Relationship, Communication, and Efficiency in the Medical Encounter

Creating a Clinical Model From a Literature Review

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Background: While there is consensus about the value of communication skills, many physicians complain that there is not enough time to use these skills. Little is known about how to combine effective relationship development and communication skills with time management to maximize efficiency. Our objective was to examine what physician-patient relationship and communication skills enhance efficiency.

Data Sources: We conducted searches of PubMed, EMBASE, and PsychINFO for the date range January 1973 to October 2006. We reviewed the reference lists of identified publications and the bibliographies of experts in physician-patient communication for additional publications.

Study Selection: From our initial group of citations (n = 1146), we included only studies written in English that reported original data on the use of communication or relationship skills and their effect on time use or visit length. Study inclusion was determined by independent review by 2 authors (L.B.M. and D.C.D.). This yielded 9 publications for our analysis.

Data Extraction: The 2 reviewers independently read and classified the 9 publications and cataloged them by type of study, results, and limitations. Differences were resolved by consensus.

Results: Three domains emerged that may enhance communication efficiency: rapport building, up-front agenda setting, and acknowledging social or emotional clues.

Conclusions: Building on these findings, we offer a model blending the quality-enhancing and time management features of selected communication and relationship skills. There is a need for additional research about communication skills that enhance quality and efficiency.

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P ROVIDING HIGH QUALITY CARE in the time allotted for primary care encounters, irrespective of the visit length, is a major challenge. Most adult primary care patients have 2 or more chronic conditions.[1,2] Estimates of the time required to provide appropriate preventive care (7.5 h/d)[3] and chronic illness care

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(10.5 h/d)[4] for a panel of 2500 primary care patients suggest that doing an adequate job is difficult. With the addition of the time needed to address acute problems,[5] complete paperwork, and update medical records, it often seems impossible to perform all of these tasks adequately, and primary care practitioners often feel overwhelmed.[6,7] Therefore, effective communication in primary care must include skills that enhance quality of care while helping patients and physicians use time wisely.

In 2001, an expert panel identified the following specific relationship and communication elements fundamental to all medical encounters[8]:

- Build the relationship: the fundamental task
- Open the discussion
- Gather information
- Understand the patient's perspective
- Share information
- Reach agreement on problems and plans
- Provide closure

These elements emphasize caring and trust to create a relationship in which physicians and patients share ideas and decision making about the visit agenda, the nature and meaning of disease and illness, and treatment options. Visits that contain these elements are associated with enhanced pa-

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tient satisfaction,[9] greater adherence to medication regimens,[10] improved self-management,[11] better health outcomes,[12] reduced medical costs,[13] and decreased risk of malpractice claims.[14] Although relationship and communication skills can be taught to physicians,[15-17] most primary care encounters appear to be missing 1 or more of these essential elements.[18-24] Insufficient time with patients is often cited by physicians as a major cause for poor relationship development and communication.[6,7]

In countries with strong primary care systems, determining how much time is needed to provide quality care is a subject of ongoing research yielding conflicting results.[25-27] Visit length is influenced by many factors including the number and complexity of problems elicited and addressed, the degree of psychosocial distress, and the sex and age of the patient and the physicians.[28-30] Some data from primary care settings in the United States suggest that visits shorter than 15 minutes are associated with lower quality.[26] In Great Britain, where visit lengths are shorter than in the United States, researchers have argued that visits should be lengthened to enhance quality of care.[31,32] Many studies suggest that better communication takes more time.[13,33-35] However, more time does not guarantee better communication, as evidenced by patient perception of time use[36] and poor communication found in 30- to 60-minute health maintenance visits.[37]

Research in the United States and in 6 European countries reveal differences in mean visit length ranging from 7.5 minutes in Germany[38] to 18 minutes in the United States.[39] In each country, physician styles can be sorted along continua from biomedical to psychosocial and from a physician-centered style to a patient-centered style. Visits with more psychosocial content, on average associated with better outcomes,[8,40] are shorter in some countries than biomedical visits in other countries.[41,42] One large study in the United States found no significant difference in visit length across the biomedical to psychosocial continuum.[43] Some studies comparing patient-centered and physician-

centered styles have shown no difference in visit length.[44,45] Physician communication styles seem to remain constant irrespective of visit length.[41-43,46] While these studies suggest time use, and therefore quality, can vary considerably, they do not provide insight into how physicians manage time in visits that contain recommended communication and relationship elements.

When learning communication skills, physicians and trainees commonly ask, "How can I communicate well without lengthening the visit?" Although primary care physicians have long expressed frustration about time limitations,[47,48] there is little consensus about how to blend time management skills with essential relationship and communication elements throughout the medical interview. While trainees are able to learn effective communication skills, these skills are often abandoned once they start working in busy clinical settings. These relationship and communication skills might be sustained if medical educators attended to learners' needs for time management skills. Furthermore, efficiency—making the best use of available time—is important for visits of any duration.

METHODS

We searched PubMed, EMBASE, and PsychINFO for the period from January 1973 to October 2006 for descriptive or experimental research written in English that identified quality-enhancing relationship and communication skills that were associated with efficiency during face-to-face encounters between patients and physicians (the live PubMed search is availale at: http://tinyurl.com/3xswfv). We developed 3 inclusion criteria to characterize "efficiency." The identified skill must have: (1) improved quality without increasing visit length, (2) improved quality and decreased visit length, or (3) helped manage time without compromising quality. We then searched for additional reports by the authors of these selected citations or by experts in the field of physician-patient communication. The original searches yielded a total of 1146 citations that we screened (L.B.M. and D.C.D.) to find articles that met our criteria. The 2 reviewers independently read and classified the publica-

tions by type of study, research question, outcomes, and limitations. We resolved differences by consensus.

RESULTS

The available research linking quality-enhancing relationship and communication skills with efficiency is sparse. Only 9 citations met inclusion criteria (**Table 1**); most others were not original research. We found only 1 experimental study on collaborative agenda setting[53] that was conducted by one of the authors (L.B.M.). Its sample size was small, limited to a homogeneous group of physicians in an educational setting, and did not include any direct observation of physician skill use or link the intervention to health outcomes. The remaining studies used observational designs, and most were limited by small sample sizes using a narrowly defined population and did not examine patient and physician satisfaction or health outcomes.

The 9 articles revealed 3 domains that may be associated with communication and relationship quality and efficiency: *rapport building* may enhance quality of care without taking more time, while *up-front agenda setting* and *acknowledgment of patients' social and emotional clues* may both enhance quality of care and improve time management.

A MODEL OF RELATIONSHIP, COMMUNICATION, AND EFFICIENCY

To create a comprehensive model, we integrated these findings with components that are recognized as essential communication components[8] plus 1 new component—topic tracking—to enhance efficiency throughout the visit. We cite the literature and explain the relevance of each component in the model. We did not study current, significant influences on communication and efficiency outside of face-to-face interactions between a physician and a patient (eg, previsit agenda forms, e-mail, electronic health records, interactions with other health care providers, or group visits).

Table 1. Studies Linking Communication Quality and Efficiency

Source	Skill Domain	Findings Related to Association Between Communication Quality and Time Use	Limitations of Study
Gross et al,[49] 1998	Rapport building	Small amount of time socializing with patient was associated with higher patient satisfaction with amount of time spent with physician.	Not an experimental design. Physician sample limited to family physicians in the United States.
Eide et al,[50] 2003	Rapport building	Brief (5-second) informal talk with patient associated with higher patient satisfaction.	Not an experimental design. Small physician sample limited to oncologists in Norway.
Marvel et al,[21] 1999	Agenda setting	Late-arising patient concerns occurred in 15% of visits with complete solicitation of concerns vs 35% of visits without complete solicitation of concerns. Visit length was 6 seconds longer if patients were allowed to complete their statement of concerns. Physicians who completely solicited concerns used prioritization more often.	Not an experimental design. Physician sample limited to US family physicians. Nonverbal responses could not be assessed by methods, and results were not linked to outcomes.
White et al,[51] 1994	Agenda setting	Patients were less likely to raise new concerns during the closing phase of a visit if they had been oriented to the visit flow and the physician assessed patient beliefs and checked for understanding as the visit progressed.	Not an experimental design. Physician sample included US primary care physicians and was limited to attendees of an educational program on communication skills. Nonverbal responses could not be assessed by methods.
White et al,[52] 1997	Agenda setting	Patients were less likely to raise new concerns during the closing phase of a visit if they had been oriented to the visit flow.	Not an experimental design. Physician sample included US primary care physicians and was limited to attendees of an educational program on communication skills. Nonverbal responses could not be assessed by methods.
Deveugele et al,[38] 2002	Agenda setting	A psychosocial concern disclosed by the patient did not prolong a visit, whereas if "diagnosed" by the physician, the visit was prolonged.	Physician sample included general practitioners in 6 European countries, but their workload was lower than average for their country. Not an experimental design or linked to outcomes.
Mauksch et al,[53] 2001	Agenda setting	Physicians trained to fully elicit patient concerns and establish focus of visit with patients took no more time and had greater patient satisfaction.	Sample size for randomized controlled trial was 17 family medicine faculty and residents in the United States. No direct observation of physician behavior.
Henbest and Fehrsen,[45] 1992	Agenda setting and understanding the patient's perspective	Primary care visits characterized by agenda setting and efforts to understand the patient's perspective were no longer but were associated with better resolution of the patient's concerns.	Not an experimental design. Practitioner sample was limited to primary care practitioners in South Africa. Of the patients, 82% were new to the practitioner.
Levinson et al,[24] 2000	Patient clues	In visits with emotional clues that were not acknowledged by the physician, the visit was 2.5 minutes longer.	Not an experimental design. Physician sample selected for presence of malpractice claims and was mostly male. Nonverbal responses could not be assessed by methods, and results were not linked to outcomes.

In response to a call from the literature,[54,55] we classified skills by the timing of their application during a visit: (1) skills with *ongoing influence* and (2) skills used *sequentially*. Four skill sets provide ongoing influence: relationship development and maintenance, mindful practice, topic tracking, and acknowledgment of patient clues. Three skill sets occur in a sequence: up-front, collaborative agenda setting, understanding the patient perspective, and reaching mutual agreement on a plan. The application of the skills at the beginning of the interview creates space for the use of important skills in subsequent interview phases and reduces the chance of using these latter skills in redundant or inefficient ways.[54] **Figure 1** and **Figure 2** list communication skills and their quality and efficiency ben-

efits. In the following subsections, we (1) describe each skill; (2) give an example of skill use; (3) name pitfalls of not using each skill; and (4) explain how using each skill avoids pitfalls.

SKILLS WITH ONGOING INFLUENCE

Rapport Building and Relationship Maintenance

Skill Description. A strong physician-patient relationship is essential for effective clinical encounters.[8] Rapport building such as a warm greeting, eye contact, a brief nonmedical interaction, or checking on an important life event can occur in less than a minute.[49,50]

Example. "Nice to see you. "How is your garden this year?" or

"How is it to have your son leave home?"

Pitfalls. Patients who feel a poor connection with their physician may have insufficient trust. Conversely, too much small talk may displace time for examining complicated problems.

Avoiding Pitfalls. As relationships develop, physicians can begin each interaction with a brief "check in" to reestablish the relationship. The following skills help maintain a trusting relationship.

Mindful Practice

Skill Description. Mindful practice is characterized by attentive observation of the patient and of the physician's own thought processes to guard against cognitive short-cuts and physician dominance of the
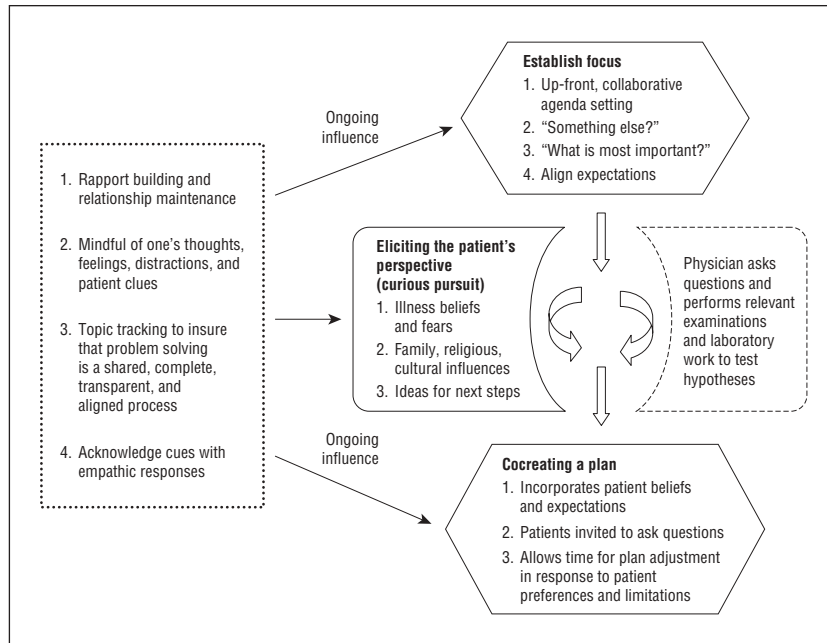
Figure 1. Relationship, communication, and efficiency: skills.

agenda.[56] The mindful physician is present and critically curious[57] to avoid premature closure.

Example. A physician is concerned that a patient's blood glucose level remains high despite prior interventions. He or she begins to lecture the patient and notices that the patient withdraws. The physician senses a weakening partnership with the patient. The physician realizes that he or she does not know how the patient views diabetes and decides to explore the patient's views.

Pitfalls. The physician who is not present may waste time focusing on issues that are not important to the patient and may miss clues about important thoughts and feelings.

Avoiding Pitfalls. Monitoring one's own preoccupations can enhance the physician's ability to engage the patient in useful problem solving.[58,59]

Topic Tracking

Skill Description. Maintaining focus on a mutually agreed on topic is an essential ingredient[60] in effective psychotherapeutic[61] and behavior change interactions.[62] In medical visits with multiple topics, discussions are often stopped and restarted as the patient and physician juggle priorities.[63] The probability that no clear decision is made on a topic before the close of the visit is inversely propor-

tional to the number of topics in the visit.[64] The following 3 communication microskills are critical to topic tracking: summarization (sharing one's impression of what has been discussed); process transparency[65] (describing the interaction); and goal alignment (confirming agreement on the discussion focus).

Example. "Ms Freeman, we decided to talk about your diabetes and it sounds like juggling exercise and diet is hard (summarization). I see that you also want to talk about your back pain (process transparency). I want to make sure that we accomplish something concrete today. Should we stay with your diabetes or shift our focus to back pain and delay dealing with your diabetes?" (goal alignment).

Pitfalls. Physicians who are not aware of "course changes" allow the interview to become disorganized, not completing a topic or rushing through another issue. Physicians, too, may introduce a new topic without an agreement at the beginning of the encounter.

Avoiding Pitfalls. The physician must monitor the discussion as if observing it from the outside. It may or may not be appropriate to adjust the agenda when new issues emerge. If physicians share their reasoning for time use adjustments, patients may be more engaged.[66]

Acknowledging Social or Emotional Clues With Empathy

Skill Description. Clues surface in any phase of the interview and signify thoughts or feelings contributing to patient behavior or illness. Empathic acknowledgment of clues may move the patient to reveal beliefs about illness and treatment preferences that can facilitate creating an effective plan. Providing empathy is intentional[67,68] and teachable.[69,70] It may promote patient self-efficacy without extending visit length.[71,72] Empathy can be used to focus discussions or to invite further exploration. Acknowledging clues may shorten visits perhaps because there is a decreased need for patients to restate their concerns.[24]

Examples. (1) Clue acknowledgment to focus a discussion—"It is frustrating when your asthma prevents you from getting to work," followed by, "Let's see how we can improve your symptoms and your ability to keep your job." Empathic acknowledgment decreases risk of the patient feeling discounted and improves the quality of care.[72-74] (2) Clue acknowledgment to invite further exploration—"Even though the test results were normal, you still seem concerned this may be cancer. Can you tell me more?"

Pitfalls. Missing clues may hinder understanding the patient's core concern.[75,76]

Avoiding Pitfalls. When used judiciously, verbal and nonverbal expression of empathy can be very brief (1-10 seconds) while still conveying an appreciation of the patient's suffering.

SKILLS USED SEQUENTIALLY

Up-front, Collaborative Agenda Setting

Skill Description. Primary care physicians are generally presented with 3 to 6 concerns per visit[18,63,77] and frequently more. It is not possible to address all concerns in detail in every visit. After initially checking in with the patient, the physician and patient can collaboratively create an agenda for the visit.[53] Up-front, collaborative agenda setting is more thorough and efficient than the more

common approach of addressing each issue as it surfaces.[21,22,78] When physicians know the number, urgency, and importance of all the patient's concerns, they will be more likely to address them, and they are also able to make rapid judgments about their time needs.[79] Up-front agenda setting allows the physician and the patient to prioritize and explore the most important concerns[45] and decrease the probability of "Oh, by the way" issues surfacing at the end of the visit.[21,51,52] The physician explains that creating a list of concerns will help determine how to make the best use of time. Diagnostic questioning is postponed. The physician uses repeated prompts to help the patient name additional concerns. Next, the physician confirms which problem is most important to the patient.[80] If necessary, the physician negotiates with the patient to protect time for urgent medical problems and postpone some issues for subsequent visits.

Example. "Let's figure out how to make the best use of our time." "What concerns would you like to address today?" Or in follow-up visits, "We planned to discuss your diabetes but I want to check if something else is a concern to you today?" Then, "something[81] else?" and "Do you need any prescriptions refilled or paperwork filled out?" If the patient elaborates on a concern before listing other concerns, the physician might say, "Your headaches sound painful but before we go further, was there something else you hoped to address today?" And eventually, "Am I correct that your headaches are most important? How about if we begin with your headaches and save some time to check on the diabetes?"

Pitfalls. It is tempting to explore the first topic raised in the visit.[22] Conversely, a physician who rigidly pursues agenda setting may compromise patient satisfaction[82] by forgetting to make a connection or missing patient clues about emotionally laden issues.

Avoiding Pitfalls. When the patient's emotional clues reveal the patient's need to tell a story, the physician should listen. If not interrupted, the great majority of patients will talk less than 2 minutes.[83] To contain patients who spend ex-
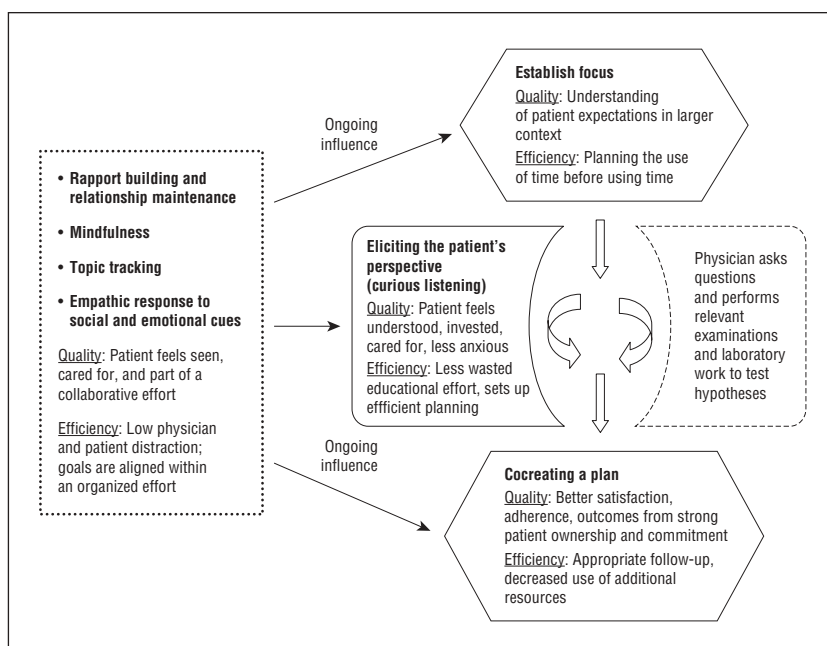

Figure 2. Relationship, communication, and efficiency: quality and efficiency benefits.

cessive time talking, use the skills described in the subsections on "Topic Tracking" and "Acknowledging Clues." Spending more time on a complex issue may be a better use of time than skipping from one problem to another without first considering patient motivation and problem complexity.[84] Follow-up visits may provide further opportunities to explore other issues in depth.

Exploring the Patient's Perspective

Skill Description. Once the agenda is defined, 2 forms of information gathering are woven together: diagnostic investigations and understanding the patient perspective. Explore the patient's perspective when (1) promoting self-management[85]; (2) examining health behavior change[62]; (3) the patient gives clues about underlying thoughts and feelings[75,86]; (4) family[87] or cultural[88] factors influence patient beliefs and behavior; (5) psychosocial problems diminish patient function[89]; and (6) symptoms are medically unexplained.[90,91] These explorations can be done without increasing visit length[92] and may reduce patient anxiety, identify knowledge gaps, and improve adherence and outcomes.[93] Indeed, curious[57] listening may be central to the "healing"[94] experience.

Examples. "What do you know about diabetes?" "I know that food plays an important role in your life. Tell me about it." "What would your physicians in Russia have done for this problem?"

Pitfalls. The exploration of the patient's perspective may be impeded by not allocating time during agenda setting. Ignoring the patient's beliefs may lead the physician to create a plan with little chance of success.[95]

Avoiding Pitfalls. Thirty seconds to 5 minutes[86] is usually enough time to understand patient beliefs and behavior and assess motivation for self-management. Understanding the patient's perspective may reduce wasted time delivering rote, off-target educational monologues. Several interview models have been developed to explore patient,[96] family,[87] and cultural[97] perspectives.

Cocreating a Plan

Skill Description. Complicated problems may benefit from more time devoted to shared and informed decision making.[18] When patients are involved in plan creation, they are more satisfied and have better outcomes and their physicians are less likely to generate unnecessary tests or referrals.[12,13,40] Physician

Table 2. Contrasting Efficient and Inefficient Interactions

	When the Physician Feels Pressed for Time	When the Physician Feels That There Is Sufficient Time

High-quality, efficient communication: recommended, less commonly observed	1 Limited rapport building
	2. Fewer problems addressed
	3. Up-front collaborative agenda setting
	4. High interview structure that is made transparent, with topic tracking
	5. Patient's perspective on illness is solicited when necessary
	6. Clues are acknowledged with nonverbal or verbal empathy
	7. Education is customized
	8. Patient is involved in creating the plan
	9. Physician is person focused, reflective, and curious
		1. Relationship development variable
		2. More problems addressed or fewer problems addressed in greater depth (see item 7)
		3. Up-front collaborative agenda setting
		4. Interview structure is made transparent, with topic tracking
		5. Patient's perspective on illness is solicited
		6. Clues are acknowledged with nonverbal or verbal empathy
		7. More time addressing 1 or more of the following:
		  a. Prevention and chronic illness care
		  b. Underlying psychosocial issues
		  c. Health behavior change
		  d. Family and cultural influences
		8. Educational efforts are customized to accommodate patient, family, or cultural perspective
		9. Patient is involved in plan creation
		10. Physician is person focused, reflective, curious, and tolerant of silence

Low-quality, inefficient communication: commonly observed, not recommended	1. No rapport building 2. Few problems addressed, no patient input on agenda 3. High interview structure without process transparency or topic tracking 4. No patient perspective on illness solicited 5. No patient input on plan 6. No acknowledgment of clues 7. No family or cultural perspective 8. Physician is disease focused, nonreflective, and not curious	1. May contain excessive nonmedical discussion 2. More problems addressed from physician's agenda and by eliciting or responding to concerns raised in the middle or closing phases of the interview 3. Patient's input on agenda, illness model, or plan is dependent on patient's assertiveness 4. Interview structure is unclear with minimal process transparency or topic tracking 5. Minimal or no acknowledgment of clues 6. Enhanced (automated) educational effort by physician, not customized due to limited understanding of patient, family, or cultural perspective 7. Physician is nonreflective, not present, and intolerant of silence

documentation of agreement with patients on problems needing follow-up is associated with increased problem resolution by the next visit.[98,99] Patients are more likely to adhere to plans if patients perceive that the plan accommodates their financial and social resources.[100] Clinicians should also tailor recommendations to patients' readiness to change.[101] The planning phase concludes with explicit agreement on the goals of care, next steps, and the roles of the patient, family members, and clinicians in implementing the plan.

Example. "I think we agree that something needs to be done about your rising blood glucose levels. In reviewing the options, you would like to first try diet change and increase your exercise. These choices are not easy to implement and maintain. Lets create a plan to support you in this effort. Does this make sense?"

Pitfalls. Forgetting to set an agenda, not using topic tracking skills or not pursuing an understanding of the patient's perspective increases the risk of offering a plan misaligned with patient preferences[102] and increasing resistance to self-management.[103]

Avoiding Pitfalls. Physicians must save time for cocreating a plan and explain why addressing fewer problems in greater depth may do a better job.[102]

CONTRASTING EFFICIENT AND INEFFICIENT INTERACTIONS

Table 2 gives a model in which the poles of the vertical axis are high-quality, efficient communication (top) and low-quality, inefficient communication (bottom). The poles of the horizontal axis are "feeling pressed for time" (left side) and "feeling there is enough time" (right side). We emphasize perception instead of naming absolute visit lengths because physician perception influences how time is used.[102] Several factors may affect perception beyond appointment length such as whether one is behind schedule, one's understanding of patient needs, and one's sense of competence.[79,104] The communication be-

haviors in the 2 high-quality, efficient quadrants include shared decision making about interview content, illness models,[93] and treatment plans. The organizational structure and process of the visit is transparent. These behaviors are not present in low-quality, inefficient interactions.

COMMENT

While evidence from several countries suggests that high-quality communication can occur between patients and physicians during interviews of variable lengths, our knowledge about how this is accomplished is limited. Rapport building, up-front collaborative agenda setting, and acknowledging social and emotional concerns may help improve quality of care and efficiency. We blended these skills into a comprehensive model to help physicians make the best use of time throughout the visit. Our review did not analyze important quality-enhancing encounters with other health care team members. The use

of these skills in face-to-face encounters creates trust and understanding that may increase the willingness of patients to work with an expanded health care team[105] in person or via telephone or e-mail. Future studies of physician-patient communication require effective training designs[106] and should combine qualitative and quantitative methods to examine the relationships between physician behaviors, time use, patient and physician satisfaction, resource use, and health outcomes.[107,108]

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