Assessing the Cultural Competency of Dental Students and Residents

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Abstract: This article presents a literature review of cultural competency education in the health professions (dentistry, dental hygiene, medicine, and nursing) with specific reference to methods of evaluating student and resident knowledge of cultural competency concepts and practices and clinical performance. Some important barriers to developing evaluation instruments are the following: 1) little consensus on core competency knowledge; 2) erroneous notions of race; and 3) stereotyping the behavior of racial groups. The relative advantages of the different examination methods now used to evaluate students and residents (qualitative, quantitative, practical, and self-evaluation) are reviewed, and recommendations are made regarding three instruments that schools can use to assess student knowledge and clinical performance.

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This work was supported by a grant from The California Endowment.

Key words: cultural competency education, assessment, evaluation, cross-cultural education

Submitted for publication 1/31/08; accepted 6/6/08

The United States is undergoing major demographic changes with large increases in populations from Latin America and Asia. For example, in California, the state with the most diverse population, 57 percent of residents are expected to be nonwhite by 2015, and of that group 37 percent will be of Latino origin. In the longer term, many states will experience similar population changes.

The implications for the future practice of dentistry are clear: the majority of dentists are going to treat significant numbers of patients whose first language is not English and who may have different cultural beliefs about oral health. For both financial and clinical reasons, dentists need to be culturally competent. In terms of finances, dentists will have to attract and retain patients from diverse backgrounds. In terms of clinical effectiveness, dentists will have to be sensitive to cultural differences in oral health beliefs in order to get patients to accept recommended personal preventive practices and treatment plans.

While most medical schools are aware of these demographic changes and recognize the national trend towards integrating courses in cultural competence, few have implemented comprehensive four-year programs at their institutions. Instead, many have chosen to work culturally oriented curricula into their existing courses, offer seminars, or add elective courses. In a recent review, Rowland et al. reported that all thirty-four U.S. dental schools responding to their survey (out of a total fifty-six schools) provided students with some type of course material in cultural competence, either in a separate course or integrated into multiple courses.

Based on a 2003 American Dental Education Association (ADEA) survey of dental school seniors, Hewlett et al. found that 68.5 percent of students believed that the time devoted to cultural competence was appropriate and 25 percent of students thought that more time was needed. This suggests that the majority of senior dental students appreciate the importance of cultural competency training.

To date, the dental education community has not developed adequately comprehensive instruments that schools can use to evaluate the cultural competency knowledge and attitudes of dental students and residents. Interestingly, in the Hewlett et al. survey, 86 percent of senior students stated that they were adequately prepared to treat patients of different cultural and linguistic backgrounds. Unfortunately, no objective data are available to validate this self-report.

In this article, we present a literature review of the conceptual and measurement challenges to assessing the knowledge and performance of health professions students (dentistry, dental hygiene, medicine, and nursing) related to treating patients from diverse backgrounds.
Methods

We reviewed the published literature to identify the most commonly used evaluation instruments, the concepts evaluated, and the problems facing cross-cultural education. We searched the available academic literature using PubMed, Google, and the Cumulative Index to Nursing and Allied Health Literature (CINAHL). The search phrases were “cultural competency, cultural education, cross-cultural education, evaluation, measuring cultural competency, dental education, residents, and didactic cultural competency.” The literature inclusion criteria were 1) published since 2000 in English; 2) discussed cultural competency education; 3) pertained to dental, dental hygiene, medical, or nursing students or residents; 4) focused on course evaluation methods; and 5) were limited to case, research, and descriptive studies. We also reviewed government and various foundation websites and publications. Websites included Georgetown University’s National Center for Cultural Competence, the U.S. Health Resources and Services Administration’s (HRSA) Cultural Competence Resources for Health Care Providers, and Evidence-Based Culturally Competent Care from the School of Dentistry at the University of Southern California. Additional publications were sourced through the Robert Wood Johnson Foundation, the California Endowment, Association of American Medical Colleges, Office of Minority Health, American Dental Association, and ADEA. We identified forty-five publications that met the criteria for this study. Twenty-three articles, websites, and documents not directly referenced in the body of the article provided general background knowledge.5-27

Results

Conceptual Barriers

We identified several barriers to developing evaluation instruments to assess core cultural competency knowledge: 1) a lack of a consensus on core competency knowledge; 2) erroneous notions of race in cultural competency evaluation instruments; 3) stereotyping the behavior of racial groups; 4) inconsistency of evaluations; and 5) inadequate clinical role models.

Knowledge Base. One of the major health professions educational associations has developed a core knowledge set that represents information and concepts that students should know about cultural competence. In 2000, the Association of American Medical College’s (AAMC) Liaison Committee on Medical Education developed two accreditation standards pertaining to cross-cultural curriculum and students’ learning outcomes. The first stated that faculty and students must “demonstrate an understanding of the manner in which people of diverse cultures and belief systems perceive health and illness and respond to various symptoms, diseases, and treatments.” The second standard states that medical students must “learn to recognize and appropriately address gender and cultural biases in themselves and others, and in the process of health care delivery, while considering first the health of the patient.” 28

In response to these new standards, the AAMC developed the Tool for Assessing Cultural Competence Training (TACCT). The overall goal of TACCT is to help educators develop a curriculum that enhances cultural competence.29 The TACCT instrument is not a tool to evaluate student knowledge. Rather, it is designed to ensure that core concepts of cultural competence are covered within the course. Using TACCT, educators can compare their curricula to those of other schools, identify any gaps, and correct them.

Another resource for cultural competency course development is available on the U.S. Health Resources and Services Administration (HRSA) website: Cultural Competence Resources for Health Care Providers. This site provides links to resources on course assessment, culture and language, diseases, health professions educators, special populations, training curricula, and web-based training.30 These resources can supplement core concepts outlined in TACCT.

ADEA published a policy paper, “Strategies to Enhance Diversity (2006–07),” which includes information on National Minority Recruitment and Retention Conferences, minority faculty development programs, a continuing legislative agenda, regional workshops for predental advisors, leadership training for minority affairs officers, and participation in the Health Professionals for Diversity (HPD) coalition.31 The ADEA material does not include tools for developing cultural competency courses, but the policy paper states that the Association intends to work on educational materials in order to expand dental school diversity education programs.

The Commission on Dental Accreditation (CODA) has one general standard (2-17) related to
cultural competency: “Graduates must be competent in managing a diverse patient population and have the interpersonal and communication skills to function successfully in a multicultural work environment.” CODA does not provide specific guidance on criteria and standards for measuring cultural competency. While several health professions educational organizations have developed guidelines for culturally competent education, no widely accepted instrument is currently available to measure students’ knowledge of culture competency concepts, issues, and techniques.

**Race and Culture.** In an excellent study of the underlying biases in evaluation instruments used to assess cultural competency knowledge, Kumas-Tan et al. noted that erroneous notions of race are seen in many evaluation instruments. Specifically, “culture is perceived as a ‘confounding variable’ that white practitioners must deal with when they interact with people from ethnic and racialized minority groups.” These evaluation instruments assume that the dominant group (i.e., white males) does not have a culture and that almost all providers are from the dominant culture. There is little understanding that the dominant group’s cultural beliefs interact with those of culturally diverse patients. Because of these underlying erroneous assumptions, many evaluation instruments are seriously flawed. Kumas-Tan et al. also provide a summary of the psychometric properties of several quantitative evaluation instruments.

**Racial Stereotypes.** Some methods used to teach cross-cultural concepts are another barrier to the development of evaluation instruments. That is, concepts taught in cultural competency courses pertaining to individual ethnic groups may be helpful, but a door is also opened for providers to apply these concepts as stereotypes. For example, students presented with a stereotype of Chinese patients’ response to pain may apply this stereotype incorrectly to all Chinese patients, when the stereotype only applies to a small percentage of the very diverse Chinese population. When such bias is present, providers are more likely to make assumptions and underestimate the extent of diversity within a given culture. As reported by Betancourt, “a more effective approach is to learn a practical framework to guide inquiry with individual patients about how social, cultural, or economic factors influence their health values, beliefs, and behaviors. Rather than learning about individual cultures and their characteristics, this approach focuses on the issues that arise most commonly due to cultural differences, and how they may affect a physician’s interaction with any patient.”

**Other Barriers.** Although not directly related to the development of evaluation instruments, there are two other challenges facing the evaluation of cultural competency. First, in a study by Weissman et al., many medical residents reported that they were “rarely” evaluated on doctor-patient communications in general—and received little or no evaluation on cross-cultural aspects of doctor-patient communications. These residents assumed that if they were not evaluated on the subject of cultural competence, then it must not be valuable information.

Second, students and residents often receive conflicting messages about the importance of cultural competence from clinical preceptors who are insensitive to these issues. As explained in Hobgood et al., “In a typical clinical-training environment, the trainees’ efforts often are focused on providing patient care that will impress and gain the approval of senior members of the team for the purposes of grading, evaluation, and career promotion. If the attending or senior residents do not place value on enhanced cultural awareness, then this appraisal-based focus may lead to the modeling and reinforcement of negative traits at the expense of understanding the cultural components of the patient. Over time, these behaviors become established, and the student learns to evaluate patients’ social and cultural aspects less and less.”

**Evaluation Methods**

We identified four major approaches to evaluating the impact of cultural competency training on student and resident knowledge and clinical performance: qualitative, quantitative, practical, and self-evaluation.

**Qualitative Evaluation.** Instructors may present videos and encourage discussions, assign students to investigate and then make presentations on various aspects of culture, or assign students to react to external speakers who address issues in cultural competence. A benefit of qualitative assessments is that they allow for more variety in teaching methods and types of experiences, but they do not provide objective measures of student and resident knowledge. That is, qualitative assessments are not examinations per se, but do provide feedback to faculty on course content and student responses.

**Quantitative Examinations.** Quantitative exams (multiple-choice or short answers) are often used in classroom settings. This method provides a numerical assessment of a student’s progress or level of knowledge, but it tends to restrict answers...
to “right” or “wrong,” which is sometimes difficult to define in a concept as complex as cultural competence. Additionally, multiple-choice tests or short answer essays are ineffective in measuring improvement in culturally competent behavior, which is the ultimate goal of incorporating cultural competence into the curriculum.

**Practical Evaluation.** Practical examinations give students the opportunity to gain the experience of interacting with a mock patient and receiving feedback from their instructors and patients. Practical examinations also provide hands-on practice with patients to reinforce concepts of cultural competence in patient interactions. This approach allows identification of knowledge and skill areas that need to be strengthened.

**Self-Evaluation.** Students and residents are surveyed on topic areas such as their feelings about working with diverse patient groups, their ability to provide care to these groups, and their cultural competency education. The basic limitation of self-evaluations is seen in a study of medical residents performed by Lie et al. Their study reported that “self-evaluation of students’ skills and knowledge with respect to cultural competency was nonspecific; skills and knowledge were only indirectly assessed; [and] no separate grade was given for students’ cultural competence in any instructional setting.” On the other hand, self-evaluations can be used to assess and modify courses and to better understand students’ self-perceived cultural competency knowledge.

In an excellent summary of self-evaluation tools, Gozu et al. concluded that the instruments currently in use do not accurately measure growth in students’ attitudes and skill development. Further, students tend to overestimate their competence, so self-evaluations are not reliable predictors of actual performance. As Gozu et al. explain, “A high rating of confidence may be based on arrogance or lack of awareness of one’s limitations rather than on actual ability.”

**Evaluation Instruments**

Based on this literature review, we conclude that there are no widely accepted instruments to evaluate health professions students’ cultural competency knowledge. Further, few instruments have undergone careful psychometric testing for validity, reliability, precision, etc. Therefore, it is difficult to make recommendations on the “best” instruments available. With these limitations in mind, we describe selected instruments for three categories of evaluation: quantitative, practical, and self-evaluation. Because medical schools are most advanced in cultural competency education, all the instruments are from large, federally financed cultural competency curriculum projects. For each instrument, we provide descriptive information on its characteristic. Because qualitative instruments focus more on content relevant to their own institution’s courses, they are not included.

For quantitative instruments, we selected The Provider’s Guide to Quality and Culture Quiz. Developed in a HRSA-sponsored project, this twenty-item instrument tests basic cultural competency knowledge. It covers eleven important knowledge areas, ranging from working with an interpreter to prior cultural assumptions and prejudices. There is no published information on the instrument’s validity and reliability. Kumas-Tan et al. list the most frequently cited quantitative instruments and, if available, give their psychometric properties.

The practical instrument Cultural Awareness Interview Rating Form also comes from a HRSA-sponsored project. Faculty members at the Saint Louis University School of Medicine developed a program in which students interview mock patients who come from diverse backgrounds. Using a checklist and guidebook, the faculty can assess a student’s ability to pick up on cultural issues that are likely to influence patient care.

For self-assessment instruments, we selected the Cultural Competence Health Practitioner Assessment. Developed by the National Center for Cultural Competence under a HRSA grant, the instrument has six subscales. Students are asked to evaluate their knowledge and ability in areas such as cross-cultural communications and clinical decision making. This test can also be answered for specific ethnic, racial, or cultural groups.

Although these three instruments were developed for medical students and residents, they are still relevant for dentistry. That is, the core concepts of cultural competence apply across all the health professions. We expect that the testing of these core concepts in evaluation instruments will use appropriate examples so that they are relevant to each health profession.

**Discussion**

This literature review indicates that most dental schools are aware of the major demographic changes taking place in the United States and have established courses to prepare dental students to care for diverse
patients. There is also evidence that most students appreciate and value cultural competency courses.

Clearly, cultural competency education is at an early stage of development, and there is substantial variation within and between the health professions on core cultural competency knowledge and experiences, methods of course evaluation, and evaluation instruments.

Medical education is perhaps the most advanced of the health professions with regard to the designation of cultural competency core knowledge and the development of curriculum. The AAMC has developed tools to standardize and evaluate course content. Specifically, the TACCT system provides a foundation for faculty to determine the major subject areas that need to be covered in cultural competency courses. The Cultural Competence Resources for Health Care Providers system developed by HRSA offers faculty assistance in developing and running cultural competency educational programs. However, the bottom line is that, without a defined knowledge base, it is impossible to construct an examination for cultural competency knowledge and behaviors that can be applied across educational institutions within a health profession.

Many of the evaluation instruments that are available appear to have significant limitations related to underlying race and culture biases by the dominant cultures, and some risk stereotyping patients from specific cultures. Other barriers to the development of evaluation instruments are the failure of some clinical faculty to formally test cultural competency knowledge and performance, as well as role models provided by some clinical faculty members who are unfamiliar with cultural competency concepts.

The three primary evaluation methods to assess student and resident knowledge are quantitative, practical, and self-evaluation. Each method is used to assess different components of student knowledge and skills. The self-assessment instrument may have the least value, since students and residents tend to overestimate their abilities. Few of the instruments that are available have been rigorously tested for validity and reliability.

**Recommendations**

As next steps in the evolution of cultural competency dental education, we suggest that, working through ADEA, schools need to come to agreement on the components of cultural competence (e.g., knowledge, experiences) that are essential to dental education. The Tool for Assessing Cultural Competence Training (TACCT) can be used as a baseline to determine the material that should be covered by each school and to identify the major gaps in the cultural competency curriculum that need to be addressed.

Then, an ADEA work group can use cultural competence manuals such as “Teaching Diversity and Cross-Cultural Competence in Health Care: A Trainer’s Guide” or HRSA’s Cultural Competence Resources for Health Care Providers to develop a model curriculum that schools can adapt to meet their specific needs. These tools allow each school the freedom to develop a unique program, while maintaining unified core concepts.

Finally, with agreement on core concepts and teaching methods, schools can collaborate in the development of evaluation instruments that measure student and resident cultural competency knowledge and clinical skills.

**REFERENCES**


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