely implement a race-conscious admissions policy. It is unclear whether other public institutions of higher education in Washington would implement race-conscious admissions.

Will using race-conscious admissions at public institutions of higher education result in increased representation of people of color in applications, admissions, and enrollment at these institutions?

There is strong evidence for the association between race-conscious admissions and increased representation of people of color at each stage of the admissions process. The majority of recently published higher education affirmative action literature focuses on the consequences of states implementing affirmative action bans^{7,22,25,73,74} and evaluating the effectiveness of holistic, race-neutral admissions approaches in increasing student body diversity.^{9,17,21}

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A 2006 study examined the effects of Washington State's I-200 on applications received from, admissions extended to, and enrollment in four-year universities among underrepresented minority (URM) students (African American, Hispanic/Latino, and AI/AN students).²⁰ Authors found both absolute declines (2% to 3%) in the number of first-year students of color in 1999 compared to 1998 and relative declines (14% to 16%) following the ban.²⁰ Declines in enrollment of URM students were most pronounced at public colleges in the state, particularly at research universities, and the largest declines occurred at UW.²⁰ In 1998, "the admission rates of the underrepresented minorities were slightly higher (82% for American Indians, 87% for Hispanics, and 84% for African Americans) than for whites (79%)."²⁰ Following the passage of I-200, the admission rates of African American students from Washington State decreased 14 percentage points (84% in 1998 to 70% in 1999), and other URM populations experienced smaller declines.²⁰ Both whites and Asians experienced a modest rise in admission rates.²⁰ Data also show high school students of color were less likely to apply to UW immediately following the passage of I-200, but applications received rebounded modestly in 2001 to 2003.²⁰ This pattern suggests a "discouragement" effect for all applications by students of color following an affirmative action ban. Authors concluded that the decrease in URM enrollment occurred in large part due to a drop in applications from these students, many of whom were strong candidates for admission.²⁰ Authors noted, "the finding that affirmative action programs can affect [URM] application rates stands in contrast to the standard interpretation that affirmative action programs are important only because of their presumed effect on admission rates."²⁰

Previous research in Florida, Michigan, Texas, and Washington showed that affirmative action bans have reduced the enrollment of students of color in various educational settings, notably in undergraduate, law, and medical school enrollment.²¹ For example, one study examined medical school matriculation data from 1993 to 2011. Researchers looked at differences in matriculation at medical schools before and after the implementation of bans (n=27 medical schools) as well as differences in matriculation at medical schools in states that banned affirmative action (n=27 medical schools) and states that did not (n=78 medical schools).²⁵ For public medical schools, the authors found a statistically significant decline in the matriculation of students of color than would have been expected if no bans had been in place. Overall, they found that affirmative action bans in six states resulted in a 3.2 percentage point decline (17.2% decline overall) in matriculation of students of color into public medical schools.²⁵

Additional evidence indicates that holistic, race-neutral applicant reviews are less effective than direct affirmative action at increasing student body diversity.^{9,22-24} One study used data from UT-Austin and Texas A&M to examine the application, admission, and enrollment consequences of rescinding affirmative action and implementing Texas' Top Ten Percent Plan (Top 10%).²³ Under the Top 10%, the Legislature requires that 75% of enrollment slots be reserved for students who graduated in the top 10% of their Texas high school graduating class (actually top 7-8% of class).⁸ The remaining 25% of enrollment slots are filled using holistic applicant review, which prior to the *Grutter v. Bollinger* (2003) ruling could not consider race/ethnicity as a factor. Researchers conducted simulations of gains and losses at each stage of the college pipeline across admission approaches (i.e., affirmative action [1993-1996]; no policy [1997]; Top 10% [1998-2003 at UT-Austin], [1998-2002 at Texas A&M]). Simulated gains and losses for

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Hispanics and blacks confirm that affirmative action is the most efficient policy to diversify college campuses, even in highly segregated states like Texas.²³

Another analysis using UT-Austin admission data shows that alternative admissions systems aimed at increasing enrollment of students of color by assigning weight to characteristics that are correlated with race (e.g., lower socioeconomic status) can yield an admitted class that has a lower predicted grade point average and lower likelihood of graduating than the class that would have been admitted using traditional affirmative action.⁹ Furthermore, findings show these alternate systems to be inefficient. Specifically, the university would need to place “3.5 times as much weight on predicted minority status as the weight it previously placed directly on actual minority status, resulting in nonminority applicants being admitted who would not have been admitted otherwise.”⁹

Similarly, analyses of nationally representative data from the Educational Longitudinal Study (ELS) of 2002 found, overall, disadvantaged students do not benefit disproportionately from holistic admissions reviews.²⁴ Public universities in states with affirmative action bans use holistic review processes more than those in states which do not ban affirmative action in admissions. In states that ban affirmative action, authors found no statistically significant advantage for URM applicants. White and Asian students were more likely to benefit from high school curriculum maximization than URM students, all other variables held constant.²⁴ Authors conclude that holistic review processes cannot compensate for affirmative action.²⁴ Although the correlational nature of the analyses does not allow authors to draw a causal relationship, the longitudinal data establishes a clear sequence of events and outcomes in the applicants.

Unpublished data from 19 universities in states where affirmative action was banned suggests that the increase in representation of students of color at some universities following bans on affirmative action is due to demographic changes, namely an increase in students of color graduating high school, not due to changes in admissions policies or alternative programs.¹⁶

Based on available research, there is strong evidence that using race-conscious admissions at public institutions of higher education would likely result in increased representation of people of color in applications, admissions, and enrollment at these institutions.

Will increasing representation of people of color in enrollment at public institutions of higher education result in increased diversity of the healthcare workforce?

There is a fair amount of evidence that increasing representation of people of color in higher education would likely result in increased diversity of the healthcare workforce. A study on the impact of affirmative action bans on public medical school matriculation rates concluded that a decline in matriculation of students of color “poses a significant barrier to the medical profession's efforts to train all doctors to address the health care needs of patients of color more effectively” and a decrease in student diversity in medical schools will likely exacerbate health disparities “as a racially diverse student body has been shown to produce more culturally competent physicians.”²⁵ Similarly, previous studies have found that the race/ethnicity of medical school students are among the strongest predictors of provider specialty choice and whether or not a provider serves Medicaid and uninsured populations.²⁶ A 2016 study concluded

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that “medical student diversity and primary care access for underserved communities are inextricably linked.”²⁶ However, a 2016 report by the Council on Graduate Medical Education found that people of color are underrepresented in the healthcare workforce due to cost, academic preparation, unwelcoming campus climates, and lack of social and emotional support.²⁷

A recent study analyzed occupation data from the 2005 and 2014 American Community Survey to determine percentages of people of color in each health-related occupation.²⁸ Overall, they found that the healthcare workforce was more racially diverse than the U.S. general population, and had become increasingly diverse in the past 10 years.²⁸ One exception is that “the health workforce had a considerably lower share of Hispanic/Latinos (11.1% vs 17.3%) compared with the U.S. population.”²⁸ In addition, AI/ANs are severely under-represented in healthcare professions. According to the most recent U.S. census, AI/ANs comprise 1.7% of the U.S. population.⁸³ However, AI/ANs account for only 0.4% of nurses and less than 0.4% of physicians in the U.S.⁸³ Moreover, “[t]he Association of the American Medical Colleges reported only 449 AI/AN medical school applicants in the 2014-2015 application cycle, out of 49,480 total applicants (0.9%).”⁸³ In 2014, AI/AN medical students accounted for 0.2% of enrolled medical students (205 students out of 85,260), and of the 18,078 medical school graduates nationwide only 27 were AI/AN (0.15%).⁸³ AI/ANs face multiple challenges that hinder them from pursuing careers in healthcare (e.g., poverty, family demands, limited access to required academic preparation, historical trauma).⁸³

Despite efforts to improve healthcare workforce diversity and increases in diversity, people of color remain underrepresented in higher-skilled health occupations.^{27,28} People of color were more likely to be represented in entry-level, lower-skilled health occupations like nursing aides, personal and home care aides, technicians, and various diagnostic and treatment practitioners (e.g., acupuncturist, naturopathic physician).²⁸ The study found that, “people of color remain underrepresented in many highly-skilled occupations—which most often require higher levels of education and specialization, and are often accompanied by higher wages—with little improvement over the last 10 years.”²⁸

The study also completed a review of literature evaluating the effectiveness of various efforts to improve healthcare workforce diversity. The review found that multifaceted and comprehensive programs to improve diversity were most effective.²⁸ The review found that holistic admissions programs for medical schools (which often consider race as one factor in admissions) “were promising practices to increase the number of racially and ethnically diverse students who applied and were admitted to health profession schools.”²⁸ However, the authors noted that there is little evidence related to the long-term impact of these programs on persistence, graduation, career path, or representation of people of color in healthcare professions.^{27,28} Similarly, the Council on Graduate Medical Education concluded that there was little evidence evaluating the effectiveness of various programs to improve healthcare workforce diversity, and recommended developing an evidence base to understand which programs, including programs that promote the inclusion of students from all racial and ethnic backgrounds, are most effective in supporting diversity in the health professions.²⁷

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Based on evidence that holistic admissions programs for medical schools (which often consider race as one factor in admissions) are promising practices to increase representation in medical school, and the trend that diversity in the healthcare workforce is increasing, there is a fair amount of evidence that greater representation of students of color in higher education would likely result in increased diversity of the healthcare workforce.

Will improving diversity of the healthcare workforce result in improved access to and quality of healthcare for communities of color?

There is very strong evidence that a racially/ethnically diverse healthcare workforce promotes better access and quality of healthcare for underserved populations and can better meet the health needs of increasingly diverse populations.^{25,26,28-33}

The Washington State Health Workforce Council (Council) was created in part because “Washington grapples with a shortage of healthcare workers, in the midst of an increasingly diverse and aging population needing more services and rapid changes in [healthcare] delivery.”³² The Council recommends improving workforce supply, distribution, and diversity to reduce barriers in accessing healthcare.³² Social and cultural differences between provider and patient can lead to worse healthcare and health outcomes.³¹ Thus, healthcare providers must also be diverse and culturally competent in order to provide appropriate and high quality care.³¹ One key component in addressing the needs of a diverse patient population is developing an “appropriate workforce.”³¹

In 2006, the U.S. Department of Health and Human Services (U.S. HHS) summarized evidence that improving diversity of the healthcare workforce will improve public health and population health outcomes.²⁹ In their report, they presented a number of hypotheses and corresponding evidence showing how improvements in healthcare workforce diversity can improve access to healthcare, quality of healthcare, and use of healthcare for communities of color.

The “service pattern hypothesis” suggests that healthcare workers from racially/ethnically diverse backgrounds are more likely to serve disadvantaged populations, improving provider availability and access to care for patients of color, patients of low socioeconomic status, patients without health insurance, and patients living in areas with limited provider availability.²⁹ U.S. HHS found a large, consistent, well-documented body of literature that physicians of color “provide a disproportionately large share of [healthcare] for patients from their own racial and ethnic backgrounds.”²⁹ They cite a 2001 national survey that found 24.5% of African Americans, 27.6% of Latinos, and 45.3% of Asians reported “having a regular physician from their own racial group, figures that are well above the proportion of each of these racial groups in the U.S. physician workforce.”²⁹ Several articles in their review also found that provider race/ethnicity was a stronger predictor than socioeconomic status for whether or not a provider served underserved communities.²⁹

More recent studies have upheld this “service pattern hypothesis” and have found that physicians from unrepresented communities of color are more likely than their white peers to serve medically underserved populations and communities of color.²⁵ Previous studies have found that the race/ethnicity of medical school students is among the strongest predictors of provider

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specialty choice and whether or not a provider serves Medicaid and uninsured populations.²⁶ For example, a 2016 study estimated how changes in the percentages of underrepresented students of color in medical school enrollment could impact the number of new primary care providers serving underrepresented populations.²⁹ The authors cited previous studies that found a ban on affirmative action would reduce underrepresented students of color in medical schools by 70%, and argued that fewer medical students of color would reduce the number of providers serving low-income and uninsured patients.²⁶ Overall, the authors found that a nationwide affirmative action ban would result in a 14% decrease in primary care providers (a decrease of 361 providers) serving low-income and uninsured patients as compared to the status quo, which “could deny primary care access for 1.25 million of our nation’s most vulnerable patients, considerably worsening existing healthcare disparities.”²⁶ Using a racial parity scenario, the authors also estimated that a medical school class representative of the general U.S. population could increase primary care providers serving low-income and uninsured patients and “provide a primary care workforce capable of caring for 739,000 *more* low-income [individuals living in the U.S.] compared to the status quo.”²⁶ The authors summarized their main finding, “that a more diverse workforce is more likely to care for vulnerable populations in primary care settings than is a less diverse workforce.”²⁶ Therefore, a more diverse workforce would improve access to healthcare for communities of color.

U.S. HHS also evaluated evidence for the “concordance hypothesis,” which suggests that healthcare providers from racially and ethnically diverse backgrounds will “improve the quality of communication, comfort level, trust, partnership, and decision-making in patient-practitioner relationships.”²⁹ They found that, overall, patients of color received better interpersonal care from providers of their own race/ethnicity, and patients with limited English proficiency received better interpersonal care and were more likely to understand their care and keep follow-up appointments when they saw a provider who spoke their own language.²⁹ Other studies showed that race concordance improved communication and improved patient ratings of their healthcare encounter.²⁹ A recent experiment also found improved communication for black male patients paired with black male doctors.³⁰

U.S. HHS found mixed evidence that patient-practitioner racial/ethnic concordance improved use of health services.²⁹ They found that use of healthcare varied by race/ethnicity. For example, one study found that concordance led to fewer unmet health needs and greater use of preventive healthcare for African Americans, but not for Latinos.²⁹ However, a 2018 experiment examining the effect of diversity in the physician workforce on the demand for preventive care among African American men found that black patients assigned to black doctors were 18% more likely to use preventive services after interacting with their doctor compared to black patients assigned to non-black doctors.³⁰ The study also found that black patients were 29% more likely to talk with black doctors about health problems and to increase their use of diabetes and cholesterol screening and the flu shot.³⁰ They concluded that pairing black male patients with black physicians could help reduce cardiovascular mortality by 16 deaths per 100,000 per year, amounting to a 19% reduction in the black-white male gap in cardiovascular mortality.³⁰

U.S. HHS also cited one study that found that, “white patients received protease inhibitors [a medication that reduces the progression of HIV to AIDS] earlier than African Americans, but

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that among patients with race concordant providers, this disparity was eliminated.”²⁹ U.S. HHS noted that this study is important because it shows that race concordance can “reduce racial disparities not only in health care, but in health and mortality.”²⁹

Overall, U.S. HHS concluded that “health professions diversity will likely lead to improved public health by increasing access to care for underserved populations, and by increasing opportunities for [patients of color] to see practitioners with whom they share a common race, ethnicity, or language... which is associated with better patient-practitioner relationships and communication, [and] may increase patients likelihood of receiving and accepting appropriate medical care.”²⁹ Based on this evidence, there is very strong evidence that increased diversity of the healthcare workforce would result in improved access to and quality of healthcare for communities of color.

Will improving access to and quality of healthcare for communities of color improve health outcomes?

It is well documented that improving access to and quality of healthcare improves health outcomes.^{29,33,34} One of the contributing factors to inequities in health outcomes is differential access to healthcare.⁸⁴ Access to healthcare is broadly defined in published literature as access to timely and appropriate care,³⁵ and can be impacted by structural, institutional, financial, social, cultural, and sociodemographic factors.^{35,85}

One goal of the Healthy People 2020 initiative is to improve access to healthcare by improving access to health insurance coverage, health services, and timeliness of care.³³ Healthy People 2020 found that “access to comprehensive, quality health care services is important for promoting and maintaining health, preventing and managing disease, reducing unnecessary disability and premature death, and achieving health equity.”³³ There is very strong evidence that increasing access to care will improve health outcomes for communities of color.

Will increasing representation of people of color in enrollment at public institutions of higher education result in increased educational attainment for those individuals?

There is a fair amount of evidence that increasing representation of people of color in enrollment at public institutions of higher education results in increased educational attainment for those individuals. Evidence shows that race-conscious policies maintain access to the most elite schools.¹⁷ Specifically, evidence suggests that more selective universities have a higher payoff in terms of persistence (students reaching degree completion).^{37,38} Results of multivariate analyses found a positive causal impact of institutional selectivity on the likelihood of graduation, particularly for black and Hispanic students.³⁷ Authors of an evaluation of the effectiveness of University of California’s race-neutral admissions policies cite evidence from a large body of educational research demonstrating the positive role affirmative action plays in increasing African American and Latino college graduation.^{17,36,37}

An analysis of data from the National Center for Education Statistics’ Integrated Postsecondary Education Data Systems (IPEDS) examined four-year and six-year graduation rate data for each year between 2002 and 2009 (covering students who entered universities between 1996 and

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2003).³⁹ Results indicate the effects of affirmative action bans on graduation rates for black and Hispanic students are small relative to the effects on enrollment. However, the regression results suggest that “blacks and possibly Hispanics are less likely to receive a degree from a selective college when affirmative action is banned.”³⁹ Specifically, “the share of blacks entering four-year colleges who become graduates of universities in the top two tiers of the U.S. News rankings [fell] by 0.93 percentage points, and the share that become graduates of universities in the top 50 [fell] by 1.54 percentage points.”³⁹ Results are statistically significant and indicate that “affirmative action bans result in fewer blacks becoming graduates of elite institutions.”³⁹ Authors concluded, “since fewer [URM] are admitted to selective colleges when affirmative action is banned, fewer [URM] become graduates of selective colleges.”³⁹

Evidence from Texas shows the change from affirmative action admissions policies to the Top 10% Plan decreased both retention and graduation rates of lower-ranked URM students (i.e., black, Hispanic, and Native American).⁴⁰ While URM students ranked in the first decile qualified under both admissions policies, the analysis examined the effects of lower admission rates of URM students to (and ultimately lower attendance at) selective public colleges during the Top 10% Plan.⁴⁰ Descriptive statistics from UT-Austin or Texas A&M show the admission rates of URM students ranked in the second- and third- (and below) deciles at these selective colleges “declined, respectively, by 10 and 14 percentage points... Conversely, the admission rates of their non-URM [Asian and non-Hispanic white] counterparts at these selective colleges increased by 8 and 10 percentage points.”⁴⁰ Controlling for student attributes and high school characteristics, the analysis found the change in admissions policies lowered fall-to-fall freshman retention rates (persistence) and six-year college graduation rates (degree completion) for URM second-decile students by 2.4 and 3.3 percentage points, respectively.⁴⁰ The effect was more pronounced among third- (and below) decile URM students: fall-to-fall freshman retention rates and graduation rates decreased by 4.9 and 4.2 percentage points, respectively.⁴⁰ Results refute the “mismatch” hypothesis, which “would have predicted an improvement in the retention and graduation rates of these lower-ranked [URM] students under the Top 10% Plan” as they were supposedly being better “matched” to an institution under this admissions approach.⁴⁰ While the racial composition of enrollment at selective institutions shifted toward non-URM under the Top 10% Plan, “gains did not translate into higher college retention or graduation for non-[URM] students under the post-affirmative action era.”⁴⁰ The author concludes that “elimination of racial preference in college admissions in Texas did not help non-[URM] as much as it harmed the retention and graduation of [URM] students.”⁴⁰

Another study of Texas data found that “replacing traditional affirmative action with a system that uses an applicant’s predicted likelihood of being an underrepresented racial minority as a proxy for the applicant’s actual minority status can yield an admitted class that has a lower [...] likelihood of graduating than the class that would have been admitted using traditional affirmative action.”⁹ Simulation results using UT-Austin admissions data showed that implementing the affirmative action ban only increased predicted likelihood of graduating from UT within six years from 74.9% to 75.1%. Meanwhile, subsequently, implementing a proxy-based affirmative action approach (e.g., added weight for socioeconomic status) to restore the proportion of URM students accomplished through affirmative action would lower the average

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predicted likelihood of graduating from UT-Austin within six years down to 74.4%. Therefore, for every 10,000 enrollees UT-Austin could expect 75 fewer graduates.⁹

Based on research showing that affirmative action bans negatively impact graduation rates and on evidence from Texas, there is a fair amount of evidence that increasing representation of people of color at public institutions of higher education would result in increased educational attainment.

Will improving educational attainment improve earning potential?

There is very strong evidence for the connections between increasing educational attainment and increasing income as well as decreasing rates of unemployment. For example, the U.S. Bureau of Labor Statistics noted that, “higher levels of education are generally associated with a greater likelihood of employment, and a lower likelihood of unemployment” and “individuals with higher levels of education typically are more likely to be employed in higher paying jobs...than are individuals with less education.”⁴³ In an amicus curiae brief to SCOTUS in the *Fisher v. University of Texas at Austin* case, the American Educational Research Association and nine co-signing national associations, societies, and academies cite evidence that “educational attainment and college quality raise earnings, with larger increases in the effects of education on earnings and labor force participation for men, blacks, and Latinos.”⁴⁴ These links are well documented, and data indicate that these trends exist in Washington State.^{41,42} Because this connection is widely accepted, less time was dedicated to researching this relationship.

Will improving earning potential improve health outcomes?

There is very strong evidence that improving earning potential will improve health outcomes. There is a large body of robust evidence that supports the association between income, or socioeconomic position, and health.^{41,45-55} Significant correlations exist between lower income and a number of health indicators including worse overall self-reported health, depression, stress, asthma, arthritis, stroke, oral health, tobacco use, women's health indicators, health screening rates, physical activity, and diabetes.^{41,45-47,52,54,56} Further, 2015 data indicate that age-adjusted death rates were higher in Washington census tracts with higher poverty rates.⁵⁰ Household income was also the strongest predictor of self-reported health status in Washington in 2016, even after accounting for age, education, and race/ethnicity.⁵³ Because this connection is widely accepted, less time was dedicated to researching this relationship.

Will improving educational attainment improve health outcomes?

There is very strong evidence that higher educational attainment is associated with better health. Data collected nationally and in Washington State indicate a correlation between higher educational attainment and positive health outcomes such as decreased rates of diabetes, oral health problems, tobacco use, inactivity, obesity, depression, and coronary heart disease.^{41,45,46,48,50,53,57-61} The correlation between health and education is observed even after controlling for income, which can serve as a mediating factor.⁵⁷⁻⁵⁹ Because this connection is widely accepted, less time was dedicated to researching this relationship.

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Public employment

Will repealing Initiative I-200 result in public employers using race-conscious hiring?

We have made the informed assumption that repealing I-200 would result in some public employers using race-conscious hiring. As federal contractors, public institutions of higher education follow federal affirmative action guidance outlined in Executive Order 11246 (1965). The Executive Order prohibits UW and other federal contractors from discriminating in employment decisions on the basis of race, color, religion, sex, sexual orientation, gender identity or national origin. The Executive Order also requires government contractors to take affirmative action to ensure that equal opportunity is provided in all aspects of their employment. Therefore, as public institutions of higher education are federal contractors and their hiring practices were not impacted by the passage of I-200, we anticipate the repeal of I-200 would have no direct effect on the hiring practices of public institutions of higher education in Washington State.

While it is unknown whether state agencies would be required to consider race as part of a holistic applicant review, it is possible that some state agencies and other public employers may choose to implement race-conscious hiring practices for a variety of reasons (e.g., to ensure their workforce is representative of communities they serve).

Will using race-conscious hiring at public employers result in increased representation of people of color working in public employment?

It is widely accepted that representation of people of color and women in the workforce has increased since the 1960s.^{1,2,63} However, many researchers have noted that there has been little research to determine if these changes are the result of affirmative action policies,^{2,63} and little research has been done to determine the impact of affirmative action bans on changes in public employment.²

The most complete data source for information on state government employment in the U.S. is through the U.S. Equal Employment Opportunity Commission, and data are restricted access and confidential.² Kurtulus, faculty at University of Massachusetts Amherst, obtained EEO-1 and EEO-4 data to complete two longitudinal studies evaluating the impact of affirmative action on the employment of women and people of color. The first study documented the impact of affirmative action in federal contracting from 1973 to 2003.² The study used a panel of 100,000 private-sector firms, including firms that are federal government contractors (required to use affirmative action) and firms that are not contractors, to analyze employment trends. Overall, Kurtulus found that the representation of black and Native American men and women statistically significantly increased as a result of affirmative action in federal contracting, and that the share of black and Native American women and men grew more at federal contracting firms required to use affirmative action than at firms that were not contractors.² Federal contracting statistically significantly increased the share of Native American women by 3.88%, and the share of black women by 0.87%.² Kurtulus also evaluated how changes due to affirmative action contributed to normal, average five-year within-firm demographic changes, and found that affirmative action policies were responsible for 10.49% of the normal five year growth in black female representation, and 72.73% of the normal five-year growth for Native

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American women.² Federal contracting affirmative action policies also statistically significantly increased the representation for black men (increased by 0.040 percentage points, 0.60%) and Native American men (increased by 0.014 percentage points, 4.01%).² For black men, affirmative action policies were responsible for 35.09% of the normal five year increase.² The greatest impact for these groups occurred within the first four years of getting a federal contract, but persisted over time and even after a firm was no longer a federal contractor.² Kurtulus also found that affirmative action did not statistically significantly increase representation of Hispanic women or Asian women and men, and that it decreased the representation of white women (decrease of 0.122 percentage points) and Hispanic men (decrease of 0.058 percentage points).² However, the absolute number of Hispanics, Asians, and white women increased over the same time period, suggesting that affirmative action policies still contributed to gains in absolute numbers for these groups.² Overall, Kurtulus concluded that affirmative action policy “has contributed to, and continues to contribute to, increasing diversity at U.S. workplaces.”²

In unpublished work, Kurtulus also introduced findings and methodology related to research examining the impact of state affirmative action bans on state and local public employment. She used EEO-4 data from 1990 to 2009 to determine the impact of affirmative action bans on the employment of women and people of color in California, Washington, Michigan, and Nebraska.⁷⁷ Initial results suggested that affirmative action bans in some states led to significant declines in public sector employment for Hispanic males (decreased 7%), black females (decreased 4%), and Asian females (decreased 37%).⁷⁷ Declines in employment for black females got larger in magnitude over time following affirmative action bans.⁷⁷

Further evaluation of data from the California State Personnel Board from 1990 to 2007 (before and after the passage of Proposition 209) found that the affirmative action ban may have limited workforce diversity for people of color and women. This study found that, while the number of people of color in state employment has grown, the employment rate for people of color lags behind the working age population.⁶³ For example, while people of color accounted for the majority of California’s working population in 1999, people of color did not account for the majority of state employees until 2007.⁶³ Similarly, “Latino Americans, though making large gains in terms of the number of civil servants, are vastly underrepresented relative to their population. Furthermore, this disparity has grown over time.”⁶³ Data also showed a modest, but persistent, gender disparity with men more likely to be employed in state government than women between 1990 and 2007.⁶³ Other research in California found that the private sector workforce also became less diverse following the ban on affirmative action.¹

While UW already follows federal affirmative action guidance, the repeal of I-200 may positively influence candidates’ decisions to apply to or accept faculty and staff positions at the university. In her letter to the Washington State Senate Committee on State Government, Tribal Relations, and Elections, UW President Cauce described the competitive disadvantage I-200 presents when seeking to hire university faculty and staff:

As one of our nation’s top research universities, we compete with institutions like Stanford, Texas, Wisconsin and UNC-Chapel Hill when trying to attract the most talented faculty to teach and lead cutting-edge research with our students. To

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those top faculty and staff that we wish to recruit, I-200 sends the message that the UW, and Washington as a whole, does not welcome or value diversity, and when we lose out on attracting these desirable teachers, researchers, innovators and administrators, it is our students and our state that pay the price.¹⁸

The diversity of state employees in Washington before and after the passage of I-200 has not been independently researched. However, based on national data showing that affirmative action has increased representation of people of color in the U.S. workforce, and data from states that have banned affirmative action showing that diversity decreased as a result of bans, there is a fair amount of evidence to suggest that providing state and local governments the opportunity to use race-conscious hiring would increase representation of people of color in public employment.

Will increasing representation of people of color working in public employment improve access to health insurance for those individuals?

There is a fair amount of evidence that increasing representation of people of color working in public employment would likely improve access to health insurance for those individuals. According to the National Center for Health Statistics, the majority of persons under age 65 have coverage through private employer-sponsored group health insurance.⁶⁴ Based on the 2018 Kaiser Family Foundation Employer Health Benefits Survey, an estimated 57% of all firms offered health benefits.⁶⁵ Ninety percent of state and local governments offered health benefits, which is statistically significantly higher ($p < .05$) than the eight other industry categories.⁶⁵ Similarly, among all large firms (200 or more workers), 98% offered health benefits ($p < .05$).⁶⁵

Eligible Washington State employees receive benefits through the Public Employees Benefits Board (PEBB) Program, which purchases and coordinates insurance benefits for eligible public employees and retirees.⁶⁷ In September 2018, Health Care Authority data show 113,079 active subscribers with 234,477 active members enrolled in health insurance plans offered through PEBB.⁶⁶

Based on Washington State's PEBB Program and the high percentage of public employers providing health insurance, increasing representation of people of color working in public employment would likely improve access to health insurance.

Will improving access to health insurance improve health outcomes?

There is very strong evidence that improving access to health insurance will improve health outcomes. Healthy People 2020 noted that access to health insurance is the first step to improving access to health services generally as it provides entry into the healthcare system.³³ Individuals who are uninsured are, "more likely to have poor health status, less likely to receive medical care, more likely to be diagnosed later, and more likely to die prematurely" than individuals with insurance.³³

A systematic literature review of 54 analyses (in 51 distinct studies) found "43 analyses reported statistically significant and positive relationship, and 11 have results that are not statistically significant."³⁴ However, of those 11, four have quantitative estimates that are similar to those of comparable studies with statistically significant results, and four provide partial results

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supporting a positive relationship between health insurance or medical care use and health.³⁴ The author concludes, “[t]here is a substantial body of research supporting the hypotheses that having health insurance improves health and that better health leads to higher labor force participation and higher income.” Insurance status can serve as a barrier to primary care, which can limit access to preventive health services received from primary care providers.⁶⁸ A cross-sectional analysis of 2000 to 2010 Medical Expenditure Plan Survey data of women aged 40 years and older found insurance to be among the four most important factors leading to breast cancer screening inequities between Hispanics and non-Hispanic whites.⁶⁹ Evidence indicates that differences in cancer screening by race/ethnicity are relatively small among persons with similar types of insurance.⁶⁸ Although not the only factor, insurance contributes to disparities in preventive care, chronic disease control, and behavioral health treatment.⁶⁸ Because the connection between access to health insurance and improved health outcomes is well accepted, less time was dedicated to researching this relationship.

Will improving health outcomes for people of color reduce health inequities?

There is very strong evidence that improving health outcomes for people of color would likely decrease health inequities. Evidence shows that the implementation of affirmative action policies contributed to improved representation of AI/ANs, Asian and Pacific Islanders, Black/African Americans, and Hispanic/Latinos at institutions of higher education^{7,17,37} and in public employment.^{2,77} Recent evidence indicates that use of race-conscious admissions in Washington would positively affect AI/AN, Black/African American, and Hispanic/Latino applicants who are underrepresented at UW and WSU.^{20,24} For example, a study of an analysis of student enrollment at UW immediately following I-200 found that the admission rate of underrepresented students of color decreased, and that African American students experienced the largest decline.²⁰ Additionally, evidence suggests the use of race-conscious hiring in public employment would likely increase representation of AI/ANs, Asian and Pacific Islanders, Black/African American, and Hispanic/Latinos.^{2,63,77}

Although affirmative action policies have historically sought to increase representation by race/ethnicity and sex, different groups have experienced affirmative action policies and outcomes differently. For example, research documenting the impact of affirmative action in federal contracting from 1973 to 2003, found that affirmative action statistically significantly increased the representation of Black and Native American men and women, but did not statistically significantly increase representation of Hispanic women or Asian women and men, and actually decreased the representation of white women and Hispanic men.² Although African Americans, Hispanics/Latinos, and AI/ANs represent over 30% of the U.S. population, 2010-2012 U.S. data show they collectively constitute 11.5% of medicine, 11.2% of nursing (RN), 10.1% of pharmacy, and 9.4% of dentistry professionals.⁸⁶ However, Asians represent 6% of the general population and were not classified as underrepresented within healthcare professions.⁸⁶ Regardless of how each group experiences affirmative action, each of these groups experience worse health outcomes and SB 6406 also has the potential to decrease health inequities by race/ethnicity.

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Inequities by race/ethnicity

It is well-documented that communities of color experience worse health outcomes than their counterparts for many health measures. A report by University of California Berkeley's Henderson Center for Social Justice stated that "overall, people of color rate their health status lower than [non-Hispanic] Whites. The life expectancy at birth for African Americans is five years less than for Whites...In general, people of color report less access to health care and poorer quality health care than [non-Hispanic] Whites."⁴⁵ In Washington, data indicate that AI/AN, NHOPI, and black residents had some of the highest age-adjusted death rates and shortest life expectancies at birth compared to other groups in the state.⁵⁰ Further, communities of color also have higher rates of tobacco use, diabetes, obesity, and poorer self-reported health and mental health.^{45-48,50,55}

American Indian/Alaska Native

Behavioral Risk Factor Surveillance System (BRFSS) data (2012-2014) show AI/ANs in Washington had the second highest rate of coronary heart disease deaths (145 deaths per 100,000 people)⁷⁰ and stroke (45 deaths per 100,000 people).⁷¹ Both age-adjusted rates were higher among AI/ANs in WA than among AI/ANs in the U.S. overall.^{70,71} Data also show that age-adjusted diabetes prevalence is high among AI/ANs (13% ±4%).⁴⁸ In 2004-2006, AI/ANs reported significantly higher rates of poor mental health (19% ±4%) than other racial and ethnic groups.⁸⁷

Asian and Pacific Islander

American Community Survey estimates (2011-2013) show that uninsured rates varied across Asian and Pacific Islander populations in Washington State. Five populations experienced higher uninsured rates than the Washington statewide average (14%): Cambodian (+3.9%), Filipino (+0.4%), Korean (+6.5%), Vietnamese (+5.7%), and Native Hawaiian and Pacific Islander (+7.9%).⁸⁸ While Asians had the lowest rates of coronary heart disease deaths, Washington's age-adjusted coronary heart disease death rate during 2012–2014 was highest among NHOPI people (156 deaths per 100,000 people).⁷⁰ During 2012-2014, NHOPI women had a higher rate of newly diagnosed breast cancer than white women.⁸⁹

Black/African American

Blacks in Washington experienced the highest stroke death rate (46 deaths per 100,000 people)⁷¹ and third highest coronary heart disease death rates.⁷⁰ BRFSS data show that age-adjusted diabetes prevalence is high among those who are black (13% ±3%).⁴⁸ Black adults also had a higher obesity prevalence compared to white adults.⁸⁹ In particular, African American women are disproportionately affected by multiple sexual and reproductive health conditions compared to women of other race/ethnicities.^{90,91}

Hispanic/Latino

Hispanics are among the least likely of any racial/ethnic group in the U.S. to have health insurance. In 2016, 15.6% of Hispanics were uninsured compared to 5.4% of all people living in Washington State.⁹² Evidence shows that lack of insurance is among the leading barriers to healthcare access.^{34,69,93} BRFSS data show that age-adjusted diabetes prevalence is highest

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among those who are Hispanic/Latino (14% \pm 2%).⁴⁸ Additionally, Hispanic adults experienced higher obesity prevalence than their white peers.⁸⁹

Since each of these groups experience worse health outcomes and evidence suggests that each of these groups will benefit from affirmative action policies, SB 6406 has the potential to decrease health inequities for AI/AN, Asian and Pacific Islander, Black/African American, and Hispanic/Latino communities.

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Uncategorized References

1. **The Henderson Center for Social Justice Berkeley Law. Equal opportunity: The Evidence- a summary of key ideas , current research, and relevant information for those who aim to promote and protect equal opportunity. University of California Berkeley;2012.**

University of California Berkeley's Henderson Center for Social Justice provided an overview and history of equal opportunity efforts in the U.S. They use the term "equal opportunity" to include both affirmative action and equal opportunity efforts. Affirmative action and equal opportunity programs began as a result of the Kennedy Administration's Executive Order 10925, which required government contractors to "take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin." This report summarizes information related to contracting, education, wealth, homeownership, and other factors. It stated that "overall, people of color rate their health status lower than Whites ([non-Hispanic]). The life expectancy at birth for African Americans is five years less than for Whites...In general, people of color report less access to health care and poorer quality health care than Whites ([non-Hispanic])." The report found that, "although the effect of [state affirmative action] bans are complicated to assess, there is a recurring pattern of decreased diversity." The report presents some research on Washington State. For contracting, transportation contracts awarded to minority-owned and women-owned businesses increased under affirmative action and decreased sharply after I-200 passed in 1998. Similarly, applications and enrollment by people of color decreased at University of Washington, and to a lesser degree at other public universities. For public employment, the authors note that, "in Washington, the diversity of state employees before and after the passage of the anti-equal opportunity Initiative 200 in 1998 has not been tracked." They noted that Washington State began tracking this information in 2006, and that the current state workforce is similar in diversity to the private sector, though people of color were slightly less represented.

2. **Kurtulus Fidan Ana. The Impact of Affirmative Action on the Employment of Minorities and Women: A Longitudinal Analysis Using Three Decades of EEO-1 Filings. *Journal of Policy Analysis and Management*. 2016;35(1):34-66.**

Kurtulus conducted a longitudinal analysis using data from the U.S. Equal Employment Opportunity Commission to document the impact of affirmative action in federal contracting on minority and female employment from 1973 to 2003. Executive Order 10925, issued by President John F. Kennedy in 1960 required federal government contractors to take affirmative action based on race, creed, color, and national origin, and established the federal Committee on Equal Employment Opportunity. Executive Order 11246 by President Lyndon B. Johnson clarified the definition of affirmative action, specified that the goal was to actively improve the employment status of minorities, extended policies to include women, required federal contractors to prepare annual affirmative action plans outlining hiring and recruitment efforts, and outlined penalties for non-compliance. Kurtulus noted, "the primary goal of affirmative action legislation is to increase minority and female representation across American workplaces. However, the dearth of appropriate data conducive to analyzing the effects of affirmative action in employment on the U.S. labor force has made it difficult to determine the extent of these

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effects.” The EEO-1 Employer Information Reports dataset was recently made available to researchers, and is “the largest and longest available panel of U.S. firms with information on gender and race composition.” Therefore, “the current paper constitutes the first study to comprehensively document the long-term effects of affirmative action in federal contracting on the employment composition within firms in the [U.S.]” EEO-1 reporting is required for all U.S. private-sector firms with over 100 employees and for private-sector firms that are federal contractors with more than 50 employees. Kurtulus used a panel of 100,000 private-sector firms available through the dataset, including firms that are federal government contractors required to use affirmative action and firms that are not contractors, to analyze employment trends. She controlled for factors such as firm size; corporate and occupational structure (e.g., formalized recruitment practices); industry, region, and firm-specific factors (e.g., all firms in a specific industry respond to a gender-related lawsuit in that industry); and economy-wide changes and general trends over time, allowing her to examine the specific impact of affirmative action policies and draw conclusions about causation. Kurtulus used federal contractor status as the independent variable, and approximately 43% of firms in the analysis sample were contractors. Her dependent variable was the percentage of workers belonging to a demographic group. Overall, she found that the representation of black and Native American men and women statistically significantly increased as a result of affirmative action in federal contracting, and that the share of black and Native American women and men grew more at federal contracting firms required to use affirmative action than at firms that were not contractors. She also found that the impacts changed depending on changes in federal administration (e.g., representation gains slowed during the Reagan Administration in the 1980s). Federal contracting increased the share of Native American women by 0.008 percentage points (3.88%) and the share of black women by 0.041 (0.87%) percentage points; both increases are statistically significant. Kurtulus also evaluated how these changes contributed to normal, average five-year within-firm demographic changes. She explained, “specifically, the share of black women increased by 0.391 percentage points within firms over five years on average during my analysis period of 1973 to 2003—so the 0.041 percentage point increase due to affirmative action amounts to 10.490 percent of the normal five-year growth in black female representation, which is substantial.” For Native American women, affirmative action policies were responsible for 72.727% of the normal five-year increase. Federal contracting affirmative action policies also statistically significantly increased the representation for black men (increased by 0.040 percentage points, 0.60%) and Native American men (increased by 0.014 percentage points, 4.01%). For black men, affirmative action policies were responsible for 35.09% of the normal five year increase. The greatest impact for these groups occurred within the first four years of getting a contract, but persisted over time and even after a firm was no longer a federal contractor. Kurtulus found that, “black women and men continue to increase their employment shares even after contract loss and Native American men do not reduce their employment shares following contract loss, but the results from Native American women are no longer statistically significant.” On the other hand, Kurtulus also found that affirmative action did not statistically significantly increase representation of Hispanic women or Asian women and men, and that it decreased the representation of white women (decrease of 0.122 percentage points) and Hispanic men (decrease of 0.058 percentage points). She found that the decrease in representation of white women primarily occurred during the 1970s and 1980s, and that affirmative action policies had a more positive impact on white women after the 1990s. She also noted, “a caveat, however, is that firms grew in size on average

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during this time, employing more people, and concurrently the absolute numbers within firms of Hispanics and Asians (as well as white women) grew on average as well. So we can say that there were gains from affirmative action for these protected groups in terms of absolute numbers.” Kurtulus also noted that the impacts of affirmative action are likely underestimated by her analysis as affirmative action legislation likely encouraged protected groups to participate in the labor force and changed hiring patterns across the U.S. economy. Kurtulus concluded that affirmative action policy “has contributed to, and continues to contribute to, increasing diversity at U.S. workplaces.”

3. **Initiative Measure No. 200, Revised Code of Washington (2013).**

Approved November 3, 1998, Initiative Measure No. 200 (I-200) banned the use of affirmative action by the "state", which includes but is not necessarily limited to, the state itself, any city, county, public college or university, community college, school district, special district, or other political antidiscrimination law. However, the law does not prohibit "schools established under chapter 28A.715 RCW from: (a) implementing a policy of Indian preference in employment; or (b) prioritizing the admission of tribal members where capacity of the school's programs or facilities is not as large as demand."

4. **Pew Research Center. Supreme Court says states can ban affirmative action: 8 already have. [Online new article]. 2014; Available at. Accessed October 2018, 2018.**

This online news article from the Pew Research Center announced the U.S. Supreme Court's decision upholding Michigan's affirmative action ban. States with affirmative action bans include: Arizona (2010), California (1996), Florida (1999), Michigan (2006), Nebraska (2008), New Hampshire (2011), Oklahoma (2012), and Washington (1998). However, results from a March 2014 Pew Research survey found that 63% of people stated that programs aimed at increasing the number of black and minority students on college campuses were a good thing, versus 30% who called them a bad thing.

5. **Garces Liliana M., Poon OiYan. Asian Americans and Race-Conscious Admissions: Understanding the Conservative Opposition's Strategy of Misinformation, Intimidation & Racial Division. Working paper for the Civil Rights Project. Los Angeles, CA2018.**

This article discussed the history and evolution of affirmative action programs in the U.S. and the Students for Fair Admissions (SFFA) v. Harvard case in which petitioners allege that the race-conscious admission policies employed do not satisfy strict scrutiny and that the Bakke decision should be overruled. Asian Americans have long supported affirmative action, as evidenced by voting data, research, and advocacy led by long-established Asian American civil rights organizations. For example the majority of Asian American voters rejected affirmative action bans in California (61%) and Michigan (75%). Similarly, results from nationwide multilingual opinion polls since 2012 show that the majority (86%) of Asian Americans support race-conscious admissions. Pro-affirmative action Asian American organizations assert three major arguments in favor of race-conscious admissions: “[1] the continued need for race-conscious admissions for both certain Asian Americans and underrepresented students of color more generally; [2] the fact that Asian American (and all) students benefit from engaging in a

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racially diverse student body; and [3] the idea that negative action is distinct from affirmative action.” However, among Chinese Americans, who represent 23% of the Asian American population, support for affirmative action has declined from 78% in 2012 to 41% in 2016. Authors cited evidence from a study in which researchers completed in-depth individual interviews with 36 Asian Americans who had publicly advocated for (19), or against (15), affirmative action. Two interviewees held mixed opinions regarding affirmative action. Results indicate that interviewed supports and opponents of affirmative action: (1) recognized and acknowledged racism as a problem in the U.S.; (2) generally held an inaccurate understanding of affirmative action (30 of 36); and (3) nearly all (33 of 36) participants expressed support for the general principles of holistic application review. Researchers found that opponents of affirmative action were primarily Chinese American. Authors suggest conservative ideological activism by some Chinese American immigrants against affirmative action may be influenced by: “(1) changes to U.S. immigration policy; (2) limited social interactions among post-1990 Chinese American immigrants with other people of color, including other Asian Americans; and (3) the proliferation of misinformation on WeChat, combined with a longstanding systemic culture of exam-focused education in China.” Long-time opponents of affirmative action have used misinformation tactics to equate affirmative action policies with "negative action" (i.e., ceilings or quotas) employed in the 1980s, which disadvantaged or unfavorably treated Asian Americans in the admissions process in comparison to white applicants who are equally qualified. Specifically, "negative action takes place when an Asian American applicant would have been admitted had the individual been a white applicant, in comparison to another a [sic.] white applicant and not any other applicant of color." Authors conclude that targeted outreach addressing misperceptions and helping develop stronger connections between research and policy discourse specific to benefits of race-conscious admissions for Asian American students are necessary.

6. **Blake Valerie. Affirmative Action and Medical School Admissions. *American Medical Association Journal of Ethics*. 2012;14(12):1003-1007.**

Blake discusses in this article whether medical schools in the United States are allowed to consider race and ethnicity in admissions processes by looking at the three Supreme Court decisions on this topic: *Regents of the University of California v. Bakke* (1978), *Grutter v. Bollinger* (2003), and *Fisher v. University of Texas at Austin* (2012-13). In medical schools in particular, affirmative action has been credited with diversifying the physician workforce and improving culturally appropriate medical care by creating an inclusive and diverse educational environment. As of 2012, when this article was written, affirmative action was considered legal in medical school admissions when done in a specific manner. In *Regents of University of California v. Bakke*, the school’s admission practices were deemed unconstitutional by excluding students outright on the basis of race due to the practice of holding a specific number of spots for underrepresented race and ethnic groups. The Court determined that schools do have the right to use race and ethnicity as a “plus factor” on top of other considerations for admission. In *Grutter v. Bollinger*, the Supreme Court upheld the right of schools to use race as a “plus factor”. The University of Michigan considered race and ethnicity among other factors in the context of how a student would contribute to the school’s diversity. This practice was upheld because of its goal of deriving an educational benefit from diversity. The *Fisher v. University of Texas at Austin*

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decision upheld UT's admissions practices in which any student in the top 10% of their graduating class is guaranteed admission, and the remaining spots are given to those qualifying based on a variety of personal and academic considerations with race used as a "plus factor". This policy has been credited as improving the diversity of the UT schools.

7. Garces Liliana M. Racial Diversity, Legitimacy, and the Citizenry: The Impact of Affirmative Action Bans on Graduate School Enrollment. *The Review of Higher Education*. 2012;36(1S):93-132.

Garces examined how affirmative action bans in Texas, California, Washington, and Florida have affected representation of students of color in graduate programs in those states. She specifically looked at "major or degree programs that fall within six fields of graduate study and represent a cross-section of academic disciplines: natural sciences, engineering, social sciences, business, education, and humanities." Garces used a cross-state approach to estimate the effects of multiple bans on enrollment rates of graduate students of color and considered differences within and between states. Data from 33 graduate institutions in the four target states provided estimates of the first difference (before and after the ban), and 85 institutions in the comparison group (i.e., Arkansas, Arizona, Colorado, Illinois, Indiana, Kansas, Massachusetts, Maryland, North Carolina, New Jersey, New Mexico, Nevada, New York, Ohio, Oklahoma, Pennsylvania, and Virginia) that provided the required second difference (secular trend changes). Covariates (i.e., total institution size, Carnegie Classification, state-level racial demographics, state-level educational attainment, and unemployment rate of the population eligible for graduate study (aged 25-34 years) were incorporated into the model to improve the precision of estimates. Results show that the bans in Texas, California, Washington, and Florida had reduced by about 12.2% the average proportion of graduate students who are students of color across all degree programs evaluated. Garces noted that the effect may have been attenuated by other efforts to mitigate the potential decline in enrollment of students of color. Despite individual or institutional efforts to minimize the effect of affirmative action bans, results show a statistically significant and meaningful decline in the representation of students of color in graduate programs. Lack of representation may negatively impact students of color admitted into programs who may experience feelings of "tokenism" and stereotype threat, which can negatively influence an individual's educational experience and degree completion. Additionally, students of all races/ethnicities are deprived of diverse learning environments that enhance critical and complex thinking skills, cross-racial understanding and cultural awareness, civic engagement, and cross-cultural workforce competencies and leadership skills. Garces concluded that findings suggest that "the trend toward banning affirmative action through the use of the state ballot is causing declines in the enrollment of students of color in graduate programs at a time when the [racial/ethnic] diversity of the U.S. population is increasing."

8. States Supreme Court of the United. *Fisher v. University of Texas at Austin*. 2015.

Following the Supreme Court of the United States decision *Grutter v. Bollinger*, the Court upheld the University of Michigan Law School's system of holistic review, which treated race as a relevant feature within the broader context of a candidate's application rather than mechanically assigning points. The *Grutter* ruling prompted the University of Texas at Austin (University) to conduct a year-long study seeking to determine whether its admissions policy provided "the

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educational benefits of a diverse student body...to all of the University's undergraduate students." The University conclude that its policy was not providing these benefits. The Board of Regents approved a proposal that the University begin taking race into consideration as one of "the many ways in which [an] academically qualified individual might contribute to, and benefit from, the rich, diverse, and challenging educational environment of the University." The new policy maintained the Legislative requirement that 75% of enrollment slots be reserved for students who qualified through the Top Ten Percent Plan (or Plan), those who graduated in the top 10% of their Texas high school graduating class (actually top 7-8% of class). The remaining 25% of the class would still be admitted based on a combination of their "Academic Index" (AI - comprised of SAT score and academic performance in high school) and their "Personal Achievement Index" (PAI - a numerical score based on a holistic review of their application). The PAI consists of 2 scores (1-6; best being 6) from two components--average score for two required essays and score based on a full-file review that results in the "Personal Achievement Score" or PAS. The PAS is determined by a "separate reader, who (1) rereads the applicant's required essays, (2) reviews any supplemental information the applicant submits (letters of recommendations, resumes, an additional optional essay, writing samples, artwork, etc.), and (3) evaluates the applicant's potential contributions to the University's student body based on the applicant's leadership experience, extracurricular activities, awards/honors, community service, and other 'special circumstances.'" Race was added as one factor considered as "special characteristics" that might give the admissions committee insight into a student's background. In *Fisher v. University of Texas at Austin*, Abigail Noel Fisher alleged that "the University's consideration of race as part of its holistic-review process disadvantaged her and other Caucasian applicants, in violation of the Equal Protection Clause. In this Opinion of the Court, Justice Kennedy, joined by Justices Ginsburg, Breyer, and Sotomayor, held the race-conscious admissions program in use at the time of the petitioner's application is lawful under the Equal Protection Clause. Evidence shared throughout the case demonstrated that race-neutral admission efforts had not "provided education benefits of a diverse student body...to all of the University's undergraduate students." Therefore, race was implemented into the holistic application review. The admissions officers who make final decisions regarding admittance offers do not know the applicant's race. Defendants explained that consideration of race, within the full context of the entire application, may be beneficial to any University of Texas at Austin applicant, including whites and Asian Americans. Finally, the Court stated its decision "does not necessarily mean the University may rely on the same policy without refinement. It is the University's ongoing obligation to engage in constant deliberation and continued reflection regarding its admissions policies."

9. Long M. C. Is There a "Workable" Race-Neutral Alternative to Affirmative Action in College Admissions? *J Policy Anal Manage.* 2015;34(1):162-183.

Long used admissions data from University of Texas at Austin (UT) to evaluate the effects of replacing traditional affirmative action with a system that uses an applicant's predicted likelihood of being an underrepresented racial minority as a proxy for the applicant's actual minority status. The analysis shows that alternative admissions systems aimed at increasing minority enrollment by assigning weight to characteristics that are correlated with race (e.g., lower socioeconomic status) can yield an admitted class that has a lower predicted grade point average and likelihood

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of graduating than the class that would have been admitted using traditional affirmative action. For example, the simulation found admitted students' predicted GPAs fell from 2.95 to 2.93, and the predicted likelihood of graduating fell from 74.9% to 74.2%, or 75 fewer graduates for every 10,000 students. Furthermore, Long found such systems to be inefficient; results indicate the university would need to place "3.5 times as much weight on predicted minority status as the weight it previously placed directly on actual minority status, resulting in nonminority applicants being admitted who would not have been admitted otherwise." This result suggests that race-neutral alternatives may not be "workable" from the university's perspective.

10. Blume Grant H., Long Mark C. Changes in Levels of Affirmative Action in College Admissions in Response to Statewide Bans and Judicial Rulings. *Educational Evaluation and Policy Analysis*. 2014;36(2):228-252.

Authors estimated the level of affirmative action for each 4-year college in the U.S. based on the college's selectivity, region, (i.e., those which were and were not affected by statewide affirmative action bans and circuit court judicial rulings), and cohort (1992 vs. 2004). They then computed mean levels of affirmative action for colleges in selectivity ranges by region and cohort. Authors noted that following the passage of I-200, public universities in Washington increased outreach to communities of color. However, unlike California, Texas, and Florida, "public universities in Washington did not implement any sort of top x% program after the elimination of affirmative action." Authors cited evidence that class-based affirmative action would not achieve the same results as [affirmative action policies] focused on underrepresented racial/ethnic youth. For example, UT-Austin reweighted applicant characteristics which led to a 33% rebound in the number of minority students who were admitted (relative to the loss due to the elimination of direct affirmative action). Moreover, UT-Austin's implementation of the top-10% program helped increase that proportion to 61%. Results show that "affirmative action in public colleges with MSACT $\geq 1,100$ declined significantly (using a one-tailed test) from 14.8% to 5.1%, and nearly all of this decline can be attributed to colleges in post affirmative action states." In Alabama, California, Florida, Georgia, Louisiana, Mississippi, Texas, and Washington, affirmative action declined from 9% (weakly significant) to -14.3% (insignificant--authors noted if taken literally this would indicate discrimination against minority applicants). The 23.3% decline was statistically significant using a one-tailed test. Furthermore, analysis found levels of affirmative action at public colleges with MSACT $\geq 1,200$ (which were exclusively located outside the post-affirmative action states) were relatively unchanged within the time period. As levels of affirmative action were unchanged throughout the rest of the U.S., researchers conclude that affirmative action declined substantially between 1992 and 2004 in states where affirmative action was prohibited during this period.

11. Lawsuit Updates. 2018; Available at: <https://studentsforfairadmissions.org/about/>. Accessed October, 2018.

This Students for Fair Admissions webpage provides updates from organization's founder and president Edward Blum, an opponent of affirmative action policies, regarding the lawsuits filed by the non-profit. Abigail Fisher, plaintiff in Fisher v. University of Texas (2013), and her father serve as board members.

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12. Moses Michele S., Maeda Daryl J., Paguyo Christina H. Racial Politics, Resentment, and Affirmative Action: Asian Americans as “Model” College Applicants. *The Journal of Higher Education*. 2018:1-26.

In response to the current court case *Students for Fair Admissions v. Harvard* (2015), Moses et al. examine how Asian American students should be treated in the admissions process. The authors state that, "(a) selective colleges should not discriminate against Asian American applicants or limit their numbers, nor should colleges treat them as if they are all the same; and (b) Asian American students who feel wronged should not blame race-conscious affirmative action for the negative action that selective institutions of higher education may be perpetrating against them." Instead, the authors state that eliminating "negative action" (the unfavorable treatment of Asian Americans relative to whites) and maintaining affirmative action are actually compatible goals. They explain that the premise behind the *Students for Fair Admissions v. Harvard* case is that, "because Asian Americans are not Black, Latinx, or Native American, they will experience discrimination due to elite institutions' affirmative action policies." This case is unique in that it states that discrimination is due to affirmative action policies, and not negative action. The authors use concepts from Critical Race Theory to examine the case and state that, "it is reductive to challenge affirmative action based on the argument that selective admissions processes are discriminatory against Asian Americans. Such an argument relies on stereotypes about Asian American's widespread academic and socioeconomic success in the United States." These arguments also ignore the impacts of intersectionality and the diversity of communities encompassed as "Asian Americans." The number of ethnic groups combined into the category of "Asian Americans" in the U.S. grew from 3 in 1950 to 24 in 2010. The authors state, "where the model minority discourse once depicted Asian Americans as models of overcoming racism, the Harvard lawsuit portrayed them as model victims of unfair discrimination. What remains constant is that in both instances, Asian Americans are deployed as pawns in a struggle to maintain White supremacy." They also state that, "despite being lumped together by historical and ongoing racism...Asian Americans continue to exist simultaneously as members of a racial group and members of distinct ethnic groups that vary widely in their access to higher education and jobs. In the case of affirmative action...paying careful attention to how treating Asian Americans as a monolithic racial group may harm some of the ethnic groups that constitute it."

13. United States District Court. Boston Daily Court Calendar. 2018; Available at. Accessed October, 2018.

This United States District Court District of Massachusetts website includes the Court's daily calendar. U.S. District Judge Allison D. Burroughs was assigned to hear the case.

14. Gregoire Governor Christine O. Executive Order 12-02 Superseding Executive Order 93-07 Workforce Diversity and Inclusion. In: Office of the Governor SoW, ed2012.

Executive Order 12-02 was signed by Governor Christine O. Gregoire in 2012. The order establishes the State Human Resource Director as the Governor's Chief Diversity Officer with the responsibility of establishing diversity policies and strategies. It also requires all cabinet agencies and board and commissions to designate a staff member to develop and maintain a

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workforce that "improves outcomes for customers, delivers culturally responsive services, and reflects the diversity of the community it serves." Each agency shall, "develop and implement diversity recruitment, hiring, development, and retention strategies" and "all other elected officials, institutions of higher education, agencies, boards and commissions are invited to follow the provisions of this Executive Order." The order states, "it is the policy of Washington State to proactively build a diverse, inclusive, and culturally competent workforce by eliminating barriers to growth and opportunity, allowing each employee to contribute his or her full measure of talent, and building our capacity to deliver innovative, effective, and culturally relevant services to all the people of Washington."

15. **357-25 WAC. Affirmative Action. 2018.**

WAC 357-25 outlines the functions of the state affirmative action program and the process of state affirmative action reporting. The chapter was established in 2005, and last updated in 2018. The purpose of the chapter is "to provide guidance to employers on affirmative action regarding the development and implementation of affirmative action goals and the monitoring of progress toward those goals." While agencies may be required to report additional data on employees, affirmative action tools may only be used to increase the representation of persons with disabilities, Veterans, and persons over age 40 in applicant and certified candidate pools if it is determined that these groups are underutilized in a particular job group.

16. **Long M.C. Unpublished data: Underrepresentation by University. Unpublished.**

This abstract is based on data presented in the slides and personal communication with Dr. Long (October 2018). In these slides, Long presented unpublished data showing the underrepresentation of minority students (Black, Hispanic, and Native American students) at universities in states that have banned affirmative action, including Arizona, California, Florida, Georgia, Michigan, Nebraska, New Hampshire, Texas, and Washington. For each university, he presented data prior to and after state bans on affirmative action for the percent of underrepresented minority students for high school graduates, freshmen applicants, admitted freshmen, and enrolled freshman. He also showed the gap between underrepresented minority students relative to high school graduates. His data suggested that the decline in underrepresented minority students is due to a decline in admissions. He also concluded that the increase in minority student representation at some universities following bans on affirmative action is due to demographic changes, namely an increase in minority students graduating high school, not due to changes in admissions policies or alternative programs. He also presented data for University of Texas at Austin and Texas A&M prior to and after the University of Texas system reinstated affirmative action in 2004. He found that, while UT-Austin reinstated race-conscious admissions policies and Texas A&M did not, there is no real difference between campuses on the representation of minority students, suggesting that affirmative action is just one of many things driving racial composition at universities. Lastly, he shows that University of Washington has admitted a lower share of minority students in the last few years, widening the gap in underrepresentation.

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17. Kidder W.C., Gandara P. Two Decades After the Affirmative Action Ban: Evaluating the University of California's Race-Neutral Efforts. University of California Los Angeles, The Civil Rights Project;2015.

Kidder and Gandara described the efforts and enrollment outcomes of the University of California system's race-neutral activities following Prop 209, the state ban on affirmative action. The University of California system responded "almost immediately" to the ban on affirmative action with "an array of race-neutral alternatives, including outreach, partnerships with high minority schools, academic preparation programs (some of which it invented), and targeted information and recruitment efforts." The system also implemented a percent plan, invested in reviewing large number of applications, modified admissions criteria, gave special attention to low-income students, developed a need-based financial aid program, implemented evidence-based race-blind programs to promote diversity, and increased private philanthropy. The authors discussed the "educational pipeline" in which the number of underrepresented minority students decreased at each step between 9th grade graduation, high school graduation, application to University of California system, admissions, and enrollment. They stated that, although some studies have found an increase in the number of underrepresented minority students applying to University of California since the ban, "this is more likely a product of the surging proportion of Latino high school graduates and the declining proportion of White high school graduates in California" than the impacts of Prop 209. They presented evidence that the proportion of African American California residents admitted in 2011 was 46% lower than in 1995 before the affirmative action ban, with the largest impacts occurring at UC Berkeley and UCLA (the two most selective University of California schools). The authors also looked at the impact of Prop 209 on UC San Francisco Medical School (ranked the top public medical school in the country), and concluded that "affirmative action bans like Prop 209 worsen an already very difficult physician supply policy challenge that disproportionately threatens the long-term medical care of communities of color." While the article provides additional detail about University of California's alternatives and the impacts of Prop 209, overall, the authors concluded, "in spite of high investments of both human and financial resources in many areas, the [University of California system] has never recovered the same level of diversity that it had before the loss of affirmative action nearly 20 years ago--a level that at the time was widely considered to be inadequate to meet the needs of the state and its young people. It has never come close to a student body representing the state's population."

18. Cauce Ana Mari. Letter from Pres. Cauce to Sen. Hunt 1-24-1812. Seattle, Washington: University of Washington; 2018.

In this letter to Chair Hunt and members of the Washington State Senate Committee on State Government, Tribal Relations, and Elections, University of Washington President Ana Mari Cauce addresses how I-200 has affected the University's "ability to attract and retain the most promising faculty, staff and students." She states, "To those top faculty and staff that we wish to recruit, I-200 sends the message that the UW, and Washington as a whole, does not welcome or value diversity, and when we lose out on attracting these desirable teachers, researchers, innovators and administrators, it is our students and our state that pay the price."

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19. **Fisher Judge. Katuria E. Smith; Angela Rock; Michael Pyle, for themselves and all other similarly situated, *Plaintiffs-Appellants*, v. University of Washington, Law School; Wallace D. Loh; Sandra Madrid; Richard Kummert; Michael Townsend; Roland Hjorth, *Defendants-Appellees*. . In: Circuit USCoAftN, ed. No. 02-35676 D.C. No. CV-9700335-TSZ *Opinion*. Seattle, Washington: United States Court of Appeals for the Ninth Circuit; 2004.**

In this Opinion of the U.S. Court of Appeals for the Ninth Circuit, judges affirm the district court judgment in favor of the University of Washington Law School. Plaintiffs cited three specific aspects of the Law School's admissions program during the relevant years: "(1) a so-called 'ethnicity substantiation letter' that the Law School sent only to some minority applicants;; (2) that Asian Americans were given a plus; and (3) a large number of white applicants were referred to the Admissions Committee rather than being directly admitted by an administrator." The Court held that none of these undermines the district court's finding that the Law School narrowly tailored its consideration of race and ethnicity to meet the compelling interest of obtaining the education benefits of diversity. The court ruling was mute as I-200 passed in 1998 banning affirmative action.

20. **Brown Susan K., Hirschman Charles. *The End of Affirmative Action in Washington State and Its Impact on the Transition from High School to College. *Sociology of Education*. 2006;79(April):106-130.***

This study examined the effects of I-200 (Washington's 1998 affirmative action ban) on applications received from, admissions extended, and enrollment in four-year universities among African American, Hispanic/Latino, and American Indian and Alaska Native students, Authors found both absolute declines (2-3%) in the number of first-year students of color in 1999 compared to 1998 and relative declines (14-16%) following the ban. Declines in underrepresented minority (URM) enrollment were most pronounced at public colleges, particularly at research universities—the University of Washington and Washington State University (WSU). The largest declines in URM student enrollments occurred at UW. Researchers found that high school students of color were less likely to apply to UW immediately following the passage of I-200, but applications received rebounded modestly in 2001-2003. This pattern suggests a "discouragement" effect for all applications by students of color after the affirmative action ban. In 1998, "the admission rates of the underrepresented minorities were slightly higher (82 percent for American Indians, 87 percent for Hispanics, and 84 percent for African Americans) than for whites (79 percent)." In 1999, following the passage of I-200, the admission rates of Washington State African American students decreased 14 percentage points (84% to 70%) and other URM populations experienced smaller declines. Both whites and Asians experienced a modest rise in admission rates. The enrollment rates of accepted URM students has been roughly equivalent to white accepted students (perhaps a few percentage points higher). Asian American students have the highest enrollment (~70%) of those admitted. Authors concluded that the decrease in URM enrollment occurred, in large part due to a drop in applications from these students, many of whom were strong candidates for admission. Affirmative action may have served as a welcoming sign for students to overcome their apprehension and apply to UW. Authors noted, "the finding that affirmative action programs can affect minority application rates stands in contrast to the standard interpretation that affirmative action programs are important only because of their presumed effect on admission rates." These

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findings may be particularly relevant to universities with only a moderate degree of selectivity in admissions decisions, rather than more selective institutions.

21. **Garces Liliana M., Cogburn Courtney D. Beyond Declines in Student Body Diversity: How Campus-Level Administrators Understand a Prohibition on Race-Conscious Postsecondary Admissions Policies. *American Educational Research Journal*. 2015;52(5):828-860.**

Garces and Cogburn conducted 14 interviews with administrators at the University of Michigan to understand the impact of banning the consideration of race/ethnicity in college admissions after the passage of Proposal 2 in 2006. Interviews were completed with administrators responsible for implementing and influencing diversity policy related to race/ethnicity on campus. The authors note that, "in the practice of affirmative action, diversity can refer to various forms of underrepresentation that are linked to social status, such as gender, sexual orientation, nationality, ability, and socioeconomic background. We focus on the racial and ethnic dimensions of diversity because the public debate surrounding affirmative action centers on these factors." They also state that racial/ethnic diversity results in numerous benefits, including enhanced critical thinking skills, improved cross-racial understanding, cultural awareness, civic engagement, cross-cultural workforce competencies, and leadership skills. Previous research in Florida, Michigan, Texas, and Washington showed that affirmative action bans have reduced the enrollment of students of color in various educational settings, notably in undergraduate, law, and medical school enrollment. Other research has also found that affirmative action bans reduce the enrollment of students of color in nearby states as well. The authors also note that, "studies have found that alternative strategies would not restore the number of students of color who would be admitted if race were considered in admissions decisions at most selective four-year institutions." Garces and Cogburn interviewed institutional actors in Michigan after the passage of Proposal 2 (banning affirmative action) to "examine individual actors' understanding of how the law influenced efforts to maintain racial and ethnic diversity at the [University of Michigan]." The University of Michigan had previously "dedicated resources to defend the consideration of race as a factor in admissions, including generating new research to examine the educational benefits of a racially and ethnically [diverse] student body." After the implementation of Proposal 2, University of Michigan experienced a 30% decline in undergraduate enrollment among African American students. Overall, the authors identified four themes related to the university's efforts to maintain diversity among the student body. Banning affirmative action, 1) silenced conversations related to race and racism, 2) decreased the visibility of efforts in support of diversity, 3) disempowered those advocating for racial diversity, and 4) undermined the university's history and commitment to racial diversity. For example, one interviewee explained that, "not being allowed to have programs that directly target students of color has made it more difficult to openly discuss the ways structural inequities inhibit the educational opportunities of students of color." Interviewees also noted that the ban has limited the university's "ability to act as an agent of social change by monitoring and addressing inequality." Another interviewee noted that, while the law had the potential to reaffirm the universities commitment to diversity and to seek creative opportunities to ensure diversity, the ban instead led to resignation, disempowerment, and immobilization. Overall, they found that the ban decreased student diversity and negatively influenced other work critical to

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the success of students of color on campus. The authors concluded that, “ultimately, the framing underlying bans on affirmative action ignores a broader context of accumulated disadvantage for students of color from past and ongoing racially discriminatory practices, which affirmative action policies were originally intended to address.”

22. Yagan Danny. Supply vs. demand under an affirmative action ban: Estimates from UC law schools. *Journal of Public Economics*. 2016;137(2016):38-50.

Yagan used administrative application-level data to explore two channels by which affirmative action bans can reduce black enrollment by contracting demand for and supply of applicants of color. He used Law School Admissions Council records of application information (i.e. student race, LSAT test score, undergraduate grade point average [GPA], application year, law school submitted to) and the admission decision for every application filed. Using this primary dataset, Yagan restricted analysis applicants to UC Berkeley, UCLA, or one of the 15 most-applied-to schools that were never subject to an affirmative action ban. The final Elite Applications to Law School (EALS) sample comprises 25,499 applications submitted by 5,353 applicants between fall of 1990 and fall of 2006. The sample was 61% white, 10% black, 19% Asian, and 10% Hispanic. First, evidence indicates a 41.5% average decline in applications to UC Berkeley and UCLA from less-credentialed black applicants who could no longer expect admission (supply contraction), although the analysis found no evidence of decline in applications from highly credentialed black applicants. "This implies that the average post-ban black applicant to UC schools was substantially more highly credentialed than the average pre-ban black applicant, relative to contemporaneous white applicants. Hence, raw changes in the black-white admission rate gap...can fail to reflect changes in black admission advantages (demand responses)." Second, Yagan calculated a triple-difference estimate of the effect of the ban on the black admission rate (supply responses) at each UC school when holding the applicant pools constant: -29.9% at UC Berkeley (relative to the actual pre-ban black admission rate of 56.7%) and -40.7% at UCLA (relative to the actual pre-ban black admission rate of 64.5%). Despite the large effects of the ban, admission offices' practices including adding diversity essays and weight to non-racial black-correlates like family income following the ban helped reduce the negative admissions impact. Thus, "holding the applicant pool constant at pre-ban levels, post-ban UC schools sustained average black admission advantages over observably similar whites equal to [22.5%]." Yagan concludes, after holding applicant characteristics constant at pre-ban levels, the ban cut black law school admission rates by roughly half at both UC Berkeley and UCLA.

23. Harris A. L., Tienda M. Minority Higher Education Pipeline: Consequences of Changes in College Admissions Policy in Texas. *Ann Am Acad Pol Soc Sci*. 2010;627(1):60-81.

This paper uses administrative data for the two most selective Texas public institutions (UT-Austin and Texas A&M) to examine the application, admission and enrollment consequences of rescinding affirmative action and implementing the top 10% admission regime. Authors simulated the gains and losses associated with each policy approach (i.e., affirmative action, no policy, and Top 10%) and also those from assigning students of color the application, admission and enrollment rates for white students. The analyses which consider both "changes in the size of high school graduation cohorts and institutional carrying capacity show that the uniform

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admission regime did not restore Hispanic and black representation at UT and Texas A&M even after four years." Results challenge claims that the top 10% law restored diversification of Texas's public flagships. "Simulations of gains and losses at each stage of the college pipeline across admission regimes for Hispanics and blacks confirm that affirmative action is the most efficient policy to diversify college campuses, even in highly segregated states like Texas."

24. **Bastedo Michael N., Howard Joseph E., Flaster Allyson. Holistic Admissions After Affirmative Action: Does "Maximizing" the High School Curriculum Matter? *Educational Evaluation and Policy Analysis*. 2016;38(2):389-409.**

The authors Bastedo et al. conducted analyses of nationally representative data to determine the effect of "maximizing the curriculum" in high school on college admissions across racial groups, rurality, SES, and state-specific legality of affirmative action. Washington State does ban affirmative action, and thus is included in this analysis in the states that have such bans. The authors formulate the following hypotheses based on extensive literature review: H1a: Due to limited course offerings within underserved high schools, students from rural high schools and those with predominantly low-SES and underrepresented minority (URM) populations will be more likely to max out their high school curricula than students from suburban high schools and those with predominantly White and Asian populations. H1b: Due to the stratification of course enrollments within schools, URM students will be less likely to max out their high school curriculum than White and Asian students. H1c: Due to the stratification of course enrollments within schools, students from low-SES backgrounds will be less likely to maximize their high school curriculum than students from high-SES backgrounds. H2: Students who maximize their high school curriculum will be more likely than their non-maximizing counterparts to be admitted to a selective institutions, controlling for academic and demographic traits. H3: Curriculum maximization will have a greater positive influence on admission to public colleges in states with affirmative action bans than in public colleges located in states without affirmative action bans. The data were from the Educational Longitudinal Study (ELS) of 2002, which gives a nationally representative sample of 10th graders in the 2004 U.S. high school class. The authors selected participants who had applied to at least one institution classified as very, highly, or most competitive (n = 3,477 applicants). The authors used Barron's Profiles of American Colleges for college rankings. The authors conducted multivariate analyses using linear probability regression. This study is limited due to the correlational nature of the analyses, but because the data are longitudinal, the authors can determine a clear order of events and outcomes in the applicants, which suggest at causation. H1a-c: The authors found support for H1a – students in rural schools had higher maximization indices in English and science. They also found support for H1b and H1c. Disadvantaged students generally have lower maximization indices than advantaged students. URM students had math maximization indices that were 0.27 standard deviations (SDs) lower than White and Asian students. H2: "Scant support" was found for H2. Controlling for other variables, curriculum maximization does not have a strong relationship to admissions, with the one exception of math maximization specifically at very competitive institutions. Overall, disadvantaged students do not benefit disproportionately from holistic admissions reviews. H3: The authors found support for H3. Public universities in states with affirmative action bans (such as Washington State) have greater utilization of holistic review processes than those in states which do not ban affirmative action in admissions. In these

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states with affirmative action bans, the authors found no statistically significant advantage for URM applicants. In the end, White and Asian students were more likely to benefit from curriculum maximization than URM students, all other variables held constant. Holistic review processes cannot compensate for affirmative action.

25. **Garces Liliana M., Mickey-Pabello David. Racial Diversity in the Medical Profession: The Impact of Affirmative Action Bans on Underrepresented Student of Color Matriculation in Medical Schools. *The Journal of Higher Education*. 2016;86(2):264-294.**

Garces and Mickey-Pabello examine the causal impact of affirmative action bans on public and private medical school matriculation rates for students of color in California, Florida, Michigan, Nebraska, Texas, and Washington. States with affirmative action bans account for 35% of research-ranked public medical schools, and 29% of primary-care ranked public medical schools in the U.S. While previous research has examined the impact of affirmative action bans on admissions into undergraduate, law, and other graduate programs, no studies have looked at the impact on medical school matriculation. The authors note that racial and ethnic diversity among healthcare professionals results in greater access to care, more positive patient-provider interactions, and improved cross-cultural competencies, thereby improving access to and quality of care for underserved communities and communities of color. African Americans, Latinos, and Native Americans are underrepresented in the health professions relative to their proportion of the U.S. population. For example, 16% of the U.S. population is Latino, but only 9% of the medical school enrollment. Fourteen percent of the U.S. population is African American, and only 7% of medical school enrollment. The authors note, "to address these concerns, medical schools have long defended the need for race-conscious admissions policies or the ability to consider race or ethnicity as one of many factors in admissions decisions." The 1978 U.S. Supreme Court decision in *Regents of the University of California v. Bakke* concluded that race could be used as a factor in admissions for medical school to achieve a diverse student body that would further the university's educational mission. To determine the impact of the bans on medical school matriculation, the authors evaluated matriculation data from 1993 to 2011 and looked at differences in matriculation at medical schools before and after the implementation of the ban (n=27 medical schools) as well as differences in matriculation at medical schools in states that banned affirmative action (n=27 medical schools) and states that did not (n=78 medical schools). For public medical schools, the authors found a statistically significant decline in the matriculation of students of color than would have been expected if no bans had been in place. Although not statistically significant, matriculation also decreased at private institutions. The authors did not find evidence to suggest that "students of color switched to private institutions from public ones in states with bans, potentially mitigating the impact of the bans at public medical schools in these states." Overall, they found that affirmative action bans in six states resulted in a 3.2 percentage point decline (17.2% decline overall) in matriculation of students of color into public medical schools. They state, "these findings suggest that affirmative action bans impede the ability of postsecondary institutions to train a racially and ethnically diverse physician workforce and, as a result, to address the health crisis facing the nation." They write, "the decline in the enrollment of underrepresented students of color found in the states in our study poses a significant barrier to the medical profession's efforts to train all doctors to address the health care needs of patients of color more effectively...A decline in the racial and

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ethnic diversity of the student body at medical schools will exacerbate [health] disparities, as a racially diverse student body has been shown to produce more culturally competent physicians, and physicians who are from underrepresented minority groups are more likely than their nonminority peers to serve minority populations and provide care to other medically underserved populations."

26. **Mensah M. O., Sommers B. D. The Policy Argument for Healthcare Workforce Diversity. *J Gen Intern Med.* 2016;31(11):1369-1372.**

Mensah and Sommers consider potential implications that a nationwide ban on affirmative action in medical school admissions could have on patient care. They estimated how changes in the percentages of underrepresented minority students in medical school enrollment could impact the number of new primary care providers serving low-income populations. They stated that, "a physician's race and ethnicity are among the strongest predictors of specialty choice and whether or not a physician cares for Medicaid and uninsured populations." Using race and ethnicity data for students entering medical school from 2011 to 2014, the authors estimated healthcare workforce diversity for 2025. They ran three different scenarios: 1. status quo; 2. affirmative action bans, which used an older projection that bans would reduce underrepresented minorities in medical school by 70 percent; and 3. "Racial Parity," which estimated the impact if the race and ethnicity of students in medical school matched the demographics of the U.S. general population. Overall, the authors found that a nationwide affirmative action ban would result in a 14 percent (361 providers) decrease in primary care providers serving low-income and uninsured patients as compared to the status quo. Using national ratios of one primary care provider to 3500 patients, the authors concluded that an affirmative action ban, "could deny primary care access for 1.25 million of our nation's most vulnerable patients, considerably worsening existing healthcare disparities." Using the "racial parity" scenario, the authors also estimated that a representative medical school class could increase primary care providers serving low-income and uninsured patients and "provide a primary care workforce capable of caring for 739,000 more low-income [individuals living in the U.S.] compared to the status quo." They noted that one limitation to their analysis is that, by using data from 2011 to 2014, their dataset includes states that have banned affirmative action. This could underestimate the impacts of a nationwide affirmative action ban if the enrollment of underrepresented minorities has declined in these states. However, the authors stated, "while these limitations may make our overall estimates more uncertain, they are unlikely to reverse the central finding of our analysis--namely, that a more diverse workforce is more likely to care for vulnerable populations in primary care settings than is a less diverse workforce. Thus, we find that an affirmative action ban would likely exacerbate barriers to primary care in communities with the greatest need...The likely impact of an affirmative action ban is therefore a worsening of healthcare disparities related to income, geography, and [race and ethnicity]." The authors also stated, "medical student diversity and primary care access for underserved communities are inextricably linked."

27. **Education Council on Graduate Medical. Supporting Diversity in the Health Professions.2016.**

In 1986, Congress authorized the Council on Graduate Medical Education to "provide an ongoing assessment of physician workforce trends, training issues, and financing policies" and to

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provide recommendations to address identified needs to the U.S. Department of Health and Human Services; the U.S. Senate Committee on Health, Education, Labor, and Pensions; and the U.S. House of Representatives Committee on Energy and Commerce. The council consists of 17 members. Specifically, they are required to provide recommendations related to the supply and distribution of physicians; predicted shortages and excesses of physicians; international medical school graduates; medical education training; areas for improvement in existing databases related to the supply of physicians and training programs; and the development of performance measures, evaluations, and appropriation levels related to recommendations. The report states that, "racial and ethnic diversity among health professionals has been shown to promote better access to healthcare and improved healthcare quality for underserved populations, and to better meet the health needs of an increasingly diverse population." In addition, a report from Health Resources and Services Administration (HRSA) summarized that improving the diversity of the healthcare workforce "could lead to improve public health through 'greater access to care for underserved populations and better interpersonal interactions between patients and health professionals.'" The council found that racial and ethnic minorities are underrepresented in the healthcare workforce due to cost, academic preparation, unwelcoming campus climates, and lack of social and emotional support. Underrepresented minorities are more likely to be employed in lower skilled health occupations (e.g. home health aides, technicians). The report describes current health workforce diversity programs, and summarizes studies examining the impact of these programs. Related specifically to holistic admissions processes, the report cited a study from Robert Wood Johnson Foundation that, "employing a more holistic admissions process increased applications and admissions offers for [unrepresented minority] dental students." Overall, the report concluded that, "we have insufficient evidence regarding which programs support best practices and are most effective, thus policy makers and educators have insufficient information to develop effective programs and maximize investments." Since there is little evidence of the effectiveness of programs to support diversity in the health workforce, the council made two recommendations: 1) Invest in longitudinal evaluation of health professions training for diversity programs (e.g. programs addressing the educational pipeline). 2) Develop an evidence base to understand which programs are most effective in supporting diversity in the health professions, including programs that promote the inclusion of students from all racial and ethnic backgrounds.

28. Snyder C.R., Frogner B.K., Skillman S.M. Facilitating Racial and Ethnic Diversity in the Health Workforce. *Journal of Allied Health*. 2018;47(1):58-65d.

Snyder et al. described changes in the racial and ethnic diversity of the healthcare workforce over the past 10 years, and summarized research about the effectiveness of various programs designed to increase diversity. They state that, "a racially and ethnically diverse health workforce has been shown to promote better access and healthcare for underserved populations as well as to better meet the needs of an increasingly diverse population." Snyder et al. evaluated occupation data from the 2005 and 2014 American Community Survey to determine percentages of people of color in each health-related occupation. Specifically, they looked at six racial and ethnic categories, including Hispanic/Latino, Black/African American, White, Asian or Pacific Islander, American Indian/Alaska Native, and mixed race or other. They found that the healthcare workforce was more racially diverse than the U.S. general population, and had become

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increasingly diverse in the past 10 years. The healthcare workforce a lower percentage of Whites, and higher percentages of African Americans, Asian/Pacific Islanders compared to the U.S. population. However, “the health workforce had a considerably lower share of Hispanic/Latinos (11.1% vs 17.3%) compared with the U.S. population.” They also found diversity varied by occupation, and that people of color were more likely to be represented in entry-level, lower-skilled health occupations, including nursing aides, personal and home care aides, technicians, and various diagnostic and treatment practitioners (e.g. acupuncturist, naturopathic physician). They stated, “thus, people of color remain underrepresented in many highly-skilled occupations—which most often require higher levels of education and specialization, and are often accompanied by higher wages—with little improvement over the last 10 years.” Snyder et. al. also conducted a review of literature to first determine what efforts have been used to increase diversity of the healthcare workforce, and then to determine how effective these efforts have been in increasing racial and ethnic diversity. The authors noted that there is less research evaluating efforts to recruit and retain students of color in graduate and professional programs, especially in the health professions. Efforts to increase diversity included “mentoring, financial assistance, holistic admissions, targeting recruitment, and career development opportunities.” The most successful programs included multifaceted and comprehensive efforts. Related to holistic admissions programs (which often consider race) concluded that, “research and evaluation suggested that targeting recruitment and restructuring admissions policies to be more holistic and comprehensive were promising practices to increase the number of racially and ethnically diverse students who applied and were admitted to health profession schools.” They summarize research that showed, “institutional-level case studies of holistic admissions models also supported the idea that restructuring admissions to be more holistic was useful in recruiting and admitting a more racially and ethnically diverse incoming class.” However, the authors also noted that there is little evidence related to long-term impact of these programs on persistence, graduation, career, or representation of people of color in healthcare professions.

29. Administration Health Resources and Service. The Rationale for Diversity in the Health Professions: A Review of the Evidence. U.S. Department of Health and Human Services

2006.

U.S. Department of Health and Human Services (U.S. DHHS) summarized the evidence that improving diversity of the healthcare workforce will improve public health and population health outcomes. They present four hypotheses: 1) Service pattern hypothesis: Healthcare workers from racially and ethnically diverse backgrounds are more likely to serve disadvantaged populations, “thereby improving access to care for vulnerable populations and in turn, improving health outcomes.” 2) Concordance hypothesis: Healthcare workers from racially and ethnically diverse backgrounds will “improve the quality of communication, comfort level, trust, partnership, and decision-making in patient-practitioner relationships.” In turn, this will increase appropriate health care and improve health outcomes. 3) Trust in healthcare hypothesis: Increased healthcare workforce diversity will increase the trust of minority and socioeconomically disadvantaged populations in the health system, and increase their likelihood to access health services, improving health outcomes. 4) Professional advocacy hypothesis: Healthcare workers from racially and ethnically diverse backgrounds will be “more likely than others to provide

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leadership and advocacy for policies and programs aimed at improving health care for vulnerable populations.” This will increase access to care, improve quality of care, and improve health outcomes for these populations. In all, U.S. DHHS reviewed 586 articles and included 55 studies in the final review, including 17 articles related to service pattern hypothesis, 36 articles related to the concordance hypothesis, and 2 articles related to trust in health care hypothesis. In addition to a search for published literature, they also conducted a search of the gray literature and spoke to health research experts to identify additional evidence that may not have been captured by their search. All of the articles included studies completed in the U.S. and published after 1985. They presented results for each hypothesis. 1) Service pattern hypothesis: U.S. DHHS found a large and consistent body of evidence supporting the hypothesis that providers of color were more likely to serve patients of color, low-income patients, patients without health insurance, and patients living in areas with limited provider availability, thereby increasing access to care and usual source of care for these communities. Both of these factors also lead to improved health outcomes. They cited 13 separate studies that “documented that [physicians of color] tend to provide a disproportionately large share of health care for patients from their own racial and ethnic backgrounds.” A nation-wide survey from 2001 found that “24.5 percent of African Americans, 27.6 percent of Latinos, and 45.3 percent of Asians reported having a regular physician from their own racial group, figures that are well above the proportion of each of these racial groups in the U.S. physician workforce.” Several articles also found that race was a stronger predictor than socioeconomic status for whether or not a provider served underserved communities. They stated, “findings such as this indicate that, with regard to increasing the number of health professionals caring for underserved populations, diversity programs targeting only individuals from socioeconomically disadvantaged backgrounds will likely be less effective than programs that explicitly consider race and ethnicity.” 2) Concordance hypothesis: U.S. DHHS identified articles examining patient-provider racial, ethnic, and language concordance (e.g. when patient and provider are of the same race or ethnicity or speak the same language), and the impact on access to care, quality of care, and health outcomes. Overall, “studies addressing patient-practitioner racial or ethnic concordance on access to care and use of health services, quality of care, and health outcomes provided mixed results.” Results tended to vary by race/ethnicity. For example, one study found that race concordance led to fewer unmet health needs and greater use of preventive healthcare for African Americans, but not for Latinos. However, overall, patients of color received better interpersonal care from providers of their own race and ethnicity; and patients with limited English proficiency receive better interpersonal care and are more likely to understand their care and keep follow-up appointments when they see a provider who speaks their first language. Other studies showed that race concordance improved communication and improved patient ratings of their healthcare encounter, suggesting that “while communication training for health professionals may improve the quality of care for [patients of color], it is unlikely to serve as a substitute for increasing the number of minority health professionals.” Related to health outcomes, they evaluated 12 studies, and found mixed results for mental health outcomes. They also included one study that found that, “white patients received protease inhibitors [medication that reduces the progression of HIV to AIDS] earlier than African Americans, but that among patients with race concordant providers, this disparity was eliminated.” U.S. DHHS noted that this study is important because it shows that race concordance can “reduce racial disparities not only in health care, but in health and mortality.” For language concordance, studies generally demonstrated a positive impact on access to care,

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use of healthcare, and quality of care. Their review found insufficient evidence that healthcare workforce diversity increased trust in the healthcare system (trust in health care hypothesis), and did not find any empirical studies showing that improved diversity increases advocacy or implementation of policies and programs for communities of color (Professional advocacy hypothesis). They noted that the majority of research has been conducted with physicians, and that additional research is needed to look at the impacts of improving diversity in other health professions (e.g. nursing). Overall they concluded, "health professions diversity will likely lead to improved public health by increasing access to care for underserved populations, and by increasing opportunities for [patients of color] to see practitioners with whom they share a common race, ethnicity, or language...which is associated with better patient-practitioner relationships and communication, [and] may increase patients likelihood of receiving and accepting appropriate medical care."

30. Does Diversity Matter for Health? Experimental Evidence from Oakland. National Bureau of Economic Research 2018; Available at. Accessed, June 2018.

Aslan et al. conducted a field experiment in Oakland, California, to examine the effect of diversity in the physician workforce on the demand for preventative care among African-American men. Researchers used a two-stage design to measure participants' decisions about cardiovascular screening and the flu vaccine before and after meeting their randomly assigned doctor (i.e., black or non-black [Asian or white]). In the first stage (ex ante) of the study, patients were introduced to their doctor via tablet (text and photo) and have the option to select which, if any, of the four advertised cardiovascular screening services they would like to receive. After making their selection, subjects could elect to receive a flu shot administered by their doctor; a portion of the patients were randomized to receive a financial incentive for opting to receive the flu shot. In the second stage (ex post), subjects met their assigned doctor and could revise their choice of selected preventive services. Results indicate that patients assigned to black doctors are 18 percent more likely to take up preventive services after interacting with their doctor relative to those assigned to non-black doctors. Results showed that patients were 29 percent more likely to talk with their black male doctors about their health problems. Additionally, black doctors were 35 percent more likely to write notes about their black patients than non-black doctors. Finally, both non-black and black doctors increased demand in the second stage of the study relative to the first stage for non-invasive tests (i.e., do not require blood or injection); albeit, evidence indicates a large effect among black physicians. However, for invasive tests, only those assigned to black doctors responded: "increasing their take-up of diabetes and cholesterol screening by 20 and 26 percentage points (47% and 72%), respectively." Additionally, subjects assigned to a black doctor increased their take-up the flu shot in the second stage at every incentive level. Meanwhile, participants who originally chose the flu shot then met with a non-black doctor often reversed their decision, especially at the \$10 incentive level. Authors noted this is "consistent with the notion that subsidies and interacting with a black doctor are not perfect substitutes for increasing demand. These experimental findings showing improved communication for black male patients paired with black male doctors are consistent with those collected in a non-experimental manner. Findings suggest black physicians could help reduce cardiovascular mortality by 16 deaths per 100,000 per year, amounting to a 19% reduction in the black-white male gap in cardiovascular mortality.

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31. Awosogba T., Betancourt J. R., Conyers F. G., et al. **Prioritizing health disparities in medical education to improve care.** *Ann N Y Acad Sci.* 2013;1287:17-30.

Awosogba et al. discuss the determinants of disparities in health, health quality, and access to health care, which they have listed as including baseline health status, race and ethnicity, culture, gender identity and expression, socioeconomic status, region or geography, sexual orientation, and age. The authors underscore the importance of acknowledging healthcare providers as the “gatekeepers and value setters for medicine” and the responsibilities that come with that role in eliminating health disparities. Social determinants of health – Significant disparities in health outcomes in the US are due to race [racism], ethnicity, socioeconomic status, education, immigration status, sexual orientation, and geography. Conversely, clinical care only determines 10% of health status and premature mortality. Spending on healthcare is also not proportional to health outcomes. For example, Native Americans receive excellent screening for diabetes, yet they have the highest death rates from the disease. The author argues that spending cannot undo “decades of chronic poverty, high unemployment, poor educational attainment, unhealthy food options, poor housing and a fragmented social network – the social determinants of health and disease.” One attempt to combat this through education is the UNM Public Health Certificate required for all medical students, as well as the Health Extension Rural Offices (HEROs) program, which provide education in and address social determinants of health. Pomeroy, one of the authors cited in this review, also emphasizes the importance of a “health in all policies” approach as being of critical importance. Culturally competent education – patients are highly diverse people who present symptoms differently and seek and utilize care differently. Social and cultural differences between provider and patient can lead to worse healthcare and health outcomes. Thus, healthcare providers must also be diverse and culturally competent in order to provide appropriate and high quality care. The Institute of Medicine published a report, *Unequal Treatment*, which emphasized the importance of cross-cultural education as a way to improve cross-cultural communication and thus reduce disparities in healthcare quality. Changing curricula – it is imperative that students and physicians in their residency are provided with understanding of health disparities and are equipped with tools to address the disparities which are modifiable. In 2010 the NYU School of Medicine introduced a more patient-centered curriculum in which the preclinical class time is shortened to 18-months, and more time is spent in a clinical setting with case studies, giving students the opportunity to look more deeply into determinants of health through the lens of their specialty. Promoting diversity – One key component in addressing the needs of a diverse patient population is developing an “appropriate workforce”, including improving the diversity of the composition of the workforce as well as overhaul organizational culture to better address engagement and inclusion. The authors note “decades of experience have shown that the passive presence of diversity within organizations, especially below a critical mass, is not sufficient to realize its deepest potential value.” This idea extends not only to healthcare providers but also to translational researchers and the promotion of translational research specifically looking at health disparities. Many people from underrepresented populations in healthcare are encouraged to practice in underserved communities, leaving the medical research workforce lacking even more so in diversity. The authors summarize Mekbib Gameda as saying the key is “curriculum innovation: to integrate health disparities education into medical school curricula; to focus on the social determinants of

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health; to understand interventions across social, behavioral, clinical, and policy paradigms, and to engage students in community-based research and education (...) these efforts, he argued, were the likeliest means of truly encouraging diversity within academic medicine.”

32. Council Health Workforce. 2017 Annual Report. Workforce Training and Education Coordinating Board;2017.

The Washington State Health Workforce Council was established in 2001 to address growing concerns about personnel shortages in Washington State's healthcare industry. The main role of the council is to update policymakers on health workforce supply and demand, track progress of new programs, and convene key stakeholders to develop and advocate for sustainable solutions to ensure a sufficient supply of skilled workers and professions across a range of occupations and the state. The council is made up of members representing education and training institutions, healthcare organizations, migrant and community health services, labor and professional associations, and employer representatives. The current chair represents the University of Washington, School of Medicine. The council stated that, "Washington grapples with a shortage of healthcare workers, in the midst of an increasingly diverse and aging population needing more services and rapid changes in health care delivery." In their 2017 Annual Report, the council provides recommendations to address challenges in accessing behavioral health services. One recommendation was to, "improve workforce supply, distribution, and diversity" and included actions such as providing financial support to those pursuing careers in behavioral health, convening education programs to identify mismatches in skills of graduates and needs of employers, improving health literacy, increasing the use of peer counselors and community-based workers, expanding access to evidence-based teaching models, creating career pathways and opportunities for certification.

33. Healthy People 2020: Access to Health Services. 2018; Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/Access-to-Health-Services>. Accessed October 2018, 2018.

Although the Affordable Care Act of 2010 increased opportunities to access health insurance, many individuals still lack coverage. Access to health insurance and healthcare varies by race/ethnicity, socioeconomic status, age, sex, disability status, sexual orientation, gender identity, and geography. As a result, one goal of the Healthy People 2020 initiative is to improve access to healthcare by improving access to health insurance coverage, health services, and timeliness of care. Healthy People 2020 found that “access to comprehensive, quality health care services is important for promoting and maintaining health, preventing and managing disease, reducing unnecessary disability and premature death, and achieving health equity for all Americans.” Barriers to accessing healthcare “lead to unmet health needs, delays in receiving appropriate care, inability to get preventive services, financial burdens, [and] preventable hospitalizations.” Access to health insurance is the first step to improving access to health services generally as it provides entry into the healthcare system. Individuals who are uninsured are, “more likely to have poor health status, less likely to receive medical care, more likely to be diagnosed later, and more likely to die prematurely” than individuals with insurance. Improving access to health services includes ensuring people have a “usual and ongoing source of care (that is, a provider or facility where one regularly receives care.” Patients with a usual source of care

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experience better health outcomes, fewer health inequities, lower health costs, and better use of preventive health services. Lastly, delay in healthcare can negatively impact health outcomes and also result in, “increased emotional distress, increased complications, higher treatment costs, and increased hospitalizations.” Healthy People 2020 noted that “future efforts [to improve access to care] will need to focus on the deployment of a primary care workforce that is better geographically distributed and trained to provide culturally competent care to diverse populations.”

34. **Hadley Jack. Sicker and poorer--the consequences of being uninsured: a review of the research on the relationship between health insurance, medical care use, health, work, and income. *Medical Care Research Review*. 2003;60(June 2003):3S-75S.**

As part of this systematic review of literature more than 9,000 citations were screened for inclusion; 285 distinct, potentially relevant articles were identified for more detailed review; and 54 analyses (in 51 distinct studies) were included in the detailed review. The final set of studies of health outcomes were organized into three major groups: (1) studies of the relationship between insurance status and the outcomes of specific diseases or conditions, (2) studies of the relationship between insurance status and either general mortality or morbidity/health status, and (3) studies of the relationship between medical care use and mortality. "Overall, 43 analyses report statistically significant and positive relationship, and 11 have results that are not statistically significant. However, of those 11, 4 have quantitative estimates that are similar to those of comparable studies with statistically significant results, and 4 provide partial results supporting a positive relationship between health insurance or medical care use and health." Despite all studies reviewed suffered from methodological flaws, "one general observation emerges: there is a substantial degree of qualitative consistency across the studies that support the underlying conceptual model of the relationship between health insurance and health." The author concludes, "there is a substantial body of research supporting the hypotheses that having health insurance improves health and that better health leads to higher labor force participation and higher income."

35. **Kozhimannil K. B., Hardeman R. R., Henning-Smith C. Maternity care access, quality, and outcomes: A systems-level perspective on research, clinical, and policy needs. *Seminars in Perinatology*. 2017;41(6):367-374.**

Kozhimannil, et al. found that rural residents, low-income individuals, and people of color have less access to maternity care in the United States, including access to prenatal care, labor and delivery care, emergency obstetric care, and postpartum care. Factors such as health care financing, health care delivery and organization, and the policy context contribute to access to reproductive health services. The authors state that, "multiple other factors- and the intersection of these factors- affect need for, access to, quality, and outcomes of maternity care. These factors include clinical conditions, health insurance coverage, geographic location (rural or urban), and sociodemographic characteristics including race and ethnicity."

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36. **Kidder William C., Lempert Richard. The Mismatch Myth in American Higher Education: A Synthesis of Empirical Evidence at the Law School and Undergraduate Levels. *Social Science Research Network Electronic Journal*. 2014(January 2014).**

Kidder and Lempert present a "comprehensive examination of the empirical literature testing the academic mismatch hypothesis as it applies to affirmative action and students of color in U.S. higher education." The paper focuses on the mismatch research addressing American legal education and includes a detailed assessment of the empirical basis of claims made by other researchers--showing flaws in their work, including questionable claims and methodological choices. In particular, this paper called into question all research using the LSAC Bar Passage Study. Authors argued that the decision to treat schools in tiers 2 and 3 in that study as separate and hierarchically ordered is statistically unjustified and "due to idiosyncrasies in the data and factors that in fact distinguish these tiers serves to enhance the odds of finding a mismatch effect while lowering the likelihood of finding reverse mismatch effects." Kidder and Lempert also review research on mismatch at the undergraduate level, specifically examining the outcomes of graduation rates and earnings and again finding that the mismatch hypothesis lacks empirical support and is less plausible than claims made for a reverse mismatch effect. "In examining both legal and undergraduate education, this paper both critiques work that purports to find evidence of mismatch and references numerous studies that find no evidence of mismatch effects or evidence of reverse mismatch effects, including studies that use state of the art methods to control for selection bias. Overall the social science evidence points clearly in one direction: affirmative action as practiced today is not plagued by mismatch effects; indeed the evidence indicates that underrepresented minority students tend to do better over the life course if they attend the most selective school that will admit them."

37. **Alon Sigal, Tienda Marta. Assessing the "Mismatch" Hypothesis: Differences in College Graduation Rates by Institutional Selectivity. *Sociology of Education*. 2005;78(October):294-315.**

This study uses two nationally representative longitudinal surveys and a unique survey of students enrolled at selective and highly selective institutions to test the mismatch hypothesis by jointly considering enrollment in and graduation from selective institutions as interrelated outcomes. The mismatch hypothesis suggests that "the lower average graduation rates of 'affirmative admits' results from a mismatch between their academic preparation--indicated by their lower scores on standardized college entrance examinations and high school grades--and the scholastic requirements of the schools that admitted them by taking race into account." Thus, "a better match between the academic credentials of [students of color] with the average of the institutions they attend will lead to stronger performance, including higher graduation rates and postgraduate activities." The analysis found that although enrollment and graduation of students of color from selective postsecondary institutions have increased since 1980, racial/ethnic disparities in graduation rates have persisted. However, "six-year graduation rates are higher, on average, at selective than nonselective institutions." For example, between 1982 and 1992, the graduation rate of black students rose at both nonselective (26% to 48%) and selective institutions (52% to 72%). Results of multivariate analyses found a positive causal impact of institutional selectivity on the likelihood of graduation, regardless of the estimation strategy

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used. Study findings refute the mismatch hypothesis for all students, but indicate particular gains for black and Hispanic students who attended elite colleges.

38. **Small Mario L., Winship Christopher. Black students' graduation from elite colleges: Institutional characteristics and between-institution differences. *Social Science Research*. 2007;36(2007):1257-1275.**

Researchers used the College and Beyond (C&B) dataset to attempt to answer three questions: Do institutional factors affect black students' probability of graduation? Do they account for between-institution differences in black graduation? And are institutions where blacks have a high probability of graduation the same as those where whites do? The dataset comprised of 1989 first-year cohort members includes four large, highly selective public universities from which all black students, all athletes, and a random sample of 500 remaining white students were selected. The study sample is limited to blacks (n=2,294) and whites (n=23,903). The dependent variable was whether students graduated within 6 years from the college they entered in 1989. Authors examined eight institutional factors: 1) selectivity; 2) grading leniency; 3) wealth; 4) service expenditures; 5) number of black students; 6) geographic isolation; 7) Black-white SAT gap; and 8) percent of students black. When controlling for all other characteristics simultaneously, researchers found only selectivity had a significant effect on black students' chances of graduation. Results showed "the difference in the predicted probabilities of graduation between blacks and whites is reduced significantly as the institution becomes more selective." Specifically, at institutions with very low selectivity, "a black student with average characteristics has a probability of graduating about 13% points lower [statistically significant at .05 level] than a white student with those same characteristics." Whereas, in a highly selective school, the difference narrowed to 3.6% points [statistically significant at .05 level]. Overall, findings suggest that: (1) black students with adequate pre-college preparation are likely to persevere and graduate; (2) institutional selectivity is statistically significantly associated with probability of graduation (more so for blacks than for whites); and (3) both individual characteristics and selectivity affect black and white graduation rates. The third finding suggest that institutions "have different black graduation rates because they differ in their ability to graduate students more generally." Authors recommend future analyses that examine other institutional factors (e.g., presence of black faculty).

39. **Hinrichs Peter. Affirmative action bans and college graduation rates. *Economics of Education Review*. 2014;42:43-52.**

Hinrich used data from the National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS) to estimate the effects of affirmative action bans on graduation rates and undergraduate degree attainment by race. Data are analyzed for first time college students, who are enrolled full-time in a degree program. The analysis includes "four-year and six-year graduation rate data from the IPEDS for each year between 2002 and 2009, which covers students who entered universities between 1996 and 2003." Observations from five states (Alabama, Georgia, Louisiana, Michigan, and Mississippi) that were in jurisdictions where "there was important affirmative action litigation but that did not have outright bans on affirmative action." Results suggest that the effects of affirmative action bans on graduation rates for black and Hispanic students are small relative to the effects on enrollment. However, the

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regression results suggest that "blacks and possibly Hispanics are less likely to receive a degree from a selective college when affirmative action is banned." Specifically, "the share of blacks entering four-year colleges who become graduates of universities in the top two tiers of the U.S. News rankings [fell] by 0.93 percentage points, and the share that become graduates of universities in the top 50 [fell] by 1.54 percentage points." Results are both statistically and practically significant and indicate that "affirmative action bans result in fewer blacks becoming graduates of elite institutions." In conclusion, "since fewer underrepresented minorities are admitted to selective colleges when affirmative action is banned, fewer underrepresented minorities become graduates of selective colleges."

40. **Cortes Kalena E. Do bans on affirmative action hurt minority students? Evidence from the Texas Top 10% Plan. *Economics of Education Review*. 2010;29(2010):1110-1124.**

Using data from the Texas Higher Education Opportunity Project (THEOP), Cortes applied a difference-in-differences approach to analyze the effect of the change in admissions policies on fall-to-fall freshmen retention and six-year college graduation for URM (i.e., black, Hispanic, and Native American) students ranked in the second and lower deciles. She assumed students ranked in the first decile who were qualified under both admissions policies were unaffected by the Top 10% Plan, while students ranked in the second and lower deciles were likely impacted. "These students were largely left to enroll in less selective colleges under the alternative admissions policy." The analysis examined the effects of lower admission rates of URM students to (and ultimately lower attendance at) selective public colleges during the Top 10% Plan. Data from UT-Austin, Texas A&M, Texas Tech University (Texas Tech), Texas A&M University at Kingsville (TAMU-Kingsville), the University of Texas at San Antonio (UT-San Antonio), and the University of Texas at Pan American (UT-Pan American) were used in the analysis. Of the six universities, UT-Austin and Texas A&M are considered the most selective public state colleges in Texas. Descriptive statistics from UT-Austin or Texas A&M show "the admission rates of [URM] students ranked in the second and third (and below) deciles at these selective colleges declined, respectively, by 10 and 14 percentage points... Conversely, the admission rates of their non-URM [Asian and non-Hispanic white] counterparts at these selective colleges increased by 8 and 10 percentage points." Results show the change from affirmative action to the Top 10% Plan decreased both retention and graduation rates of lower-ranked URM students. Controlling for student attributes and high school characteristics, Cortes found the change in admissions policies lowered fall-to-fall freshman retention rates and six-year college graduation rates for URM second-decile students by 2.4 and 3.3 percentage points, respectively. Among third- (and below) decile URM students, fall-to-fall freshman retention rates and graduation rates decreased by 4.9 and 4.2 percentage points, respectively. Results run counter to the "mismatch" hypothesis, which "would have predicted an improvement in the retention and graduation rates of these lower-ranked [URM] students under the Top 10% Plan" as they were supposedly being better "matched" to an institution under this admissions approach. While the racial composition of enrollment at selective institutions shifted toward non-URM under the Top 10% Plan, "gains did not translated into higher college retention or graduation for non-[URM] students under the post-affirmative action era." The author concludes that "elimination of racial preference in college admissions in Texas did not help non-URM as much as it harmed the retention and graduation of [URM] students."

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41. **Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Prevalence And Trends Data: Washington-2014. 2014; Available at: <http://apps.nccd.cdc.gov/brfss/page.asp?cat=XX&yr=2014&state=WA#XX>. Accessed August 16, 2016.**

Behavioral Risk Factor Surveillance System (BRFSS) 2014 data from Washington State show significant correlations between lower income and a number of health indicators including: worse overall self-reported health, depression, asthma, arthritis, stroke, oral health, tobacco use, women's health indicators, health screening rates, physical activity, and diabetes. Data also show that as educational attainment increases income level also increases.

42. **Bureau of Labor Statistics website. Employment projections: Earnings and unemployment rates by educational attainment. Last Updated March 15, 2016; Available at: http://www.bls.gov/emp/ep_chart_001.htm. Accessed November 1, 2016.**

National data from 2015 indicate that as educational attainment increases median weekly earnings also increase and unemployment rates decrease.

43. **Statistics U.S. Bureau of Labor. Labor force characteristics by race and ethnicity, 2017.2018.**

In this report, the Bureau of Labor Statistics (BLS) presents summary employment data, labor force characteristics, and earning patterns by race and ethnicity for the U.S. workforce in 2017. Labor force data are collected monthly from over 60,000 households in all 50 states through the Current Population Survey (administered by the U.S. Census Bureau). BLS notes that labor market differences by race and ethnicity are associated with “variations in educational attainment across the groups; the occupations and industries in which the groups work; the geographic areas of the country in which the groups are concentrated, including whether they tend to reside in urban or rural settings; and the degree of discrimination encountered in the workplace.” In 2017, whites constituted 78 percent of the workforce, Hispanics and Latinos were 17 percent, blacks were 13 percent, Asians were 6 percent, American Indian and Alaska Natives were one percent, and Native Hawaiians and Other Pacific Islanders were less than one percent. BLS also calculates the employment-population proportion, or the proportion of the population that is employed. The employment-population ratio was highest for Hispanics (62.7 percent) and lowest for blacks (57.6 percent). For men over age 20, “Hispanics (77.1 percent) continued to have the highest employment-population ration. Blacks (63.1 percent) had the lowest, continuing a longstanding pattern.” Among women, blacks had a higher employment-population ratio (58.5 percent) than Asians, Hispanics, or whites. Unemployment was higher than the national rate (4.4 percent) for American Indian and Alaskan Natives (7.8 percent), Blacks or African Americans (7.5 percent), individuals of two or more races (6.7 percent), Native Hawaiians and Pacific Islanders (6.1 percent), and Hispanics and Latinos (5.1 percent). Blacks and Asians experienced longer period of unemployment than whites or Hispanics. Although more than 90 percent of white, black and Asian workers had at least a high school diploma, only 75 percent of employed Hispanics had a high school diploma. Asians accounted for the highest percentage of college graduates (61 percent), compared to 40 percent of whites, 30 percent of blacks, and 20 percent of

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Hispanics. BLS notes that, “higher levels of education are generally associated with a greater likelihood of employment, and a lower likelihood of unemployment” and “individuals with higher levels of education typically are more likely to be employed in higher paying jobs...than are individuals with less education.” More than half of employed Asians work in management, professional, and related occupations (the highest paying occupational category), compared to 41 percent of whites, 31 percent of blacks, and 23 percent of Hispanics. In general, Hispanics and blacks had lower earnings than white and Asians. For example, “the median usual weekly earnings of full-time wage and salary workers in 2017 were \$655 for Hispanics, \$682 for blacks, \$890 for whites, and \$1,043 for Asians.” Earning pattern was consistent by racial and ethnic group across all occupations, and earnings were lower for women than men for every racial and ethnic group. Asian and Hispanic families with a female head of house were more likely to have at least one employed family member, and black women with children under 18 were more likely to be employed than women in other racial and ethnic groups. Blacks were overrepresented among people marginally attached to the labor force (i.e., individuals not in the labor force that wanted to work, were available to work, and had looked for a job in the past 12 months) and people who were discouraged (i.e., individuals not looking for work because they believe that no jobs are available to them).

44. **Association American Educational Research. Brief of the American Educational Research Association et al. as *Amici Curiae* in Support of Respondents. Washington, DC2015.**

The American Educational Research Association (AERA) filed this amicus curiae brief in *Fisher v. University of Texas at Austin* in support of the respondents. The American Association for the Advancement of Science, the American Anthropological Association, the American Political Science Association, the American Sociological Association, the American Statistical Association, the Association for the Study of Higher Education, the Law and Society Association, the Linguistic Society of America, and the National Academy of Engineering co-signed this brief. The brief provides summaries and citations of pertinent, recent studies to aid in the court's deliberation. Authors detailed evidence that demonstrates: (1) diversity leads to important educational benefits and (2) prevents the harms of racial isolation. Authors cited evidence that shows student bodies and classroom environments with few "token" students of color create harmful conditions associated with racial isolation, overt discrimination, and stereotyping that can compromise student achievement. The brief also addressed and presents evidence contrary to the petitioner's claim that problems of student stigma and "mismatch" of minority students (the assumption that students will underperform at selective universities due to lesser academic credentials). Authors cited evidence from economic and education research that "minority students who attend public flagship universities are more likely to graduate than comparable students at less selective institutions." Additionally, evidence showed "educational attainment and college quality raise earnings, with larger increases in the effects of education on earnings and labor force participation for men, blacks, and Latinos." For example, a 2014 study found that "black and Latino students who attend more selective universities have higher subsequent wages compared to rigorously matched underrepresented minority students who had the same range of admission offers but chose to enroll at less selective (i.e., less “mismatched”) institutions."

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45. Health of Washington State: Mental Health. Washington State Department of Health;2008.

Washington Behavioral Risk Factor Surveillance System (BRFSS) data from 2004-2006 indicate that American Indians/Alaska Natives and non-Hispanic Black individuals reported significantly higher rates of poor mental health compared to other groups. These relationships persisted after adjusting for additional factors such as age, income, and education. Washington BRFSS data also show an association between lower annual household income and poor mental health, a relationship that was also shown with education. It is well understood that mental health is also closely related to other areas such as employment opportunities, physical health, and substance abuse. This report also highlights a Washington State study from 2002 that reveal that 16% of individuals in the state who were receiving publicly funded mental health services had at least one felony conviction, a rate over twice that of the general population.

46. Christensen Trevor, Weisser Justin. Health of Washington State Report: Tobacco Use. Washington State Department of Health;2015.

Christensen et al. report Washington state Behavioral Risk Factor Surveillance System (BRFSS) data from 2012 to 2014 indicate that prevalence of smoking decreases as income and levels of education increase. Further, American Indians and Alaska Natives (AI/AN) and Native Hawaiian/Other Pacific Islander populations have significantly higher smoking rates than white, black, Hispanic, and Asian populations.

47. Ellings Amy. Health of Washington State Report: Obesity and Overweight. Washington State Department of Health;2015.

Ellings reports Washington state Behavioral Risk Factor Surveillance System (BRFSS) data from 2002-2014, which shows that obesity rates are the highest among low income families and that as income increases, rates of obesity decrease. Further, individuals that graduated college or attended some college had lower rates of obesity than those who had a high school education or less. Black, American Indian and Alaska Native, and Hispanic Washington residents had higher rates of obesity even after accounting for gender, income, education, and age.

48. Kemple Angela. Health of Washington State Report: Diabetes. Washington State Department of Health;2016.

Kemple presents data from Washington regarding diabetes in the state. Washington data from the Behavioral Risk Factor Surveillance System (BRFSS) from 2012-2014 show that among adults, the percentage of persons with diabetes increased as household income decreased. This relationship was also true for education. Further, BRFSS data also show that age-adjusted diabetes prevalence is highest among those who are Hispanic, American Indian/Alaska Native, and black.

49. Paul Karsten I., Moser Klaus. Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*. 2009;74(3):264-282.

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Paul et al. conducted a meta-analysis of 237 cross-sectional and 87 longitudinal studies that examined the relationship between mental health and unemployment. The meta-analysis of cross-sectional data revealed that unemployed persons showed significantly more symptoms of distress and impaired well-being than did employed persons. The meta-analyses of longitudinal studies and natural experiments supported the concept that unemployment is not only correlated to distress but also causes it.

50. Poel A. Health of Washington State Report: Mortality and Life Expectancy. Data Update 2015. Washington State Department of Health;2015.

Poel presents Washington state data on mortality and life expectancy. The data show that age-adjusted death rates were higher in Washington census tracts with higher poverty rates. The state data also show that American Indian/Alaska Natives, Native Hawaiian/Other Pacific Islanders, and black residents had the highest age-adjusted death rate and shortest life expectancy at birth compared to other groups in the state. Children 1-4 and 5-14 experience the lowest mortality rates, with no difference between sexes. However, in each of the remaining age groups, death rates among men are higher than death rates for women, including among those aged 85 or older.

51. Ponnet K. Financial stress, parent functioning and adolescent problem behavior: an actor-partner interdependence approach to family stress processes in low-, middle-, and high-income families. *Journal of youth and adolescence*. 2014;43(10):1752-1769.

Ponnet cites extensive evidence on the relationship between financial hardship and emotional problems among youth and adults, family conflict, problem behavior among adolescents, and psychological distress. The author analyzed data from a subsample of two-parent families with children between 11 and 17 years of age from the Relationship between Mothers, Fathers and Children study drawn from the Dutch-speaking part of Belgium (n= 1,596 individuals from 798 families). Analysis showed that parents in low-income groups had significantly more financial stress than those in middle-income and high-income groups. The author found that the association between financial stress and problem behavior in adolescents is mediated by depressive symptoms, interparental conflict, and positive parenting. They also found that financial stress had more detrimental impacts on depressive feelings for mothers with low incomes than for those with higher incomes.

52. Prause J., Dooley D., Huh J. Income volatility and psychological depression. *American journal of community psychology*. 2009;43(1-2):57-70.

Prause et al. analyzed a sample (n = 4,493) from the National Longitudinal Survey of Youth. Researchers found that income volatility was significantly associated with depression; and downward volatility (frequent losses in income) was significantly associated with depression even after controlling for baseline depression. High income appeared to act as a buffer, so those with lower incomes were more vulnerable to the adverse effects of downward volatility.

53. Serafin M. Health of Washington State Report: Self-reported Health Status. Data Update 2016. Washington State Department of Health;2016.

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Serafin presents data from Washington state on self-reported health status. The data show that after accounting for age, education, race and ethnicity, household income was a strong predictor of self-reported health status. Health status varied by race and ethnicity, with close to 35% of Hispanics, 30% of American Indian/Alaska Natives, and 20% of Native Hawaiian/Other Pacific Islanders reporting fair or poor health. Washington Behavioral Risk Factor Surveillance System (BRFSS) data from 2012-2014 also show that education was a strong predictor of self-reported fair or poor health after adjusting for age.

54. **Subramanyam M., Kawachi I., Berkman L., et al. Relative deprivation in income and self-rated health in the United States. *Social science & medicine*. 2009;69(3):327-334.**

Subramanyam et al. analyzed data from the 2002, 2004, and 2006 Current Population Surveys conducted by the United States Census Bureau. Researchers found that individuals from the lowest income category were over five times more likely to report being in poor health than participants from the highest income category. In addition, they found that relative deprivation (the differences in incomes between an individual and others who have higher incomes than that individual [one measure of income inequality]) appeared to explain a large part of this association.

55. **VanEenwyk J. Health of Washington State Report: Socioeconomic Position in Washington. Washington State Department of Health;2016.**

VanEenwyk presents data about socioeconomic position in Washington State including differences within the state as well as statewide differences compared to national data. Data indicate that compared to the United States as a whole, fewer Washington residents are living in poverty and a higher percentage of residents ages 25 and older have college degrees. However, these economic resources are not evenly distributed among all Washington residents. Females in Washington were more likely to be living in poverty than males and were also more likely to have lower wages. Further, American Indian and Alaska Native, Hispanic, and black residents had higher percentages of living in poverty and lower median household incomes compared to other groups. Data also indicated that counties in eastern Washington were more likely to have high poverty rates and high rates of unemployment than counties in western Washington.

56. **Food Research & Action Center. Relationship Between Poverty and Obesity. 2015; Available at: <http://frac.org/initiatives/hunger-and-obesity/are-low-income-people-at-greater-risk-for-overweight-or-obesity/>. Accessed November 14, 2016.**

Overview of studies from the United States that present research on the relationship between obesity and poverty. Provides relevant study conclusions for both adult and child populations.

57. **Kandel Denise B., Griesler Pamela C., Schaffran Christine. Educational attainment and smoking among women: Risk factors and consequences for offspring. *Drug and Alcohol Dependence*. 2009;104:S24-S33.**

Researchers examined United States data from four national data sets and found that, among women, lower levels of education are associated with greater risk of being a current smoker,

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smoking daily, smoking heavily, being nicotine dependent, starting to smoke at an early age, having higher levels of circulating cotinine (a metabolite of nicotine) per cigarettes smoked, and continuing to smoke in pregnancy. In addition, lower levels of maternal education were linked to increased risk of antisocial behavior among offspring.

58. **McLaren L. Socioeconomic status and obesity. *Epidemiologic Reviews*. 2007;29:29-48.**

McLaren et al. conducted a meta-analysis exploring the relationship between obesity and SES among adults. A total of 333 studies published internationally met the inclusion criteria. In highly developed countries, the majority of the studies found higher body weights among women with lower education attainment. Nearly 50% of the studies in highly developed countries found the same relationship for men.

59. **Mezuk B, Eaton WW, Golden SH, et al. The influence of educational attainment on depression and risk of type 2 diabetes. *American Journal of Public Health*. 2011;98(8):1480.**

Researchers analyzed adult survey data collected in the Baltimore Epidemiological Catchment Area and then conducted follow-up interviews with the survey cohort. Mezuk et al. found a statistically significant association between type 2 diabetes and lower educational attainment. In addition, the data indicate that depression was associated with type 2 diabetes, but each year of education attained decreased the risk of type 2 diabetes for those experiencing depression.

60. **Skodova Z., Nagyova I., van Dijk J. P., et al. Socioeconomic differences in psychosocial factors contributing to coronary heart disease: a review. *Journal of clinical psychology in medical settings*. 2008;15(3):204-213.**

Skodova et al. conducted a meta-analysis of the literature addressing the relationships between SES, coronary heart disease (CHD), and psychosocial factors contributing to coronary heart disease. Researchers identified 12 studies that met their inclusion criteria. They found that higher levels of education are associated with lower rates of CHD, and that decreasing education is associated with factors that are linked to CHD such as depression, anxiety, hostility, and a lack of social supports.

61. **Step toe A., Hamer M., Butcher L., et al. Educational attainment but not measures of current socioeconomic circumstances are associated with leukocyte telomere length in healthy older men and women. *Brain, behavior, and immunity*. 2011;25(7):1292-1298.**

Step toe et al. analyzed data collected from 543 male and female London-based civil servants of white European origin. All participants were between the ages of 53 and 76 and healthy. Researchers looked at blood samples to determine telomere length and telomerase activity. Telomere shortening is associated with aging. Short telomeres are also associated with increased risk of premature heart attack and mortality. Researchers found that lower educational attainment was associated with shorter telomere length after controlling for biological and behavioral covariates. This association remained significant even after adjusting for current SES. Researchers speculated that low educational attainment may be an indicator of long-term lower

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SES, and may be associated with accumulated stress resulting in telomere shortening. They also postulate that education may promote problem-solving skills leading to reduced responses to stress, thereby impacting aging.

62. Kurtulus Fidan Ana. Abstract— The Impact of Eliminating Affirmative Action on Minority and Female Employment: A Natural Experiment Approach Using State-Level Affirmative Action Laws and EEO-4 Data. University of Massachusetts Amherst and Harvard Law School; 2013.

In this abstract, Kurtulus introduced unpublished research examining the impact of state affirmative action bans on state and local public employment. She used data from 1990 to 2009 from the U.S. Equal Employment Opportunity Commission (EEO-4 files) to analyze the impact of the bans on the employment of minorities and women in states that banned affirmative action, including California, Washington, Michigan, and Nebraska. Kurtulus compared employment data before and after the bans in states with and without bans. Overall, her research suggested that bans in affirmative action produced sharp declines in Hispanic male, black female, and Asian female representation in public employment. Declines for black women become greater over time.

63. Sumner M.D., Morris M.W., Frampton M.L., et al. Proposition 209 and Public Employment in California: Trends in Workforce Diversity. University of California Berkeley, Thelton E. Henderson Center for Social Justice; 2008.

Sumner et al. examined the impact of Proposition 209 on public employment. Prop 209 passed in 1996 and banned affirmative action in California. The authors stated, "there remains a dearth of research on the effect of this change in the public employment arena." The authors noted that the representation of people of color and women in the workforce increased between the 1960s and 1990s as a result of affirmative action programs. Nationally since the 1990s, "Latino Americans are the only ethnic group to be employed in the public sector at the federal level at rates lower than in the civilian workforce; African Americans, Native Americans and Asian Pacific Islander Americans are employed by the US government at rates higher than in the civilian workforce." The authors also explained that, "thus far, research investigating diversity in public employment in California has focused on samples from published Census reports. However, these data sets generally lack the statistical power to investigate employment exclusively in the public sector, particularly for race and ethnicity, as well as the ability to investigate race by gender interactions." Sumner et al. completed a time trend analysis using data from the California State Personnel Board from 1990 to 2007 for state civil service employees. They looked at changes in the total number of state employees, and employee composition by race, gender, and the intersection of race and gender. They also compared state employees to estimates of the working age population for each year using data aggregated by the National Center for Health Statistics at Centers for Disease Control and Prevention. These data allow comparisons between 1990 and 2000 population estimates for race/ethnicity even though data collection was changed in 2000. Overall, Sumner et al. found that Prop 209 may have limited workforce diversity for people of color and women. They found that, while the number of people of color in state employment has grown, the employment rate for people of color lags behind the working age population. For example, while people of color accounted for the majority of the working population in 1999,

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people of color did not account for the majority of state employees until 2007. Specifically, the authors found that “Latino Americans, though making large gains in terms of the number of civil servants, are vastly underrepresented relative to their population. Furthermore, this disparity has grown over time. White Americans and African Americans are overrepresented as civil servants, while Asian Pacific Islander Americans have mostly been at parity.” They also found that there is a modest, but persistent, gender disparity with men more likely to be employed in state government than women. This disparity increased in the mid-1990s, and remained steady for the following decade. While these decreases occurred prior to the passage of Prop 209, the authors note that during the time period leading up to its passage, “Executive Orders and a public campaign against affirmative action may have influenced hiring decisions.” The authors note that public employment “is a vital area [to research] given its relationship to individual wealth as well as to the state economy.” Overall, they conclude that, “the evidence demonstrates that the representation of people of color and women has not dramatically increased or decreased during the ten-year period since Proposition 209 went into effect. This stands in contrast to stark workforce diversity reductions seen for people of color and women in public contracting and in public education in California.” Lastly, the authors noted that this study did not account for job quality, status, and wages, and that there is evidence that people of color and women are overrepresented in lower status positions in California, the University of California system, and nationally.

64. **Statistics National Center for Health. NCHS Fact Sheet | February 2017 Health Insurance and Access to Care. February 2017 ed. Atlanta, Georgia: Office of Planning, Budget, and Legislation, U.S. Centers for Disease Control and Prevention; 2017.**

The National Center for Health Statistics (NCHS) is the nation's principal health statistics agency. This Fact Sheet provides an overview of health insurance and access to care as of February 2017.

65. **Claxton Gary, Rae Matthew, Long Michelle, et al. Foundation THJKF. Employer Health Benefits 2018 Annual Survey. San Francisco, California: The Henry J. Kaiser Family Foundation; 2018.**

This annual Kaiser Family Foundation survey of employers provides a detailed look at trends in employer-sponsored health coverage. The 2018 survey included 2,160 interviews with non-federal public and private firms.

66. **PEBB Enrollment by plan September 2018. In: Authority WSHC, ed. 8:00:51 PM ed. Olympia, Washington: Washington State Health Care Authority; 2018.**

These September 2018 reports provide data for Public Employee Benefits Board (PEBB) insurance enrollment. Report 1 details PEBB total member enrollment for September 2018 Coverage. Report 2 includes PEBB total subscriber enrollment for the same period. The data included in this Health Impact Review is specific to Active PEBB Active subscribers and members for all health plans.

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67. **Washington State Health Care Authority. How to determine eligibility | Find out if you are eligible for PEBB benefits. . 2018; Available at. Accessed October, 2018.**

This HCA webpage details Public Employee Benefits Board (PEBB) eligibility for benefits. State employees are eligible for PEBB benefits, including health insurance coverage, if upon employment the "employer anticipates [the employee] will work an average of at least 80 hours per month and at least 8 hours in each month for more than six consecutive months." A previously ineligible employee becomes eligible for PEBB benefits if the employer revises work hours to meet these requirements. Additionally, if an ineligible employee works an average of at least 80 hours per month and at least 8 hours in each month for more than six consecutive months, the employee becomes eligible the first of the month following the six month averaging period. Employees may 'stack' or combine hours worked in more than one position to establish eligibility as long as the work is within one state agency where [the employee does] one of the following: 1) work two or more positions or jobs at the same time (concurrent stacking); 2) move from one position or job to another (consecutive stacking); or 3) combine hours from a seasonal position or job to hours from a nonseasonal position or job." The employee is responsible for notifying the employer if they believe they are eligible for benefits based on stacking. Additionally, seasonal employees are eligible for PEBB benefits if they work (or are anticipated to work) an average of at least 80 hours per month for at least 8 hours in each month of at least three consecutive months of the season, defined as a recurring, annual period of work at a specific time of year that lasts three to eleven consecutive months. See WAC 182-12-114(2) for more details regarding seasonal employment eligibility.

68. **Fiscella Kevin, Sanders Mechelle R. Racial and Ethnic Disparities in the Quality of Health Care. *Annual Review of Public Health*. 2016;2016(37):375-395.**

Authors review racial/ethnic disparities in healthcare quality in the United States. In their analysis, they note that racial/ethnic disparities in healthcare contribute to overall racial/ethnic health disparities. Authors cite evidence from the Consumer Assessment of Healthcare Providers and Systems (CAHPS), a validated and widely used suite of survey items to assess patients' experience of care. National surveys showed that the uninsured group reports the worst experience, whereas those with private insurance report the best experiences. Insurance status can serve as a barrier to primary care where patients typically receive preventive care services. For example, "self-reports from the 2013 national survey show rates of breast and cervical cancer screening of 38.5% and 62%, respectively, among the uninsured compared with rates of 79.9% and 86.6%, respectively among the privately insured." Evidence indicates that differences in cancer screening by race/ethnicity are relatively small among persons with similar types of insurance. Although not the only factor, insurance contributes to disparities in preventive care, chronic disease control, and behavioral health treatment.

69. **Jadav S., Rajan S. S., Abughosh S., et al. The Role of Socioeconomic Status and Health Care Access in Breast Cancer Screening Compliance Among Hispanics. *J Public Health Manag Pract*. 2015;21(5):467-476.**

Jadav et al. completed a retrospective pooled cross-sectional analysis of 2000-2010 Medical Expenditure Panel Survey data of women aged 40 years and older. Researchers used the

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Nonlinear Blinder--Oaxaca decomposition method to identify and quantify the contribution of each individual-level factor (predisposing characteristics: race/ethnicity, marital status, age; enabling characteristics: education, employment, income, insurance status, usual source of care, metropolitan statistical area, region; and need characteristics: health status and obesity) toward racial-ethnic disparities in breast cancer screening use among Hispanic versus non-Hispanic White (NHW) women. Authors cite evidence identifying lack of insurance coverage, cultural and linguistic differences, and underrepresentation of Hispanics in health care fields as significant barriers to health care access for Hispanics. Researchers used mammogram screening (MS) and breast cancer screening (BCS), defined as the receipt of both MS and a clinical breast exam, as outcome indicators. Hispanic women included in the study were statistically significantly younger, less likely to be married, less educated, less likely to be employed, more likely to be uninsured, less likely to have a usual source of care, more likely to live in urban areas, less likely to have a good health status, and predominantly overweight or obese, and had lower income as compared with the NHW women. Researchers found "the enabling characteristics (especially education, income, insurance, and having a usual source of care) explained most of the disparities between Hispanics and NHWs." For example, the analysis indicates that "if Hispanic women were insured at the same rate as the NHW women, then the disparity in screening would have reduced by 76.8% for MS and 69.18% for BCS." Furthermore, "If the Hispanic women had similar access to usual source of care as the NHW women, this would have reduced the disparity in MS by 48.92% and BCS by 52.87%." The analysis suggests that if the Hispanic study participants had access to the same enabling resources as the NHWs, "the Hispanics might have a better compliance with screening guidelines than the NHWs." Researchers identified education, income, insurance, and having a usual source of care as the most important factors leading to breast cancer screening disparities between Hispanics and NHWs. Note, cultural beliefs, preferences, and provider characteristics were not incorporated into the analysis due to database limitations, yet they also influence screening rates.

70. Kemple Angela. Health of Washington State Report: Coronary Heart Disease. Tumwater, Washington: Washington State Department of Health; 17 February 2016 2016.

Kemple presents data from Washington regarding coronary heart disease in the state. Washington data from the Behavioral Risk Factor Surveillance System (BRFSS) from 2012-2014 combined, age-adjusted coronary heart disease death rates were 1.7 times higher for Washington residents in census tracts where less than 15% of the population were college graduates compared to rates in census tracts where 45% or more of the population were college graduates. Further, BRFSS data also show that age-adjusted diabetes prevalence is highest among Native Hawaiians and Other Pacific Islanders, American Indian/Alaska Native, and Blacks. The numbers and rates of coronary heart disease deaths in Washington increase with age. In each age group, men have higher rates than women

71. Kemple Angela. Health of Washington State Report: Stroke. Tumwater, Washington: Washington State Department of Health; 2016.

Kemple presents data from Washington regarding stroke in the state. Washington data from the Behavioral Risk Factor Surveillance System (BRFSS) from 2012-2014 show that among adults,

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the percentage of persons with stroke increased as household income decreased. This relationship was also true for education. Further, BRFSS data also show that age-adjusted diabetes prevalence is highest among those who are black and American Indian/Alaska Native. The rate for Native Hawaiian and other Pacific Islander residents is also high (81 deaths per 100,000 people), but subject to greater random variation than rates for other groups because of small numbers. Men ages 45–74 have higher stroke death rates than women, and women ages 85 and older have higher stroke death rates than men.

72. Survey American Community. American Community Survey Demographic and Housing Estimates: 2012-2016 American Community Survey 5-Year Estimates. Bureau USC, trans2016.

According to the U.S. Census Bureau's American Community Survey, in 2016 the total population of Washington State was 7,073,146. Approximately 77% of people living in Washington were White, 3.6% were Black/African American, 1.3% were American Indian/Alaska Native, 7.8% were Asian, and 0.6% were Native Hawaiian/Pacific Islander. Approximately 12% of people living in Washington were Hispanic or Latino.

73. Backes Ben. Do Affirmative Action Bans Lower Minority College Enrollment and Attainment? Evidence from Statewide Bans. *The Journal of Human Resources*. 2012;47(2):435-455.

Backes evaluated whether students of color were less likely to enroll in or receive a degree from four-year public colleges following state bans on affirmative action in California, Florida, Georgia, Michigan, Texas, and Washington. Approximately 20% of universities were in the six states with affirmative action bans, and these universities tended to be larger and have a higher proportion of Hispanic and Asian students as compared to universities in states without bans. He analyzed institutional data from the Integrated Postsecondary Education Data System (IPEDS) from 1990 to 2009. Enrollment and graduation data were available by year and race. Backes found a statistically significant decrease in the percentage of black students enrolled at selective universities after the state bans on affirmative action, compared to medium or low-selectivity schools (enrollment decreased by 1.6 percentage points). He explains, "black enrollment share at a given university would have been 1.6 percentage points higher had affirmative action not been banned. Thus, the bans led black enrollment to be...29 percent lower at top institutions than it would have been in the absence of a policy change." Backes also found that enrollment decreased by 1.4 percentage points (8%) overall for Hispanic students. At selective institutions, the percentage of Hispanic students enrolling decreased significantly by 2.9 percentage points (20%). Similar to enrollment, he found the greatest decline in graduation rates for black students at selective institutions. On average, black student graduates decreased by 0.6 percentage points at average institutions and 1.2 percentage points at selective institutions after affirmative action bans. Hispanic student graduates decreased by 1.9 percentage points at selective institutions after the bans. Backes concludes that, "there were large drops in the black and Hispanic share of students enrolling and graduating from the top tier of institutions." He states that changes in average and lower tier institutions were less significant. Backes also found that enrollment in private institutions, two-year institutions, and institutions in neighboring states did not increase as a result of bans, which would have been one way to mitigate the impacts of affirmative action.

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However, "there certainly does not appear to be an increase in the share of minority private school enrollment--either overall or at the most selective institutions--following the bans."

74. Garces Liliana M. Understanding the Impact of Affirmative Action Bans in Different Graduate Fields of Study. *American Educational Research Journal*. 2013;50(2):251-284.

Garces analyzed aggregated data from the Survey of Graduate Enrollment and Degrees, conducted by the Council of Graduate Schools and Graduate Record Examinations Board (CGS/GRE), to assess the effect of affirmative action bans on the enrollment of students of color across different graduate programs. Exclusion criteria limited the analysis to 33 graduate institutions in Texas, California, Washington, and Florida and 85 institutions in the comparison group (17 states). The dataset consisted of observed proportion of first-time underrepresented students of color of all graduate students who are enrolled at a particular institution in each of the six fields of interest: natural sciences (n = 1,060), engineering (n = 634), social sciences (n = 959), business (n = 835), education (n = 935), and humanities (n = 942). Results indicate that before the affirmative action bans were implemented, an average of 6.2% of all graduate students enrolled were students of color. Following the bans, this percentage of students of color dropped to about 4.6%. This represents a 26% decline in the student of color enrollment in engineering. The decline in the natural sciences was about 19% (from 7.8% to 6.3%); the decline in the social sciences is about 15.7% (from 12.1% to 10.2%); and the decline in the humanities is about 11.8% (from 10.2% to 9%). "In terms of individual students, these declines confirm an average of 12 fewer underrepresented students of color in engineering in total across these states, an average of about 21 fewer students of color in the natural sciences, an average of 10 fewer students of color in the social sciences, and an average of 8 fewer students of color in the humanities. These numbers reflect the low representation of underrepresented students of color in most of these fields." Evidence indicates that the social and cultural climate in science-related fields like STEM is a leading barrier to women of color persisting in STEM career trajectories. Thus, a decline in students of color in a field like engineering can make it more difficult for students of color to complete their program. Additionally, less racial/ethnic diversity among the student body deprives all students of the educational value of racial/ethnic diversity (e.g., cross-racial understanding and cultural awareness) as well as potentially influencing whether other students of color decide to accept an offer of admission. Furthermore, prospective student declines can have long-term effects on faculty diversity, as doctoral training and graduate degree acquisition feed into faculty positions, which effects future students' choices and academics experiences.

75. University of Washington Office of the Registrar. Quick Stats: Seattle Campus. 2018.

The University of Washington, Office of the Registrar provides summary data from the Academic Data Management system. The most current enrollment data available is from fall 2018 quarter, and provides a snapshot of student body demographics. For the fall 2018 quarter, University of Washington enrolled 47,392 students at their main campus in Seattle, including undergraduate, graduate, professional, and non-matriculated students. Approximately 42.1 percent of students were white, 24.9 percent were Asian, 7.5 percent were Hispanic/Latino, 3.9

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percent were African American, 1.2 percent were American Indian, and 0.9 percent were Hawaiian/Pacific Islander. Approximately 54 percent of students were women, and 60 percent of students are from Washington State.

76. **Washington State University Institutional Research. Fall 2018 Census Day Headcount Enrollment. 2018.**

Washington State University, Institutional Research provides summary enrollment data. The most current enrollment data available is from fall 2018 quarter, and provides a snapshot of student body demographics. For the fall 2018 quarter, Washington State University enrolled 21,022 students at their main campus in Pullman, and 29.8% are students of color, 49.7% are women, and 74% are from Washington State.

77. **Kurtulus Fidan Ana. Summary of findings and methodology—The Impact of Eliminating Affirmative Action on Minority and Female Employment: A Natural Experiment Approach Using State-Level Affirmative Action Laws and EEO-4 Data. Harvard University, Kennedy School, Gender Action Portal; 2013.**

In this longer description, Kurtulus introduced unpublished findings and methodology related to her research examining the impact of state affirmative action bans on state and local public employment. She used data from 1990 to 2009 from the U.S. Equal Employment Opportunity Commission (EEO-4 files) to analyze the impact of the bans on the employment of minorities and women in states that banned affirmative action, including California, Washington, Michigan, and Nebraska. Kurtulus compared employment data before and after the bans in states with and without bans. She included 5,977 state and local governments in her analysis. Kurtulus found that affirmative action bans led to declines in public sector employment for Hispanic males (decreased 7%), black females (decreased 4%), and Asian females (decreased 37%). Declines in employment for black females increased over time following the affirmative action bans. In addition, employment for white males increased 4.7 percent. Overall, she concludes that, "there was a significant loss of workplace diversity once affirmative action programs were repealed."

78. **Workforce Diversity. 2018; Available at: <https://www.ofm.wa.gov/state-human-resources/workforce-data-planning/workforce-data-trends/workforce-profile-overview/workforce-diversity>. Accessed October 2018, 2018.**

Persons of color account for 19.6% of state employees in the Executive Branch in Washington State. This percentage has remained approximately the same for the past five years (range 18.7% to 20.2%). Of Executive Branch employees, 80% are Caucasian/Not Assigned; 7% Asian/Pacific Islander; 6% African American; 5% Hispanic/Latino; and 2% American Indian/Alaska Native.

79. **Management Profile. 2018; Available at: <https://www.ofm.wa.gov/state-human-resources/workforce-data-planning/workforce-data-trends/workforce-profile-overview/management-profile>. Accessed October 2018.**

The ratio of Washington State employees in manager versus non-manager position has remained approximately the same for the past five years. In Fiscal Year 2018, 59,284 state employees were

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non-managers, and 4,869 were managers. Approximately 86% of persons aged 40 and over were managers. Approximately 20% of non-managers were people of color, compared to 14% of managers. Approximately 52.9% of non-managers were female, compared to 47.9% of managers.

80. Fast Facts: 2017. Seattle, Washington: University of Washington, Office of Planning & Budgeting; 2017.

This document provided an overview of the University of Washington's Fall 2016 Enrollment. It indicates UW is increasingly competitive, with a record low admission rate 45% for Seattle freshman applicants (down from 53% the previous year). The average SAT composite score for the Seattle entering class is 1840 (out of 2400).

81. COLLEGEdata. College Profile | University of Washington. College Profile Available at: https://www.collegedata.com/cs/data/college/college_pg02_tmpl.jhtml?schoolId=764. Accessed October, 2018.

This website uses publicly available data to create College Summaries for users to review. Profiles include an overview of the school as well as detailed information regarding admission, financial cost, academics, campus life, and students. COLLEGEdata assesses first year undergraduate admission to the University of Washington as Very Difficult—"more than 50% of freshmen were in the top 10% of their high school class and scored over 1230 on the SAT I or over 26 on the ACT; about 60% or fewer of all applicants accepted." Other universities with very difficult admission ratings include UCLA and UCI. Admission to Texas A&M, UT-Austin, and Washington State University are rated as moderately difficult.

82. University of Washington, School of Medicine. Acceptance Statistics. 2018; Available at: <https://www.uwmedicine.org/education/md-program/admissions/stats>. Accessed October, 2018.

This UW Medicine webpage provides acceptance statistics for incoming UW Medical students. From 2013 to 2017, UW Medical School had an average acceptance rate of 20.4% for applicants from Washington, Wyoming, Alaska, Montana, and Idaho and a 0.6% admission rate for out of region applicants.

83. Weintraub Jennifer, Walker Julia, Heuer Loretta, et al. Developing Capacity for the American Indian Health Professional Workforce: An Academic-Community Partnership in Spirit Lake, North Dakota. *Annals of Global Health*. 2015;81(2):283-289.

This article describes an academic-community partnership between a tribal college, a local state academic center, an urban public health institution, and an urban academic center collectively working to increase American Indian/Alaska Native (AIAN) healthcare professional capacity. Authors cite evidence that AIANs are severely under-represented in healthcare professions and discuss challenges faced by AI/AN people pursuing careers in healthcare.

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84. Anderson J. E. Access to obstetric care in the United States from the National Health Interview Survey. *Social Work in Public Health*. 2014;29(2):141-147.

Anderson analyzed National Health Interview Survey data collected between 1999 to 2006 to identify factors associated with whether pregnant women accessed care from an obstetrician or gynecologist within the past year. Of the 2,748 pregnant women surveyed, 86.3% (2,371; 95% CI 84.9-87.5)) of pregnant women had seen an OB/GYN within the past year. Overall, Anderson found that factors that significantly predicted whether a women had seen an OB/GYN within the past year included race/ethnicity, insurance status, region of residence, and highest level of education. Insignificant factors included age, type of insurance, income, marital status, citizenship, and nativity. More specifically, Asian pregnant women were 47% less likely to have seen an OB/GYN in the past year as compared to white women (p-value 0.04). Uninsured pregnant women were 77% less likely to have seen an OB/GYN in the past year as compared to women with private insurance (p-value less than 0.01). Women living in the West were 54% less likely to have seen an OB/GYN as compared to women in the Northeast (p-value less than 0.01). Lastly, women with higher levels of education were more likely to access care. Limitations to the survey include that it does not ask about the stage of pregnancy or whether women have seen another primary care provider (including a midwife or primary care provider) in the last year.

85. Ethics Committee of the American Society for Reproductive Medicine. Disparities in access to effective treatment for infertility in the United States: an Ethics Committee opinion. *Fertil Steril*. 2015;104(5):1104-1110.

The Ethics Committee of the American Society for Reproductive Medicine summarized disparities in accessing fertility treatments in the U.S. The Committee reports that approximately 11% of women and 9.4% of men of reproductive age experience difficulty with fertility, but only 38% of women experiencing fertility problems use infertility services and only 24% of the need for assisted reproductive technology (ART) is being met. They found that disparities in accessing infertility service and ART exist due to race, ethnicity, geography, and socioeconomic status. However, "economic factors are the chief contributors to disparities in access to effective treatment." Barriers include differential counseling and referrals from providers (e.g. based on assumptions about an individual's or couple's socioeconomic status, whether a person deserves to be a parent or can raise a child, marital status, and sexual orientation/gender identity), lack of health insurance coverage (e.g. the Affordable Care Act does not include infertility care as an essential health benefit, public insurance (including Medicaid) does not cover ART), cost of care (e.g. in vitro fertilization costs can exceed \$19,000 out-of-pocket), transportation costs, ability to take time off from work, distance from clinics or providers (e.g. 16 states had 5 or fewer IVF providers, with most providers centered in areas of high median income), fear of stigmatization (e.g. aversion to being labeled as "infertile"), limited English proficiency, cultural or religious beliefs, lack of service availability at religiously-affiliated hospitals and clinics, and lack of federal policy and restrictive state policies (e.g. some states provide mandated insurance coverage, other states require a 2-year wait period). The Ethics Committee also proposed recommendations to reduce these disparities, including increasing insurance coverage (e.g. state mandated insurance coverage has been shown to increase the use of fertility services threefold), reducing the cost of treatment, increasing partnerships between providers and non-profit organizations that can reduce costs for patients, improving provider awareness of treatment

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disparities, training providers in cultural competency, improving referrals to providers and institutions that can provide ART, improving data collection (e.g. race and ethnicity are only captured 65% of the time according to data from the Society for Assisted Reproductive Technology Clinic Outcomes Reporting System), and improving public education to increase understanding about prevention, signs, and treatment of infertility.

86. **Valentine Peggy, Wynn Jacqueline, McLean Darius. Improving Diversity in the Health Professions. *North Carolina Medical Journal*. 2016;77(2):137-140.**

In this article, articles provide commentary regarding the health professional workforce of North Carolina. Authors cite national data that demonstrate African Americans, Hispanics/Latinos, and AIANs are underrepresented in health occupations.

87. **Health of Washington State Report: Mental Health. Tumwater, Washington: Washington State Department of Health;2007.**

This document presents data from Washington regarding poor mental health in the state. Washington data from the Behavioral Risk Factor Surveillance System (BRFSS) 2004-2006 show that among adults, the percentage of adults who report 14 or more days of poor mental health in the previous month increased as household income decreased. The relationship of mental health and education is similar to that of mental health and income. American Indians and Alaska Natives reported significantly higher rates of poor mental health (19% ±4%) than other racial and ethnic groups.

88. **Washington State Commission on Asian Pacific American Affairs. Health | Health Insurance Coverage among Asian and Pacific Islander Populations in Washington State, 2011-2013. 2018; Available at: <https://capaa.wa.gov/data/health/>. Accessed October, 2018.**

This Commission on Asian Pacific American Affairs' webpage presents U.S. Census data (2011-2013, ACS 3-Year Estimates) disaggregated health insurance data which demonstrates disparities within the Asian and Pacific Islander Populations by ethnicity.

89. **Health Washington State Department of. 2018 Washington State Health Assessment. March 2018 2018.**

The *State Health Assessment* provides an overview of health and well-being of Washington residents. It outlines the changing population trends --increasing in number, becoming more racially and ethnically diverse, and aging. It also discusses disparate health outcomes experienced by various populations within Washington.

90. **Prather Cynthia, Fuller Taleria R., Marshall Khiya J., et al. The Impact of Racism on the Sexual and Reproductive Health of African American Women. *Journal of Womens Health (Larchmt)*. 2016;25(7):664-671.**

Prather et al. use the socioecological model to describe racism and its effect on African American women's sexual and reproductive health. Authors examine the historical context of racism (e.g., medical experimentation) as well as institutional racism (society), personally

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mediated racism (neighborhood/community), and internalized racism (family/interpersonal supports and individual). Authors concluded, "[i]n both historical and contemporary contexts, race-based mistreatment has been shown to place African American women at increased risk for HIV/STIs, pregnancy-related complications, and early mortality."

91. **Eichelberger Kacey Y., Doll Kemi, Ekpo Geraldine E., et al. Black Lives Matter: Claiming a Space for Evidence-Based Outrage in Obstetrics and Gynecology. *American Journal of Public Health*. 2016;106(10):1771-1772.**

This AJPH perspective provides an overview of why authors believe the phrase "Black Lives Matter" should inform obstetric and gynecological care.

92. **Yen Wei, Mounts Thea. Health Care Research Center WSOoFM. Washington State Health Services Research Project | Three Years' ACA Impact on Washington State's Health Coverage. Olympia, Washington: Washington State Office of Financial Management; February 2018 2018.**

This OFM research brief details the reduction of uninsured Washingtonians since the implementation of key provisions of the Patient Protection and Affordable Care Act (ACA) in 2014. The overall uninsured rate in Washington declined from 14.0 percent in 2013 prior to the ACA to 8.2 percent in 2014. It decreased to 5.4 percent in 2016 and was expected to stay approximately constant in 2017. With few exceptions, the decrease in uninsured rates was seen in all demographic groups assessed.

93. **Gelman A., Miller E., Schwarz E. B., et al. Racial disparities in human papillomavirus vaccination: does access matter? *J Adolesc Health*. 2013;53(6):756-762.**

Gelman et al. used nationally representative data from the National Survey of Family Growth to assess HPV vaccination initiation in 2,168 females aged 15-24 years. Researchers performed a series of regression analyses to determine the independent effect of race/ethnicity on HPV vaccination. They found significant racial/ethnic disparities in HPV vaccination. US-born Hispanics, foreign-born Hispanics, and African Americans were less likely to have initiated vaccination than were whites ($p < .001$). Sociodemographic characteristics and health care access measures (i.e., insurance status and whether the participant had a usual place for receiving health care) both independently reduced disparities for both US-born and foreign-born Hispanics. Adjusting for sociodemographic variables increased the odds of vaccination among Hispanics (AOR, .88; 95% CI, .48-1.63); adding health care access variables into the model further increased the odds of vaccination (AOR, 1.03; 95% CI, .54-2.00). However, African-Americans remained significantly less likely to have initiated vaccination after adjusting for sociodemographic factors and health care access measures (OR, .46, 95% CI, .27-78 ; AOR, .47, 95% CI, .27-82; and AOR, .51, 95% CI, .29-88, respectively). The disparity persists among younger (aged 15-18 years) and older (aged 19-24 years) African-Americans. Authors note that other analyses suggest that HPV vaccination patterns are changing rapidly among adolescent girls, with the greatest increase in vaccination initiation among Hispanics and African-Americans. Authors conclude that sociodemographic factors and health care access measures largely explain disparities in HPV vaccination among Hispanics (US- and foreign-born), but

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further research is needed to understand disparities experienced by African-American adolescents.