

Educational Benefits of Diversity in Medical School: A Survey of Students

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ABSTRACT

Purpose. Many U.S. medical schools have abandoned affirmative action, limiting the recruitment and reducing the admission of underrepresented minority (URM) students even though research supports the premise that the public benefits from an increase in URM physicians and that URM physicians are likely to serve minority, poor, and Medicaid populations. Faculty and students commonly assume they benefit from peer cultural exchange, and the published evidence for the past two decades supports this notion. This research examined the students' perceptions of the educational merits of a diverse student body by surveying medical students at two schools.

Method. In 2000, medical students from all four years at Harvard Medical School and the University of California, San Francisco, School of Medicine were enrolled in a telephone survey about the relevance of racial diversity (among students) in their medical education. Students responded to the interviewer's questions on a five-point Likert-type scale.

Results. Of the 55% of students who could be located, 97% responded to the survey. Students reported having little intercultural contact during their formative years but significantly more interactions during higher education years, especially in medical school. Students reported contacts with diverse peers greatly enhanced their educational experience. They strongly supported strengthening or maintaining current affirmative action policies in admissions. The responses and demography of the Harvard and UCSF students did not differ significantly, nor did they differ for majority students and URM students—all groups overwhelmingly thought that racial and ethnic diversity among their peers enhanced their education.

Conclusions. Diversity in the student body enhanced the educational experiences of students in two U.S. medical schools.

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The Bakke case has influenced admissions of minority students to college

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and graduate schools for the past three decades.¹ In its 1978 ruling, the Supreme Court rested its decision on the importance of a diverse student body for the educational experience of all students. The Court stated that race could legally be considered only as one of a number of factors in selecting a class but forbade the use of quotas. However, in some states (California, Florida, Georgia, and Washing-

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ton) and in the 5th District Court area (Louisiana, Mississippi, and Texas) both ballot initiatives and lower court decisions have placed restrictions on using race as a factor in higher education admission decisions. Critics of affirmative action argue not only that affirmative action is unfair to whites but also that such policies have not produced the educational gains for students that were anticipated.^{2,3}

This study represents an effort to add a new level of understanding to the educational effects of diversity, especially in medical education. The December 2002 decision of the

Supreme Court to review affirmative action admission policies enhances the importance of these research efforts.

A diverse student body enables students to exchange information and share value systems of different cultures as a basic foundation for cultural sensitivity.⁴ A major benefit of affirmative action in medical school admissions is the ability to expand health care delivery to traditionally underserved communities, generating social benefits that go beyond the individual physician.⁵ Research indicates that underrepresented minority (URM) physicians are more likely to serve minority, poor, and Medicaid populations than are their majority counterparts.⁶⁻⁸ Moreover, minorities in North America tend to choose physicians of their own races, due not only to geographic location but also to the nature of the care they receive—care based on mutual understanding and trust.^{9,10} African American patients who see physicians of their own race tend to rate their physicians' decision-making styles as more participatory.¹¹ Because satisfaction with health care is positively associated with patients' treatment compliance, researchers believe that increasing the pool of URM physicians, and improving cultural competence among all physicians, may lead to better health outcomes for minority populations.^{12,13} To paraphrase Dr. Jordan Cohen, current president of the Association of American Medical Colleges, anti-affirmative action would be bad for our collective national health.¹³

METHOD

Data collection from medical students, because of their complicated and overloaded schedules, is very difficult. Of the various methods of data collection—e-mails, personal interviews, questionnaires, telephone interviews—we decided from prior experience with

surveys of law students at eight U.S. law schools¹⁴ and the Bowen and Bok research effort,¹⁵ that telephone interviewing was the most effective method of collecting responses. The deans of the two participating medical schools, Dean Debas of the University of California, San Francisco, School of Medicine and Dean Martin of Harvard Medical School, approved of the project. Their representatives provided telephone numbers of each school's enrolled undergraduates. The Harvard Committee on the Use of Human Subjects approved the project. We employed The Gallup Organization to the complete phone interviews. Although a phone call even from a professional polling organization does not guarantee anonymity, research conducted using this method has normally been sanctioned as meeting this qualification. As such, "implicit informed consent" meets the review standards of the two medical schools.

A committee with expertise in questionnaires and medical education constructed the survey instrument, drawing on previous work in this area. Previous questionnaires by the National Science Foundation, the American Medical Association, the Canadian Federation of Medical Students, and the Institute of Ethics were examined. The instrument, a series of five-point Likert-type questions asking students to rate the importance of diversity in the student body in a number of areas, was pilot tested with a small group of graduate students in the medical sciences. "Diversity" was defined for students as being limited to racial and ethnic diversity. The construct validity of the instrument was deemed appropriate and adequate from the pretest results and by the oversight of a team of psychometricians and medical educators. The internal consistency of the series of items focusing on attitudes toward diversity was found to be substantial (Cronbach's $\alpha = .87$).

In May and June of 2000, Gallup interviewers phoned students enrolled in all four years of the Harvard and UCSF medical schools. Interviewers made up to five calls per student, and if no contact occurred, that instance was deleted from the total number. The response rate, taking into account these deletions, was 97%. However, due to the infrequency of actual student contact, only 55% of the total enrolled student body at both schools could be sampled. Interviewers also recorded students' explanatory remarks in response to the questions.

Our data represent the views of 639 students, 338 from Harvard and 301 from UCSF. The responders consisted of roughly equal numbers of students in each of the four years of medical school study. The response patterns and the demographics of the Harvard and UCSF medical students were not found to be significantly different. Therefore, the responses from the two samples were combined in the analyses. The racial and ethnic characteristics of the UCSF and Harvard samples were also typical of the total enrolled student populations at the two schools (chi-square test $p = .87$). Furthermore, the composition of the combined sample did not differ from the U.S. population of enrolled medical school students (chi-square test $p = .71$). There were 2% more African Americans in the study sample than were enrolled nationally (9% versus 7% nationally); 6% more Asians (26% versus 20% nationally); 3% more Latinos (9% versus 6% nationally); 0.3% fewer Native Americans (0.5% versus 0.8% nationally); and 10% fewer others (56% versus 66% nationally). Approximately 93% of those surveyed (597 students) were U.S. citizens, and just over 6% (42) were foreign nationals. Because the sample was representative of the enrolled students at UCSF and Harvard and the U.S. medical school population, there may be some inferences that can be drawn from the findings that have national implications.

RESULTS

Interactions with Those of Different Race or Ethnicity

The first set of questions surveyed the frequency of students' contact with people of different races and ethnicities during their formative years, in secondary school, in college, and finally in medical school. As Table 1 indicates, the percentage of students who had contact with those of other groups increased from 50% (combining categories 4 and 5) in their early years and in secondary school, to 67% while in college and 85% in medical school (chi-square test $p = .01$). These trends were true for minority groups as well as for the majority whites. For example, 64% of African American students had contact with other groups while growing up, and that number increased to 91% while these students were in medical school.

To gauge the amount of collegial interaction among students beyond the classroom, interviewers asked students about their frequency of study time with those of other races and ethnicities. Fifty percent of the responding students indicated that they often studied with persons of a different race or ethnicity, while 36% and 14% stated that this occurred sometimes or never, respectively. Of the 88 students who reported never studying with those from different racial and ethnic groups, 80 indicated that they always chose to study alone. Removing these 80 students from the calculations lowers the percentage of those who never studied with another student of a different race or ethnicity to 1%. Fifty-eight percent of the students indicated they often studied with others whose backgrounds differed from their own. Clearly, many students had experience in working across racial and ethnic lines (F test $p = .04$).

To further assess the impact of multicultural interaction among stu-

Table 1

Reports of Frequencies of Contacts with Different Races or Ethnicities at Various Stages of Development by 639 Students at Two Medical Schools, 2000*

Stage	Percentage				
	Often 5	4	3	2	None 1
Growing up	27	21	22	21	7
Secondary school	28	21	25	20	6
College	41	25	23	9	1
Medical school	54	31	13	2	1

*Percentages may exceed 100% due to rounding.

dents, interviewers asked students how much a diverse student population helped, or did not help, them to work more effectively with those from different racial or ethnic backgrounds. Seventy-six percent of students felt that a diverse student body helped them work more effectively with those of different backgrounds, compared with 4% who said such diversity was of little or no help (F test $p = .01$). At the time of the study, neither medical school offered any official cultural sensitivity training to its students, which made each student's personal diversity experiences even more relevant.

Classroom Dynamics

Students were asked about the impact of diversity of students on the way topics were discussed in class. Only 16 students (3%) felt that diversity detracted from the discussions, while the majority (84 %) thought that diversity enhanced discussion. The diversity of students appears to improve classroom discussion—a fundamental educational benefit. The next series of questions probed whether diversity in the classrooms was more or less likely to change the nature of the discussions through examples used, viewpoints seriously discussed, the level of intellectual challenge, and greater understanding

of medical conditions and treatments concentrated among racial and ethnic groups (see Table 2).

Eighty-six percent of the students felt that diversity in the classroom was more likely to foster serious discussions of alternative viewpoints (chi-square test $p = .04$), and 77% indicated that a greater understanding of medical conditions and treatments was more likely when the student body was diverse (chi-square test $p = .05$). Sixty-two percent of the students also found that professors and peers offered a broader range of examples in a diversified classroom (chi-square test $p = .05$). As shown in Table 2, those who did not feel that diversity afforded a great advantage were largely neutral. Students did not feel that diversity was especially important in giving rise to higher levels of intellectual challenge or conflict. It is possible that the terms "challenge" and "conflict" in this question might have been somewhat emotionally loaded for students and, hence, skewed their responses.

Most students (77%) found that they felt challenged to rethink their values when racial conflicts occurred, 68% thought such occurrences were learning experiences, and 23% thought that the conflicts they encountered reinforced stereotypical positions. The students' responses suggest that both conflict and difference of opinion add

Table 2

Resultant Dynamics of a Diverse Classroom Reported by 639 Students at Two Medical Schools, 2000*					
Dynamic	Percentage				
	Definitely More Likely	More Likely	No Difference Based on Diversity	Less Likely	Definitely Less Likely
More examples used	31	30	36	2	1
Alternative viewpoints seriously discussed	51	36	11	2	1
High levels of intellectual conflict or challenge	20	25	49	3	2
Greater understanding of medical conditions and treatments for disease/problems	42	35	19	2	1

*Percentages may exceed 100% due to rounding.

to a richness and breadth of understanding of people and their differences.

As shown in Figure 1, 94% (78% clearly positive and 16% moderately

positive) of the students indicated that a diverse student body was a positive element in their educational experience (chi-square test $p = .001$). Six percent felt diversity had no impact

and only 0.3% felt campus diversity was a negative element of their educational experience. Although there is some variation in the response pattern between the racial and ethnic groups, these differences are not statistically significant (F test $p = .87$).

In fact, an interesting finding of this research was that the distribution of responses by racial groups did not differ significantly. The pattern of African American students' responses, for example, showed that they were typically a bit more supportive of the educational benefits of diversity than were the white students—but not to a degree that reached significance. Chi-square results comparing the response patterns of African American, Asian, White, Latino, Native American, Other, and Mixed students were all not significant. Of the seven groups, very few students chose “Moderately detracts” or “Clearly detracts” as a response when asked about the quality of their expe-

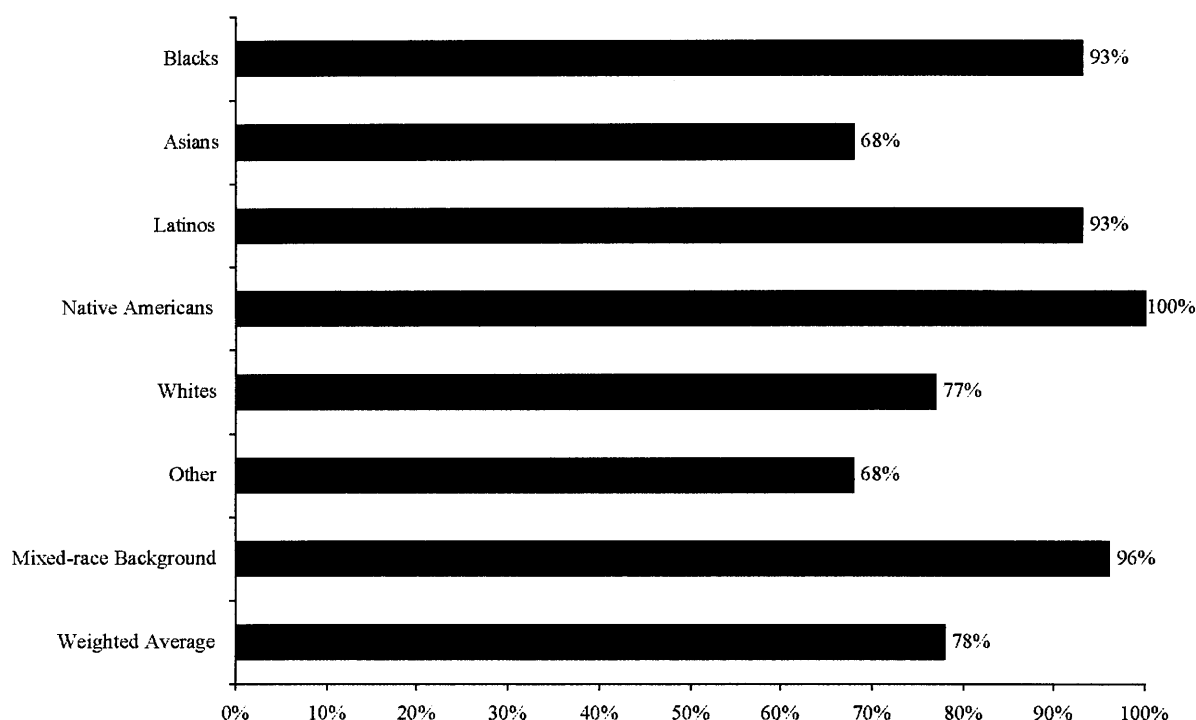


Figure 1. Percentages of 639 students from two medical schools (by ethnicity or race) answering “clearly positive” to the question: “Do you consider having students of different races and ethnicities to be a positive or negative element of your educational experience?”

periences with diversity. Essentially, the differences, when they existed among groups, were among the degrees of satisfaction: for example, between categories such as—“Enormously Gratifying” and “Gratifying,” or between “Clearly Positive” and “Moderately Positive.”

Impact of Diversity on Policy Matters

Researchers explored the impact and importance of diversity for students in three distinct segments of the medical school community: the student body, the basic science faculty, and the clinical faculty. Students indicated that their most significant educational experiences influenced by peers of different races or ethnicities came through two major avenues: regular exchanges with students from different backgrounds and in the clinic while learning how to actually treat patients (see Table 3). Thus, among the three segments of the community (i.e., peers, basic science faculty, and clinical faculty), 88% of students felt that the diversity of their peers was the most important element in their education (chi-square test $p = .001$). The importance of a diverse clinical faculty was considered a close second by 83% of the students (chi-square test $p = .001$). The need for a diverse basic science faculty was ranked third among the

groups by 58% of students (chi-square test $p = .01$) but also was considered important.

Researchers sampled the students' opinions on the extent to which discussions with students from different racial and ethnic backgrounds had affected their thinking about the equity of the health care delivery system, access to medical care for the underserved, cultural competency issues in treating a diverse population, and priority areas for future research. Students stated that their concerns in these areas were significantly enhanced by the diversity of students (F test $p = .001$). Indeed, students reported that having a diverse student body increased students' concern for treating a diverse population (84%, chi-square test $p = .001$), the equity of the delivery system (78%, chi-square test $p = .001$), and the access to care for the underserved (76%, chi-square test $p = .001$) (see Table 4). The lesser concern for priority in research areas (46%) was also significant (chi-square test $p = .01$) but received less support from students; this is surprising considering that both UCSF and Harvard train large numbers of research professionals. It may be that many students have not engaged in sufficient research to formulate ideas and gauge future priorities.

We asked this very competitive group of students how they felt about

medical school admissions, and whether schools should admit more URM students. Over 90% of respondents indicated that admission policies seeking URM students should be strengthened (43%) or maintained (47%)—evidence of very strong student support for continuing affirmative action in admissions. Less than 3% of students said such policies should be discontinued. Again, student support of affirmative action policies was statistically very significant (chi-square test $p = .001$).

Consistent with the published reports of many investigators,^{4,13} 84% of the polled students felt that the medical profession should represent the country's racial and ethnic composition to a large degree (59%) or a significant degree (24%). Only 3% of the students indicated that the racial and ethnic composition of the medical profession should reflect such composition of society either slightly (2%) or not at all (1%). These findings are statistically significant (F test $p = .05$).

The researchers probed the idea of cultural competency and extending oneself in the physician-patient relationship by having the interviewers ask the students about their confidence in their ability to establish positive relationships with patients of different racial and ethnic backgrounds. Eighty-six percent of students felt confident they could establish a positive rapport with patients from different racial or ethnic groups, while only 1% felt that they were not confident in their ability to do so (chi-square test $p = .001$). We clearly need physicians who will treat patients from different backgrounds and who will undertake research agendas that represent a broader spectrum of diseases, as well as effective treatment delivery, across communities.^{16,17}

Finally, interviewers asked students to rate their experiences in medical school overall and, specifically, during the preclinical and clinical years. Seventy percent of the students found

Table 3

Reports of Importance of Diversity in Groups of the Medical Community in Improving Medical Education by 639 Medical Students from Two Medical Schools, 2000*					
Group	Percentage				
	Very Important 5	Significantly Important 4	Moderately Important 3	Slightly Important 2	Not at All Important 1
Student body	62	26	9	2	2
Basic science faculty	30	28	29	6	6
Clinical faculty	55	28	11	2	2

*Percentages may exceed 100% due to rounding.

Table 4

Reports of Extents to Which Discussions with Students of Different Racial and Ethnic Backgrounds Affected Concern about Policy-related Issues by 639 Students from Two Medical Schools, 2000					
Policy-related Issue	Percentage				No Effect 1
	Great Increase in Concern 5	Significant Increase in Concern 4	Moderate Increase in Concern 3	Slight Increase in Concern 2	
Equity of the health care delivery system	47	32	14	4	3
Access to medical care for underserved populations	46	30	17	4	3
Cultural competency when treating a diverse population	52	33	9	4	2
Priority areas for future research	19	28	35	9	9

the basic science years gratifying. This number increased to 79% during the clinical years. These responses, while somewhat lower than might be expected, compare very favorably with those of students in the professions of law and business.

DISCUSSION

There are two important findings in this study. First, students typically had less contact during their formative years with those of different races and ethnicities than they did during their college years. Student cross-cultural and cross-racial interactions increased even more during medical school. When interviewed, over 60% of the students stated that they had three or more close friends who differed racially and ethnically from themselves. Such collegial relationships and friendships are critical given the multicultural society in which they will later practice medicine.

The second and perhaps even more important finding is that both Harvard and UCSF students reported that the interaction with a diverse student body

greatly enhanced their educational experiences in medical school. These students strongly supported maintaining or strengthening current affirmative action policies in admissions at their respective schools.

The frequency with which the majority of students study with those from different racial groups suggests that students attempt to take advantage of the diverse student body medical school provides. The consistently low numbers of minority faculty in medical school compounded with the dearth of cultural sensitivity training suggests that students' interactions—both inside and outside the classroom—provide one of the few arenas in which students can gain cultural awareness before they mingle with a multicultural patient population. In a recent poll of 98 medical schools, many school deans felt that their recent graduates were only "somewhat prepared" to provide culturally sensitive clinical care.¹⁸ Although cultural competence is included in some medical curricula, it is too often a rather sterile course taught from a syllabus. Medical students and faculty from diverse racial and ethnic backgrounds teach each other about

the cultures, beliefs, and values of their communities.^{4,16} Indeed, the core curriculum guidelines of the Society of Teachers of Family Medicine, approved by the Academy of Family Physicians, recognize the need to teach respect and tolerance for cultural and social class differences in a pluralistic society by setting forth a three-tier approach: attitude, knowledge, and skills development.¹⁹ Diversity among students clearly improves the breadth of class discussion, a fundamental educational benefit and a basis for learning culturally competent health care.

That students gave high ratings for a diverse student body supports the hypothesis that students regularly educate each other on important issues, such as differences among the cultures and how to best respond to those differences. The teaching dynamic in a biochemistry or anatomy class may be less affected by the racial and ethnic diversity of students. However, students' understanding of patients and colleagues is likely to be affected when, for example, an Asian student learns from a Native American student about tribal views of healing. Furthermore, treatment compliance may be positively affected if, for example, a Caucasian student from an affluent, predominantly Caucasian suburb learns from an African American inner-city colleague how to better engage African American inner-city patients in following a course of treatment through the public health clinic.

For medical schools to accomplish the goal of increasing the diversity of the physician population to mirror that of the general population, the academic community will need to reconsider the current stand on affirmative action in admissions.²⁰ In a recent survey of 15 medical schools, researchers found that the weights given to qualitative factors such as URM status in the admission process vary widely from school to school.²⁰ However, the transition from a predominantly male

profession to one today in which women make up a majority of medical students has been accomplished without compromising medical education in any way. Thus, it should be possible to make a similar shift in the racial and ethnic composition of students as well. Students in the present survey expressed in parenthetical remarks that there should be more socio-economic as well as racial and ethnic diversity in the student body. Looking at national demographics, one can see the opportunities to broaden the student base and, certainly, the need for physicians to become culturally competent.^{11,16}

Despite the support for a diverse student body and affirmative action in admissions, we should mention that a number of students responded to the open-ended question about affirmative action with statements about the importance of merit in the selection process (8% of total responses), and a few were concerned about standards. However, 57% of the students responding to the open-ended section gave responses that were overwhelmingly in favor of affirmative action in admissions, and these students further commented upon the need to continue using such measures. Many of the majority students mentioned that the diversity of students was one of the more important reasons in their choice of a school. They encouraged other schools that have not achieved such diversity to be more aggressive in recruiting URM students and expressed that it was a privilege to have been admitted to a school known for such efforts.

None of the URM students expressed concern about being burdened with the mantle of "spokesperson" for their racial or ethnic groups. In our work with undergraduates, that reaction frequently occurs—more in response to classroom interaction—but

it was absent in the responses in this medical school survey.

In summary, students enrolled in Harvard and University of California, San Francisco, medical schools overwhelmingly supported affirmative action in admissions. They strongly believed that diversity enhanced their educational experiences and provided them with culturally rich opportunities. They had established close collegial and personal friendships with students of different races and ethnicities. These students stated that such ties contributed greatly to their understanding of medical practice and, ultimately, would better train them for service in a multicultural society.

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