Dental School Patients with Limited English Proficiency: The California Experience


Abstract: California is home to one-third of the U.S. population with limited English proficiency (LEP). Studies indicate that treating LEP patients without professional interpreters can result in miscommunication, decreased patient satisfaction, and serious medical errors. To address this problem, federal laws require all health care institutions receiving federal monies to provide interpretation services to their LEP patients at no cost to the patient. In this study we surveyed 122 students and fifty-six faculty members from the five California dental schools with respect to number, communication strategies, impact on education and clinic finances, and student and faculty perceptions regarding serving LEP patients in their clinics. Over 50 percent of students surveyed spoke a foreign language either fluenty or moderately fluently. Students reported that about 10 percent of their patients required interpreters, that untrained interpreters (e.g., family, friends, bilingual students) worked adequately, but that LEP patients were more difficult to treat. To comply with federal laws, dental schools are confronted with the challenge of covering the cost of providing language services to LEP patients.

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The United States is undergoing major demographic changes with large increases in population groups from Latin America and Asia. The dental profession, both dental schools and practitioners, are faced with treating patients who have limited capacity to speak or read English and who may have varied beliefs and values about oral health care. In this article, we present the results of a survey conducted to determine the challenges facing California dental schools in treating patients with limited English proficiency (LEP). The term LEP is defined as the “limited ability or inability to speak, read, write, or understand the English language at a level that permits the person to interact effectively with health care providers or social service agencies.”

Background to the Study

As background information for this study, we consider the demographic changes taking place in California, federal LEP regulations, dental school LEP accreditation standards, and the relevant health care literature.

Demographics

According to the 2000 U.S. census, 47 million people (18 percent of the total U.S. population) reported speaking a language other than English as their primary language. California has more LEP residents (39.5 percent or 12.4 million people) than any other state. It is also home to one-third of the nation’s population with limited English proficiency. From 1990 to 2000, California’s non-English-speaking population increased by 43 percent compared to 14 percent for the nation. By 2050, California is projected to have 60 million residents (currently 34 million): 15.7 million whites, 31 million Hispanics, and 8.1 million Asians. This represents 181 percent and 110 percent increases in the Hispanic and Asian populations, respectively, and a 3 percent decrease in the white population. Clearly, with this population shift, dental schools and practitioners need to be experienced in caring for LEP patients.
Federal Laws

Title VI of the Civil Rights Act of 1964 prohibits discrimination against people on the basis of race, color, or national origin by any institution (health care or otherwise) that receives federal funding, and mandates that persons with LEP have a meaningful opportunity to participate in programs that receive federal funds. In 2004, Executive Order 13166, “Improving Access for Persons with Limited English Proficiency,” provided guidance on how institutions must comply with Title VI in terms of verbal (interpretation services) and written communications (translation services). Interpretation is a verbal restatement of words from one language to another, while translation is a written rendering from one language to another.

In 1997, the U.S. Department of Health and Human Services developed standards that define culturally and linguistically appropriate services (CLAS). While some CLAS standards are recommendations, Standards 4–7 are mandates that specifically address language access:

- Standard 4. Health care organizations must offer and provide language assistance at no cost to patients with limited English proficiency. Language assistance includes bilingual staff (doctors and auxiliaries) as well as in-person and telephone interpretation services.
- Standard 5. Health care organizations must provide in the patient’s preferred language both verbal and written notification of a patient’s right to receive language services. The standard also calls for multilingual signage that notifies LEP patients about the availability of language services. Further, the patient’s preferred language must be identified and documented in the patient’s record.
- Standard 6. Bilingual clinicians and staff must demonstrate command of English and the patient’s preferred language, so as not to introduce mistakes that can lead to misunderstanding, misdiagnosis, dissatisfaction, and inappropriate treatment. Family and friends should not be used as interpreters unless requested by patients, and minor children should never be used as interpreters.
- Standard 7. Written materials (e.g., consent forms, instructions) and signage must be available in commonly encountered languages. Written materials need to consider the literacy levels of the patients, so as not to exclude those without literacy skills. Patients should be notified that oral communication and translation are provided without cost.

Compliance with these standards is enforced by the federal Office for Civil Rights (OCR). Investigations are triggered by complaints filed with the OCR. To date, several health care institutions have been found to be in noncompliance with the CLAS standards and have received fines. We are unaware of any dental clinics or practices that have been sanctioned because of noncompliance with CLAS standards.

Covering the cost of interpretation and translation services is a significant problem. Medicare does not pay for interpreter services, and Medicaid and the State Children’s Health Insurance Program (SCHIP) only pay for them in twelve states and the District of Columbia. Federally qualified health centers (FQHCs), including dental clinics, can add the cost of interpretation services to their cost structure, which is then recovered in their negotiated per-visit reimbursement rate. Except for the few states where the Medicaid program reimburses for interpreters, dental schools are unable to charge payers or patients for these services. In 2003, California also passed a bill requiring health plans to provide language assistance to their enrollees with limited English proficiency.

The cost of professional interpreter services varies widely by the type of interpreter and local market conditions. Onsite professional interpreter charges range from $25 to $100 per hour with most around $40–$45. For phone-based interpreters, the charges range from $1.60 to $4.50 per minute.

Dental Education

In 2002, the Commission on Dental Accreditation (CODA) created a competency statement in the dental school accreditation standards to address cultural competence in dental education. Standard 2-17 states that “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.” There is no explicit standard directly related to treating LEP patients. The current level of compliance with Standard 2-17 is unknown, but no dental school has ever been cited for being deficient in this area.

Health Care Literature

There is a substantial literature on the care of LEP patients in hospitals and outpatient clinics.
Studies indicate that using untrained interpreters leads to decreased patient satisfaction, miscommunication, and the potential for significant medical errors.\(^{17-20}\) Providing care to LEP patients without access to interpreters and written materials in non-English languages is a major challenge.\(^9\) Yet, in an emergency, physicians are required to provide care even if interpreters are not available.\(^{21}\)

There were twenty-four health care interpreter training programs identified in California in 2002.\(^{12}\) Training programs may exist in universities, for-profit companies, and hospitals. However, there is no standardized curriculum for training interpreters. Interpreters are employed by institutions or work as independent contractors.\(^{12}\)

In the only published article on interpretation in dentistry, Rowland examined language interpretation through the lens of professional interpreters and described key points that dental clinicians should know about utilizing them.\(^{22}\)

In this article, we report on a survey of the management of LEP patients at five California dental schools (Loma Linda University; University of Southern California; University of California, San Francisco; University of California, Los Angeles; and University of the Pacific). The study objectives are 1. to determine the number (and percentage) of LEP patients seen in dental school clinics; 2. to examine the communication strategies used to manage these patients; 3. to assess the effect of LEP patients on dental education and clinical operations; and 4. to consider differences between student and faculty perceptions about LEP patients.

This research was approved by the Human Subjects Committees of the five participating dental schools and the University of Connecticut Health Center.

### Methods

This project is part of the Phase II California Pipeline program; the Phase I program has been described in recent publications.\(^{23,24}\) In Phase II, a major objective is to increase the capacity of dental school clinics to treat diverse patients. As part of this effort, the decision was made to collect survey data on the magnitude of the LEP problem and the methods now used by schools to communicate with this patient population. This information will be used to assist dental school clinics in caring for LEP patients.

A survey instrument was developed to obtain information from a convenience sample of twenty senior dental students and ten general dentistry faculty members per school. The surveys were anonymous and were returned by participants at each school to their respective clinic administrators, who were not involved in analysis of the data. The survey focused on several key issues: 1) the number of LEP patients treated by students, 2) the languages spoken by LEP patients, 3) the languages spoken by students and faculty, 4) the methods used to obtain interpretation services, 5) the perceived effectiveness of these methods, and 6) the impact of LEP patients on dental student education and clinic operations. The surveys for students and faculty members were generally similar. Drafts of the two surveys were pretested for clarity with a group of faculty members and students who did not participate in the actual survey. Copies of the student and faculty surveys are available on request to the corresponding author (LEI).

Data from the surveys were put into Excel and SPSS and analyzed. Descriptive statistics were used for the main analysis, and bivariate regression analyses were done to examine two questions: Are students who speak a foreign language assigned more LEP patients? And do these students find managing LEP patients less difficult than nonbilingual students?

### Results

All five California dental schools returned surveys, totaling 122 students and fifty-six faculty members. One school distributed the surveys to the entire senior class, increasing the total student sample. Table 1 displays general information on all surveyed students and faculty. On average, students were 27.3 years of age; 50 percent were male; and 65.6 percent were born in the United States. Foreign-born students came from India, Canada, China, Iran, and eighteen additional countries. As expected, faculty members

<table>
<thead>
<tr>
<th>Variable</th>
<th>Students (N=122)</th>
<th>Faculty (N=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>27.3</td>
<td>50.9</td>
</tr>
<tr>
<td>Male (%)</td>
<td>50.0%</td>
<td>64.3%</td>
</tr>
<tr>
<td>U.S.-born (%)</td>
<td>65.6%</td>
<td>67.9%</td>
</tr>
</tbody>
</table>
were older (50.9 years on average); more were male (64.3 percent); and about the same percentage were born in the United States (67.9 percent). Foreign-born faculty members came from Iran, Vietnam, Philippines, Korea, and six other countries.

The languages spoken by students and their self-rated levels of fluency are seen in Table 2. Seventy-nine students (65 percent) spoke a foreign language: the main languages were Spanish (51.6 percent), Chinese (9.8 percent), and Vietnamese (4.1 percent). Forty-two students spoke eighteen other languages: the top three were Japanese, Hindi, and French.

The languages spoken by faculty members and their level of fluency are seen in Table 3. Only twenty-three faculty members (41 percent) were bilingual: the main languages were Spanish (35.7 percent), Chinese (1.8 percent), and Vietnamese (3.6 percent). Nineteen faculty members spoke twelve other languages (e.g., Tagalog, French, Korean, Armenian, and Farsi).

With respect to fluency, most bilingual students were fluent or moderately fluent. Most bilingual faculty members were fluent or moderately fluent with the exception of those who spoke Spanish, in which 65 percent had limited fluency.

Fifty percent of students had thirty or more active patients (data not shown). At the extremes, 28 percent of students had twenty or fewer active patients, and 6 percent had fifty or more.

Figure 1 gives student estimates of the percentage of their patients who required an interpreter. The range of patients needing interpreters was substantial: 60 percent reported that 10 percent or fewer patients needed interpreter services, while 23 percent said 21 percent or more. Faculty estimates of the percentage of patients were similar (data not shown).

Table 4 displays the languages requiring interpretation in the student patient pool. Spanish was the most common language (50.8 percent), followed by Cantonese (13.9 percent) and Mandarin and Farsi (10.7 percent each). Vietnamese, Korean, Japanese, Russian, and Tagalog each rated below 10 percent (9.8, 6.6, 5.7, 5.7, and 4.9 percent, respectively). The “other” 9.0 percent included Portuguese, Greek, and Arabic. The total percent is greater than 100 because students were allowed to select more than one language.

Figure 2 presents the types of interpreters used by students for their LEP patients. Students were allowed to select more than one type of interpreter, which, again, explains the total percentage exceeding 100. Students mainly used family and friends of patients, other students, and themselves as interpreters. Clinic staff and faculty were used less frequently. Faculty estimates of the types of interpreters were

<table>
<thead>
<tr>
<th>Language</th>
<th>Speakers (% of N=122)</th>
<th>Fluent (% of Speakers)</th>
<th>Moderate (% of Speakers)</th>
<th>Limited (% of Speakers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>51.6%</td>
<td>20.6%</td>
<td>33.3%</td>
<td>46.0%</td>
</tr>
<tr>
<td>Chinese</td>
<td>9.8%</td>
<td>41.7%</td>
<td>25.0%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>4.1%</td>
<td>40.0%</td>
<td>60.0%</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>34.4%</td>
<td>50.0%</td>
<td>28.6%</td>
<td>21.4%</td>
</tr>
</tbody>
</table>

*Note: Percentages may not total 100% because of rounding.*

<table>
<thead>
<tr>
<th>Language</th>
<th>Speakers (% of N=56)</th>
<th>Fluent (% of Speakers)</th>
<th>Moderate (% of Speakers)</th>
<th>Limited (% of Speakers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>35.7%</td>
<td>5.0%</td>
<td>30.0%</td>
<td>65.0%</td>
</tr>
<tr>
<td>Chinese</td>
<td>1.8%</td>
<td>100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>3.6%</td>
<td>100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>33.9%</td>
<td>44.4%</td>
<td>22.2%</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

*Note: Percentages may not total 100% because of rounding.*
substantially different from the students. Faculty members reported that family and friends (35 percent) and other students (15 percent) were used less often and faculty more often (13 percent).

Students and faculty members were also asked to assess how well the different types of interpreters functioned. Table 5 shows student ratings of “Good,” “Fair,” and “Poor” for each type of interpreter. Most students rated the performance of all types of interpreters as good or fair. Very few students rated the interpreters as poor. “Other Students and Clinic Staff” had the highest ratings. Faculty members had about the same general view of the effectiveness of different types of interpreters (data not shown).

Almost all students (95 percent) said that treating LEP patients without an interpreter increased the length of appointments by at least ten minutes. Forty percent of students claimed a twenty-one-minute or more increase in appointment length.

Likewise, most students (76 percent) reported that it was more difficult to provide high-quality care to LEP patients. The problems related to getting patients to accept treatment plans, gaining compliance with home oral health preventive behaviors, completing treatment plans, scheduling appointments, and obtaining payment for services. Faculty also viewed LEP patients as more difficult to treat, but they were not as negative as the students were (data not shown).

Lastly, faculty members were asked if LEP patients had an impact on the quality of education and

Table 4. Languages requiring interpretation in student patient pool, according to student respondents

<table>
<thead>
<tr>
<th>Language</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>50.8</td>
</tr>
<tr>
<td>Cantonese</td>
<td>13.9</td>
</tr>
<tr>
<td>Mandarin</td>
<td>10.7</td>
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<tr>
<td>Farsi</td>
<td>10.7</td>
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<tr>
<td>Vietnamese</td>
<td>9.8</td>
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<tr>
<td>Korean</td>
<td>6.6</td>
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<tr>
<td>Japanese</td>
<td>5.7</td>
</tr>
<tr>
<td>Russian</td>
<td>5.7</td>
</tr>
<tr>
<td>Tagalog</td>
<td>4.9</td>
</tr>
<tr>
<td>Other</td>
<td>9.0</td>
</tr>
</tbody>
</table>

Note: Students were allowed to select more than one language.
had no impact or decreased the financial performance of the dental clinic. Only 17 percent believed that financial performance in the clinic was increased by treating this patient population.

Regression analyses were performed to address two questions: 1) are students who speak a foreign language assigned more LEP patients, and 2) do these students report managing LEP patients to be less difficult compared to nonbilingual students? The results indicate that Spanish-speaking students do have more patients overall and more LEP patients in their patient pool. Interestingly, these students still find that treating LEP patients is more difficult than treating non-LEP patients. Students who spoke languages other than Spanish did not have more patients or LEP patients.

### Discussion

This is the first study to examine the care of LEP patients in dental school clinics. A major finding is that 73 percent of students reported that less
than 15 percent of their patients had limited English proficiency and required interpreters. There are two ways to look at this percentage. First, considering that the San Francisco and Los Angeles areas have large immigrant populations, the percentage is surprisingly low. There are many possible explanations for this finding, but an obvious concern is that many potential LEP patients are not seeking care in dental school clinics because of language and other cultural barriers. On the other hand, it is plausible that these patients attend community clinics that serve large numbers of the LEP population. Clearly, this issue needs further study.

A second way to look at the percentage of LEP patients is that it represents a sizable number of people, presenting a significant challenge to dental school clinic administrators, faculty, and students. Inasmuch as the LEP population is expected to increase substantially in the next twenty years, this issue is certain to become more important.

Dental schools have a major responsibility to prepare students and residents to care for LEP patients. This includes providing formal training in cultural competence and, even more importantly, operating dental school clinics so that students learn how to provide care in an environment that is sensitive to patients of diverse cultural and language backgrounds.

In part, through the efforts of the Pipeline program, all California dental students now receive formal didactic training in cultural competence and in the proper use of interpreters to communicate with LEP patients. It is not clear what other dental schools are doing in this area. Rowland et al. reported that many dental schools offer course material in cultural competence, and presumably this material includes the management of LEP patients. Saleh et al.'s study indicated that LEP was a skill not well addressed in dental school curricula. The Commission on Dental Accreditation (CODA) has a standard on cultural competence, and presumably schools are trying to comply with these standards, but there is no specific standard for the care of LEP patients.

The operation of dental school clinics to meet the needs of LEP patients is a much greater challenge. Based on the data collected in this survey, schools are just beginning to address the needs of LEP patients.

The main languages spoken by LEP patients in our study were Spanish, Cantonese, Mandarin, and Farsi. In general, these languages reflect the demographics of urban California populations. The heavy concentration in a few languages is an advantage: it allows schools to concentrate interpreter resources to meet the needs of a significant percentage of LEP patients. Since LEP patients spoke another eighteen different languages, it is impossible to have on-site interpreter services to cover all these languages.

A large percentage of students spoke another language, and about half spoke some Spanish. Of this latter group, 50 percent were fluent or moderately fluent and presumably could communicate with LEP Spanish-speaking patients. Of course, this is an assumption, and the ability of students with moderate fluency in Spanish to effectively communicate with Spanish-speaking LEP patients requires further investigation. In any case, a large number of students had some Spanish language skills, so schools can augment these skills by providing students with courses in Spanish. In fact, most of the California dental schools offer formal courses in Spanish, and they are reportedly popular and well attended. Relatively few students spoke Chinese, Vietnamese, or the other eighteen languages spoken by LEP patients. As such, it is probably impractical to offer students courses in these other languages.

Another way to bridge the language gap is to use telephone interpretation services. These commercially available services cover all common languages; however, most dental schools may not be able to take advantage of them. First, clinic operators do not have telephones, so either patients would have to be taken to a room with a telephone, or perhaps cell phones could be used. A second barrier is the cost of professional interpretation services, whether onsite or over the telephone. These costs cannot be passed on to patients or most third-party payers, so the financial burden falls squarely on schools. Since many dental schools are hard-pressed financially, this is probably the primary reason that the California schools do not offer professional interpretation services in their clinics.

Another obvious strategy is to recruit more students who are bilingual. Again, as part of the Pipeline program, the five California dental schools were successful in doubling the percentage of underrepresented minority students enrolled in the freshman class from 2002 to 2007. Many students were of Hispanic background and bilingual. This effort to enroll more underrepresented minority students needs to continue, so the dental profession in California reflects the population it serves.

To communicate with LEP patients, students mainly turned to the patient's family and friends for...
interpretation. Sometimes students utilized other students and staff members or depended on their own language abilities. Even though they used untrained interpreters (often called ad hoc interpreters), students and faculty members overwhelmingly rated the interpreters’ abilities as good or fair. It is difficult to judge these relatively high ratings for currently available interpreters because students and faculty have little experience using professional interpreters. Perhaps, with greater exposure to trained interpreters, students would be less satisfied with ad hoc interpreters.

The strategy that schools use to communicate with LEP patients cannot be based on student and faculty perceptions. This is an empirical issue, and studies are needed to determine how well students communicate with their LEP patients and the clinical consequences of inadequate communications. Likewise, it is important to obtain patient perceptions of these issues. If students are not communicating effectively and patients are dissatisfied, steps must be taken to correct the situation.

Even though students were generally satisfied with the current use of untrained interpreters, most stated that treating LEP patients without interpreters was more difficult. The problems were manifested in multiple ways, such as increasing the length of appointments, gaining acceptance of treatment plans, paying for services, etc. The reasons for the greater difficulty are not clear, although the degree of fluency may be a factor. About 50 percent of those students who spoke Spanish rated themselves as having “limited” fluency, so even though they speak Spanish, they may still struggle with expressing the right words and concepts to their patients. While communication problems are one obvious explanation, other factors could play a role. Specifically, patient beliefs, styles of communication, perceptions of the role and status of health care providers, and other issues complicate the dialogue and relationships that are necessary for good care. These challenges with language and culture amplify the potential for miscommunication.

The survey results from students and faculty were generally similar. Interestingly, fewer faculty members were bilingual, and very few were fluent in another language. This may reflect an age cohort effect: students are more diverse and were raised in more diverse environments. A notable difference between faculty and students was their perceptions of the impact of LEP patients on education and clinic operations. Students (84 percent) reported significant problems caring for these patients. In contrast, about half the faculty members believed there was no impact on the quality of education received by the dental students and no impact on the clinic finances, and almost as many faculty members believed that there was a decrease in the quality of education and a decrease in clinic finances. It is difficult to make sense of these widely different views. They may result from the small sample of faculty or perhaps a general lack of faculty awareness with these issues.

Student views may be based on the challenges of direct communication with these patients, whereas faculty members spend most of their time checking procedures rather than communicating directly with patients. More research is needed in this area; perhaps a qualitative follow-up would reveal more interesting results.

The results of this survey suggest that dental schools face serious challenges in complying with federal standards for the treatment of LEP patients. It is our opinion that most are not aware of CLAS standards and the obligation of schools to provide “adequate” interpretation services at no cost to patients. At present, schools are using an ad hoc system of untrained interpreters that do not meet CLAS standards. So far, no dental school has been sanctioned, but it is only a question of time before noncompliance with CLAS standards becomes a problem for schools.

There are no specific CODA standards that address the care of LEP patients, and the current standards related to cultural competence are apparently not being enforced. This issue has not received much attention in the dental education community, but a recent study of health professions educational accreditation standards (medicine, dentistry, nursing, pharmacy, and psychology) related to student and faculty diversity reported that the CODA standards were the least developed and effective. The report called on dental educators to strengthen their accreditation standards in the area of diversity and to enforce them.

Dental schools will have difficulty complying with the CLAS standards and any new CODA standards because of the lack of financial resources. Schools cannot pass on to patients the cost of professional interpreter services, and most public or private dental insurance plans do not cover these services. The only solution is to have the federal and state governments subsidize dental schools, so that schools have the resources to provide adequate communication services to LEP patients.
This study had several limitations. Since the survey data were self-reported, student and faculty responses are subject to recall bias. No primary data were collected from patient charts or interviews to determine the accuracy of the survey numbers. Further, the survey population was a relatively small convenience sample. Thus, the results may not be generalizable.

Conclusions

With large increases in immigrant populations, the number of LEP patients seeking care in dental school clinics is expected to increase significantly. The lack of effective oral and written communications with LEP patients is a major cause of lower quality care and less patient satisfaction. To address these issues, the federal government developed standards with which institutions receiving federal monies must comply when caring for LEP patients. The California (and possibly most other) dental schools do not appear to be in compliance with these standards.

This survey indicated that LEP patients constitute a relatively small percentage of students’ patients and that most students believed the current system of using untrained interpreters (e.g., family/friends) was adequate, but they also said it was more difficult to treat LEP patients. This disconnect may be explained by students’ lack of experience using professional interpreters.

As the number of LEP patients increase, dental schools need to develop the capacity to meet the CLAS standards and any new CODA standards related to LEP patients. This is a serious challenge because schools cannot bill for these language services. In the long run, schools need to find ways to offset this cost, so they can provide adequate care to the growing numbers of LEP patients.

Acknowledgments

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