Integrating the Art and Science of Medical Practice: Innovations in Teaching Medical Communication Skills

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Background and Objectives: *This paper describes the content and methods used to teach communication skills in Undergraduate Medical Education for the 21st Century (UME-21) schools and provides suggestions for future efforts.* Methods: *Faculty leaders of curriculum projects at UME-21 schools provided reports describing new communication curriculum projects. Reports were reviewed and analyzed, curriculum content and methods were categorized into themes, and findings were confirmed through phone interviews with lead faculty at each participating school.* Results: *Curriculum projects were designed to improve medical students' communication skills during the clerkship years at 12 participating UME-21 schools. These skills were addressed through a variety of teaching methods and applied in interactions with patients, health teams, and community members. Curricular themes included conflict resolution, delivery of bad news, addressing patient preferences for end-of-life care, patient and community health education, communicating with families, and working effectively with patients from diverse backgrounds. Students' communication skill competencies were assessed through a variety of methods including objective structured clinical examinations, focused observation and feedback, and debriefing sessions based on recall, audiotapes, or videotapes of encounters.* Conclusions: *Opportunities for students to develop, apply, and refine their communication skills can be embedded throughout the medical school curricula. Our findings illustrate the variety of methods that may be used to teach and evaluate medical students' communication skill competencies. Future challenges include development of comprehensive longitudinal curricula, practical teaching methods, valid evaluation tools, and faculty development.*

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Communication skills are fundamental to medical practice.[1] These skills are critical for information gathering, diagnosis, treatment, patient education, and health team interactions. Patients' benefits resulting from effective communications with physicians include increased satisfaction, greater symptom resolution, lower referral rates, improved functional status, and enhanced health outcomes. Physicians' benefits from effective communications include increased satisfaction, efficacy, and reduced malpractice claims.[2-5]

Recognizing the importance of communication skills in medical encounters, the Association of American Medical Colleges, the US Liaison Committee on Medical Education, the Committee on Accreditation of Canadian Medical Schools, the Accreditation Council for Graduate Medical Education, and others have called for medical educators to carefully define, teach, and evaluate communication skills for physicians in training.[6] The National Board of Medical Examiners has developed a standardized patient evaluation test to assess physicians' communication skills in the US Medical Licensing Examination. Patients' expectations regarding health communications have also shifted as more patients take active roles in information gathering and decision making. Many medical schools have established programs to respond to these new expectations.

The UME-21 initiative selected communication skills as one of the nine content areas for focused curriculum development. This paper outlines core communication skill competencies, discusses challenges, and describes efforts of faculty at UME-21 schools to improve communication skill teaching.

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Core Communication Skill Competencies

A review of the literature and consensus recommendations from leaders of communication skill teaching initiatives reveal striking similarities in the skills considered as fundamental for physicians. Regardless of whether one consults the Medical Schools Objectives Project Report III on Communication in Medicine,[6] the Kalamazoo Consensus Statement[7] or its predecessor, the Toronto Consensus statement,[8] or any of several recent textbooks aimed at medical educators,[9,10] the list of skills is highly congruent. The sequential model described by the participants in the Bayer-Fetzer Kalamazoo conference provides a concise summary (Table 1).

Table 1

Essential Communication Skills in the Medical Encounter*

Open the discussion
- Introduce self and explain role
- Attend to patient comfort and respond to apparent distress (eg, pain)
- Elicit the reason(s) for the visit
- Allow patient to complete his/her opening comment without interruption or focusing comment
- Establish agenda for visit

Gather information
- Balance use of open and closed questions
- Use active listening skills to facilitate patient's telling of his/her story (eg, use of verbal and nonverbal facilitators, requests for clarification, paraphrasing, summary statements)
- Elicit sufficient information to be able to describe and characterize symptoms defining the patient's illness

Understand the patient's perspective
- Explore contextual factors (eg, family, gender, cultural issues, socioeconomic status)
- Elicit patient's beliefs, fears/worries, expectations, and explanations
- Respond in a nonjudgmental manner to patient's feeling with empathy and support

Share information
- Provide clear explanations and facilitate patient understanding by avoiding use of medical jargon
- Check patient's understanding and correct as appropriate
- Encourage questions

Reach agreement on problems and plans
- Encourage patient to participate in decision making to the extent desired by the patient
- Assess patient's willingness and intention to follow treatment advice
- Identify resources and engage in anticipatory problem solving
- Negotiate differences in perspective, understanding, and goals

Provide closure
- Provide additional opportunities to raise concerns or to ask questions
- Summarize and affirm agreement about plan of action
- Discuss follow-up

* Adapted from Kalamazoo Consensus Statement (Acad Med 2001;76:391)

Communication Skill Teaching Challenges

Educators working to teach communication skills face a number of challenges (Table 2). Some educators and students take communications skills for granted. Others view formal communication training as an unnecessary distraction from basic biomedical sciences for pre-clerkship students and as impractical for busy clerkship students and clinicians. The attitude that some students have a natural gift for these skills, while others do not, may impede effective curriculum development.

Inconsistencies in terminology, content, methodology, expected competencies, and outcome measures have contributed to confusion among faculty and students. A 1998 survey of communication skill teaching and assessment in North American medical schools revealed a high degree of variability in how skills are defined, taught, and assessed.[6] Though considered by many as the "art" of medicine, detailed observations and analyses have built a solid scientific framework for understanding physician-patient communication, for assessing the effects of communication on health care outcomes, and for the development of sound educational and evaluation methods.[3,11]

Contrary to expectations, experience alone does not result in improved communications.[12] Without specific attention, communication skills may actually deteriorate as physicians progress through training. Educational research has demonstrated that communication skills can be taught. Systematic instruction, feedback, and evaluation can result in long-term changes in physicians' communication behaviors.[10]

Self-awareness, sensitivity to the needs of others, and the capacity for critical self-reflection increase the likelihood of effective communications.[1] These qualities enable students to detect their own biases, follow subtle cues indicating underlying patient concerns, make cor-

Table 2

Communication Skill Teaching Challenges

- Communication skills may be devalued and not considered teachable.
- Teachers and students may assume skills will automatically improve with experience.
- Expectations of teaching and evaluation methods may be vague or inconsistent among different faculty and courses.
- Skills introduced in pre-clerkship years are not applied or evaluated in clerkships.
- Resources and time are insufficient to teach and evaluate skills.
- Improving communication skills requires faculty and students to possess self-awareness, interpersonal sensitivity, and willingness to be self-reflective and accommodating.
- Few faculty have received formal training in communication skill teaching and evaluation.
- Inconsistent feedback from faculty results in confusion among learners.

Table 3

Communication Skills Projects at Select UME-21 Schools

School	*Content Areas*	*Learning Objectives*	*Methods*	*Evaluation*
University of California, San Francisco	• Patient education	• Explore patient education services available within a health care system • Interview a patient about the process of becoming educated about a disease or condition • Observe a nurse advising a patient • Follow up on a test result with a patient	• Observation during longitudinal ambulatory clerkship (year 3) • Patient interviews (year 3) • Small-group discussion (year 3)	• Pre and post student self-assessment of attitudes, knowledge, and skills • Student written program ratings
Case Western Reserve University	• Advance directives • Breaking bad news • Patient confidentiality	• Define and discuss advanced care planning • Describe durable power of attorney for health care • Propose a mechanism for primary care physicians to address advanced care topics with patients • Explain DNR Comfort Care and Ohio laws • Develop a framework and role-play communicating bad news • Discuss the need for confidentiality and consequences of losing confidentiality • Recognize difficult situations and subtle breaches of confidentiality • Outline approaches to discussing disclosure of confidential information with patients	• Small-group sessions (year 3)	• OSCE • Students' ratings of program • Faculty program ratings
Dartmouth Medical School	• Advanced communication and relationship-building skills • Communicating and building relationships with families	• Describe patient-provider relationship-building skills • Understand how patient preferences influence medical decisions • Demonstrate efficient/effective motivational strategies • Describe changes in provider-child-family relationships over time • Understand how patient-provider relationships affect outcomes • Understand legal aspects of patient-provider relationships	• Longitudinal communication curriculum in years 1–4 • Videotape of student interviews (year 3) • Balint sessions (year 3) • Home visit with chronically ill patient (year 3)	• Family-centered OSCE (including three stations) • Student written program ratings
Drexel University	• Emotional distress of patients	• Elicit patient goals for the visit • Increase awareness and promote discussion of the prevalence and importance of emotional problems and patients' goals in the primary care setting	• Clinical Encounter Form (expanded progress note) with videotape introduction to the form (year 3)	• Student ratings of Clinical Encounter Form
Jefferson Medical College	• Provider relations	• Demystify the operations of health insurance organizations • Observe operations of a large health insurer • Meet some nonphysician professionals of a successful PHO (Physician Hospital Organization)	• Observation of medical director of a managed care organization (year 4) • Panel discussions (year 4)	• Written knowledge evaluation pre and post mini-clerkship • Student ratings of program • Faculty ratings of program
University of Massachusetts	• Breaking bad news • Communicating with adolescents • Patient education	• Expand students' communication skills • Advance the appreciation of the physician-patient relationship • Enhance student skills in patient education and written communication	• Small-group sessions with standardized patients (year 3) • Small-group case-based sessions (year 3)	• Observation of student interviews with formative feedback • Student ratings of program • Student self-assessment of confidence and competence

Table 3

(Continued)

School	Content Areas	Learning Objectives	Methods	Evaluation
University of Nebraska	• Patient-centered interviewing • Patient education • Behavior change • Domestic abuse • Substance use • Working with interpreters • Delivering bad news • Communication with angry/demanding patients	• Elicit a complete history of the patient's presenting complaint, including social and psychological implications of illness • Communicate effectively regarding referrals, consultation, and coordination of care. • Integrate risk factor assessment and prevention • Deliver effective patient education • Make appropriate behavioral change interventions	• Lecture (year 1–2) • Small groups with standardized patients (year 1–2) • Workshop including role-play and individual and group problem solving (year 3)	• Ten-station OSCE to assess basic interview and history skills (year 1) • Long OSCE to assess history, physical exam, prevention, and patient education (year 2) • Self-efficacy ratings for dealing with difficult patients (year 3)
University of New Mexico	• Cultural competency • Communication with adolescents • Communication with parents	• Demonstrate professional conduct necessary for a successful clinical interaction • Demonstrate tolerance of parent and family differences in attitudes, behaviors, and lifestyles • Recognize when a child or adolescent is at risk and know when to intervene	• Lecture (year 3)	• Not evaluated
University of Pennsylvania	• Professionalism • Teamwork • Conflict resolution • End-of-life care	• Identify roles and improve communication skills among team members • Discuss medical student abuse and ethical dilemmas • Build trust as a patient advocate • Resolve conflicts with angry patients, families, and drug-seeking patients • Break bad news, discuss death and dying, living wills, and advance directives	• Doctoring II course (year 3) • Monthly, small-group discussions with readings, role-playing, standardized patients, and student projects • Student led and faculty facilitated	• Student attitude surveys • Preceptor evaluations • Student presentations • Written papers
University of Pittsburgh	• Advanced communication skills • Sexual histories • Communication of "hidden problems" such as depression, domestic violence • Cultural diversity	• Describe how patient and physician actions are affected by psychosocial and spiritual factors • Describe roles of health team members and how psychosocial and spiritual factors affect team interactions • Demonstrate appropriate verbal/listening skills • Identify/respond to patient emotion • Work with challenging patients, including patients with multiple problems, anger, somatization, and substance abuse issues • Assess adherence to treatment plans • Identify/address cultural issues affecting communication • Demonstrate respect for patients • Demonstrate an attitude of teamwork	• Lectures (years 1–3) • Small-group workshops with simulated patients (year 3) • Preceptor role modeling (years 1–3) • Case-based small-group discussions (year 3)	• Clinical Skills Assessment with students observed by faculty • OSCEs • Preceptors' ratings of students • Students' written ratings of preceptor • Students' written ratings of program
Wayne State University	• Patient confidentiality • Advance directives • Conflict management	• Understand the role of appropriate dress, interaction, and confidentiality in effective doctor-patient relationships • Develop effective communication skills and therapeutic relationships with patients • Protect the privacy of patients • Learn about conflict between clinically sound practice and health plan incentives, practice guidelines, or insurance benefits • Demonstrate competence in educating patients about demands versus need for testing, referral, and medical intervention	• Lecture, followed by case-based small-group discussions (year 1) • Clinical learning exercises based on continuity clinic clerkship experiences (year 3)	• Students' ratings of program • Preceptors' ratings of student • Learning contract between student and continuity clinic preceptor • OSCE • Written exams

Table 3

(Continued)

School	*Content Areas*	*Learning Objectives*	*Methods*	*Evaluation*
University of Wisconsin	• Patient-centered interviewing skills • Behavior change • End-of-life care • Addressing uncertainty • Interdisciplinary team care • Participatory decision making with patients and families	• Elicit patient perspectives • Provide effective patient education • Learn strategies to promote behavior change • Involve patients in decision making • Interview patients for domestic violence and sexual assault • Present choices in a managed care environment • Demonstrate conflict negotiation skills	• Lecture (year 1 and 2) • Small-group discussions, standardized patients (years 1–3) • Audiotapes of patient encounters (year 3) • Patient Care Management Project in community preceptorship (year 4)	• Student ratings of program (all years) • Student self-assessment of attitudes, knowledge, skills and behavior (year 3) • Audiotape self and group assessments • OSCEs (years 1–3)

OSCE—objective structured clinical examination

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rections in the midst of interviews, deal with intense emotions, and reflect on and learn from challenging interactions.[3,13-15] Medical educators are challenged to provide an integrated system that embeds communication skill teaching in the context of students' personal and professional development.[1]

Faculty development is a critical component of communication curriculum development and provides opportunities for faculty to systematically review, discuss, and practice current methods of communication skill teaching and evaluation. While many faculty and community preceptors demonstrate excellent communication skills, most are unfamiliar with current frameworks. Consequently, faculty feedback to student learners is highly variable and inconsistent.[16] Inconsistencies between what students learn in the classroom and what they see in practice may lead students to devalue communication skills. Faculty who understand that effective communications do not significantly increase the length of patient visits, but can lead to more accurate diagnosis and treatment, prevent unnecessary testing, increase patient satisfaction and trust, and reduce malpractice suits, are more likely to demonstrate and reinforce these skills for students.[12,16] Finally, sustained commitments of human and financial resources are necessary to train faculty to develop comprehensive, longitudinal curricula and to systematically teach and evaluate students' competencies.[17]

Methods

Each UME-21 school submitted written reports describing their curriculum projects to the UME-21 steering committee. Schools provided outlines of UME-21-supported curriculum content areas, learning objectives, teaching methods, and evaluation strategies. We reviewed these reports to identify schools that developed new communication curriculum projects, categorized the projects into themes, and summarized results. We reviewed and discussed results with faculty leaders at each school through structured telephone interviews. A summary was developed, and faculty at each school reviewed the contents to verify accuracy and to correct errors and omissions.

Results

While all UME-21 schools had communication skills curricula in place prior to the project, 12 schools developed new programs to enhance third- and fourth-year students' communication skills as part of the UME-21 initiative. These projects provided opportunities for students to gain experience with doctor-patient communication topics not covered in earlier stages of the

curriculum. The project also gave students the opportunity to practice communication skills in real encounters with patients, health care teams, and community members and to receive feedback on communication skills in the third and fourth years of medical school. Table 3 outlines each school's UME-21-supported communications skills content areas, learning objectives, and teaching and evaluation methods.

Communication Themes

A wide variety of communication skill themes emerged from UME-21 projects (Table 4). Some schools reinforced basic communication and relationship-building skills in clinical clerkships. Others provided opportunities for students to practice advanced communication skills such as dealing with sensitive topics (sexuality, domestic violence) or working with patients in challenging situations (breaking bad news, end-of-life care). Five schools chose to teach effective strategies for conflict management in health care delivery systems, including conflict surrounding clinical guidelines and insurer benefits (Wayne State University and University of Wisconsin), or resolving conflicts with angry and demanding patients (University of Nebraska and University of Pennsylvania). Wayne State University's curriculum included instruction in negotiating patients' demands with their need for diagnostic testing, medical interventions, and specialty referral.

Four schools addressed communication of bad news. The University of Pennsylvania, University of Wisconsin, and Case Western Reserve University wove this topic into the broader context of palliative care and included curriculum on communicating with patients at the end of life regarding advance directives. The University of Massachusetts presented this topic within the context of communication with a standardized elderly patient who was recently diagnosed with inoperable metastatic cancer.

Schools used a variety of scenarios for patient education, such as educating a patient about recent test results (University of California, San Francisco) and counseling parents with an acutely ill child (University of Massachusetts). The University of California, San Francisco, also focused on educational services available to patients within their health care team and system, in addition to the education that occurs within the doctor-patient interaction.

Three schools' projects featured communication with families. The University of Wisconsin explored how to communicate in family meetings, while Dartmouth considered changes in the physician-family relationship as a pediatric member of the family grows and develops. The University of Massachusetts and University of New Mexico delved into challenges in dealing with adolescents and their parents.

Another curricular theme was communicating with diverse patient populations. Faculty taught students to build relationships with patients from a broad variety of cultures, religions, and socioeconomic backgrounds (University of Pittsburgh) and strategies for working with medical interpreters (University of Nebraska).

Teaching Methods

A variety of methods were used to accomplish communication objectives. Most schools included a combination of readings, lectures, panel discussions, and small-group activities. Small-group activities included role-plays with hypothetical patients, interactions with standardized patients, and analyses of audiotaped or videotaped patient interviews. Multidisciplinary faculty, including generalists, specialists, community experts, and other students led the discussions.

In addition to classroom-based teaching activities, the UME-21 schools implemented a variety of experiential learning activities. Several schools asked students to complete a series of clerkship exercises. These involved interviewing patients about their use of complementary medications, observing their preceptor or a nurse educate a patient about a chronic disease, or discussing with preceptors how to handle situations such as conflicts with patients. Students at Drexel (formerly Hahnemann) University completed expanded progress notes on their patients, which prompted them to include information about their patients' concerns and goals for the visit and level of emotional distress. These notes were reviewed by faculty and discussed in small groups. Dartmouth students conducted home visits to patients with chronic diseases to increase their understanding of patients' and families' needs. Faculty reviewed written reports, and students presented their findings in small groups. Other activities included observing a patient education program sponsored by the patient's health care system, delivering a presentation to middle school students on smoking cessation, and attempting to change one of their own maladaptive behaviors.

Table 4

Communication Skill Themes

- Patient education and promoting behavioral change (four schools)
- Doctor-patient relationship-building skills (four schools)
- Conflict resolution and negotiation skills (five schools)
- Breaking bad news and dealing with distressed patients (four schools)
- Working with specific groups such as families and/or adolescents (five schools)
- Cross-cultural communication skills (three schools)
- End-of-life and palliative care, discussing advance directives (four schools)
- Dealing with psychosocial issues, eg, spirituality, sexuality, violence (three schools)

Role-play and standardized patients provided opportunities for students to observe and discuss their own and others' performance in the classroom, while clinical learning exercises allowed students to observe and reflect on doctor-patient communications in actual encounters. For example, clinical learning exercises were used to prompt students to reflect on observations of their preceptors negotiating with patients about treatment options or to observe a community-based patient education program. Expanded progress notes that included patients' perspectives, and review of videotapes and audiotapes of clinical encounters, provided opportunities for reflection and discussion.

A number of UME-21 schools initiated new methods to evaluate the communication skills of their students. These included objective structured clinical examinations (OSCEs) as well as feedback and debriefing sessions based on audiotapes or videotapes of students' encounters with their patients. Evaluation data provided valuable feedback regarding competencies achieved and direction for future curriculum development.

Discussion and Conclusions

Students develop communication skills by observing others and then practicing these skills in settings where they can receive feedback. Communication skills are usually introduced in the pre-clerkship years, but they have been less frequently reinforced or evaluated during the clerkship years when students are actively applying these skills in clinical settings. Although fast-paced clinical teaching environments present challenges for systematic teaching of communication skills, attention to communication during clinical encounters can bring these skills to life and allow students and faculty to see their relevance. The UME-21 curricula initiatives demonstrate that faculty may use a variety of methods to teach and assess students' communication skills in the third and fourth years of medical school.

Limitations

While communication skill initiatives are valuable in individual clerkships, we noted that few schools had integrated or evaluated communications curricula across multiple courses and clerkships. Given the complexity and importance of communication skills in all aspects of medicine, a guiding framework may be useful to organize and assess the efficacy of interventions.[18] Students are more likely to master communication skills when expectations are explicit, modeled, and systematically evaluated.

An important area that was relatively underdeveloped by the project schools was rigorous evaluation of the effect of the curricular innovations. Some schools used OSCEs to assess skill acquisition, and others used non-validated paper and pencil measures of student satisfaction or sense of efficacy. Considerable work remains to assess the efficacy of the UME-21 educational interventions.

Faculty development received limited attention at participating schools. Students may learn the fundamentals of effective doctor-patient communication in classroom settings, but if they fail to observe preceptors and residents demonstrate these skills, they may conclude that they are not relevant to patient care. Because of the variability in the skills, time, and interests of faculty preceptors, most of the methods developed by the UME-21 schools focused on the classroom setting. A challenge for the future is to train preceptors who are scattered over wide geographic areas to model effective communication skills, observe students' interactions with patients, and provide specific, reliable feedback based on these observations, thus creating an environment that demonstrates and consistently reinforces the importance of doctor-patient communication and helps students improve their skills.

Despite a growing body of literature regarding the importance of effective patient-physician communication, more research is needed to identify the best teaching and evaluation methods to improve the skills of medical students, faculty, and practicing physicians to communicate optimally with patients, families, and health team members.[6]

This survey demonstrates that medical schools can enhance third- and fourth-year students' communication skills through a variety of curricular themes and teaching methods. Beyond basic skills, such as those listed in Table 1, what other skills should be included in the communication skills curriculum of the 21st century? Several new communication skills were included in the programs of some UME-21 schools and are listed in Table 5.

Given the advances in understanding communication behaviors in the medical encounter, and the development of many successful teaching and evaluation

Table 5

New Communication Skills Included in the Programs of Some UME-21 Schools

- Negotiation skills to reach common ground and to achieve workable compromises when the patient's perspective and that of the physician are not fully aligned
- Behavioral change and motivational strategies to enhance patient participation in health care decision making, to modify high-risk behaviors, and to promote healthy lifestyles
- Strategies to help patients understand the basics of evidence-based medicine in clinical decision making
- Strategies to help patients negotiate the avalanche of information available on the Internet, in print media, and direct-to-consumer advertising by the pharmaceuticals
- Techniques for working with patients from diverse backgrounds to address varied health values, spiritual practices, and use of alternative therapies

methods, each school is challenged to develop practical, comprehensive, longitudinal programs to ensure that all students acquire effective communication skills for medical practice. This is a challenge and opportunity for medical educators working to teach the art and science of medicine in the 21st century.

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