Addressing Oral Health Disparities Via Educational Foci on Cultural Competence

An ever-present challenge for the oral health profession is to reduce the extent of oral disease among racial and ethnic minority populations. Adding to this complex dilemma is the linkage between oral health and systemic health.

We describe enhanced cultural competency, in the context of individual cultural beliefs, values, language, practice, and health behaviors, among dental professionals, as one approach to meeting the dental care needs of the underserved. An overview and examples of teaching methods used by University of Florida dental educators to enhance student cultural competency is provided.

Evidence-based evaluation results provide evidence of methodology efficacy. We conclude by describing actions that can be implemented by academic dental institutions to facilitate development of culturally competent practitioners. (*Am J Public Health*. 2017;107:S18–S23. doi:10.2105/AJPH.2017.303721)

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> "Racial and ethnic minorities [people of color] tend to receive less healthcare than nonminorities, even when access-related factors, such as patients' insurance status and income, are controlled."
>
> —*Smedley et al.*[1]

Risk factors such as income and education, and risk markers such as race or ethnicity, have resulted in oral and systemic health disparities.[2] Lack of access to health care has worsened the problem, particularly among racial and ethnic minority populations.[1] Increasing evidence links oral and systemic (medical) health, yet oral health care is less available and accessible than systemic care.[3] Moreover, oral diseases are the least likely chronic diseases to be reimbursed by third-party health insurance, including the Affordable Care Act.[4] Aside from oral pharyngeal cancer, widespread beliefs that oral diseases are not life-threatening seem to reflect the low priority placed on oral disease by many US residents and health policymakers.

In the United States, oral health disparities are profound. The most affected groups are racial/ethnic minorities in spite of socioeconomic status, gender, age, educational attainment, and geographic location. Limited access to oral health care including acute and preventive services has resulted in oral health disparities and oral health care disparities. Additional strategies are needed if improvement in oral health is expected for vulnerable racial and ethnic population groups. For example, among non-Hispanic Black and Mexican American adults (aged 35–44 years) untreated tooth decay is nearly twice that of their non-Hispanic White counterparts, and periodontal (gum) disease predominantly affects Mexican American and non-Hispanic Black men. Higher rates of periodontal disease are also present in individuals with less than a high-school diploma and adults aged 65 years and older. Similarly, Asian populations self-report higher levels of periodontal disease.

Population changes evidenced by US Census Bureau statistics (April 2010–July 2015) indicate an increase in Hispanics and African Americans that are disproportionally adversely affected by oral health disparities. Specifically, the percentage of adults aged 65 years and older increased from 13.0% to 14.9%; the Hispanic/Latino percentage increased from 16.3% to 17.6%; and persons describing themselves as White alone (not Hispanic/Latino) decreased from 63.7% to 61.6%. The 2015 US population, estimated at 321 418 820, is composed of 77.1% White persons (271 million); 61.6% of the total population is not Hispanic/Latino. Black or African Americans make up 13.3% (42 million) of the population; Asians, 5.6% (17.9 million); American Indians/Alaska Natives, 1.2% (3.8 million); Native Hawaiians and other Pacific Islanders, 0.2% (0.6 million); 2 or more races, 2.6% (8.3 million); and Hispanic/Latino, 17.6% (54 million).[5] These population demographics are starkly contrasted with US dentist workforce demographics in which 74.2% of dentists are White, 5.2% Hispanic, 3.8% Black, 15.7% Asian, and 1.25% "other." Other relevant population statistics include 14.9% adults aged 65 years and older, 13.1% foreign-born adults, 13.7% adults without high-school diploma (28%

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foreign-born and 8% native-born), and 13.5% persons living in poverty. Thus, innovative strategies are needed to effectively address the oral health of these groups.

Future demographic changes will cause exponential growth in these unacceptable levels of oral health disparities. The geographic maldistribution of dentists, many of whom do not practice in rural and otherwise isolated locations with large concentrations of minority and low-income patients, exacerbates this issue. Remediation of oral health disparities requires policy change and public–private sector contributions. One example, advancing the cultural competence of health care providers as described in this article, is a first step toward improving access to care. A second example is the delayed recognition and remediation of oral health workforce diversity to better reflect the current and emerging demographics of the US population. Despite some improvement in dental school diversity, it will not match the changing demographics, thus the need for increased cultural competency in nonminority dentists.

Culture, defined as the beliefs, values, knowledge, and skills that guide a people along shared paths, is the nonhereditary memory of a community, a memory expressing itself in a system of constraints and prescriptions. In the context of oral health disparities, culturally competent oral health providers have the ability and delivery system to meet the oral health needs of the underserved in the context of their cultural beliefs, values, language, practice, and health behaviors.[6] The need for cultural competency in the oral health workforce is recognized in *Healthy People 2020*'s expressed goal of increasing cultural diversity content in Doctor of Dental Surgery or Doctor of Dental Medicine–granting colleges and schools of dentistry (https://www.healthypeople.gov). Ideally, students would enter dental school with knowledge of cultural competency constructs and relevant communication strategies. In reality, provision of culturally centric care can only be ensured when dental students are encouraged to develop an internalized respect for the importance and advantages of living in a multicultural and increasingly diverse society.

One approach to internalizing cultural competency is a community behavioral model called authentic cultural ecology, which accepts a broad perspective of well-being. Rather than "medicalize" health, cultural ecology recognizes these limitations, and promotes the social–cultural importance of issues that have an impact on individual and community well-being.[7] Individuals considering oral health careers must learn and employ cultural competency strategies as they advance in their education and career paths. Moreover, it is reasonable to expect that culturally competent oral health professionals will be more likely to provide acceptable care to diverse populations. An evidence-based methodology to teach, develop, implement, and evaluate cultural competency is needed, especially because future dentists will likely treat patients who differ from them in many ways including racially, ethnically, culturally, first language, care-seeking behaviors, and ideas about dental treatment.[8]

EDUCATIONAL FOCI ON CULTURAL COMPETENCE

Encouraging dental students to develop an internalized respect for the importance and advantages of living in a multicultural and increasingly diverse society is complex. Dental educators attempting to identify and implement effective strategies to create an awareness of and desire to address oral health disparities among students often face major challenges.

Impetus for Developing Cultural Competency

Historically, the dental profession has been predominantly White and male, a profile that no longer reflects the current population. Also, population demographics point to the urgency of diversifying the dental workforce. Workforce diversity has been described as a critical first step in reducing oral health disparities in part attributable to a preference among many underrepresented minority individuals for racial/cultural concordance with their providers.[9,10] Benefits of diversity include improved patient–provider communication, greater choice and satisfaction among patients, and improved access to care for racial and ethnic minority groups. Also, underrepresented minority dentists have been described as more likely to provide care that acknowledges existing racial/ethnic differences.[11–15]

Although the need for increased professional diversity by gender, race, and ethnicity is universally recognized, before and after admission, academic, financial, and personal requirements can be difficult for underrepresented minority students. Dental schools work diligently to recruit, admit, and graduate underrepresented minority students. Although their efforts have increased admissions nationally for Asian and Hispanic students, admissions for African American students remain low and the numbers of underrepresented minority graduates cannot accommodate the nation's rapidly changing demographics. Academic enrichment programs such as the Robert Wood Johnson Foundation's Summer Health Education Program and the holistic admissions processes are important steps in improving the diversity of the oral health workforce.

Lack of dental care access is a major cause of oral health disparities. Medicaid beneficiaries have difficulty accessing care because few dentists accept Medicaid as payment. Low reimbursement rates for services is the main reason for rejecting Medicaid patients. A Florida study of Medicaid providers revealed that dentists accepting Medicaid were socially stigmatized by other dentists.

Oral health disparities cannot be adequately addressed without increasing Medicaid dental providers. Finding ways to convince dentists to accept Medicaid patients is a persistent challenge. A recent study found Iowa Medicaid provider dentists to be more altruistic than non-Medicaid provider peers. Underrepresented minority graduate dentists report more feelings of altruism, and greater willingness to accept Medicaid patients, but acceptance of Medicaid patients among dental professionals should be the expected norm. Cultural competence training in dental school is designed to aid in this area as students who receive training

in cultural sensitivity and competence increasingly report intentions to treat culturally different patients. Successful patient care in today's society requires provider understanding and recognition of culture in individual perceptions of health. For instance, care can be affected by culturally different beliefs about tooth loss, conceptualization of disease, illness, or prevention.[9] Understanding access-to-care barriers such as patient–provider differences in culture and language, and perceived (or actual) provider or staff discrimination against nonconcordant patients will increase patient satisfaction and enable remedies for problematic patient experiences.

Responsibility for training culturally competent students lies with dental schools.[16] Changes in the Commission on Dental Accreditation (CODA, the national organization that accredits all academic dental education programs in the United States) standards reflect this responsibility. CODA requires dental school graduates to be "competent in managing a diverse patient population and have the interpersonal and communication skills to function successfully in a multicultural work environment."[9(p1022),16] CODA mandates schools to provide opportunities for students to work in various and diverse community health care environments and to foster an appreciation for community service.[17] Although cultural competency is considered important, dental educators charged with the responsibility of educating culturally competent dental providers face challenges related to the absence of identified and tested teaching methods and sparse curricular content.[9,16,18]

Teaching Cultural Competence

Most dental schools in North America include cultural competence in their curricula.[18] Findings from an American Dental Education Association (a national organization representing all academic dental educational programs in the United States and Canada) survey assessing integration of cultural competency indicates that most dental schools teach cultural competency during year 1, whereas a small number integrate the topic throughout all 4 years.[9]

Most dental schools teach cultural competency education in didactic and clinical courses, often in behavioral science, community dentistry, principles of patient management, oral pathology, and diagnosis.[16,18] Coursework includes opportunities for students to increase self-awareness through recognition of gender and cultural biases in themselves and others, gain respect for diversity, and become more sensitive and proficient in interpersonal communication.[18–20]

Teaching Methodology

Information regarding effective teaching methods and materials used by faculty charged with fostering dental students' cultural competence is sparse. Examples of teaching methods include use suggested by Albino et al. of cultural competency models such as the General Relations or Multicultural Model. Model constructs challenge students to understand their own personal, social, and cultural backgrounds, including how their characteristics affect the way they think and feel about the world, including their interactions with others.[8] Activities that foster increased self-awareness are usually the first step in developing cultural competence. In our experience, first-year dental students typically reject the idea that they possess prejudices or biases toward others. They firmly believe they can separate themselves from their culture when delivering care. These beliefs reinforce the need for cultural competence education throughout all years of dental school.

Most dental educators believe that cultural competence must be nurtured in a heterogeneous environment; there is broad agreement about the need for clinical community-based training.[8,21] Many dental schools provide students with opportunities to treat patients in culturally diverse communities.[9,22] Experiences in clinical settings or extramural rotation sites serve to develop students' cross-cultural communication skills. These experiences lead to improving students' abilities in recognizing nonverbal cues present in culturally different individuals.[17,22,23]

Case-based learning can increase students' awareness of the cultural factors that may play a role in diagnosis and treatment planning.[8] Cases linking health outcomes and factors such as race, ethnicity, economic status, level of education, and environmental disadvantage can be developed. Involving medical or nursing students lends to creating opportunities for more holistic case discussions, in which students can learn the value of interdisciplinary collaboration.

These examples demonstrate that concepts of cultural competence can be taught in a broad and diverse fashion.[24] However, it is difficult to discern how cultural competency in general, and specific elements in particular, are included in students' dental school experiences. The literature provides little guidance to dentistry regarding curriculum modifications and teaching methodologies needed to graduate culturally competent dentists.[9,16] The following section describes teaching methodologies used by dental educators charged with teaching cultural competence to dental students at the University of Florida.

CURRICULUM REVISIONS

The first author (L. S. B.-H.) assessed the dental school's curriculum and, following meetings with previous course directors and a review of the cultural competence literature, recommended implementation of experiential learning activities. She suggested curriculum revisions aimed at engaging dental students in learning activities and enhancing their development as culturally competent dentists. After learning that there was no scale to measure cultural competency among oral health care providers, we developed an instrument to fill that need. We also assessed the educational impact of the curricular revisions in 3 sequential studies of dental student cohorts, while enrolled in their second semester, from the classes of 2016 to 2018.[25–27]

Research assessing the efficacy of the teaching methods presented here were published.[25–27] For each study, students were given 2 reflective writing assignments. The initial teaching method designed to increase cultural competency, referred to as study 1, asked students to describe their personal awareness along 8 categories: race, gender, ethnicity, social class, sexual

orientation, personal able-ness, faith, and cultural groups. At the start of assignment 2, the instructor intermixed and distributed assignment cards nonrandomly to students. The cards designated the group category:

1. a sexual orientation,
2. religious affiliation,
3. personal able-ness (mentally or physically challenged),
4. first language,
5. social class,
6. racial/ethnic group,
7. gender, and
8. national origin, from which their interviewee should be chosen.

Outside of class time, using a schedule of assigned questions, students were expected to conduct a face-to-face interview with a person in a location of their choosing. Upon completion of the interview, students were required to write a reflection paper, of at least 500 words, describing their interview. Assignments were graded using a rubric[25–27]; written instructor comments were also provided. Differences in instructional activities are described in the following paragraphs. The schedule of assigned questions for subsequent face-to-face interviews remained the same.

For study 1, at the start of class, the instructor verbally reviewed the following unit objectives with students:

1. define cultural competency;
2. recognize your assumptions, beliefs, and values about your own and others' cultures;
3. identify the role of cultural competence in providing patient-centered care;
4. discuss how inequity perpetuates valuing one culture over another; and
5. describe how your communication style will ensure patient understanding and enhance patient efforts toward self-care.

Following a review of unit objectives, students were provided with a rationale for becoming culturally proficient. The instructor used instructional methods including lecture, small groups, role playing, and the automated response system.[25]

For study 2, in year 2, the unit on cultural competency opened with an instructor overview of characteristics exemplifying cultural competence, barriers to its development, the impact of inequity on health, and a description of social–historical and socio–political impacts on cultural competence.[26,27] Students were presented with a continuum depicting the stages of cultural proficiency and were asked to silently identify their position on the continuum. The exercise was designed to create cognitive disequilibrium by encouraging students to reflect on their cultural biases, privilege, and assumptions. Next, using small groups, students discussed possible solutions to questions provided by the instructor. Following this activity, students prepared reflective writing assignments.[25,26] Instructional activities discussed in the previous paragraph were essentially the same, except that in studies 2 and 3 cultural competence assignments accounted for 25% of the student's grade.[26,27]

In study 3, the instructor used small group discussions exclusively to encourage students' willingness to probe more deeply into cultural competence and diversity, and to develop their communication skills and critical thinking.[27] Student groups discussed questions such as: (1) "What does it mean to be competent?" (2) "What does a competency look like?" (3) "What is your definition of cultural competency? Provide an example." (4) "Provide some examples of when you experienced culturally insensitive communication. How did you feel as a result?" Each group recorded their responses on large paper sheets and posted them on the classroom wall. Each group selected a representative to present their responses to the class. The purpose of the study was to explore how small group work, in addition to reflective writing and conducting interviews, influenced change in students' cultural competence. The research sought to discover if learning activities helped dental students recognize and reduce unconscious bias. Specifically, we assessed whether the new teaching approach resulted in greater outcome efficacy than demonstrated in studies 1 and 2.

During the second classroom session of study 3,[27] the instructor again engaged students in small group activities, in which they responded to the following: (1) "Assign yourself a particular rating of your own cultural competence from 0 to 10, where 0 = not at all, and 10 = extraordinarily skilled." (2) "Explain why you assigned yourself a particular rating of your own cultural competence from 0 to 10, where 0 = not at all, and 10 = extraordinarily skilled." (3) "What are the most significant factors that have influenced your level of cultural competence?" (4) "Why am I being asked to learn about my personal cultural competence?" Unlike studies 1 and 2, instructor presentations or direct dissemination of information were absent.[25–27]

In all of the aforementioned activities, instructors and researchers sought to understand if and how reflective writing and interviews depicted students' baseline awareness of their own cultural competence and whether conducting interviews with individuals unlike themselves resulted in expressions of personal change. In all cases the following questions were used to determine the presence of personal change—assignment 1 questions: (1) "Define YOUR world—what does it encompass?" and (2) "What are some of your assumptions?" and assignment 2 question: (3) "As a result of conducting the interview with the assigned individual, describe the insight you acquired about your values and prevalent assumptions in your cross-cultural relationships and ways in which they are similar or different from the previous experiences you have had."

Across all 3 studies, we used identical methods of analysis; quantitative analysis guided qualitative analysis. Researchers explored the following questions: (1) "Is there a statistically significant difference in the word count between assignments?" (2) "Is there a statistically significant difference in the word count among the interviewee categories?" (3) "Is there statistically significant difference for word count between male and female students?" (4) "Is there statistically significant difference for word count between White and underrepresented minority students?"[25–27]

A brief description of the findings related to these 3 studies follows.[25–27] In study 1, between assignments 1 and 2, significant differences were present for all interview categories in the 5 areas of cultural diversity: sexual orientation; religion; personal

able-ness or socioeconomic status; race, language, or national origin; and gender. These findings suggest that assignment 2 was influential, and demonstrated a curricular impact in increasing students' mindful awareness in relation to people with influence on their lives and attitudes. Textual changes in reflective writing demonstrated active reflection in which students questioned previously held assumptions derived from their social worlds.[25]

Underrepresented minority students frequently discussed others' influence when interviewing individuals from a different religion and gender, whereas "majority" students showed less discussion in the categories of sexual orientation, able-ness or socioeconomic status, and gender. Repeatedly, students compared their interviewees' beliefs to their own experiences. This constant comparison with their cultural and family lives demonstrates consciousness raising, a process within Prochaska and DiClemente's second stage of change,[28–30] as well as Sue's second group level of similarities and differences.[31] While reflective writing, an atypical assignment in dental education, focused on a student's experiences when interviewing another, the intimacy between the 2 prompted change. These findings suggested that when students engaged in reflection,[31–37] changes beyond course content resulted. Although these results are limited to 1 point in time, findings suggest that even short interventions sustain change, especially in perspective taking.

In study 2, findings showed a significant increase in assignment scores by interview, and by assignment, interview, and underrepresented minority or majority. These findings supported the premise that tailoring the education program to stages and processes of change was beneficial and provided an opportunity to bridge the factual and conceptual knowledge of participants with the practical implementation of new knowledge.[36,37]

In study 3, we explored the thematic content of the qualitative data to better understand how the strategy of "increasing opportunities for contact" had an impact on the process of change.[26,34] Findings demonstrated that student progression through the stages of change led to improvements in cultural competency. This progression was initiated by instructional activities that challenged dental students' personal biases, while simultaneously exposing them first hand to the "lived realities" of others. These findings demonstrated that experiential learning holds the potential to instill awareness of others, foment curiosity, and catalyze self-reflection, processes that may subsequently foster empathy and human compassion.

Students recognized their unconscious biases and reported an increase in personal cultural competence. The findings of this study were similar to those observed in studies 1 and 2.[25,26] This less-structured and student-centered approach to learning was instrumental in the observed changes.[27] Students described how course activities fostered an awareness of the role that diversity plays in communication and access to care and consequently decreased their unconscious bias. Across 3 successive studies, findings showed that students began to rethink previously held assumptions about cultural beliefs, experienced an increased awareness of their unconscious biases, and promulgated change in cultural beliefs.[25–27]

MOVING THE FIELD FORWARD

The literature predominantly describes efforts related to teaching cultural competency as insufficient and lacking measurement to support their use. However, recent evidence-based findings suggest several pathways to ensuring the development of culturally competent practitioners. In this article, we discuss teaching methodologies that have been successfully used by dental schools to increase students' cultural competence. We recommend additional steps to move the field forward. First, during all years of dental school, it is imperative to engage students in experiential learning to synthesize didactic information with an understanding of diverse patient populations.

Second, we recommend coupling classroom activities with community-based service and clinical rotations in underserved communities as early as the first year. These rotations allow students to gain clinical experience as well as an awareness of communities and individuals that are likely quite different from them. Following these experiences, students should discuss and reflect introspectively and in writing on their experiences, while faculty provide guidance and feedback.

Third, developing culturally competent dental students is highly contingent on the skills of all dental school faculty. As such, intensive and mandated faculty training in cultural competency must be supported by a school's infrastructure and allocated resources. Faculty development opportunities to develop and improve faculty skills in teaching methods and measuring student change should be included.

Fourth, assessing change should be monitored; when course revision or incremental change is indicated, faculty should receive appropriate guidance and instruction. Fifth, psychometrically valid scales to assess change should also be employed to ensure the veracity of outcomes. In other studies, the first author reports the validation of a such a measure.[38,39]

Finally, we propose 3 additional streams for developing cultural competence: (1) use federally qualified health centers as immersion placement sites of dental and medical students to gain experience working in areas with significant health care disparity and vulnerable populations during clinical education; (2) provide instruction to first-year dental, dental hygiene, medical, and nursing students in the principles and applications of public health dentistry, including oral health surveillance and community-based prevention of oral diseases; and (3) engage students in an interprofessional community engagement project to promote interprofessional competencies in communication with patients, families, and communities, while building a capacity to apply relationship-building values in patient-centered and population-centered care during the first and second year.

These proposed initiatives would (1) expose students to the strengths and weaknesses of the US health care system for the purposes of fostering social responsibility and consideration for postgraduation, discipline-specific practice in these settings;

(2) allow them to experience problem management as they would in an integrated health care system; and (3) enhance, firsthand, their recognition of oral health care disparities and associated issues. The Robert Wood Johnson Foundation has embarked on a multiyear, multimillion-dollar initiative to develop a Culture of Health that, "places well-being at the center of every aspect of life. It is a culture in which communities' flourish and individuals thrive."[40] Oral health professionals have the opportunity to join the Robert Wood Johnson Foundation by ensuring cultural competency in the practice setting and other venues where oral health enhances individual, group, and community well-being. AJPH

CONTRIBUTORS

L. S. Behar-Horenstein contributed to the conceptualization of this study, to writing the Teaching Methodology section in the Educational Foci on Cultural Competence section and the sections on Curriculum Revisions and Moving the Field Forward, and to editing the article. R. C. Warren and F. A. Catalanotto contributed to the conceptualization of this study, to writing the introduction, and to editing the article. V. J. Dodd contributed to the conceptualization of this study; to writing portions of the introduction; to developing the subsections Impetus for Developing Cultural Competency, Teaching Cultural Competence, and Teaching Methodology in the Educational Foci on Cultural Competence section; and to editing the article.

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HUMAN PARTICIPANT PROTECTION

Institutional review board approval was received from the University of Florida.

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