Health Literacy Teaching in US Medical Schools, 2010
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BACKGROUND AND OBJECTIVES: Increasing and improving training about health literacy for US health professionals has been repeatedly called for at the national level. However, little is known about the current state of health literacy teaching in US health professions schools, including medical schools. This study aimed to provide a baseline snapshot of the quantity and characteristics of health literacy teaching in US medical schools.

METHODS: We conducted a self-administered web-based survey of the deans responsible for medical education at 133 US schools of allopathic medicine.

RESULTS: Data were received from 61 institutions; 72.1% of respondents reported teaching about health literacy in their required curriculum. Among schools with a required health literacy curriculum, the median time spent teaching about health literacy was 3 hours. The majority of health literacy teaching occurred in the first 2 years of the curriculum. The most commonly reported techniques for teaching about health literacy included didactics, simulated patient encounters, and workshops. Evaluation of learners was most commonly achieved using standardized patients, clinical observation, and written examinations.

CONCLUSIONS: Many US allopathic schools of medicine report teaching about health literacy in their required curricula. There is considerable variability in the number of hours devoted to such instruction and in the content and teaching and evaluative techniques used in these health literacy curricula.

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Health literacy, which has been defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions, is a key element of effective patient-doctor communication. But, health literacy also relies on clear communication from health professionals. Low health literacy is a common problem that has become a priority area for the US health care system. Health professionals often lack adequate knowledge about health literacy issues, as well as the skills needed to address such issues effectively. Many best practices for effective communication with low health literacy patients are not routinely used by physicians. Increasing and improving medical education on the topic of health literacy is recommended. A number of existing health literacy curricula for medical students have been reviewed elsewhere. While the Calgary Charter on Health Literacy outlines general principles for the development of health literacy curricula, there are still no agreed upon guidelines for the recommended content or structure of health literacy curricula for physicians. Little is known about health literacy teaching in US medical schools. This study aimed to determine the extent and characteristics of such teaching, an understanding of which is important to the design and implementation of educational initiatives to address low health literacy.

Methods
Design
We conducted a cross-sectional web-based self-administered survey of all 133 US allopathic schools of medicine with membership in the Association of American Medical Colleges between July and August 2010.

Sample
Surveys were sent to the dean responsible for medical education at each school, as determined by a search of each institution’s website. Deans were asked to complete the questionnaire themselves or forward it to an individual more familiar with the institution’s curriculum.

From the Department of Family Medicine, Oregon Health & Science University.
Instrument
We developed a 19-item survey, which included demographic information about each institution and questions about health literacy teaching in both the required and elective curricula. We cognitively tested the survey among a group of six health services researchers in the Department of Family Medicine at Oregon Health & Science University (OHSU), using a group discussion format, which resulted in several refinements to individual items on the survey. See Tables 1–3 for examples of the survey questions.

Data Collection
An introductory email, with a link to the web-based questionnaire, administered through SurveyMonkey (www.surveymonkey.com), was sent to each dean. Responses were tracked with a unique identifier number. Nonrespondents were sent follow-up emails at 1 and 2 weeks, and a paper survey via US mail at 3 weeks.

Analysis
Descriptive statistics were calculated, and associations between institutional demographic variables and curricular items were examined using chi-square analyses.

Oversight
The study was approved by the Institutional Review Board at OHSU.

Results
Of the 133 schools surveyed, we received 63 responses (47.4%), including two institutions that declined to participate. Among the 61 completed surveys, 68.9% identified their institution as public and 31.0% as private. A total of 75.9% identified their institutional setting as urban, 13.8% suburban, and 10.3% rural.

Forty-four schools (72.1%) reported teaching specifically about health literacy in the required curriculum. Two schools reported teaching about health literacy in their elective curriculum only. Prevalence of a required health literacy curriculum did not differ between public and private or between urban and rural schools. Among the 44 schools with a required health literacy curriculum, the median time spent on health literacy was 3 hours (range 0–8 or more hours). Among these schools, 77.3% reported teaching about health literacy during the first year, 63.6% during the second year, 40.9% during the third year, and 11.4% during the fourth year. Of the seven general teaching techniques or tools, which we asked about, the majority of schools with a required health literacy curriculum (84.1%) reported using lecture or other didactic formats; 56.8% used encounters with standardized patients; 45.5% used workshop or role playing formats. Other techniques and tools were used less frequently (Table 1).

We asked about five specific health literacy curriculum content areas, each of which was reported as being taught by more than 60% of respondents having a required health literacy curriculum (Table 2). Among four specific evaluative techniques, the use of standardized patients, clinical observation, and written examinations were most commonly used to assess learners (Table 3).

Discussion
This study, the first known published attempt to characterize health literacy teaching in US medical schools, has some important limitations. The self-reported nature of our data may be at risk for reporting bias, wherein respondents may provide responses that are perceived to make them look better. In addition, nearly three quarters of respondents reported teaching a required curriculum on health literacy. It is possible that schools offering a required curriculum in health literacy would be more likely to respond to this survey, and our results may thus overestimate the percentage of schools offering a required health literacy curriculum. However, our response rate of 47.4% is similar to that observed in other online curriculum surveys of medical school deans. Further, our findings are remarkably consistent with unpublished data from the 2008 Liaison Committee on Medical Education (LCME) Part II Annual Medical School Questionnaire, which found that of all 126 accredited US medical schools, 70.6% reported some

Table 1: Methods of Teaching About Health Literacy in US Allopathic Medical Schools That Report Having a Required Health Literacy Curriculum, 2010

<table>
<thead>
<tr>
<th>In the required curriculum, how is “health literacy” (or “health and literacy”) being taught? (Check all that apply)</th>
<th>Percentage of schools (n=44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures/didactics</td>
<td>84.1</td>
</tr>
<tr>
<td>Standardized/simulated patient encounters</td>
<td>56.8</td>
</tr>
<tr>
<td>Workshops/role playing</td>
<td>45.5</td>
</tr>
<tr>
<td>Assigned readings</td>
<td>31.8</td>
</tr>
<tr>
<td>Video</td>
<td>31.2</td>
</tr>
<tr>
<td>Experiences with adult low literacy (or low health literacy) patients</td>
<td>25.0</td>
</tr>
<tr>
<td>Online training</td>
<td>6.8</td>
</tr>
</tbody>
</table>
teaching on the topic of health literacy. Our study goes beyond these LCME prevalence data by further characterizing the details of existing health literacy curricula. Finally, because we used a multiple choice format for eliciting information about curricular content, and teaching and evaluative methods, we cannot be sure that responses to these items were not affected by recall bias.

In our study, schools with a required health literacy curriculum reported a median of 3 hours spent on the topic. Such teaching occurred most commonly in the first 2 years of training. While we collected information on the content of health literacy curricula, our data cannot determine how much time is spent on each topic, nor can we comment on the quality of instruction. It remains unclear when in the course of training specific elements of health literacy teaching should optimally occur. Further, it is unknown whether teaching health literacy as a stand-alone course or episodic topic can be effective or whether it is best taught through an integrated longitudinal curriculum.

Didactic formats and experiential teaching techniques, such as practice with standardized patients, workshops, and role plays were commonly reported techniques used to teach health literacy; however, our data cannot determine the relative importance of a given technique within the responding institutions. While a variety of techniques and tools have been used to teach medical students and residents about health literacy, evaluative outcomes data are limited, and it is not known which are most effective.

Finally, we limited our inquiry about curricular content to topics identified specifically as health literacy. There are, however, significant linkages between health literacy, cross-cultural communication, and English language proficiency, which we have not explored.

### Conclusions

This study suggests that many US medical schools have introduced health literacy issues into their required curricula. Training physicians and other health professionals about low health literacy and principles for addressing it is an important component of the National Action Plan to Improve Health Literacy. However, many questions still remain. Further research is needed to determine (1) what health literacy competencies medical graduates should possess in terms of knowledge, skills, and attitudes, (2) the most effective means of teaching and evaluating health literacy competencies, (3) when during the course of medical education such elements should be taught, and ultimately (4) whether teaching medical students about health literacy can produce improvements in patient-centered outcomes.

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#### Table 2: Health Literacy Topics Taught in US Allopathic Medical Schools That Report Having a Required Health Literacy Curriculum, 2010

<table>
<thead>
<tr>
<th>In the required curriculum, what “health literacy” (or “health and literacy”) items are being taught? (Check all that apply)</th>
<th>Percentage of Schools (n=44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence of low literacy or low health literacy</td>
<td>70.5</td>
</tr>
<tr>
<td>Association between literacy or health literacy and patient outcomes</td>
<td>84.1</td>
</tr>
<tr>
<td>How to use a “teach back” or “show me” technique to check patients’ understanding</td>
<td>70.5</td>
</tr>
<tr>
<td>How to use plain language skills (ie, the ability to communicate with patients in lay terms, without the use of medical jargon) for oral communication</td>
<td>95.5</td>
</tr>
<tr>
<td>How to use plain language skills (ie, the ability to communicate with patients in lay terms, without the use of medical jargon) for written communication</td>
<td>61.4</td>
</tr>
<tr>
<td>Other</td>
<td>11.4</td>
</tr>
</tbody>
</table>

#### Table 3: Methods of Evaluating Health Literacy Learning in US Allopathic Medical Schools That Report Having a Required Health Literacy Curriculum, 2010

<table>
<thead>
<tr>
<th>In the required curriculum, how are students evaluated on their understanding of “health literacy” topics? (Check all that apply)</th>
<th>Percentage of Schools (n=44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardized patients/Observed Structured Clinical Examination (OSCE)/Group Observed Structured Clinical Examination (GOSCE)</td>
<td>56.8</td>
</tr>
<tr>
<td>Clinical Observation</td>
<td>45.5</td>
</tr>
<tr>
<td>Written examination (eg, multiple choice, short answer)</td>
<td>38.6</td>
</tr>
<tr>
<td>Essay writing</td>
<td>9.1</td>
</tr>
<tr>
<td>Other</td>
<td>9.1</td>
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References


