The Other Half of the Whole: Teaching Patients to Communicate With Physicians

Douglas M. Post, PhD; Donald J. Cegala, PhD; William F. Miser, MD

Background and Objectives: A wide body of research suggests that the nature of communication between patients and physicians is strongly related to health outcomes. Interventions that involve teaching patients to communicate with physicians are important to assess in this context. Methods: We conducted a review of randomized controlled trials (RCTs) in the outpatient setting from 1975 to 2000. Patient communication interventions were classified as high, medium, or low intensive, depending on the length of the intervention, use of personnel, and estimated cost. Characteristics of 16 studies were examined, including sample populations, types of interventions, and the nature of health outcomes. Results: Patient improvement in a variety of outcomes as a result of communication training was demonstrated. Positive change variables included patient communication, medical outcomes, functional status, and adherence to treatment. Studies revealed mixed findings on the outcome of patient satisfaction. All US studies suggested that pre-visit training had no effect on the overall length of the medical visit. Conclusions: Studies indicated improvement in a variety of patient outcomes. However, the wide variation in study design, interventions, and outcomes hinders the ability to draw well-founded conclusions. Future research needs to further address biopsychosocial outcomes, cost-effectiveness, and their relationship.

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The manner in which patients communicate with physicians is vitally important to the health care process. Diagnostic assessment and clinical decision making are often based on what patients verbally and nonverbally communicate to physicians about their symptoms and health care concerns. Studies have indicated, however, that patients’ communication is often ineffective. Patients directly voice their concerns in less than one fourth of medical visits and more often indirectly present symptoms through clues. Further, even though patients state that they would like as much information as possible from physicians, studies indicate that patients typically do not engage in information-seeking strategies.

For the most part, medical education and research have responded to difficulties in physician-patient communication by focusing on physician communication training. Conceptually, this approach is based on the notion that teaching communication strategies such as active listening and addressing feelings can help physicians facilitate a more open, direct, and meaningful dialogue with patients. Research has suggested that physician communication training is effective. Often, these studies have used communication interventions involving a partnership-oriented, patient-centered approach to health care delivery. Findings have indicated that patient-centered communication improves patient health outcomes and satisfaction, decreases patient distress, and also reduces the likelihood of malpractice suits against physicians.

Rather than addressing patient communication difficulties through physician training, an alternative approach involves directly teaching patients how to more effectively communicate during the medical visit. As compared to training and research on physician communication, this area of communication has received little attention. There is, however, evidence to indicate that patient training improves health-related outcomes, but few training programs, if any, have been established to teach communication skills to patients.
This paper reviews the research evidence about the effects of patient communication training. We focused on studies in which a communication intervention was taught to patients in an outpatient medical setting. Primary emphasis is given to the relationship between the nature of the communication intervention and the outcome(s) produced by the intervention. The relevance of this work to medical practice is discussed, and suggestions regarding future research and training are presented.

Methods

We conducted a MEDLINE search of literature published from 1975 to 2000, using the keywords “communication,” “training,” “medical education,” “instruction,” “physician,” “doctor,” and “patient relations.” We also examined relevant studies from the reference lists of articles identified by the MEDLINE search.

We included only randomized control trials (RCTs), due to the strength of the evidence produced by RCTs, as well as the fact that the overwhelming majority of studies in this area have used this design. We classified patient communication interventions as high intensive, moderate intensive, or low intensive. These categories are based on three criteria: (1) time, (2) use of live personnel, and (3) estimated cost. A high-intensive intervention might involve face-to-face patient communication training conducted by a research assistant for 15 minutes before the scheduled appointment. In this case, the intervention takes a significant amount of time, involves personnel, and therefore has a high estimated cost.

An example of a low-intensive intervention would be providing a sheet of paper to patients and instructing them to write down three questions they would like to ask the physician during the visit. This would take little time, does not involve personnel, and therefore has a low estimated cost. A moderate-intensive intervention would range in the middle between these ends of the intervention spectrum and might involve having the patient watch a 10-minute videotape or complete an extensive workbook prior to the visit with the physician.

The characteristics of each study are described in the review: features of patient and physician sample populations, type of interventions, outcomes under investigation, and the nature of results for each outcome in the study. For each outcome, interventions (I) are compared to placebo-control (PC) or control (C) conditions. Results are described as revealing either significant (ie, I>PC or I<PC) or nonsignificant (NS) differences between outcomes of interventions and controls.

Results

The database and bibliographic search produced 16 manuscripts that contained 16 studies. Most investigations (14 of 16) used a placebo control condition as a comparison group. One study compared a moderate-intensive intervention to a low-intensive intervention and also had a control group that received no intervention. Six of the 16 investigations used a high-intensive patient communication intervention (Table 1), three used a moderate-intensive intervention (Table 2), and seven examined the effect of low-intensive patient training (Table 3).

Demographics of Study Populations

Demographic information was reported in 15 of the 16 studies. Mean patient age across studies was 45.3, mean education was 12.6 years, and males and females were equally represented. Ten of the 16 studies described subjects’ racial/ethnic group status, and five reported that more than 50% of the study samples were from racial/ethnic minority groups. With the exception of the Lewis et al study, subjects were adults. This particular study was also unique in the use of an intervention that concurrently trained patients and physicians.

The mean number of physicians across studies was 13, ranging from 1 to 56. The physician sample in approximately two thirds of the investigations consisted of attending physicians working in various clinical settings, while the other third consisted of resident physicians. Patients with a specific disease, usually of a chronic nature, were a target population in approximately one third of the studies.

Variables Studies

The effect of patient training on a variety of patient outcomes was examined. The most commonly investigated types of outcome were communication variables. These included frequency of patient questions, patient provision of information, patient elicitation of information, patient verification of information, frequency of physician advice, and physician rating of the quality of the information provided by the patient.

The most prevalent communication variable studied was question asking by patients (n=10). Six of the 10 studies assessed total number of questions asked by patients, and two studies indicated that the intervention produced a significant effect. Two of the 10 investigations grouped questions into direct and indirect categories, and both found a significant effect for patients asking direct questions and a nonsignificant effect for indirect questions. One study measured patients’ intentions to ask questions and found that training significantly increased patient intentions.

Other communication variables have been examined to a lesser extent. Three studies examined the effect of training on the amount of information elicited by patients, and two found a significant effect. One study also examined communication outcomes of patient provision and patient verification of information. Significant effects were found for the amount
of information provided by patients to physicians, but training did not significantly alter the information-verifying variable (eg, patient repeating back the communication of the physician). In this same study, racial differences in the effect of the intervention on communication variables were examined. Results suggested that a moderate-intensive workbook intervention had a significantly more positive effect on communication outcomes for Caucasian, as compared to African American, patients.

Three studies\textsuperscript{17,18,21} assessed the effect of patient communication training on patients' knowledge of their disease, and none found a significant effect. Nine studies assessed satisfaction with the visit. Three studies\textsuperscript{22,27} examined intervention effects on physician satisfaction, and one found significant differences between intervention and control groups on this measure.\textsuperscript{27} Of the eight studies that investigated patient satisfaction, two found a significant intervention effect.\textsuperscript{22,27} One of these measured satisfaction of the child, parent, and physi-

### Table 1

Published Randomized Clinical Trials Using a High-intensive Communication Intervention

<table>
<thead>
<tr>
<th>Source</th>
<th>Roter, 1977\textsuperscript{16}</th>
<th># 123</th>
<th>Mean Age (Years)</th>
<th>Elderly</th>
<th>Demographics</th>
<th>Primarily poor, female, African American, hypertensives, and diabetics</th>
<th>Practice</th>
<th>Two physicians and one nurse practitioner, outpatient setting</th>
<th>Intervention</th>
<th>I=one 10-minute face-to-face training by health educator before visit; focus on question-asking protocol; assist patient in articulation of questions, rehearse questions; PC=10-minute face-to-face session on clinic services</th>
<th>Outcomes</th>
<th>Results*</th>
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<tr>
<td>Greenfield et al, 1985\textsuperscript{17}</td>
<td>45</td>
<td>55</td>
<td>91% male with a mean education level of 13 years; lower socioeconomic status, 47% employed, ulcer disease patients</td>
<td>Eight physicians at Center for Ulcer Research and Education; patients from VA hospital outpatient clinic</td>
<td>I=one 20-minute face-to-face training by research assistant, medical record review, treatment algorithm, teach negotiation skills; rehearse techniques to overcome communication barriers; patient given copy of medical record and treatment algorithm for visit; PC=20-minute review of education materials</td>
<td># questions</td>
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<td># questions</td>
<td>Patient control</td>
<td>NS</td>
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<td>I &gt; PC</td>
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<td>Information seeking</td>
<td>Patient satisfaction</td>
<td>I &gt; PC</td>
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<td>Knowledge of ulcer disease</td>
<td>Ulcer-related pain</td>
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<td>Functional status:</td>
<td>Role limits</td>
<td>I &gt; PC</td>
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<td>Role limits</td>
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<td>Patient prefers active role</td>
<td>Patient satisfaction</td>
<td>I &gt; PC</td>
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<td>Adherence keeping appointments</td>
<td>Visit length</td>
<td>NS</td>
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<tr>
<td>Greenfield et al, 1988\textsuperscript{18}</td>
<td>59</td>
<td>50</td>
<td>Equal gender mix, mean education level 13.4 years, more unemployed</td>
<td>Two university hospital clinics—diabetic clinic with eight fellows and faculty, 11 residents; general ambulatory with 37 residents</td>
<td>I=two 20-minute training sessions; same protocol as above</td>
<td>PC=20-minute review of education materials</td>
<td># questions</td>
<td>NS</td>
<td>I &gt; PC</td>
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<td>Patient involvement</td>
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<td>I &gt; PC</td>
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<td>Knowledge of diabetes</td>
<td>Glycosylated Hgb</td>
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<td>Functional status</td>
<td>Role limits</td>
<td>I &lt; PC</td>
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<td>Role limits</td>
<td>Physical limits</td>
<td>I &lt; PC</td>
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<td>Physical limits</td>
<td>Self-care</td>
<td>NS</td>
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<td>Self-care</td>
<td>Overall health</td>
<td>I &gt; PC</td>
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<td>Overall health</td>
<td>Health concerns</td>
<td>I &lt; PC</td>
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<td>Health concerns</td>
<td>Visit length</td>
<td>NS</td>
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</table>

(Continued)
Two research teams have investigated adherence to treatment outcomes, and both found significant improvement related to the intervention.\(^{16,23}\) One study used a high-intensive intervention, while the other examined both moderate-intensive and low-intensive communication training. All intervention levels produced positive results for overall adherence. The second study also examined specific components of adherence (medication, behavioral, follow-up appointments, and referrals). Findings suggested that the moderate-intensive workbook intervention produced significantly more positive results for behavioral and follow-up appointment/referral recommendations.\(^{23}\)

Affect has been measured in a few studies. Roter\(^{16}\) focused on this dimension for both patients and physicians. In an examination of the effects of a high-intensive communication intervention, findings suggested that anxiety and anger levels for patients and physician anger increased as a consequence of the intervention. Other studies have demonstrated mixed results. One study found an increase in negative affect,\(^{19}\) and two

### Table 1

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean Age (Years)</th>
<th>Demographics</th>
<th>Practice</th>
<th>Intervention</th>
<th>Outcomes</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaplan et al. 1989(^{19})</td>
<td>105 54</td>
<td>68% female; mean education level = 8 years; 62% Spanish speaking; hypertensives</td>
<td>Hypertension free clinic</td>
<td>I=one session, protocol same as above PC=same as Cegala et al and Post et al</td>
<td>Patient information seeking Patient control Functional status Diastolic blood pressure Severity of hypertension Negative affect</td>
<td>I &gt; PC</td>
</tr>
<tr>
<td>Socha McGee et al. 1998(^{20})</td>
<td>20 37</td>
<td>70% female; 70% Caucasian</td>
<td>10 family practice residents at a university-based center; each resident had one intervention and one placebo control patient</td>
<td>I=30-minute face-to-face training with health educator before the visit; focus on seeking, providing, and verifying information; PC=briefer discussion on physician-patient communication, no modeling/practice</td>
<td>Patient questions Direct Indirect Conditionally relevant Information obtained Visit length Patient recall</td>
<td>I &gt; PC</td>
</tr>
</tbody>
</table>

I—intervention
PC—placebo control
NS—nonsignificant
VA—Veteran's Administration

I > PC indicates that intervention was significantly greater than placebo control
I < PC indicates that intervention was significantly less than placebo control
### Table 2

Published Randomized Clinical Trials Using a Medium-intensive Communication Intervention

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean Age</th>
<th>Demographics</th>
<th>Practice</th>
<th>Intervention</th>
<th>Outcomes</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson et al, 1987</td>
<td>150 58</td>
<td>VA ambulatory clinic, 100% male; 60% minority, with 57% African American; education level low to moderate; hypertensive patients</td>
<td>I=two 14-minute modeling videotapes focusing on patient presenting information: 1) question-asking model, 2) disclosure model (present concerns); PC=11-minute tape, patient education; patient not shown on tape</td>
<td>Knowledge of hypertension</td>
<td>Correlation between patient satisfaction and verbalization</td>
<td>I(1) &gt; PC</td>
</tr>
<tr>
<td>Lewis et al, 1991</td>
<td>141 8.8</td>
<td>Pediatric patients and parents, gender equivalent; mean age of parents 38 years, with mean education level of 13 years; 44% single parent; 31% Caucasian</td>
<td>34 pediatric residents and fellows in two university-based outpatient clinics; pediatric residents randomly assigned to group</td>
<td>Children active in health role</td>
<td>Physician-child rapport</td>
<td>I &gt; PC</td>
</tr>
<tr>
<td>Cegala et al, 2000-2001</td>
<td>150 45</td>
<td>71% female, 67% Caucasian, mean education level of 14 years</td>
<td>25 family physicians, mean 11 years post residency, 68% male, community- and university-based clinics</td>
<td>Adherence</td>
<td>W &gt; H, H &gt; C</td>
<td>NS</td>
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</tbody>
</table>

**Notes:**
- VA—Veteran’s Administration
- I—intervention
- PC—placebo control
- NS—nonsignificant
- W—workbook
- H—handout
- C—control

I > PC indicates that intervention was significantly greater than placebo control
I < PC indicates that intervention was significantly less than placebo control
## Table 3

**Published Randomized Clinical Trials Using a Low-intensive Communication Intervention**

<table>
<thead>
<tr>
<th>Source</th>
<th><em>Mean Age (Years)</em></th>
<th>Demographics</th>
<th>Practice</th>
<th>Intervention</th>
<th>Outcomes</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tabak, 1988&lt;sup&gt;20&lt;/sup&gt;</td>
<td>67</td>
<td>80% female, mean education level=13.1 years; half unemployed; mean age=35</td>
<td>14 second- and third-year residents at a university-based family medicine clinic</td>
<td>I=booklet—encourage question asking, suggest communication strategies; 7th grade reading level; PC=patient education booklet</td>
<td>Patient satisfaction, Patient anxiety, Physician satisfaction</td>
<td>NS, I&gt;PC</td>
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<tr>
<td>Thompson et al, 1990&lt;sup&gt;27&lt;/sup&gt; Study 1</td>
<td>53</td>
<td>OB-GYN patients, primarily Caucasian, middle-to-upper class, fee-for-service</td>
<td>One OB-GYN physician</td>
<td>I=Patient given list of possible health concerns, requested to write three questions to bring to visit; PC=complete questionnaire about waiting room</td>
<td>Patient satisfaction, Patient anxiety</td>
<td>NS, I&gt;PC</td>
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<tr>
<td>Study 2</td>
<td>49</td>
<td>Equivalent to above</td>
<td>Two OB-GYN physicians</td>
<td>I=Two interventions: (1) Three question, intervention modified, checklist added; general list deleted; (2) patient received message that physician encouraged questions, not given question checklist; PC=Same as above</td>
<td>Patient satisfaction, Patient anxiety, Physician satisfaction</td>
<td>I(1)&amp;I(2)&gt;PC, NS</td>
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<td>Butow et al, 1994&lt;sup&gt;28&lt;/sup&gt;</td>
<td>142</td>
<td>84% female, 63% married, cancer patients, 56% with initial diagnosis, 57% outpatient at time of consultation</td>
<td>One medical oncologist at a university teaching hospital</td>
<td>I=patient given a handout encouraging question asking before visit; gave examples of questions and suggested that patient list and rank importance of five to six questions; PC=handout informing patient of clinical services</td>
<td># questions, Type of questions, Treatment, Diagnosis, Prognosis, History, Other, Patient satisfaction, Patient recall</td>
<td>NS, I&gt;PC</td>
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<tr>
<td>Frederikson et al, 1995&lt;sup&gt;29&lt;/sup&gt;</td>
<td>80</td>
<td>No demographics given</td>
<td>One physician, surgery consultations, United Kingdom</td>
<td>I=single-page leaflet; encourage patient to think about problem and what physician can do; tell concerns; instructed to listen and ask questions; C=no leaflet</td>
<td>Physician rating of quality of communication</td>
<td>I&gt;PC</td>
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<th>Source</th>
<th>Mean Age</th>
<th>Demographics</th>
<th>Practice</th>
<th>Intervention</th>
<th>Outcomes</th>
<th>Results*</th>
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<td>McCann et al, 1996</td>
<td>120</td>
<td>42</td>
<td>One physician, blinded to I &amp; PC groups; United Kingdom</td>
<td>I=leaflet “Speak for Yourself” in waiting room; encourage patient to ask questions and actively voice concerns; space for notes; PC=leaflet on nutrition</td>
<td>Patient satisfaction</td>
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<td>Psychiatric variables</td>
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<td>Jacobsen et al, 1999</td>
<td>318</td>
<td>63</td>
<td>93% African American, 69% female, 65% &lt; high school education, 25% uninsured</td>
<td>Ambulatory clinic of 900-bed public teaching hospital; block randomization</td>
<td>Vaccine given Discussion about vaccine</td>
<td>I &gt; PC</td>
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<td>Patient read brochure Physician recommended vaccination</td>
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I—intervention
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W—workbook
H—handout
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I > PC indicates that intervention was significantly greater than placebo control
I < PC indicates that intervention was significantly less than placebo control

others had nonsignificant findings.22,27 One study suggested that the intervention led to a significant decrease in patients’ anxiety.27

Six studies examined the effect of patient communication training on patients' sense of control.16-19,27 This construct was operationalized specifically as directing and/or controlling the interaction and generally as a positive sense of personal control. All six studies suggested that communication interventions led to a shift in the physician-patient interaction; patients assumed greater control in the visit, were more directive in the interview, and felt an enhanced sense of personal control as a result of communication training.

Finally, in most studies, patient communication training did not significantly change the length of the medical visit in seven of the eight studies that examined this outcome. The only study that indicated significant visit time differences between intervention and control groups took place in the United Kingdom, where the average outpatient visit is 8 minutes, and this may account for the finding.30

### Discussion

This review was designed to examine research on the effect of teaching patients to more effectively communicate with physicians. Overall, results from varied studies indicate that patient training leads to a variety of improvements in patient outcomes. Randomized control trials demonstrated that patient outcomes of considerable interest to medical practice, including disease-related outcomes, functional status, and adherence to treatment, were all positively influenced by patient communication interventions.

Patient communication training changed the nature of the physician-patient interaction. Interventions led patients to exhibit greater control in the medical visit and to feel a greater sense of personal control. This seemed to shift the balance of power between physician and patient. Investigators who studied the relationship between patient control and health outcomes believed that this change was responsible for patient improvements in adherence, disease-related outcomes, and functional status.16-19
The change in control and balance of power also tended to be accompanied by increased negative affect on the part of patients and physicians, as well as either significantly reduced or nonsignificant changes in satisfaction with the visit. Investigators tended to attribute findings on affect and satisfaction to a shift away from the traditional passive patient-dominant physician relationship, resulting in increased tension. It is also conceivable that meeting with a trained communications professional for 10–20 minutes before the visit led to a negative outcome in patients’ attitudes toward their physician. Interviewing patients after they train with a communication specialist may be a “tough act to follow.”

Patient communication training is soundly aligned with the patient-centered model of medical practice. A patient who is an effective communicator will be less likely to communicate indirectly through clues, and this can augment physician use of patient-centered strategies such as active listening. The goal of finding common ground can be enhanced by the patient directly sharing concerns and feelings during the interview process. An interesting question for future research is whether patient communication training leads to changes in physician interview behavior.

Directions for Future Research
Future research in this area holds considerable potential. At present, the wide variation in study design, interventions, and outcomes in these investigations hinders the ability to draw well-founded conclusions. To further establish the evidence related to patient training, it would be helpful to design studies similar to Greenfield et al18 that include baseline patient data before the intervention, so the effect of interventions could be more accurately captured.

Longitudinal and qualitative research methods would augment the evidence supporting patient communication training. To our knowledge, no such studies have examined the long-term effects of patient communication interventions. Also, the quantitative reductionist approach to knowledge generation of the RCTs reviewed in this paper is limiting. Patient-physician communication is a relational process, and qualitative methods can be used to determine the “inner realities” of persons engaged in the encounter.23 Combining qualitative and quantitative research approaches could illuminate the complexities involved in the interaction of both halves of the whole.

In addition, rather than a global, unidimensional approach to patient interventions, it would be worthwhile to test training modalities that are individually tailored to patients’ needs. Effects might be different for patients with varied demographic and personality profiles and who are at different stages of readiness to change.34 Also, studies suggest that patients possess widely varying information needs.35 The patient who wants to know little and is passive in the visit has vastly different needs from the patient who wants to know everything and brings multiple articles off the Internet to the visit. An important and difficult research question to answer is what intervention, for what patient, at what time, and in what setting, is most effective.

To our knowledge, none of the studies on patient-physician communication have included a cost-effectiveness analysis. While the research investigations using high-intensive interventions tended to be exemplary in their focus on adherence, disease outcomes, and functional status, the interventions were costly and labor intensive. However, the intervention could potentially produce cost savings in important long-term health outcomes and be a worthwhile investment.

Conclusions
Increasingly, a participatory model of health care has been endorsed.36 Patient self-management is becoming the mainstay of therapy for many chronic diseases. As patients live longer, increasingly cope with chronic disease, and are bombarded by information from the media and the Internet, the need for an active, productive patient role becomes essential. Our review suggests that patient communication training can help fulfill this need.

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