SPECIAL THEME ARTICLE

Assessing Competence in Communication and Interpersonal Skills: The Kalamazoo II Report

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ABSTRACT

Accreditation of residency programs and certification of physicians requires assessment of competence in communication and interpersonal skills. Residency and continuing medical education program directors seek ways to teach and evaluate these competencies. This report summarizes the methods and tools used by educators, evaluators, and researchers in the field of physician–patient communication as determined by the participants in the "Kalamazoo II" conference held in April 2002.

Communication and interpersonal skills form an integrated competence with two distinct parts. Communication skills are the performance of specific tasks and behaviors such as obtaining a medical history, explaining a diagnosis and prognosis, giving therapeutic instructions, and counseling. Interpersonal skills are inherently relational and process oriented; they are the effect communication has on another person such as relieving anxiety or establishing a trusting relationship.

This report reviews three methods for assessment of communication and interpersonal skills: (1) checklists of observed behaviors during interactions with real or simulated patients; (2) surveys of patients' experience in clinical interactions; and (3) examinations using oral, essay, or multiple-choice response questions. These methods are incorporated into educational programs to assess learning needs, create learning opportunities, or guide feedback for learning. The same assessment tools, when administered in a standardized way, rated by an evaluator other than the teacher, and using a predetermined passing score, become a summative evaluation. The report summarizes the experience of using these methods in a variety of educational and evaluation programs and presents an extensive bibliography of literature on the topic.

Professional conversation between patients and doctors shapes diagnosis, initiates therapy, and establishes a caring relationship. The degree to which these activities are successful depends, in large part, on the communication and interpersonal skills of the physician. This report focuses on how the physician's competence in professional conversation with patients might be measured. Valid, reliable, and practical measures can guide professional formation, determine readiness for independent practice, and deepen understanding of the communication itself.

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Several national organizations have recognized the importance of communication between doctors and patients. For example, the Clinical Skills Assessment, administered by the Educational Commission for Foreign Medical Graduates as part of its certification process, includes a discrete communications component which must be passed independently of any case-specific medical history or physical examination content.[1] The Association of American Medical Colleges' (AAMC) Medical School Objectives Project urged faculties to teach interpersonal and communication skills.[2] The Accreditation Council for Graduate Medical Education (ACGME) accredits residency programs based, in part, on the demonstration of residents' competence in interpersonal and communication skills.[3] Similarly, the American Board of Medical Specialties' (ABMS) member boards include communication skills in the criteria for certification and recertification.[4] The Institute of Medicine identified a personal healing relationship as the

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Information about all the conference participants is presented in List 1 later in this report. This report reflects the views of the conference participants and does not necessarily imply endorsement by their institutions or associations.

For articles on related topics, see pp. 508–510 and 511–520.

List 1

Attendees and Sponsors of the American Academy on Physician and Patient's Conference on Education and Evaluation of Competence in Communication and Interpersonal Skills*

Graceanne Adamo
National Capital Area Medical Simulation Center, Uniformed Services, University of the Health Sciences
Neeraj Arora, PhD
Health Systems Analyst Outcomes Research Branch, ARP, DCCPS, National Cancer Institute
Kathy Cole-Kelly
Case Western Reserve University School of Medicine
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American Board of Internal Medicine
Susan Edgman-Levitan, PA
Patient's Perspective and Patient Survey Development
Barry Egener, MD
American Academy on Physician and Patient and the Northwest Center for Physician–Patient Communication
Ronald Epstein, MD
University of Rochester Medical School
Richard M. Frankel, PhD
Fetzer Institute
Geoffrey H. Gordon, MD
Bayer Institute for Health Care Communication
Thomas Inui, ScM, MD
Senior Scholar, Fetzer Institute, Petersdorf Scholar-in-Residence, Association of American Medical Colleges
Edward Krupat, PhD
Massachusetts College of Pharmacy and Health Sciences
Suzanne Kurtz, PhD
University of Calgary
Forrest Lang, MD
East Tennessee State University, James H. Quillen College of Medicine
Wendy Levinson, MD
University of Toronto
Gregory Makoul, PhD
Northwestern University Feinberg School of Medicine
Steve Miller, MD
Children's Hospital of New York, Columbia University
John Norcini, PhD
Institute for Clinical Evaluation
Dennis Novack, MD
Drexel University College of Medicine
Mickey Olivanti
Fetzer Institute
John W. Peabody, MD, PhD
Institute for Global Health and San Francisco Veterans Affairs Medical Center
Carol A. Pfeiffer, PhD
University of Connecticut Health Center School of Medicine
Debra Roter, DrPH
Johns Hopkins School of Public Health
Terry Stein, MD
The Permanente Medical Group
Gerald P. Whelan, MD
Educational Commission for Foreign Medical Graduates.
Moira Stewart, PhD
The University of Western Ontario
LuAnn Wilkerson, EdD
The David Geffen School of Medicine, UCLA
Marilyn Yager
Kenneth B. Schwartz Center

*The American Academy on Physician and Patient Conference on Education and Evaluation of Competence in Communication and Interpersonal Skills (the "Kalamazoo II conference") was held April 7–9, 2002. The American Academy on Physician and Patient is a nonprofit organization whose mission is to improve the practice of medicine through education and research in how physicians and patients communicate.

The conference site was Seasons, A Center for Renewal, owned and operated by the Fetzer Institute in Kalamazoo, Michigan. The conference was funded by generous contributions from the Robert Wood Johnson Foundation, the Kaiser Permanente Garfield Memorial Fund, the Bayer Institute for Health Care Communication, and the ABIM Foundation.

Some conference members' affiliations shown above have changed since the conference.

basis for quality health care.[5] In addition, patient surveys consistently find that patients want better communication from their doctors.[6] Finally, an increasing number of health care organizations use patient satisfaction ratings, including physicians' communication skills, when determining physician compensation and for referring physicians whose skills are deficient to specialized educational programs.[7]

Responding to these stimuli, the American Academy on Physician and Patient (AAPP) held a conference on patient-physician communication on April 7–9, 2002, at the Fetzer Institute in Kalamazoo, Michigan. (See List 1 for a list of attendees and sponsors.) The conference summarized the state of the art in teaching and evaluating competence in communication and interpersonal skills. The participating educators, evaluators, and researchers considered (1) the content of communication and interpersonal skills, (2) common assessment tools, and (3) examples of how assessments might be used for teaching and evaluation. Although the conference focused on graduate medical education, the organizers and attendees recognized that the concepts, principles, and vocabulary apply across all levels of professional development, from undergraduate through continuing med-

Table 1

AGCME Competencies Associated with the Communication and Interpersonal Skills Competencies from the Kalamazoo I Consensus Statement*

Skills Type	ACGME Competencies in Communication and Interpersonal Skills[3]	Communication Tasks or Skills from the Kalamazo I Statement[11]
Interpersonal skills	Build and maintain a therapeutic relationship	Make a personal connection with the patient
	Demonstrate caring and respectful behaviors	Elicit the patient's perspective on the illness
		Express empathy
		Express a desire to work with the patient
Communication skills	Listen effectively	Allow patient to finish an opening statement
	Elicit information with effective questioning skills	Negotiate a consensual agenda for the encounter
		Use open-, then closed-ended questions
		Use summaries and transition statements
	Provide information using effective explanatory skills	Assess patient's understanding of problem and desire for more information
	Counsel and educate patients	Use everyday words
		Check accuracy of patient's understanding
		Review interim plans and contact information
		Explain choices in light of [patient's] goals, values
		Promote healthy behavior change
	Make informed decisions based on patient information and preferences	Include patients to the extent they desire
		Identify [one's own] personal biases when giving advice

*Superscripts refer to citations in the reference list of this article. ACGME stands for Accreditation Council for Graduate Medical Education.

ical education. This report (the "Kalamazoo II report") summarizes the conclusions from that conference.

Using an open-space format, participants shared their experience with teaching and evaluating communication skills in a variety of settings and attempted to summarize the state of the art in teaching and evaluating competence in communication and interpersonal skills. The citations included in this report reflect the participant's selection of representative and useful literature describing teaching and evaluation tools. However, the reference list does not represent a systematic or thorough review of the literature of the field.

General Competence in Communication and Interpersonal Skills

Communication Skills

Communication with patients is the core clinical skill for the practice of medicine.[8] It can be defined as specific tasks and observable behaviors that include interviewing to obtain a medical history, explaining a diagnosis and prognosis, giving therapeutic instructions and information needed for informed consent to undergo diagnostic and therapeutic procedures, and providing counseling to motivate participation in therapy or to relieve symptoms.[9,10]

A conference similar to the 2002 meeting was held in 1999 and led to publication of the Kalamazoo I Consensus Statement on the Essential Elements of Communication in Medical Encounters. This statement distilled five models used for teaching communication skills into a list of specific tasks for the ambulatory primary care encounter.[11] The Essential Elements task list provides a basis for writing educational objectives and designing assessment measures. Table 1 displays these communication tasks and links them to specific ACGME competencies in communication and interpersonal skills.

Interpersonal Skills

While communication skills are the performance of specific tasks and behaviors by an individual, interpersonal skills are inherently relational and process oriented. Interpersonal skills focus on the effect of communication on another person. This competency has been described as "humanistic qualities" by the American Board of Internal Medicine (ABIM).[12] Interpersonal skills build on basic communication skills, which alone are insufficient to create and sustain a

therapeutic relationship. Lack of interpersonal skills may help explain why patients' experience of an encounter only loosely correlates with objective ratings of the physician's communication skills.[13] Important elements of interpersonal skills include (1) respect, including treating others as one would want to be treated; (2) paying attention to the patient with open verbal, nonverbal, and intuitive communication channels[14]; (3) being personally present in the moment with the patient, mindful of the importance of the relationship; and (4) having a caring intent, not only to relieve suffering but also to be curious and interested in the patient's ideas, values, and concerns.[15] Epstein[16] adds flexibility, or the ability to monitor the relationship in real time and adjust interpersonal skills as necessary.

Communication in Teams

Interactions with patients form only one aspect of communication and interpersonal skills; other important aspects include clinical teamwork with peers, colleagues, and myriad others. Competence in teamwork communication includes skill in speaking up against an authority gradient, clarity in assuring the sequence of message sent–message received, and attentiveness to roles and relationships, monitoring, and backup. Communication failure within health care teams causes mistakes that threaten patient safety.[17] Communication and interpersonal competence within health care teams usually is learned through a hidden curriculum of on-the-job training, or not at all.[18] Teaching and assessing communication and interpersonal competence is common in other high-reliability industries such as aviation and nuclear energy,[19,20] but has only recently begun to be applied to medical teams.[21,22] Although this is a critically important aspect of competence in clinical communication, the 2002 conference did no more than identify it for further study.

Specific Competence in Communication and Interpersonal Skills

As physicians advance from novice to expert in the practice of a specialty, the definition of competence expands from performing generic communication tasks to successful performance in complex, demanding, and specialty-specific situations.[23–25] For example, a third-year medical student should possess sufficient skill to interview a patient to obtain a medical history, yet not be expected to successfully negotiate a treatment plan that requires knowledge of the available options. Similarly, for a resident to understand and respond well to a patient's preference about a course of treatment, he or she must have sufficient knowledge to describe effectively the treatment options and to answer questions. Consequently, the learner's performance should be assessed according to the appropriate level and complexity of general training and skill.[26,27]

As a general guideline, before graduation from medical school, students should demonstrate competence to perform independently the essential tasks of communication in straightforward interviews and possibly manage some common complex relationship situations, such as interacting with angry patients or families. Senior medical students should also demonstrate the ability to reflect on how their feelings and values influence interactions with patients, as well as the ability to develop therapeutic relationships, relieve distress, and provide comfort and support.[28] Graduating students should demonstrate competence in teamwork by communicating a coherent story of illness to others, assessing clinical problems, and proposing treatments.[2]

Before completion of residency, physicians should demonstrate competence in applying the essential communication tasks to the full range of clinical situations relevant to their specialty. They should recognize and repair communication errors quickly,[29] adjust their communication to patients' needs and values, and elicit patient preferences for information and participation in care. Residents should be able to communicate information, risk, and uncertainty in ways that patients can understand and appropriately engage patients in shared decision making.[30] Residents should demonstrate continuing competence and improvement in motivating patients to change health habits and in relieving distress through therapeutic counseling. Competence in interpersonal skills should be demonstrated through sustained therapeutic patient relationships and in balancing the biotechnical and interpersonal aspects of care. Regarding competence in team communication, physicians at the end of residency should demonstrate proficiency in working with others both as a good team member and as a leader appropriate to specific situations.

METHODS FOR ASSESSING COMMUNICATION AND INTERPERSONAL SKILLS

There are three basic methods for assessing communication and interpersonal skills: (1) checklists of observed behaviors in interactions; (2) surveys of patients' experience in interactions; and (3) examinations using oral, essay, or multiple-choice response questions.

Checklists

Checklists are the most frequently used assessment method during training. The checklist involves an observer's rating a trainee's performance of several communication behaviors, using a numeric scale of ratings for low to high performance.[31–37] Some checklists include anchoring statements,

that is, written descriptions of poor and ideal behavior. The rater may be a supervisor, a peer, or a trained, simulated patient. Ratings may be based on a live observation or a recording of a previous interaction with a patient. Reliability among raters can be improved through training. Because being rated may influence performance, those being observed should know which behaviors will be evaluated and whether the ratings will be used for making high-stakes decisions or for educational needs assessment and feedback. At other times, one may use a checklist for self-assessment, rating one's own performance.

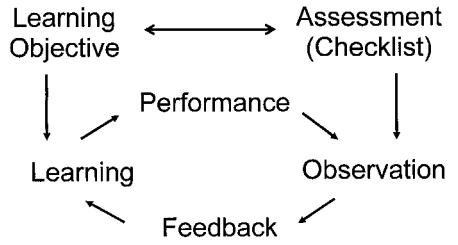

Figure 1. Skill training and evaluation. The figure diagrams how one type of assessment tool (a checklist for rating performance) guides faculty observation and focuses feedback to help the student learn new patterns of performance.

Patient Surveys

Patient questionnaires used in surveys are particularly suited for assessing interpersonal skills.[38–56] Since the objective of medical communication is to create a positive effect on a patient's health and medical care, patients may be the best judge of the effectiveness of a physician's interpersonal skill. One important outcome of successful interpersonal skills is development of a therapeutic relationship, described as the emergence of shared thoughts and feelings regarding the nature of the problem, the goals of treatment, and the relationship itself. This intersubjective experience can most accurately be measured when the assessor is personally involved in the interaction.[15] The occurrence of a therapeutic relationship has been demonstrated when physicians and patients review videotapes of their encounters and independently identify moments on the tape when this phenomenon emerged. Such a moment is variously described as a "pivotal moment,"[14] "connexion,"[57,58] and "being in relation."[53]

Patient assessment of communication and interpersonal skills overcomes a limitation of using an observer's rating of behaviors because of the potential inability of a third party to infer the occurrence of a patient's feeling of being cared for or understood. In support of this idea, a continuing education program to improve the communication skills of experienced clinicians resulted in improved patient satisfaction scores (presumably from improved interpersonal skills); however, changes were not reflected on a checklist of communication behaviors.[59] Assessing interpersonal skills is further hampered in that these skills are learned through an informal or "hidden curriculum" of role modeling and social and contextual learning.[60] Because interpersonal skill is important in both diagnosis and therapy, training programs should explicitly incorporate interpersonal skills training and assessment into the formal curriculum through visible role models, opportunities for practice with feedback, and time to reflect and discuss the experience of being a clinician.[61,62]

Examinations

Although of limited use in assessing performance, traditional oral examination and essay or multiple-choice questions provide an effective means of testing knowledge about the process and content of the communications tasks and the conceptual basis of interpersonal relationships. Psychological testing discerns attitudes and personality traits that may be helpful in predicting how physicians will communicate with patients.[63–65] Finally, examinations of knowledge, perception, and experience can be developed that use video-recorded vignettes of typical or difficult communications situations as a stem for a multiple-choice question.[66] In a related strategy, novel interactive computer simulations have been developed to train chaplains to recognize depression in military personnel.[67]

USE OF ASSESSMENT TOOLS IN TEACHING AND EVALUATION

Teachers can use checklists to assess learning needs, create learning opportunities, or guide feedback and coaching; this is *formative evaluation*.[68] The same assessment tool, when administered in a standardized way, rated by an evaluator other than the teacher, and using a predetermined passing score, becomes a *summative evaluation*.[69] There are advantages in using the same assessment tool for both formative (teaching) and summative (high-stakes) evaluations. First, teachers and evaluators can agree on the content and rating of the skills. Consequently, the goals for learning and the content of the assessment will be the same. Second, by identifying and demonstrating the skills and providing students opportunity to practice the skills while receiving feedback, they will understand the skills to be learned and be prepared to demonstrate the skills during evaluations. Third, the assessment tool (or its component parts) can be used across a variety of teaching settings, including supervised patient encounters. Figure 1 shows how one type of assess-

ment tool (a checklist for rating performance) provides an operational definition of the goal for learning and what a satisfactory performance involves. The checklist guides faculty observation and focuses feedback to help the student learn new patterns of performance. The most effective approach to teaching and evaluating communication and interpersonal competence involves a program of multiple methods of assessment.[28]

CHARACTERISTICS OF ASSESSMENT TOOLS

All assessment tools possess certain psychometric characteristics. These include (1) *reliability*—the measurement will produce the same result when repeated after a short interval, and that ratings of the same behavior by different individuals will produce the same result; (2) *validity*—the tool accurately measures the performance it intends to measure; (3) *generalizability*—the degree to which performance in this particular context predicts performance in other contexts; and (4) *credibility*—the power of the measurement to support or change the organizing beliefs and actions of the one being assessed.

The stakes of the evaluation determine the requirements for the psychometric rigor of the measurement. In formative evaluation, where the judgment about the performance will be used to structure feedback and coaching, it is acceptable for the reliability of the instrument to be lower than it would be for a high-stakes (pass/fail) summative evaluation. However, when formative evaluations are aggregated to develop the overall grade for a course, the stakes increase and so should the reliability of the assessment tool. High-stakes evaluations, such as those related to promotion, certification, or receiving privileges demand the highest rigor, reliability, standardization, and security.

Apart from psychometric standards, financial and human costs are significant factors in determining which measurement tools are used. The human costs include the time of interactions with real or simulated patients and direct or indirect time for observations by faculty or evaluators. Although the cost of training and employing simulated patients may seem high, simulated patients can reduce demands on faculty. In addition, sharing cases and expertise among institutions makes use of simulated patients more affordable.

The realistic financial and human constraints notwithstanding, at a minimum, evaluation of competence in communication skills should be based on direct observation by persons who competently perform these skills. For students, this can include residents and faculty; for residents, it can include peer residents and faculty; and for practicing physicians, it can include peers. Self-assessment instruments may be useful for low-stakes purposes, such as needs assessment. For the evaluation of interpersonal skills, however, patients or evaluators simulating patients may be necessary to assess accurately the interpersonal skills that create the therapeutic relationship.

SPECIFIC ASSESSMENT TOOLS

The three assessment methods (checklists for rating behaviors, patient questionnaires, and knowledge or attitude questions) have been incorporated into a variety of assessment tools for use in education and evaluation. Table 2 describes some of these tools, dividing them into five categories: ratings of direct observation of interactions with real patients; ratings of simulated encounters with standardized patients; ratings of video- and audiotape interactions; patient questionnaire or survey; and examination of knowledge, perceptions, attitudes. Additional descriptions of some of these tools can be found on the ACGME Web site.[3]

For assessing communication behaviors, the checklist remains the most frequently used assessment tool. Over 25 communication and interpersonal skills rating checklists are described in the literature, but only a few have been widely used.[31–37,70] Currently there is no gold standard, and standardization of instruments across clinical settings remains an important future challenge.

Direct Observation of Interactions with Real Patients

The most commonly used evaluation of communications and interpersonal skills in residency training is the end-of-rotation evaluation form completed by attending physicians.[3,69,71–73] Global ratings often contain one or two statements about the resident's interactions with patients that the attending rates on a numerical scale indicating unsatisfactory through satisfactory performance. The numerical ratings are usually aggregated to provide a summative evaluation; however, without specific comments, global ratings provide insufficient detail for feedback that guides improvement and learning. Moreover, most of the ratings of interpersonal and communication skills are based on attendings' inferences from interactions with residents on rounds and not on actual observations of residents' communication with patients.

To provide feedback and coaching on the performance of specific tasks in an encounter, medical educators have developed behaviorally anchored checklists of the component skills a student should practice to develop competence in handling the situation. The same checklist may be used in a testing situation to grade the candidate's level of competence. Elaborate checklists for performing a detailed interview have been developed.[31–37,74–76] These have been used to evaluate competence in medical interviewing for certifi-

Table 2

Five Ways to Assess Interpersonal and Communication Skills

Assessment Strategy	Use*	Cost	Comments	Reference List Citation Number(s)
Ratings of direct observation of interactions with real patients				
Measurement strategy				
Global rating of performance	UME, GME, practice performance	Low	End-of-rotation global rating of competencies provides one score; usually insufficient detail for effective feedback; comments provide some information for improvement; rater may be supervisor or peer	69, 71–73
Checklist of specific behaviors	UME, GME, CME practice performance	Low to moderate	Observation of encounter with a single patient used for teaching general and specific skills	31–37
Mini-CEX†	GME, certification	Moderate	Structured brief observations of multiple real patient encounters by multiple evaluators; good psychometric characteristics	79–81, 120
Oral clinical examination	Graduation, certification	High	Comprehensive interview and examination of one or two real patients; used by some residency programs and several certifying boards	77–78
Ratings of simulated encounters with standardized patients				
Measurement strategy				
Objective standardized clinical examination	UME, GME, CME, graduation license	High	Used for formative and summative evaluation in medical school, residency, and licensing examinations	82–91
Single simulated encounters	UME, GME, CME	Moderate High	Communication courses and workshops; learning center at ACP annual meeting for behavior change, women's health, substance abuse, delivering bad news	61, 93–96
Unannounced standardized patients	GME, CME, quality of care research	High	Research tool for quality of care measurement	92
Ratings of video- or audiotape interactions				
Measurement strategy				
Video or audiotape review	UME, GME, CME, graduation certification	High	Formative evaluation using a checklist with feedback from a teacher, peers or in self-assessment; summative evaluation by panel of judges using checklist and global rating	27, 31, 97–101
Checklist				
Linguistic-based communication analysis	CME, GME, research	High	Research tool for pattern analysis. Self-assessment with formal feedback on CD; common tools are RIAS and patient-centered ratings	14, 103–106
Voice tone analysis	Research	High	Research tool for identifying paralanguage in filtered speech analysis	108, 109
Patient questionnaire or survey				
Measurement strategy				
General patient surveys	GME practice performance	High	Patients complete a mail-, telephone-, or Web-based survey rating communication skills Used by health care organizations, certifying boards, and accrediting agencies	38–45, 56
Survey following patient visits	GME practice performance	Moderate	Patients complete a survey about experience during an encounter; can include assessment of interpersonal skills	14, 46–55
Patient complaints	Practice quality assessment	Low	Health care organizations	111–113
Examination of knowledge, perceptions, attitudes				
Measurement strategy				
Multiple-choice questions	UME, certification	Low to high	ABIM self-evaluation module in clinical skills; production of video enactments increases cost	66, 114–115
Computer-simulated exercise	In development	High	Interactive computer program that assesses selection of questions and strategy for diagnosis	67
Empathy and emotional intelligence scale	UME, GME, research	Moderate	Questionnaire creates an empathy attitude score	63–65

*UME = undergraduate medical education; GME = graduate medical education; CME = continuing medical education.

†Mini-CEX = mini–clinical examination.

cation in internal medicine by observing and rating a resident's performance on a single comprehensive new patient clinical examination (CEX).[77,78] The ABIM introduced the Mini-CEX for assessing clinical skills, including communication and interpersonal relationships,[79–81] in an attempt to improve the psychometric performance of a single, detailed observation. In using the Mini-CEX, an experienced evaluator uses a checklist to rate specific tasks observed during focused clinical encounters lasting ten to 20 minutes. After rating observed behaviors, the evaluator switches roles to become a coach and provide feedback about the ratings and on how performance might improve.

Rating Simulated Encounters with Standardized Patients

Observed encounters with standardized patients provide a high fidelity method for evaluating communication and interpersonal skills. Many medical schools and residency programs and a few certifying and licensing organizations use an objective standardized clinical examination (OSCE) for high-stakes evaluations.[1,82] In the OSCE, standardized patients are trained to play a specific role and to rate performance using a checklist. In addition to being used for summative evaluations, OSCEs are used for formative evaluation or teaching.[83–87] In one OSCE variation, an oral examiner simulates a patient.[88] OSCEs have been conducted with the standardized patients located at a geographic distance from the examinees by using Web-based technology.[89,90] Using OSCEs for summative evaluations of physicians who are expert in managing a particular condition may be problematic. For example, standardized patients may not provide enough reality to simulate commonly encountered emergency or diagnostic situations such as congestive heart failure or anaphylaxis, and experienced clinicians may employ interviewing strategies that are correct but deviate from the checklist used to evaluate performance, resulting in lower scores.[91]

Another use of standardized patients is the preplanned but unannounced "patient" who appears in an office or emergency setting to assess clinical skills in practice. The unannounced "patient" uses a checklist or microphone to record the encounter for later analysis. Studies demonstrate good correlation between the audiotape and the standardized patient reports.[92]

Apart from these evaluation methods, educational programs have used standardized patients to provide a uniform experience for multiple learners to practice and receive coaching in specific communication and interpersonal skills. For example, in American College of Physicians workshops, learners perform self-assessments and practice counseling skills by working alone or in small groups to interview and receive feedback from standardized patients with women's health, musculoskeletal or neurological diseases, or conditions that are improved when patients make behavioral change with respect to smoking, diet, exercise or alcohol use.[93–96]

Ratings of Interactions Recorded on Audio- or Videotape

Recording either real or simulated physician–patient encounters on audio- or videotape provides a convenient tool for subsequent rating or coaching. Video feedback can be used effectively for communication skills training at all levels.[27,31,97–101] In some residency programs, faculty members rate the performance of residents on video- or audiotaped encounters using checklists and then review the tapes with an individual or a group of residents.[99] Audiotape analysis can be used for self-assessment also. For example, one continuing medical education (CME) program used audiotape analysis to improve communication skills, supplemented by checklists for self-assessing audiotaped encounters. Through the tapes and checklists, program participants identified their strengths and weaknesses. The self-assessment formed the basis for initial coaching during the course.[101]

Video feedback also provides a powerful tool for faculty development. Once proficient faculty performance has been defined, peer reactions to videotaped sessions wherein a faculty member gives feedback to students or residents can be used to enhance faculty teaching skills.[26,27] The exercise improves faculty communication skills and hones observation and evaluation skills.[102] In addition, video review can be used for high-stakes evaluations. For example, to become a member of the Royal College of General Practice in the United Kingdom, judges rate the communication and patient care skills demonstrated on seven videotaped consultation encounters provided by candidates.[97]

Detailed analysis of recordings provides a powerful tool for research in communications. For example, the Roter Interactive Analysis System (RIAS) uses trained raters to analyze video or audio recordings of an interview to develop a profile of the verbal exchanges or behaviors. These findings are then compared to other clinical outcomes of the encounter.[103–106] The RIAS encounter analysis has been adapted as an educational program, providing individualized feedback about an encounter with a standardized patient, including video examples of ideal performance. Computer-based, video-coded feedback includes verbal coaching from the standardized patient. The physician being evaluated receives the entire report in a CD and workbook format.[107]

On a separate front, and in the early phases of development, the analysis of filtered speech provides a method for

assessing nonverbal paralanguage. A short segment of audio recording from an encounter is processed to remove high frequency sounds and create "filtered" speech. Trained raters grade the muffled recording for its emotional content. In research studies, ratings of the filtered speech regarding the emotional channel correlate with patient satisfaction[108] and predict physicians with higher rates of malpractice claims.[109]

Patient Questionnaires and Surveys

Patient surveys completed following an office visit or hospitalization can be used to effectively assess interpersonal and communication skills.[38] The patient surveys contained in ABIM recertification modules[44] and the CAHPS survey used by health care plans as a component of NCQA accreditation[45] are examples that provide feedback for making changes to physicians and to health care plans. The Royal College of Physicians of Canada uses a patient questionnaire to obtain data about physician communication and comparison with peers.[88] Several authors suggest that patients' experience may be a more useful and relevant measure of the quality of the physician–patient relationship than coding schemes.[14,46,110] Review of patient complaints, reports to licensing boards, and malpractice claims identify physicians who possibly lack sufficient competence in communication and interpersonal skills.[111–113]

Patient ratings on surveys are influenced by the patient's perceived health status. For example, patients who are sicker or who perceive themselves as being in poorer health tend to rate physicians lower than do those in better health. Thus, physicians with sicker patients may receive lower ratings on patient surveys. Furthermore, patient surveys fail to differentiate various elements of interpersonal relationships. For example, patients who report greater satisfaction with their physicians may report higher ratings of participatory decision making, whether or not there was actually a decision made during the encounter.

Assessments of Knowledge, Perception, and Attitudes about Communication

The ABIM Clinical Skills Module, an elective self-assessment for recertification, includes multiple-choice questions which contain a video enactment of various physician–patient encounters.[114] These questions test knowledge about concepts and principles related to communication and recognition of emotional and nonverbal clues to diagnosis, provide examples of good performance, and stimulate learning about novel approaches to communication.

Producing video-recorded enactments increases the cost of developing such questions.[66] The United States Medical Licensing Examinations (USMLEs) and the National Board of Medical Examiners' (NBME) shelf subject examinations entitled Behavioral Sciences and Introduction to Clinical Diagnosis include multiple-choice questions about the content of communication issues, particularly those with an ethical focus.[115] Several investigators have correlated personality scales for emotional intelligence and empathy with patient satisfaction and evaluators' global ratings of humanism and interpersonal skills. These exercises can be used for educational needs assessment, but are probably not yet appropriate for high-stakes evaluations.[64,65,116]

INCORPORATING ASSESSMENT INTO EDUCATIONAL PROGRAMS

Several general internal medicine programs use OSCEs for physical examination, communication, and interpersonal skills stations as needs assessment at the beginning of the first year of residency. Faculty conduct a detailed debriefing following the initial OSCE, and each resident receives an audiotape of the feedback following the encounter. The programs then repeat the same OSCE as a summative evaluation at the end of the internship.

Another first-year residency program uses standardized patients to give trainees uniform experience and instruction in approaching domestic violence, delivering bad news, and handling alcohol and drug addiction. Each resident reviews a videotape of the encounters, performs a self-review, and marks segments of the tape for review with faculty and a small group of peers. Two faculty independently review the tapes, identifying strengths and weaknesses of each resident. During a small-group session, faculty explain how different communication styles lead to different outcomes with the same patient.[117]

Several programs use the aggregated performances of their residents on OSCEs to evaluate the effectiveness of their communication skills curriculum. Similarly, a CME program used pre- and postaudiotape analysis of participants' real patient encounters to document the effectiveness of the program in teaching communication skills.[118,119]

One program uses a videotaped OSCE with six or seven stations to document communication skills of interns and residents who have been identified as having interpersonal problems. Faculty review the videotapes, and patients generate checklist ratings attempting to identify specific targets for remediation.

Several programs have faculty observe residents' interactions with patients during morning work rounds and use the Mini-CEX checklist to rate the communication and provide feedback to residents about their discharge conversations,

delivery of results of diagnostic tests, and obtaining informed consent for procedures.[120]

Faculty development is usually necessary for mastering effective ways to teach and evaluate interpersonal and communication skills. For example, training faculty to use tools for assessing communication skills improves reliability of ratings when reviewing videotapes.[102,121–125] Showing benchmark vignettes demonstrating satisfactory and unsatisfactory performance improves interrater reliability.[1] Practice using role-play or simulated patients and simulated students is an effective way to train faculty in giving feedback and coaching.[61,126] Through formal faculty development in teaching and evaluation of interpersonal and communication skills, the faculty's communication with patients, colleagues, other providers, and learners usually improves. Without such congruence between the program's learning goals for communication and the teachers' behavior as communicators, education and assessment may be undermined.[127,128] Faculty confidence in teaching and evaluating communication skills is critical to these skills' becoming a valued aspect of the curriculum. Providing faculty with appropriate feedback from learners improves faculty development efforts.

CONCLUSIONS

The Kalamazoo I Consensus Statement provided a useful list of the tasks that define the curriculum for teaching and the blueprint for evaluation of competence in communication skills in the primary care ambulatory setting. This Kalamazoo II report elaborates on competence in interpersonal skills, concluding with a summary of the assessment tools that may be used for teaching and evaluating these competencies.

The Kalamazoo II proceedings presented here suggest a number of important findings. First, the same assessment tool may be used for formative evaluation and feedback during training or for summative and high-stakes evaluations for promotion, licensing, or certification. Second, demonstration of interactive skills demands observation and ratings of real or simulated physician–patient encounters. The raters may be actual patients, trained simulated patients, or other professionals who complete checklists or answer questions in a survey. Third, selection of the tools chosen by an educational or evaluation program will depend on the resources available and the level of reliability and validity required. At a minimum, competence in communication and interpersonal skills should be taught and evaluated by trained faculty coaches and evaluators using standardized checklists. Finally, the therapeutic essence of the doctor–patient relationship should include the patient's perspective obtained either from ratings or surveys after encounters.

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