

Increasing Minority Enrollment Utilizing Dental Admissions Workshop Strategies

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Abstract: *Oral Health in America*, the landmark U.S. surgeon general's report, inextricably connects oral health disparities with poor access to oral care by vulnerable populations. Furthermore, the report associates an insufficiently diverse dental workforce with oral health disparities among some minority groups. Successful strategies to curtail oral health disparities and remedy workforce issues require collaboration among all involved in dental education. As gatekeepers to dental programs, admissions committees are significant stakeholders in diversifying the dental workforce. The purpose of this article is to demonstrate that a workshop on diversity in admissions can modify the perceptions of individuals involved in the student recruitment and admissions processes and lead to increased matriculation of underrepresented minority students. Emerging from the workshop were key concepts and action steps for promoting a holistic review of dental applicants. Results since implementing the workshop recommendations have been positive, with underrepresented minority dental student acceptances increasing sixfold. The workshop was cosponsored by the Robert Wood Johnson Foundation and facilitated by two nationally recognized dental educators.

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The dental admissions workshop described in this article was funded by the Robert Wood Johnson Foundation's Pipeline, Profession, and Practice: Community-Based Dental Education program.

Key words: dental education, access, disparities, minority, student, admissions, recruitment, underrepresented minorities

Submitted for publication 1/23/08; accepted 8/14/08

The racial/ethnic composition of the oral health workforce fails to reflect current and projected demographic profiles of the United States. As of the 2000 U.S. census, African Americans, Hispanics, and American Indians comprised 12.3 percent, 12.5 percent, and 0.51 percent of the nation's population, respectively.¹ By the year 2050, these underrepresented minority (URM) groups are projected to represent 48 percent of the U.S. population.² Recent data from the Sullivan Commission on Diversity in the Healthcare Workforce show that although URM groups constitute 25 percent of the U.S. population, they make up only 5 percent of dentists.³ The racial/ethnic composition of the national 2005–06 predoctoral dental student body indicates that, without proactive intervention, the dental profession's diversity will continue to lag behind the rapid diversification of the U.S. population. In 2005–06, 18,610 students were enrolled in predoctoral dental education programs across the nation. African American, Hispanic, and American Indian students comprised only 5.7 percent, 5.7

percent, and 0.51 percent, respectively, of this enrollment. URM students were also concentrated in a small number of dental schools, with 26.3 percent of all URM students attending three (or 5.4 percent) of the nation's fifty-six dental schools.⁴

The lack of racial/ethnic diversity in dentistry contributes to the health disparities suffered by racial/ethnic minority and economically disadvantaged individuals in the United States.⁵ The lack of a diverse workforce has been associated with the presence of linguistic and cultural barriers, bias, and clinical uncertainty within the patient-provider relationship.^{6,7} Increased workforce diversity has, conversely, been associated with greater satisfaction with care received and improved patient-provider communication.^{6,8,9} Further, dental professionals from URM groups have historically taken the lead in providing care to underserved populations. According to the 2004 Sullivan Commission report,³ black patients are significantly more likely to receive their care from African American dentists (who treat almost 62 percent of all black patients) than white dentists (who treat only 10.5

percent of these patients). Trends in dental practice locations for various racial/ethnic groups demonstrate a similar pattern: minority dentists are significantly more likely to treat patients from urban, less formally educated, and economically disadvantaged backgrounds than their nonminority peers.^{10,11}

As highlighted in an American Dental Education Association (ADEA) position paper, academic dental institutions can and should play a substantial role in improving the oral health of our nation.¹² The urgent need to diversify the oral health care workforce calls for immediate attention to the recruitment and admissions processes of these institutions. As described in recent reports on diversity in the health professions, many URM students perform poorly on the quantitative measures that academic dental institutions rely heavily upon during the admissions process.^{3,8} These URM students may bring a broader range of valuable experiences that cannot be (or simply are not) quantified in applications, such as previous success navigating cross-cultural interactions in the health care setting, volunteer experience within economically disadvantaged communities, and a commitment to serving underserved populations. Incorporating these characteristics into the application evaluation process will help ensure that our future oral health professionals are well equipped to serve the diverse populations they will undoubtedly encounter.

The U.S. Supreme Court, in its 2003 rulings on the University of Michigan's *Grutter v. Bollinger et al.* and *Gratz v. Bollinger et al.* cases, affirmed the constitutionality of narrowly tailored race-conscious admissions policies. The court's decision also confirmed that diversity can be a compelling interest in the admissions process.¹³ These rulings lend considerable credence to the notion that increased diversity is valuable to higher education. The importance of diversity extends beyond value conferred to any individual or particular ethnic group; increased diversity also has positive implications for communities and society as a whole.¹³

The Robert Wood Johnson Foundation, The California Endowment, and the W.K. Kellogg Foundation have been leaders in the development of programs designed to increase diversity within the health professions. A hallmark of these efforts is the Pipeline, Profession, and Practice: Community-Based Dental Education program, which awarded grants to fifteen institutions following a national competition. The fifteen grantees were Boston University, Howard University, Loma Linda University, Meharry Medical College, Temple University, The Ohio State Univer-

sity, University of North Carolina at Chapel Hill, University of California, Los Angeles, University of California, San Francisco, University of Connecticut, University of Illinois at Chicago, University of Southern California, University of the Pacific, University of Washington, and West Virginia University.

The Pipeline programs at these institutions are addressing oral health disparities by strengthening community-based clinical education, revising curricula to integrate community-based practice experiences, and enhancing recruitment and retention of URM and economically disadvantaged students. As a result of the latter objective, participating Pipeline schools, excluding the two historically black institutions, have experienced a 63 percent increase in first-year URM enrollment.¹⁴

This article describes a half-day workshop for Admissions Committee and Recruitment Committee members. The admissions workshop, piloted at West Virginia University School of Dentistry in November 2004, sought to help these committees reconsider their strategies and admission processes by including emphasis on applicants' noncognitive attributes, with the desired outcome of increasing URM enrollment.

Methods

In November 2004, two external dental educators recognized for their expertise in minority dental student recruitment and admissions assisted in the development and presentation of a half-day Admissions Workshop at the West Virginia University School of Dentistry. The workshop was designed to aid the school in enhancing student body diversity. The goals were to 1) examine the role of the school's Admissions Committee in recruitment, acceptance, and enrollment of a diverse student body and 2) examine how dental admissions processes should be structured in light of recent U.S. Supreme Court decisions and the resultant legal analysis by legal experts. Members of the Admissions Committee (sixteen) and Recruitment Committee (five) were invited to participate, along with four additional individuals, including the dean, who philosophically or administratively support the school's student recruitment and admissions programs. For planning purposes, workshop facilitators were provided the following materials in advance: the admissions committee roster, applicant interview procedures, and reports illustrating application, admission, and enrollment trends.

Sponsored by the Robert Wood Johnson Foundation (RWJF) Pipeline program's National Program Office, the workshop agenda emerged from the facilitators' independent review of admissions materials followed by a planning teleconference with the associate dean for admissions. On the day of the workshop, three presession meetings were convened by team members. They met initially with the associate dean for admissions to discuss logistical details. This meeting was followed by an executive session with the dean and workshop team members to gain insight into the dean's expectations for the workshop. Team members then met privately to finalize plans for the afternoon program.

The workshop agenda included seven segments: welcome and introductions, pre-workshop baseline data collection, two lecture-style presentations, a brainstorming "next steps" session, post-workshop data collection, and informal reception for workshop participants and team members. Appropriate Institutional Review Board (IRB) approval was obtained to conduct an assessment of the workshop. Program evaluation was conducted via fourteen-item pre- and post-program questionnaires with yes/no and Likert scale responses to assess participants' perceptions of the educational value of the workshop.

A brief welcome by the associate dean for admissions and individual introductions preceded distribution of the baseline questionnaire and cover letter detailing the purpose and IRB procedures. A member of the Dental Admissions Office support staff collected completed questionnaires and distributed program notebooks containing materials provided previously by team members. This person was also assigned to take notes and ensure the group adhered to the scheduled time line for each session. A keynote address was given by Dr. Dennis Mitchell on Pipeline student recruitment and retention initiatives, U.S. Supreme Court affirmative action decisions, and legislative initiatives impacting dental student admissions practices. Next, he gave an overview of working models to recruit URM students, followed with a slide presentation by Dr. Dave Brunson on dental admissions best practices. Dr. Brunson's presentation underscored the need to have leaders committed to enrolling diverse dental student classes, support from the admissions committee, support of faculty, and URM faculty involvement in recruitment and admissions committee activities.

These presentations stimulated robust discussion and thoughtful questions in the "next steps"

session to follow. This session was conducted in a brainstorming manner with facilitation by the workshop team and recordkeeping by a member of the Dental Admissions Office staff. Action steps were identified by consensus of the group. A report summarizing general observations, key concepts, and recommended action steps was shared with the faculty in a subsequent faculty meeting and submitted to the dean for final approval.

The questionnaire items and workshop participants' responses before and after the program are displayed in Figure 1. Questionnaires were coded to allow comparison of individual pre- and post-workshop responses. Questionnaire results were then entered on an Excel spreadsheet for analysis. The data consisted of pairs of five-point Likert scale responses from each participant to the same questions asked before and after the workshop. The intent of the analysis was to learn whether more favorable scores were given after the workshop. Using the JMP statistical computer package (SAS, Carey, NC), data were analyzed by both the matched-pair t-test and its nonparametric equivalent, the Wilcoxon test. Decisions about statistical significance agreed for both procedures, but for the convenience of reporting Likert scale outcomes, only results of the t-test are reported in this article.

Results

Participating in the workshop were twelve Admissions Committee (75 percent of the committee's membership) and five Recruitment Committee (100 percent of the committee's membership) members, including two faculty members who are members of both committees, plus four individuals who administratively or philosophically support the school's recruitment and admission programs (N=19). Utilizing a scale from 1 (not at all) to 5 (completely), pre- and post-test means are noted with appropriate p-values (Figure 1). The data were analyzed by both the matched-pair t-test and its nonparametric equivalent, the Wilcoxon test.

The respondents gained significant insight into the Admissions Committee's role in recruiting, admitting, and enrolling a diversified student body ($p \leq 0.05$), as shown in Figure 2. The data also revealed an elevation in the participants' perceptions concerning their ability to design recruitment and enrichment programs for effective recruitment of URM students.

A. Are you a member of the Admissions Committee? Yes 12 No 7

B. Please rate the following statements ranging from 1=not at all to 5=completely.

	Significant/Nonsignificant		
1. I believe that I understand the role of the WVU School of Dentistry Admissions Committee in the recruitment, acceptance, and enrollment of a diverse student body.	pre=3.31	post=4.17	p=0.0025*
2. I believe I could review the student applicant pool for the WVU School of Dentistry and design an effective recruitment program for students from ethnic minority backgrounds.	pre=2.93	post=3.80	p=0.0044*
3. I believe I could review the student applicant pool for the WVU School of Dentistry and design an effective recruitment program for students from a lower socioeconomic background.	pre=2.87	post=3.87	p=0.0028*
4. I am knowledgeable about how best to administer a recruitment program for our dental school that would include research programs, math and science programs, summer enrichment programs, and postbaccalaureate programs.	pre=2.25	post=3.71	p=0.0002*
5. I am knowledgeable about recent Supreme Court decisions on the acceptance of ethnic minority students into higher education, including dental school.	pre=2.81	post=4.01	p=0.0057*
6. I believe that these Supreme Court decisions indicate that no preference can be given to ethnic minority students in accepting them to dental school.	pre=2.12	post=2.92	p=0.1450 NS
7. I am knowledgeable about how these Supreme Court decisions affect the admissions processes at dental schools.	pre=2.37	post=3.70	p=0.0018*
8. I feel knowledgeable about how to effectively recruit dental students from ethnic minority backgrounds.	pre=2.43	post=3.37	p=0.0077*
9. I feel knowledgeable about how to effectively recruit dental students from lower socioeconomic backgrounds.	pre=2.62	post=3.55	p=0.0005*
10. I am knowledgeable about which ethnic groups are considered underrepresented minorities in the field of dentistry.	pre=3.50	post=3.96	p=0.1103 NS
11. I am knowledgeable concerning our Admissions Committee's role in the recruitment of a diverse dental student body.	pre=2.87	post=4.14	p=0.0018*
12. I am knowledgeable concerning our Admissions Committee's role in the acceptance of a diverse dental student population.	pre=3.00	post=4.06	p=0.0032*
13. I am knowledgeable concerning our Admissions Committee's role in the enrollment of a diverse dental student population.	pre=2.93	post=4.00	p=0.0007*
14. I am knowledgeable concerning noncognitive factors and their role in the acceptance of a diverse student body.	pre=2.50	post=3.93	p<0.005*

*Significance ($p \leq 0.05$) of pre vs. post means when compared with paired t-test.
NS=nonsignificant

Figure 1. Comparison of pre- and post-questionnaire results for a dental admissions workshop

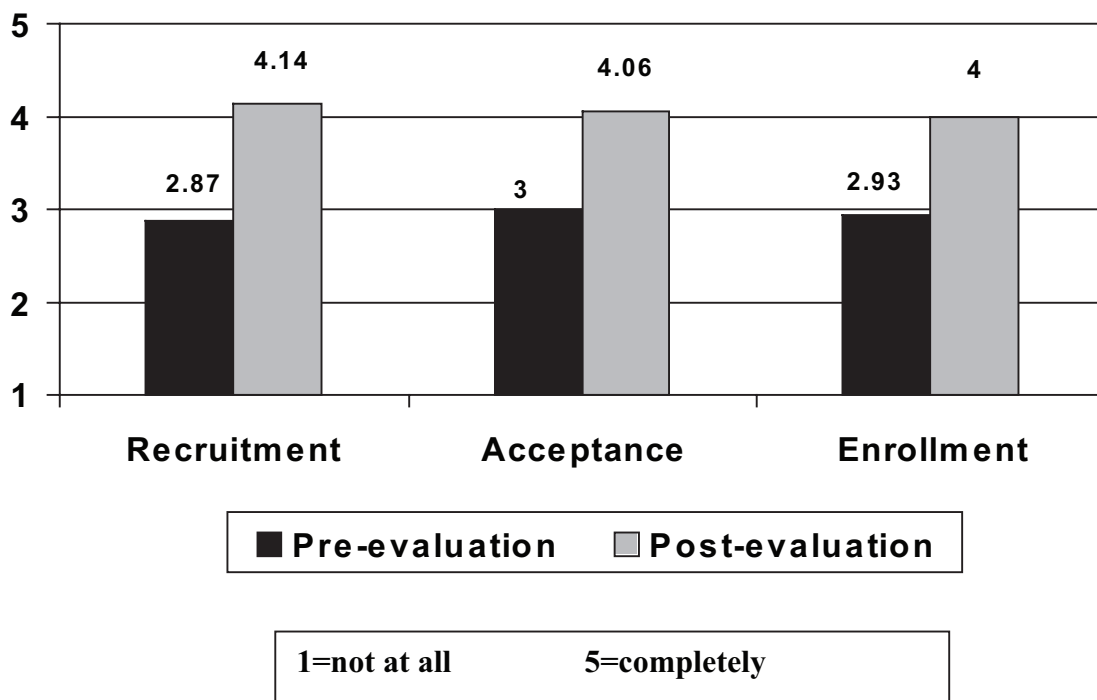


Figure 2. Perceived knowledge change concerning Admissions Committee role in recruitment, acceptance, and enrollment of a diverse student body

Pre- and post-workshop questionnaire results show a statistically significant increase ($p < 0.05$) in knowledge about the recent U.S. Supreme Court decisions on race with respect to admissions (2.81 prescore and 4.01 postscore) and, more specifically, how the rulings impact dental admission processes. Average scores for the latter item improved from 2.37 to 3.70. However, there was a nonsignificant change in scores before (2.12) and after (2.92) the workshop for the statement about whether the Supreme Court decision indicates that no preference can be given to URM students.

Figure 3 indicates a highly significant ($p < 0.005$) knowledge transfer relative to use of noncognitive factors in admissions. In essence, it illustrates that attendees were alerted to recruitment and admissions strategies for inclusion of URM students as evidenced by an elevated, perceived understanding of noncognitive considerations in the dental admission process. Of particular note is the small change in pre- (3.50) and postworkshop (3.96) average scores in response to the statement concerning knowledge about which groups are included in the URM definition.

Listed in Table 1 are fifteen key concepts that emerged from the workshop, drawn from information conveyed in the keynote address, group discussion of recent U.S. Supreme Court decisions, and best practices in dental admissions relative to student body diversity. These concepts fall into four categories: 1) diverse student bodies enrich the dental educational environment; 2) all constituents within the school, starting with the deans, must support and promote diversity; 3) admission committees must function within the legal parameters set forth by recent U.S. Supreme Court decisions concerning consideration of race in admission decisions; and 4) Admissions Committee composition and commitment to examining candidates holistically play an important role in diversifying dental student bodies.

Using the key concepts as guiding principles, four action steps were identified and agreed upon by workshop participants to effectively recruit and admit underrepresented students:

- 1) develop and publish an Admissions Committee mission statement that endorses diversity and is supported by the dean and the faculty;

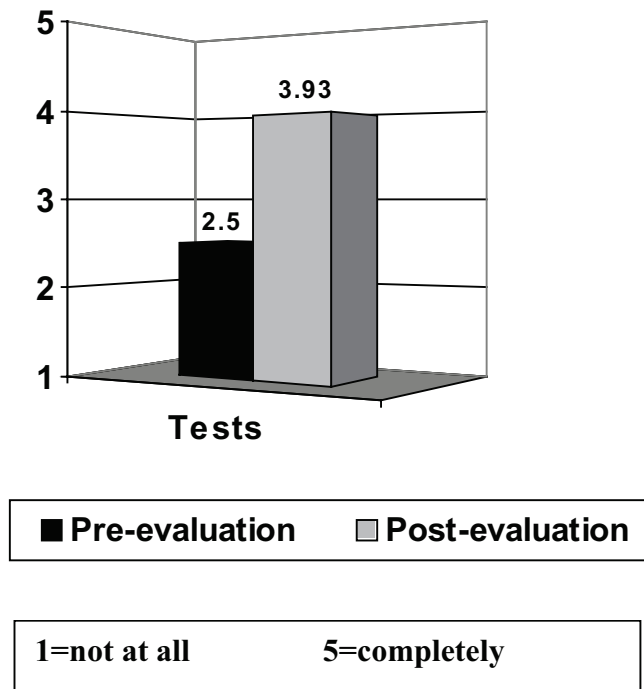


Figure 3. Perceived knowledge change concerning role of noncognitive factors in dental school admissions

- 2) diversify the Admissions Committee composition to include basic science and research faculty, dental students, and alumni;
- 3) improve utilization of noncognitive factors in assessing applicants; and
- 4) revise the interview process and schedule to include Saturday interview sessions in order to allow more time with interviewees.

Members of the Admissions Committee met to develop and publish a mission statement supported by the committee and the dean. This mission statement was later presented to faculty members at a faculty retreat. The dean subsequently appointed dental student, alumni, and research faculty members to the Admissions Committee. New appointments included one URM dental faculty member and one URM dental alumnus. Key interview questions and the associated candidate evaluation form were modified to better ascertain noncognitive attributes such as life challenges candidates may have overcome, other demands on time while going to school, etc. The committee also implemented Saturday interview sessions, which expand the amount of time committee

members and candidates informally interact through a welcome breakfast and student panel. The interview structure was also modified so that individual candidate interviews would be conducted by at least two interviewers, who would evaluate the candidates independently. The revised interview format commenced the following semester.

Early results since implementing the workshop's recommendations appear positive, with URM dental student acceptances increasing from two students in the year prior to enactment of workshop action steps to eleven and twelve URM students, respectively, accepted in the two consecutive years following the workshop. Additionally, the number of URM applicants interviewed rose from five candidates in the 2004–05 application cycle to eighteen and seventeen in the following two years, respectively, and yielded more URM acceptances in 2005–06 and 2006–07. Table 2 shows the change in URM student applications, admissions, and enrollments beginning with the admission cycle prior to and including two cycles after incorporating the workshop recommendations. The number of URM applicants increased from

Table 1. Key concepts that emerged from the workshop

- Benefits to the dental school flow from recruiting, admitting, retaining, and graduating a diverse student body.
- Broad-based support of diversity must include the dean, the dental school faculty, and members of the Admissions and Recruitment Committees.
- It is constitutional to use race as one of many admissions factors; however, it cannot be the sole consideration.
- Admissions procedures must have a competitive review process, with all applicants considered in the same pool. No quotas or burden may be imposed on nonminority candidates.
- Admissions policies must provide flexible, individualized consideration.
- Holistic assessment must take into account noncognitive factors.
- URM faculty involvement and scholarship aid are integral to successful URM dental student recruitment programs.
- A mission statement provides the framework for diversity initiatives.
- Candidates should have the opportunity to evaluate the Admissions Committee.
- There should be a mechanism to regularly track cognitive and noncognitive aspects of students entering and successfully completing the dental program.

Admissions Committee:

- Membership should include diverse representation from the dental faculty, student body, dental practice community, and alumni.
- Chairperson/director should be nonvoting and advocate for students.
- Members should be required to attend all committee meetings.
- Members should annually evaluate the committee chairperson.
- The committee must have a mission statement that includes diversity and is supported by the dean.

fifty-eight in 2004–05 to eighty-six in 2006–07, a 48 percent increase.

With the implementation of the Pipeline program at WVU during the same time period, the Recruitment Committee concentrated its efforts on recruiting URM students. The school's print and web-based recruitment materials spotlight this emphasis and have been disseminated at college recruitment fairs and meetings with prehealth advisors, but one can only speculate whether these efforts contributed to an upswing in URM applicants. Although statistically not significant ($P=0.054$), there was an indication of an increase in the percentage of URM students interviewed, and there was a statistically significant

($P=0.031$) increase in the percentage of URM student acceptances during the application cycles shown.

Discussion

A key goal for the national Pipeline program has been to improve diversity in dental education with the anticipated long-range outcome of diversifying the future dental workforce. The Pipeline program at WVU has precipitated helpful changes in both the Recruitment and Admissions Committees. Most notably, diversity in committee membership has been enhanced, with one additional URM faculty member and one URM alumnus member. In addition, to ensure continuity in both committees' desire to diversify dental classes, some faculty currently hold appointments on both committees. While dual committee membership has been advantageous, it is impractical to fully merge the two committees due to the heavy workload associated with each.

The major impetus for holding an admissions workshop with the aid of external experts was to examine best practices in admitting diverse student bodies and clarify perceived ambiguity about recent U.S. Supreme Court cases. Conducting the admissions workshop for the Admissions and Recruitment Committees' members was a deliberate step to

Table 2. URM student admissions data at West Virginia University School of Dentistry

	2004–05	2005–06	2006–07
Number applied	58	78	86
Number interviewed	5	18	17
Number accepted	2	11	12
Number enrolled	1	5	6
Total class size	50	50	51

URM denotes black/African American, Hispanic/Latino, and American Indian students.

integrate the traditionally independent roles of both committees.

Keynote addresses by workshop facilitators led to discussion of the 2003 U.S. Supreme Court affirmative action decisions and dental admissions best practices. The workshop helped participants understand that endorsement and promotion of diversity at all levels in the school are paramount to recruiting, admitting, retaining, and graduating diverse student bodies. In addition, emerging from the session were two prominent themes: the Admissions Committee must venture from traditional admissions processes to more holistic ways of assessing dental school applicants; and, in this era of escalating dental applicant numbers, whole-file review is necessary rather than selecting candidates solely by their grade point averages (GPAs) and scores on the Dental Admission Test (DAT).

The facilitators surmised that workshop participants were enthusiastic about diversity, but initially seemingly reluctant to change admissions procedures that primarily focus on high GPA and DAT scores. Therefore, the workshop was helpful in underscoring the importance of noncognitive factors and helping participants understand the relevance of these factors.

The workshop provided critical information not only for implementing whole-file review but for revamping the dental admissions interview process at WVU. Implementing Saturday interviews helped to reduce difficulty in scheduling faculty for applicant interviews due to extensive weekday teaching and patient care commitments. The redesigned interview structure offers committee members more time flexibility to explore noncognitive attributes and to glean detailed information regarding any obstacles encountered by applicants that may better explain academic inconsistencies or marginal DAT performance. However, program evaluation findings suggest that workshop participants might benefit from more exposure to case studies clarifying the legal language set forth in court cases, such as “narrowly tailored” admissions policies.

The intent of this article has been to illustrate how an admissions workshop at WVU mobilized the Admissions Committee’s expressed intent to “do the right thing” when making admissions decisions. The best demonstration of the workshop’s positive impact is the rise in URM student admissions, from one student in 2004–05 to six students in 2006–07, since implementing workshop strategies. These findings support the tenet that dental admissions

committees, coupled with effective URM student recruitment and mentoring programs, are essential links in the chain of school-based opportunities to influence future workforce diversity and reduce oral health disparities.

Conclusion

Subsequent to this half-day educational program emphasizing the importance of whole-file review and noncognitive considerations in the dental admissions process, there was a substantial increase in URM applications, acceptances, and enrollments between academic years 2004–05 and 2006–07. We concluded that changes in admissions patterns for URM students were associated with modifications to recruitment and admissions procedures implemented as follow-up to the workshop. Early results since implementing action steps derived from the workshop have been positive, with URM dental student enrollments increasing from one student in 2004–05 (2 percent of total enrollment) to six students in 2006–07 (12 percent of total enrollment). Program evaluations and increases in admitted URM students suggest that workshop participants have utilized information acquired from the workshop. Although follow-up studies need to be conducted to determine if this upswing in URM applications, admissions, and enrollment continues and to assess student retention, a similar workshop may be beneficial for other dental schools seeking to increase the diversity of their student bodies.

Acknowledgments

We thank the Robert Wood Johnson Foundation for creating the Pipeline, Profession, and Practice: Community-Based Dental Education program, which funded the admissions workshop discussed here. The Pipeline National Program Office and the American Dental Education Association are acknowledged for illuminating the challenges and solutions to diversifying dental student bodies. We especially recognize the insights of Allan Formicola, Howard Bailit, Jeanne Sinkford, Judy Stavisky, and Kim D’Abreu. Their leadership has stimulated new approaches to improving diversity in dental schools. Appreciation is expressed to the Admissions Committee at West Virginia University School of Dentistry for its enactment of whole-file application review, which has resulted in improved diversification of the dental student body. Also, Charlotte Tenney, Wendy Rid-

enour, and Shana Lassiter are recognized for their technical assistance.

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