

ANNOTATED BIBLIOGRAPHY
for
Clinician Patient Communication
to Enhance Health Outcomes



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I. COMMUNICATION IS AN ESSENTIAL PART OF HEALTH CARE

Accreditation Council for Graduate Medical Education. (2005). Outcome Project. Retrieved December 21, 2008, from <http://www.acgme.org/outcome/comp/compFull.asp>

ACGME Competencies state that graduate medical education programs must integrate the following ACGME competencies into the curriculum:

- Patient Care: Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
- Medical Knowledge : Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.
- Practice-based Learning and Improvement: Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.
- Interpersonal and Communication Skills: Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.
- Professionalism : Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.
- Systems-based Practice : Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

Association of American Medical Colleges (AAMC). (2002). The Clinical Education of Medical Students. Report of Millennium Conferences I & II. Retrieved March 25, 2006, from <http://www.aamc.org/meded/clinicalskills/clinicalskillsconferences.pdf>

Institute of Medicine. Committee on Quality of Health Care in America. (2001). Crossing the quality chasm: A new health system for the 21st century. Washington, D.C.: National Academy Press.

This report from the committee on the Quality of Health Care in America makes an urgent call for fundamental change to close the quality gap, recommends a redesign of the American health care system, and provides overarching principles for specific direction for policymakers, health care leaders, clinicians, regulators, purchasers, and others. It offers a set of performance expectations for the 21st century health care system, a set of 10 new rules to guide patient-clinician relationships, a suggested organizing framework to better align incentives inherent in payment and accountability with improvement in quality, and key steps to promote evidence-based practice and strengthen clinical information systems. Analyzing health care organizations as complex systems, this report also documents the causes of the quality gap, identifies current practices that impede quality care, and explores how systems approaches can be used to implement change.

Institute of Medicine. (2003). Health professions education: A bridge to quality. Washington, D.C.: National Academy Press.

On June 17-18, 2002 over 150 leaders and experts from health professions education, regulation, policy, advocacy, quality, and industry attended the Health Professions Education Summit to discuss and help the committee develop strategies for restructuring clinical education to be consistent with the principles of the 21st-century health system.

The report says that doctors, nurses, pharmacists and other health professionals are not being adequately prepared to provide the highest quality and safest medical care possible, and there is insufficient assessment of their ongoing proficiency.

Educators and accreditation, licensing and certification organizations should ensure that students and working professionals develop and maintain proficiency in five core areas:

- delivering patient-centered care,
- working as part of interdisciplinary teams,
- practicing evidence-based medicine,
- focusing on quality improvement and
- using information technology.

***Makoul, G. (2001). Essential elements of communication in medical encounters: The Kalamazoo consensus statement. *Academic Medicine: Journal of the Association of American Medical Colleges*, 76(4) 390-393.**

In May 1999, 21 leaders and representatives from major medical education and professional organizations attended an invitational conference jointly sponsored by the Institute for Healthcare Communication and the Fetzer Institute. The participants focused on delineating a coherent set of essential elements in physician-patient communication to: (1) facilitate the development, implementation, and evaluation of communication-oriented curricula in medical education and (2) inform the development of specific standards in this domain. Since the group included architects and representatives of five currently used models of doctor-patient communication, participants agreed that the goals might best be achieved through review and synthesis of the models. Presentations about the five models encompassed their research base, overarching views of the medical encounter, and current applications. All attendees participated in discussion of the models and common elements. Written proceedings generated during

the conference were posted on an electronic listserv for review and comment by the entire group. A three-person writing committee synthesized suggestions, resolved questions, and posted a succession of drafts on a listserv. The current document was circulated to the entire group for final approval before it was submitted for publication. The group identified seven essential sets of communication tasks: (1) build the doctor-patient relationship; (2) open the discussion; (3) gather information; (4) understand the patient's perspective; (5) share information; (6) reach agreement on problems and plans; and (7) provide closure. These broadly supported elements provide a useful framework for communication-oriented curricula and standards.

Platt, F. W., Gordon G. H.(2004) *Field Guide to the Difficult Patient Interview (2nd Edition)*. Philadelphia, Lippincott Williams & Wilkins

DESCRIPTION OF CONTEXT: A concise textbook for medical trainees or those in practice who want practical skills on the approach to a patient-provider interaction.

TOPIC/SCOPE: The book is divided into seven "Parts". The first section focuses on the basic skills necessary for a patient-centered encounter, with particular emphasis on building rapport through the use of empathy, listening skills and nonverbal communication. The subsequent sections build on the complexity of a variety of encounters such as dealing with patient emotions, difficult relationships, delivering bad news, etc. Each section builds on the foundation set in Part I by adding additional interviewing tools and insight into what the patient brings to the encounter.

CONCLUSION/RECOMMENDATIONS: Knowing the person who is the patient is essential to successful patient-provider interactions, particularly in the setting of challenging encounters. Empathy is the "universal tool" on which all providers should rely and it is the key to establishing rapport. Specific situations may require additional skills but the fundamental patient-centered skills are the key to success in most encounters.

Tongue, J. R., Epps, H. R., Forese, L. L. (2005). Communication skills for patient-centered care. *Journal of Bone and Joint Surgery, 87A(3), 652-658.*

Surveys of American Academy of Orthopaedic Surgeons members and patients indicate that orthopaedic surgeons are "high tech, low touch." According to patients and colleagues surveyed, orthopaedic surgeons are given high ratings by patients and colleagues for their skills in the operating room, but their listening and communication skills can be improved upon; they could listen better and show more empathy for their patients. Communication affects patient satisfaction, adherence to treatment, and physician satisfaction. Communication problems have also been cited as the most common factor in the initiation of malpractice suits. All orthopaedic surgeons can benefit from improving their communication skills.

II. EFFECTIVE COMMUNICATION HAS MULTIPLE IMPACTS

A. Health, Functional, and Emotional Status

Adams, R. J., Smith, B. J., & Ruffin, R. E. (2001). Impact of the physician's participatory style in asthma outcomes and patient satisfaction. *Annals of Allergy, Asthma & Immunology : Official Publication of the American College of Allergy, Asthma, & Immunology, 86(3) 263-271.*

OBJECTIVES: To identify factors associated with asthma patients' perceptions of the propensity of pulmonologists to involve them in treatment decision-making, and its association with asthma outcomes.

DESIGN: Cross-sectional observational study performed from June 1995 to December 1997.

SETTING: Pulmonary unit of a university teaching hospital.

PATIENTS: Adult patients with asthma (n = 128).

MEASUREMENTS AND RESULTS: By patient self-report, mean physician's participatory decision-making (PDM) style score was 72 (maximum 100, 95% CI 65, 79). PDM scores were significantly correlated (P < .0001) with the duration of clinic visits (r = .63), patient satisfaction (r = .53), duration of tenure of doctor-patient relationship (r = .37), and formal education (r = .22, P = .023). Significantly higher PDM style scores were reported when visits lasted longer than 20 minutes and when a patient had a >6-month relationship with a particular doctor. PDM scores were also significantly correlated with possession of a written asthma action plan (r = .54, P < .0001), days affected by asthma (r = .36, P = .0001), asthma symptoms (r = .23, P = .017), and preferences for autonomy in asthma management decisions (r = .28, P = .0035). Those with PDM scores <50 reported significantly lower quality of life for all domains of a disease-specific instrument and the Short-Form 36 health survey version 1.0. In multiple regression analysis, PDM style was associated with the length of the office visit and the duration of tenure of the physician-patient relationship (R² = 0.47, P = .0009). The adjusted odds ratio, per standard deviation decrease in PDM scores, for an asthma hospitalization was 2.0 (95% CI 1.2, 3.2) and for rehospitalization was 2.5 (95% CI 1.2, 4.2).

CONCLUSIONS: Patients' report of their physician's PDM style is significantly associated with health-related quality of life, work disability, and recent need for acute health services. Organizational factors, specifically longer visits and more time seeing a particular physician, are independently associated with more participatory visits. This has significant policy implications for asthma management.

DiMatteo, M. R., Giordani, P. J., Lepper, H. S., & Croghan, T. W. (2002). *Patient adherence and medical treatment outcomes: A meta-analysis. Medical Care, 40(9)* 794-811.

BACKGROUND: Adherence is a factor in the outcome of medical treatment, but the strength and moderators of the adherence-outcome association have not been systematically assessed.

OBJECTIVES: A quantitative review using meta-analysis of three decades of empirical research correlating adherence with objective measures of treatment outcomes.

METHOD: Sixty-three studies assessing patient adherence and outcomes of medical treatment were found involving medical regimens recommended by a nonpsychiatrist physician, and measuring patient adherence and health outcomes. Studies were analyzed according to disease (acute/chronic, severity), population (adult/child), type of regimen (preventive/treatment, use of medication), and type and sensitivity of adherence and outcomes measurements.

RESULTS: Overall, the outcome difference between high and low adherence is 26%. According to a stringent random effects model, adherence is most strongly related to outcomes in studies of nonmedication regimens, where measures of adherence are continuous, and where the disease is chronic (particularly hypertension, hypercholesterolemia, intestinal disease, and sleep apnea). A less stringent fixed effects model shows a trend for higher adherence-outcome correlations in studies of less serious conditions, of pediatric patients, and in those studies using self-reports of adherence, multiple measures of adherence, and less specific measures of outcomes. Intercorrelations among moderator variables in multiple regression show that the best predictor of the adherence-outcome relationship is methodological-the sensitivity/quality of the adherence assessment.

Fallowfield, L. J., Hall, A., Maguire, G. P., & Baum, M. (1990). *Psychological outcomes of different treatment policies in women with early breast cancer outside a clinical trial. BMJ (Clinical Research Ed.), 301(6752)* 575-580.

OBJECTIVES: To assess outside a clinical trial the psychological outcome of different treatment policies in women with early breast cancer who underwent either mastectomy or breast conservation surgery depending on the surgeon's opinion or the patient's choice. To determine whether the extent of psychiatric morbidity reported in women who underwent breast conservation surgery was associated with their participation in a randomized clinical trial.

DESIGN: Prospective, multicentre study capitalizing on individual and motivational differences among patients and the different management policies among surgeons for treating patients with early breast cancer.

SETTING: 12 District general hospitals, three London teaching hospitals, and four private hospitals.

PATIENTS: 269 Women under 75 with a probable diagnosis of stage I or II breast cancer who were referred to 22 different surgeons.

INTERVENTIONS: Surgery and radiotherapy or adjuvant chemotherapy, or both, depending on the individual surgeon's stated preferences for managing early breast cancer.

MAIN OUTCOME MEASURES: Anxiety and depression as assessed by standard methods two weeks, three months, and 12 months after surgery.

RESULTS: Of the 269 women, 31 were treated by surgeons who favoured mastectomy, 120 by surgeons who favoured breast conservation, and 118 by surgeons who offered a choice of treatment. Sixty two of the women treated by surgeons who offered a choice were eligible to choose their surgery, and 43 of these chose breast conserving surgery. The incidences of anxiety, depression, and sexual dysfunction were high in all treatment groups. There were no significant differences in the incidences of anxiety and depression between women who underwent mastectomy and those who underwent lumpectomy. A significant effect of surgeon type on the incidence of depression was observed, with patients treated by surgeons who offered a choice showing less depression than those treated by other surgeons ($p = 0.06$). There was no significant difference in psychiatric morbidity between women treated by surgeons who offered a choice who were eligible to choose their treatment and those in the same group who were not able to choose. Most of the women (159/244) gave fear of cancer as their primary fear rather than fear of losing a breast. The overall incidences of psychiatric morbidity in women who underwent mastectomy and those who underwent lumpectomy were similar to those found in the Cancer Research Campaign breast conservation study. At 12 months 28% of women who underwent mastectomy in the present study were anxious compared with 26% in the earlier study, and 27% of women in the present study who underwent lumpectomy were anxious compared with 31% in the earlier study. In both the present and earlier study 21% of women who underwent mastectomy were depressed, and 19% of women who underwent lumpectomy in the present study were depressed compared with 27% in the earlier study.)

CONCLUSIONS: There is still no evidence that women with early breast cancer who undergo breast conservation surgery have less psychiatric morbidity after treatment than those who undergo mastectomy. Women who surrender autonomy for decision making by agreeing to participate in randomized clinical trials do not experience any different psychological, sexual, or social problems from those women who are treated for breast cancer outside a clinical trial.

Greenfield, S., Kaplan, S. H., Ware, J. E., Jr, Yano, E. M., & Frank, H. J. (1988). *Patients' participation in medical care: Effects on blood sugar control and quality of life in diabetes. Journal of General Internal Medicine : Official Journal of the Society for Research and Education in Primary Care Internal Medicine, 3(5)* 448-457.

To maximize disease control, patients must participate effectively in their medical care. The authors developed an intervention designed to increase the involvement of patients in medical decision making. In a 20-minute session just before the regular visit to a physician, a clinic assistant reviewed the medical record of each experimental patient with him/her, guided by a diabetes algorithm.

Using systematic prompts, the assistant encouraged patients to use the information gained to negotiate medical decisions with the doctor. A randomized trial was conducted in two university hospital clinics to compare this intervention with standard educational materials in sessions of equal length. The mean pre-intervention glycosylated hemoglobin (HbA1) values were 10.6 +/- 2.1% for 33 experimental patients and 10.3 +/- 2.0% for 26 controls. After the intervention the mean levels were 9.1 +/- 1.9% in the experimental group (p less than 0.01) and 10.6 +/- 2.22% for controls. Analysis of audiotapes of the visits to the physician showed the experimental patients were twice as effective as controls in eliciting information from the physician. Experimental patients reported significantly fewer function limitations. The authors conclude that the intervention is feasible and that it changes patient behavior, improves blood sugar control, and decreases functional limitations.

Hall, J. A., Horgan, T. G., Stein, T. S., & Roter, D. L. (2002). Liking in the physician-patient relationship. *Patient Education and Counseling*, 48(1) 69-77.

OBJECTIVE: To measure both physician's and patient's liking for each other and the correlates of liking including sociodemographic characteristics of each, mutual satisfaction, patient rating of physician behaviors, and patient's health status and post-visit affective state as rated by both physician and patient.

DESIGN: Survey-Questionnaire completed by physicians and patients.

Setting: Northern California Region (Kaiser Permanente)

Subjects: Patient sample included 261 individuals with diabetes mellitus type II (50% male, mean age of 59 years, 55% Caucasian, 19% Asian, 15% Hispanic, 11% other). Physician sample included 44 internists, (55% male, mean age for male = 46 years and female = 41 years, 63% Caucasian, 30% Asian, 2.3% African-American, 2.3% Hispanic and 2.3% other).

Intervention: None.

MEASURES: Patient questionnaire consisted of 27 items addressing liking, patient satisfaction with visit, affective state following the visit, description of physician behavior, patient's general health status. All items used Likert scale response. Physician questionnaire consisted of 12 items addressing liking, physician satisfaction with visit, rating of patients' affective state, and rating of patients' health status. All items used Likert scale response. Follow up questionnaire to patients mailed one-year post-visit included items assessing patient satisfaction with their physician (Likert scale), and whether they had considered changing their primary care physician during the year (yes/no response).

Results: The physician's liking for the patient was positively associated with better patient health, more positive patient affective state following the visit, more favorable patient ratings of physician behaviors, greater patient satisfaction with the visit, and greater physician satisfaction with the visit. Patient's liking of the physician was positively associated with better self-reported health, a more positive affective state following the visit, more favorable ratings of physician behaviors, and greater satisfaction with the visit. Female physicians reported liking their patients more than male physicians did, and patients ratings of how much they felt liked corroborated this difference.

Conclusions/Recommendations: Physicians should make efforts to monitor how much they like their patients so they can avoid both favoritism toward especially liked patients and negative behavior toward those whom they like less. Since patients are generally accurate in appraising whether their physicians like them should make physicians especially vigilant about monitoring their own behavior. In addition, physicians are liked less when patients perceive them to have communicated less than optimally. Thus, attention to good communication, including training in communication, could contribute to liking.

Heisler, M., Bouknight, R. R., Hayward, R. A., Smith, D. M., & Kerr, E. A. (2002). The relative importance of physician communication, participatory decision-making, and patient understanding in diabetes self-management. *Journal of General Internal Medicine*, 17, 243-252.

OBJECTIVE: Patient's self-management practices have substantial consequences on morbidity and mortality in diabetes. While the quality of patient-physician relations has been associated with improved health outcomes and functional status. Little is known about the impact of different patient-physician interaction styles on patients' diabetes self-management. This study assessed the influence of patients' evaluation of their physicians' participatory decision-making style, rating of physician communication, and reported understanding of diabetes, self-care on their self-reported diabetes.

DESIGN: We surveyed 2,000 patients receiving diabetes care across 25 Veterans Affairs facilities. We measured patients' evaluations of provider participatory decision making with a 4-item scale. Using multivariable linear regression, we examined self-management with the independent association of PDMstyle, PCOM, and Understanding.

CONCLUSIONS: For these patients, ratings of providers' communication effectiveness were more important than a participatory decision-making style in predicting diabetes self-management. Reported understanding of self-care behaviors was highly predictive of an attenuated the effect of both PDMstyle and PCOM on self-management, raising the possibility that both provider styles enhance self-management through increased patient understanding or self-confidence.

Joos, S. K., Hickam, D. H., Gordon, G. H., & Baker, L. H. (1996). Effects of a physician communication intervention on patient care outcomes. *Journal of General Internal Medicine : Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 11(3) 147-155.

OBJECTIVE. To determine whether an intervention designed to improve patient-physician communication increases the frequency with which physicians elicit patients' concerns, changes other communication behaviors, and improves health care outcomes.

DESIGN. Pretest-posttest design with random assignment of physicians to intervention or control groups.

SETTING. General medicine clinics of a university-affiliated Veterans Affairs Hospital.

PATIENTS/PARTICIPANTS. Forty-two physicians and 348 continuity care patients taking prescription medications for chronic medical conditions.

INTERVENTIONS. Intervention group physicians received 4.5 hours of training on eliciting and responding to patients' concerns and requests, and their patients filled out the Patient Requests for Services Questionnaire prior to a subsequent clinic visit. Control group physicians received 4.5 hours of training in medical decision-making.

MEASUREMENTS AND MAIN RESULTS. The frequency with which physicians elicited all of a patient's concerns increased in the intervention group as compared with the control group ($p = .032$). Patients' perceptions of the amount of information received from the physician did increase significantly ($p < .05$), but the actual magnitude of change was small. A measure of patient satisfaction with the physicians was high at baseline and also showed no significant change after the intervention. Likewise, the intervention was not associated with changes in patient compliance with medications or appointments, nor were there any effects on outpatient utilization.

CONCLUSIONS. A low-intensity intervention changed physician behavior but had no effect on patient outcomes such as satisfaction, compliance, or utilization. Interventions may need to focus on physicians and patients to have the greatest effect.

Kaplan, S. H., Greenfield, S., & Ware, J. E., Jr. (1989). Assessing the effects of physician-patient interactions on the outcomes of chronic disease. *Medical Care*, 27(3 Suppl) S110-127.

Growing interest in the doctor-patient relationship focuses attention on the specific elements of that relationship that affect patients' health outcomes. Data are presented for four clinical trials conducted in varied practice settings among chronically ill patients differing markedly in sociodemographic characteristics. These trials demonstrated that "better health" measured physiologically (blood pressure or blood sugar), behaviorally (functional status), or more subjectively (evaluations of overall health status) was consistently related to specific aspects of physician-patient communication. We conclude that the physician-patient relationship may be an important influence on patients' health outcomes and must be taken into account in light of current changes in the health care delivery system that may place this relationship at risk.

Kehlet, H., & Wilmore, DW (2002). Multimodal strategies to improve surgical outcome. *American Jour of Surgery*, 183(6) 630-641.

OBJECTIVE: To evaluate the effect of modifying perioperative care in noncardiac surgical patients on morbidity, mortality, and other outcome measures.

BACKGROUND: New approaches in pain control, introduction of techniques that reduce the perioperative stress response, and the more frequent use of minimal invasive surgical access have been introduced over the past decade. The impact of these interventions, either alone or in combination, on perioperative outcome was *evaluated*. **METHODS:** We searched Medline for the period of 1980 to the present using the key terms fast track surgery, accelerated care programs, postoperative complications and preoperative patient preparation; and we examined and discussed the articles that were identified to include in this review. This information was supplemented with our own research on the mediators of the stress response in surgical patients, the use of epidural anesthesia in elective operations, and pilot studies of fast track surgical procedures using the multimodality approach.

RESULTS: The introduction of newer approaches to perioperative care has reduced both morbidity and mortality in surgical patients. In the future, most elective operations will become day surgical procedures or require only 1 to 2 days of postoperative hospitalization. Reorganization of the perioperative team (anesthesiologists, surgeons, nurses, and physical therapists) will be essential to achieve successful fast track surgical programs.

CONCLUSIONS: Understanding perioperative pathophysiology and implementation of care regimes to reduce the stress of an operation, will continue to accelerate rehabilitation associated with decreased hospitalization and increased satisfaction and safety after discharge. Developments and improvements of multimodal interventions within the context of "fast track" surgery programs represents the major challenge for the medical professionals working to achieve a "pain and risk free" perioperative course.

Kinmonth, A. L., Spiegel, N., & Woodcock, A. (1996). Developing a training programme in patient-centred consulting for evaluation in a randomised controlled trial; diabetes care from diagnosis in British primary care. *Patient Education and Counseling*, 29(1) 75-86.

AIM: To develop a feasible/theoretically based training programme in patient-centred consulting, for evaluation in a randomised controlled trial of diabetes care from diagnosis.

METHODS: The programme was developed with four primary care teams and their patients in an action research framework, with observation of diabetes review consultations before and after training, and evaluated by questionnaire after each training session, among 23 general practitioners and 32 practice nurses from 21 practices in the trial.

RESULTS: The observation study identified opportunities and obstacles to introducing a patient-centred approach into daily practice, especially in relation to time management and skill needs. The modified training programme was rated highly by participating general practitioners and nurses.

CONCLUSIONS: Developing training programmes with the help of participating primary care teams ensures relevance and feasibility. Patient-centred consulting demands a shift from habitual consulting patterns. Practitioners are implementing the approach in practice, and the impact on patients is now under evaluation in the randomised controlled trial.

Kinmonth, A. L., Woodcock, A., Griffin, S., Spiegel, N., & Campbell, M. J. (1998). Randomised controlled trial of patient centred care of diabetes in general practice: Impact on current wellbeing and future disease risk. the diabetes care from diagnosis research team. *BMJ (Clinical Research Ed.)*, 317(7167) 1202-1208.

OBJECTIVE: To assess the effect of additional training of practice nurses and general practitioners in patient centred care on the lifestyle and psychological and physiological status of patients with newly diagnosed type 2 diabetes.

DESIGN: Pragmatic parallel group design, with randomisation between practice teams to routine care (comparison group) or routine care plus additional training (intervention group); analysis at one year, allowing for practice effects and stratifiers; self reporting by patients on communication with practitioners, satisfaction with treatment, style of care, and lifestyle.

SETTING: 41 practices (21 in intervention group, 20 in comparison group) in a health region in southern England.

SUBJECTS: 250/360 patients (aged 30-70 years) diagnosed with type 2 diabetes and completing follow up at one year (142 in intervention group, 108 in comparison group).

INTERVENTION: 1.5 days' group training for the doctors and nurses-introducing evidence for and skills of patient centred care and a patient held booklet encouraging questions.

MAIN OUTCOME MEASURES: Quality of life, wellbeing, haemoglobin A1c and lipid concentrations, blood pressure, body mass index (kg/m²).

RESULTS: Compared with patients in the C group, those in the intervention group reported better communication with the doctors (odds ratio 2.8; 95% confidence interval 1.8 to 4.3) and greater treatment satisfaction (1.6; 1.1 to 2.5) and wellbeing (difference in means (d) 2.8; 0.4 to 5.2). However, their body mass index was significantly higher (d=2.0; 0.3 to 3.8), as were triglyceride concentrations (d=0.4 mmol/l; 0.07 to 0.73 mmol/l), whereas knowledge scores were lower (d=-2.74; -0.23 to -5.25). Differences in lifestyle and glycaemic control were not significant.

CONCLUSIONS: The findings suggest greater attention to the consultation process than to preventive care among trained practitioners; those committed to achieving the benefits of patient centred consulting should not lose the focus on disease management.

Klonoff, D. C., & Schwartz, D. M. (2000). An economic analysis of interventions for diabetes. *Diabetes Care*, 23(3) 390-404.

The objective of this article is to stratify interventions for diabetes according to their economic impact. We conducted a review of the literature to select articles that performed a cost-benefit analysis for 17 widely practiced interventions for diabetes. A scale for categorizing interventions according to their economic impact was defined. The 17 interventions were classified as follows: 1) clearly cost-saving, 2) clearly cost-effective, 3) possibly cost-effective, 4) non-cost-effective, or 5) unclear. Clearly cost-saving interventions included eye care and pre-conception care. Clearly cost-effective interventions included nephropathy prevention in type 1 diabetes and improved glycaemic control. Possibly cost-effective interventions included nephropathy prevention in type 2 diabetes and self-management training. Non-cost-effective interventions were not identified. Interventions with unclear economic impact included case management, medical nutrition therapy, self-monitoring of blood glucose, foot care, blood pressure control, blood lipid control, smoking cessation, exercise, weight loss, HbA1c measurement, influenza vaccination, and pneumococcus vaccination. Widely practiced interventions for patients with diabetes can be clearly cost-saving and clearly cost-effective. These practices are attractive from both a medical and an economic perspective.

Maly, R. C., Bourque, L. B., & Engelhardt, R. F. (1999). A randomized controlled trial of facilitating information giving to patients with chronic medical conditions: Effects on outcomes of care. *The Journal of Family Practice*, 48(5) 356-363.

BACKGROUND: The purpose of this study was to assess the impact of an intervention to facilitate information giving to patients with chronic medical conditions on outcomes of care.

METHODS: A consecutive sample of 276 eligible patients with chronic medical conditions at a family medicine clinic was randomized to control and experimental interventions. A total of 205 completed the study. Experimental group patients received copies of their medical record progress notes, and they completed question lists for physician review, while control group patients received health education sheets and completed suggestion lists for improving clinic care. Self-reported physical functioning, global health, and patient satisfaction and adherence were measured at enrollment and after the interventions. Visit lengths and patient response to medical record sharing after the interventions were also measured.

RESULTS: After the intervention, experimental group patients reported 3.7% better overall physical functioning than did control patients (mean = 83.6, standard deviation [SD] = 17.6 vs. mean = 79.9, SD = 25.3; P = .005 after adjusting for covariates). The experimental group was more satisfied with their physician's care (mean = 31.4, SD = 4.6 vs. mean = 31.3, SD = 5.2; P = .045 after adjusting for covariates). They were also more interested in seeing their medical records than were control patients (mean = 12.0, SD = 2.8 vs. mean = 11.2, SD = 2.8; P = .002 after adjusting for covariates). Experimental group patients also reported an 8.3% improvement in overall health status (postintervention mean = 3.0, SD = 1.1) compared with their pre-intervention health status (mean = 2.8, SD = 1.0; P = .001). Visit lengths for patients in the experimental group did not differ from those of the control group.

CONCLUSIONS: A simple patient-centered intervention to facilitate information giving in the primary health care of patients with chronic medical conditions can improve self-reported health, physical functioning, and satisfaction with care.

Marvel, M. K., Epstein, R. M., Flowers, K., & Beckman, H. B. (1999). Soliciting the patient's agenda: Have we improved? *Journal of American Medical Association, 282*(10), 942-943.

CONTEXT: Previous research indicates physicians frequently choose a patient problem to explore before determining the patient's full spectrum of concerns.

OBJECTIVE: To examine the extent to which experienced family physicians in various practice settings elicit the agenda of concerns patients bring to the office.

DESIGN: A cross-sectional survey using linguistic analysis of a convenience sample of 264 patient-physician interviews.

SETTING AND PARTICIPANTS: Primary care offices of 29 board-certified family physicians practicing in rural Washington (n = 1; 3%), semirural Colorado (n = 20; 69%), and urban settings in the United States and Canada (n = 8; 27%). Nine participants had fellowship training in communication skills and family counseling.

MAIN OUTCOME MEASURES: Patient-physician verbal interactions, including physician solicitations of patient concerns, rate of completion of patient responses, length of time for patient responses, and frequency of late-arising patient concerns.

RESULTS: Physicians solicited patient concerns in 199 interviews (75.4%). Patients' initial statements of concerns were completed in 74 interviews (28.0%). Physicians redirected the patient's opening statement after a mean of 23.1 seconds. Patients allowed to complete their statement of concerns used only 6 seconds more on average than those who were redirected before completion of concerns. Late-arising concerns were more common when physicians did not solicit patient concerns during the interview (34.9% vs 14.9%). Fellowship-trained physicians were more likely to solicit patient concerns and allow patients to complete their initial statement of concerns (44% vs 22%).

CONCLUSIONS: Physicians often redirect patients' initial descriptions of their concerns. Once redirected, the descriptions are rarely completed. Consequences of incomplete initial descriptions include late-arising concerns and missed opportunities to gather potentially important patient data. Soliciting the patient's agenda takes little time and can improve interview efficiency and yield increased data.

Meland, E., Laerum, E., & Ulvik, R. J. (1997). Effectiveness of two preventive interventions for coronary heart disease in primary care. *Scandinavian Journal of Primary Health Care, 15*(1) 57-64.

OBJECTIVES: 1. To compare a patient-centred, self-directive intervention with conventional care; 2. To evaluate longitudinal within-group changes of coronary heart disease risk.

METHODS: Risk factor changes were evaluated in 110 men with high coronary heart disease risk attending a one year intervention study in general practice. The 22 participating general practice centres were randomly allocated to follow either a patient-centred, self-directive intervention or a conventional approach.

RESULTS: No significant between-group differences were found in any single risk factor or in the combined risk of coronary heart disease. The improvement of total risk from screening time to conclusion of the study corresponded with changes of relative risks of CHD to 0.64 (95% CI: 0.54-0.77) and 0.65 (0.54-0.77) in the patient-centred, self-directive and the conventional care group respectively (p < 0.0001 in both groups).

CONCLUSION: Everyday general practice clinical work seems as efficacious as a specific intervention method based on currently advocated behaviour change principles.

Rabinowitz, I., Tamir, R., & Reis, A. (2004). Length of patient's monologue, rate of completion, and relation to other components of the clinical encounter. *British Medical Journal, 328*, 501-502.

OVERVIEW: The patient's opening statement in a consultation (the patient's monologue) is an important part of history taking, and doctors are encouraged not to interrupt the patient—but they often do, probably because they think that the patient's monologue is time consuming. When uninterrupted, patients conclude their monologue in less than 30 seconds in primary care and about 90 seconds in consultant settings. The researchers assessed encounters in primary care that included a new clinical problem, recording the length and rate of completion of patients' monologues before and after instructing doctors not to interrupt.

Rhoades, D. R., McFarland, K. F., Finch, W. H., & Johnson, A. O. (2001). Speaking and interruptions during primary care office visits. *Family Medicine, 33*(7), 528-532.

Background: Patients and physicians value effective communication and consider it an essential part of the medical encounter. This study examined physician-patient communication patterns, and interruptions in communication, during patient visits with family practice and internal medicine residents.

Methods: Observational data obtained from 60 routine primary care office visits included the time that resident physicians and patients spoke and the number and types of interruptions. A total of 22 family practice and internal medicine residents participated, 9 from family practice and 13 from internal medicine.

Results: Patients spoke, uninterrupted, an average of 12 seconds after the resident entered the room. One fourth of the time, residents interrupted patients before they finished speaking. Residents averaged interrupting patients twice during a visit. The time with patients averaged 11 minutes, with the patient speaking for about 4 minutes. Computer use during the office visit accounted for more interruptions than beepers. Verbal interruptions, a knock on the door, beeper interruptions, and computer use all interfered with communication, and increased frequency of interruptions are associated with less favorable patient perceptions of the office visit. Female residents interrupted their patients less often than did male physicians. All residents interrupted female patients more often than male patients. Early and increased interruptions were associated with patients' perception that they should have talked more. Third-year residents interrupted patients less frequently than did first-year residents.

Conclusions: Numerous interruptions occurred during office visits. Gender was associated with the pattern of interruptions. Physicians frequently interrupted patients before the patients were finished speaking. Computer use also interrupted physician-patient communication.

Rost, K. M., Flavin, K. S., Cole, K., & McGill, J. B. (1991). Change in metabolic control and functional status after hospitalization. impact of patient activation intervention in diabetic patients. *Diabetes Care, 14(10) 881-889.*

OBJECTIVE: To determine whether a short intervention to enhance patient information seeking and decision making during hospitalization results in improved metabolic control and functional status in patients with diabetes mellitus.

RESEARCH DESIGN AND METHODS: A randomized clinical trial was conducted in which control patients received a comprehensive 3-day evaluation and educational program, whereas experimental patients received a 45-min patient activation intervention and a 1-h self-administered booster in addition to the program. Metabolic control and functional status were measured at baseline and 4 mo postdischarge.

RESULTS: During their discharge discussions, experimental patients asked significantly more questions than control patients (7.4 vs. 3.0, P less than .001) and 4 mo later reported significantly fewer physical limitations in activities of daily living than the control group ($P = 0.02$). Improvement in metabolic control was statistically significant only for experimental patients ($P = 0.02$), although their glycosylated hemoglobin levels were not significantly lower than control patients' at follow-up. The intervention did not diminish physician satisfaction with patient interactions, although it may have increased physician frustration with responsibilities that competed with patient care.

CONCLUSIONS: These results suggest that the addition of a patient activation intervention to a comprehensive diabetes management program may substantially enhance physical functioning among adults with diabetes mellitus.

Roter, D. (2000). The enduring and evolving nature of the patient-physician relationship. *Patient Education and Counseling, 39(1) 5-15.*

Just as the molecular and chemistry oriented sciences were adopted as the 20th century medical paradigm, incorporation of the patient's perspective into a relationship-centered medical paradigm has been suggested as appropriate for the 21st century. It is the medical dialogue that provides the fundamental vehicle through which the paradigmatic battle of perspectives is waged and the therapeutic relationship is defined. In many regards, the primary challenge to the field is the development of operationally defined and measurable indicators of medical communication that will provide a valid representation of the conceptual models of the therapeutic relationship. The purpose of this essay is to explore the implications of a relationship-centered medical paradigm on the nature of the patient-physician relationship and its expression in the communication of routine medical practice. An organizing framework for distinguishing commonly measured communication elements into conceptually distinct components is suggested. Application of this framework is illustrated through an empirical study of communication in primary care practice. The results of the study demonstrate the usefulness of this approach in linking communication to models of therapeutic relationships. The importance of medical communication is further explored in a summary of studies that establish its association to outcomes and in an overview of future challenges to the field.

Roter, D. L., Hall, J. A., Kern, D. E., Barker, L. R., Cole, K. A., & Roca, R. P. (1995). Improving physicians' interviewing skills and reducing patients' emotional distress. A randomized clinical trial. *Archives of Internal Medicine, 155(17) 1877-1884.*

BACKGROUND: Despite high prevalence, emotional distress among primary care patients often goes unrecognized during routine medical encounters.

OBJECTIVE: To explore the effect of communication-skills training on the process and outcome of care associated with patients' emotional distress.

METHODS: A randomized, controlled field trial was conducted with 69 primary care physicians and 648 of their patients. Physicians were randomized to a no-training control group or one of two communication-skills training courses designed to help physicians address patients' emotional distress. The two training courses addressed communication through problem-defining skills or emotion-handling skills. All office visits of study physicians were audiotaped until five emotionally distressed and five nondistressed patients were enrolled based on patient response to the General Health Questionnaire. Physicians were also audiotaped interviewing a simulated patient to evaluate clinical proficiency. Telephone monitoring of distressed patients for utilization of medical services and General Health Questionnaire scores was conducted 2 weeks, 3 months, and 6 months after their audiotaped office visits.

RESULTS: Audiotape analysis of actual and simulated patients showed that trained physicians used significantly more problem-defining and emotion-handling skills than did untrained physicians, without increasing the length of the visit. Trained physicians also reported more psychosocial problems, engaged in more strategies for managing emotional problems with actual patients, and scored higher in clinical proficiency with simulated patients. Patients of trained physicians reported reduction in emotional distress for as long as 6 months.

CONCLUSIONS: Important changes in physicians' communication skills were evident after an 8-hour program. The training improved the process and outcome of care without lengthening the visits.

Stewart, M., Brown, J. B., Donner, A., McWhinney, I. R., Oates, J., Weston, W. W. & Jordan, J. (2000). The impact of patient-centered care on outcomes. *The Journal of Family Practice*, 49(9) 796-804.

OBJECTIVE: To assess the association between patient-centered communication in primary care visits and subsequent health and medical care utilization.

DESIGN: Observational cohort study. **Setting:** Family Practices in London, Ontario, Canada and surrounding area.

SUBJECTS: 39 randomly selected family physicians (71.8% male, mean year of graduation was 1975); 315 patients (54% female, 60.3% married).

INTERVENTION: None.

MEASURES: Outcomes measured included: 1) Patient's health, assessed by a visual analogue scale (VAS) on symptom discomfort and concern. 2) Self-report of health, using the Medical Outcomes Study Short Form-36 (multi-dimensional assessment). 3) Medical care utilization variables of diagnostic tests, referrals, and visits to the family physician, assessed by chart review. Office visits of the medical encounters were audio taped and scored for patient-centered communication (score based on 3 of the 6 components of the model of patient-centered medicine). In addition, patients were asked for their perceptions of the patient-centeredness of the visit (series of 14 times were used to assess patients' post-encounter perceptions of how patient centered the interaction had been).

RESULTS: Patient-centered communication scores were significantly correlated with the patients' perceptions of finding common ground. The total score of patients' perceptions that the visit was patient-centered was associated with positive health outcomes. Patients who perceived that their visit had been patient centered received fewer diagnostic tests and referrals in the subsequent two months.

CONCLUSIONS/RECOMMENDATIONS: Patient-centered communication influences patients' health through perceptions that their visit was patient centered, and especially through perceptions that common ground was achieved with the physician. Patient-centered practice was associated with improved health status (less discomfort, less concern, and better mental health) and increased efficiency of care (fewer diagnostic tests and referrals). This finding is a concern for medical education and health care policy in that the patients' experience of being a participating member in the discussion of the problem and treatment process may translate into the patients' reduced need for further investigation or referral.

Stott, N. C., Rollnick, S., Rees, M. R., & Pill, R. M. (1995). Innovation in clinical method: Diabetes care and negotiating skills. *Family Practice*, 12(4) 413-418.

The development of a method to facilitate clinical negotiation with diabetic patients is described. The principles of the method incorporate patient centredness, an assessment of readiness to change and some elements of motivational interviewing. A simple low cost technology is part of the innovative method. Details of the method and its application are published before the results of a randomized controlled trial to ensure that the techniques are in the public domain before the outcome of the trial is known.

Thompson, SC, Nanni, C, & Schwankovsky, L (1990). Patient-oriented interventions to improve communication in a medical office visit. *Health Psychology : Official Journal of the Division of Health Psychology, American Psychological Association*, 9(4) 390-404.

Examined a simple intervention to improve the patient's contribution to communication in a medical office visit. In the first study, women awaiting a medical appointment were randomly assigned either to a group that was asked to list three questions to ask their physician or to a control group. Women who listed questions asked more questions in the visit and reported being less anxious. In the second study, a third group that received a message from their physician encouraging question asking was added. Both experimental groups asked more of the questions they had wished to, had greater feelings of control, and were more satisfied with the visit in general and with the information they received. The two experimental groups did not differ significantly, suggesting that the effect may be attributed either to thinking one's questions out ahead of time or to the perception that one's physician is open to questions.

B. Improvement in Diagnostic Accuracy

Beckman, H. B., & Frankel, R. M. (1984). The effect of physician behavior on the collection of data. *Annals of Internal Medicine*, 101(5) 692-696.

OBJECTIVE: To determine the effect of the physician's response at the opening of the medical interview on the completeness of data collection.

DESIGN: Audiotapes of visits to a primary care facility were reviewed to determine the effect of physician input in the initial stages of the medical interview.

SETTING: Primary care internal medicine practice at Wayne State University. 2 experienced physicians and 13 residents in internal medicine conducted interviews.

SUBJECTS: 74 interviews were taped. The patient population consisted primarily of the elderly and the chronically ill. Most were of low socioeconomic level. 64% female; 74% return visits.

INTERVENTIONS: None.

MEASURES: Audio tapes were coded using a method sensitive to production and timing of dialogue.

RESULTS: Patients were permitted to complete their opening statement of concerns in only 23% of the visits. Only 1 of 52 interrupted opening statements were subsequently completed. On average, interruption occurred 18 seconds after the patient began speaking. Completed statements of concerns took no more than 150 seconds.

CONCLUSIONS: Physician-directed interviewing at the beginning of a visit may eliminate the expression of patient concerns and questions.

Groopman, J. (2007). *How doctors think*. Houghton Mifflin Company: NY.

On average, a physician will interrupt a patient describing her symptoms within eighteen seconds. In that short time, many doctors decide on the likely diagnosis and best treatment. Often, decisions made this way are correct, but at crucial moments they can also be wrong -- with catastrophic consequences. In this myth-shattering book, Jerome Groopman pinpoints the forces and thought processes behind the decisions doctors make. Groopman explores why doctors err and shows when and how they can -- avoid snap judgments, embrace uncertainty, communicate effectively, and deploy other skills that can profoundly impact our health. This book is the first to describe in detail the warning signs of erroneous medical thinking and reveal how new technologies may actually hinder accurate diagnoses. *How Doctors Think* offers direct, intelligent questions patients can ask their doctors to help them get back on track.

Groopman draws on a wealth of research, extensive interviews with some of the country's best doctors, and his own experiences as a doctor and as a patient. He has learned many of the lessons in this book the hard way, from his own mistakes and from errors his doctors made in treating his own debilitating medical problems.

How Doctors Think reveals a profound new view of twenty-first-century medical practice, giving doctors and patients the vital information they need to make better judgments together.

Peterson, M. C., Holbrook, J., Von Hales, D., Smith, N. L., & Staker, L. V. (1992). Contributions of the history, physical examination and laboratory investigation in making medical diagnoses. *Western Journal of Medicine*, 156, 163-165.

The researchers report an attempt to quantitate the relative contributions of the history, physical examination, and laboratory investigation in making medical diagnoses. In this prospective study of 80 medical outpatients with new or previously undiagnosed conditions, internists were asked to list their differential diagnoses and to estimate their confidence in each diagnostic possibility after the history, after the physical examination, and after the laboratory investigation. In 61 patients (76%), the history led to the final diagnosis. The physical examination led to the diagnosis in 10 patients (12%), and the laboratory investigation led to the diagnosis in 9 patients (11%). The internists' confidence in the correct diagnosis increased from 7.1 on a scale of 1 to 10 after the history to 8.2 after the physical examination and 9.3 after the laboratory investigation. These data support the concept that most diagnoses are made from the medical history. The results of physical examination and the laboratory investigation led to fewer diagnoses, but they were instrumental in excluding certain diagnostic possibilities and in increasing the physicians' confidence in their diagnoses.

Rabinowitz, I., Tamir, R., & Reis, A. (2004). Length of patient's monologue, rate of completion, and relation to other components of the clinical encounter. *British Medical Journal*, 328, 501-502.

The patient's opening statement in a consultation (the patient's monologue) is an important part of history taking, and doctors are encouraged not to interrupt the patient--but they often do, probably because they think that the patient's monologue is time consuming. When uninterrupted, patients conclude their monologue in less than 30 seconds in primary care and about 90 seconds in consultant settings. The researchers assessed encounters in primary care that included a new clinical problem, recording the length and rate of completion of patients' monologues before and after instructing doctors not to interrupt.

C. Adherence to Treatment Regimen

The Commonwealth Fund 2001 Health Care Quality Survey, Retrieved on November 21, 2005, from http://www.cmwf.org/surveys/surveys_show.htm?doc_id=228171

This survey reveals that on a wide range of health care quality measures—including effective patient–physician communication and access to health care and insurance coverage—minority Americans do not fare as well as whites. African Americans, Asian Americans, and Hispanics are more likely than whites to experience difficulty communicating with their physician, to feel that they are treated with disrespect when receiving care, to experience barriers to care such as lack of insurance or not having a regular doctor, and to feel they would receive better care if they were of a different race or ethnicity.

MODE OF ADMINISTRATION: The Commonwealth Fund 2001 Health Care Quality Survey was a telephone survey conducted in English, Spanish, Mandarin or Cantonese, Vietnamese and Korean.

SURVEY SAMPLE DESIGN: A stratified minority sample design was used. The survey employed standard list-assisted random-digit dialing methods, and telephone numbers from area code-exchange combinations with higher-than-average densities of minority households were drawn disproportionately.

PRIMARY SURVEY CONTENT: The survey collected current information on the health care experiences of respondents, including information on health status, use of preventive services, access-to-care issues, experiences with the doctor-patient encounter, communication, health literacy, and compliance.

POPULATION TARGETED: The survey is a nationally representative survey of the U.S. adult population age 18 and older. In addition, the survey allows separate analyses of responses by African-American, Hispanic and Asian households.

Demographic Data: Age, gender, race, ethnicity, country of birth, region, primary language spoken, insurance coverage, employment status, marital status, and household composition.

YEARS COLLECTED: 2001

Haynes, R. B., McDonald, H., Garg, A. X., & Montague, P. (2002). Interventions for helping patients to follow prescriptions for medications. *The Cochrane Database of Systematic Reviews, Issue 2.*

This is a substantive amendment to this systematic review was last made on 08 February 2002. Cochrane reviews are regularly checked and updated if necessary.

BACKGROUND: People who are prescribed self-administered medications typically take less than half the prescribed doses. Efforts to assist patients with adherence to medications might improve the benefits and efficiency of health care, but also might increase its adverse effects.

OBJECTIVES: To update a review summarising the results of randomised controlled trials (RCTs) of interventions to help patients follow prescriptions for medications for medical problems, focusing on trials that measured both adherence and clinical outcomes.

SEARCH STRATEGY: Computerised searches to August 2001 in MEDLINE, CINAHL, The Cochrane Library, International Pharmaceutical Abstracts (IPA) PsychInfo, and Sociofile; bibliographies in articles on patient adherence; articles in the reviewers' personal collections; and contact with authors of original and review articles on the topic.

SELECTION CRITERIA: Articles were selected if they reported an unconfounded RCT of an intervention to improve adherence with prescribed medications, measuring both medication **adherence** and treatment outcome, with at least 80% follow-up of each group studied and, for long-term treatments, at least six months follow-up for studies with positive initial findings.

DATA COLLECTION AND ANALYSIS: Information on study design features, interventions and controls, and results were extracted by one reviewer and confirmed by at least one other reviewer. The studies were too disparate to warrant meta-analysis.

MAIN RESULTS: For short-term treatments, one of three interventions reported in three RCTs showed an effect on both adherence and clinical outcome. Eighteen of 36 interventions for long-term treatments reported in 30 RCTs were associated with improvements in adherence, but only 16 interventions led to improvements in treatment outcomes. Almost all of the interventions that were effective for long-term care were complex, including combinations of more convenient care, information, reminders, self-monitoring, reinforcement, counseling, family therapy, and other forms of additional supervision or attention by a health care provider (physician, nurse, pharmacist or other). Even the most effective interventions did not lead to large improvements in adherence and treatment outcomes. Two studies showed that telling patients about adverse effects of treatment did not affect their adherence.

AUTHORS' CONCLUSIONS: The full benefits of medications cannot be realized at currently achievable levels of adherence. Current methods of improving adherence for chronic health problems are mostly complex and not very effective. Innovations to assist patients to follow medication prescriptions are needed.

Hausman, A. (2001). Taking your medicine: Relational steps to improving patient compliance. *Health Marketing Quarterly, 19(2)* 49-71.

Patient non-compliance with physicians' instructions is a major problem that costs billions of dollars each year. This study supports a significant role for communication, both as a form of information exchange and social support, and participative decision-making in improving patient compliance. These results, based on structural equation modeling, also support the interaction of communication and participative decision-making positively affecting compliance. Results suggest that one-way communication from physician to

patient and patient education will not solve compliance problems by themselves. Instead the solution revolves around open, bi-directional information exchange, active listening by both parties, and truly informed consent on the part of patients.

Roter, D. L., Hall, J. A., Merisca, R., Nordstrom, B., Cretin, D., & Svarstad, B. (1998). Effectiveness of interventions to improve patient compliance: A meta-analysis. *Medical Care*, 36(8) 1138-1161.

OBJECTIVES: This article summarizes the results of 153 studies published between 1977 and 1994 that evaluated the effectiveness of interventions to improve patient compliance with medical regimens.

METHODS: The compliance interventions were classified by theoretical focus into educational, behavioral, and affective categories within which specific intervention strategies were further distinguished. The compliance indicators broadly represent five classes of compliance-related assessments: (1) health outcomes (e.g., blood pressure and hospitalization), (2) direct indicators (e.g., urine and blood tracers and weight change), (3) indirect indicators (e.g., pill count and refill records), (4) subjective report (e.g., patients' or others' reports), and (5) utilization (appointment making and keeping and use of preventive services). An effect size (ES) r , defined as Fisher's Z transformation of the Pearson correlation coefficient, representing the association between each intervention (intervention versus control) and compliance measure was calculated. Both an unweighted and weighted r were calculated because of large sample size variation, and a combined probability across studies was calculated.

RESULTS: The interventions produced significant effects for all the compliance indicators (combined Z values more than 5 and less than 32), with the magnitude of effects ranging from small to large. The largest effects (unweighted) were evident for refill records and pill counts and in blood/urine and weight change studies. Although smaller in magnitude, compliance effects were evident for improved health outcomes and utilization. Chronic disease patients, including those with diabetes and hypertension, as well as cancer patients and those with mental health problems especially benefited from interventions.

CONCLUSIONS: No single strategy or programmatic focus showed any clear advantage compared with another. Comprehensive interventions combining cognitive, behavioral, and affective components were more effective than single-focus interventions.

Safran, D. G., Taira, D. A., Rogers, W. H., Kosinski, M., Ware, J. E., & Tarlov, A. R. (1998). Linking primary care performance to outcomes of care. *The Journal of Family Practice*, 47(3) 213-220.

BACKGROUND: Substantial research links many of the defining characteristics of primary care to important outcomes; yet little is known about the relative importance of each characteristic, and several characteristics have not been examined. These analyses evaluate the relationship between seven defining elements of primary care (accessibility, continuity, comprehensiveness, integration, clinical interaction, interpersonal treatment, and trust) and three outcomes (adherence to physician's advice, patient satisfaction, and improved health status).

METHODS: Data were derived from a cross-sectional observational study of adults employed by the Commonwealth of Massachusetts (N = 7204). All patients completed a validated questionnaire, the Primary Care Assessment Survey. Regression methods were used to examine the association between each primary care characteristic (11 summary scales measuring 7 elements of care) and each outcome.

RESULTS: Physicians' comprehensive ("whole person") knowledge of patients and patients' trust in their physician were the variables most strongly associated with adherence, and trust was the variable most strongly associated with patients' satisfaction with their physician. With other factors equal, adherence rates were 2.6 times higher among patients with whole-person knowledge scores in the 95th percentile compared with the 5th percentile (44.0% adherence vs. 16.8% adherence, $P < .001$). The likelihood of complete satisfaction was 87.5% for those with 95th percentile trust scores compared with 0.4% for patients with 5th percentile trust scores ($P < .001$). The leading correlates of self-reported health improvements were integration of care, thoroughness of physical examinations, communication, comprehensive knowledge of patients, and trust ($P < .001$).

CONCLUSIONS: Patients' trust in their physician and physicians' knowledge of patients are leading correlates of three important outcomes of care. The results are noteworthy in the context of pervasive changes in our nation's health care system that are widely viewed as threatening to the quality of physician-patient relationships.

Squier, R. W. (1990). A model of empathic understanding and adherence to treatment regimens in practitioner-patient relationships. *Social Science and Medicine*, 30, 325-339.

Empathic understanding in practitioner relationships is postulated as necessary for adherence to therapeutic regimens. It is considered to be one of the most important practitioner relationship skills leading ultimately to patient health benefit. Research literature from a wide-range of health disciplines including personality theory, social psychology, psychotherapy, psycho-analysis, and practitioner-patient communication highlights the key role of empathic processes in personal health care. A model of empathic understanding is described which attempts to integrate the substantive findings in the research literature and seeks to generate new ideas for further investigation. The model addresses theoretical relationships between practitioners' empathic understanding, patients' knowledge of their illness and motivation to get better, adherence to treatment advice, and outcome. Recent work on the selection and training of medical and nursing staff in empathic skills is reviewed. A number of areas for future research are outlined including the effect of individual practitioner differences in the components of empathy, empathic compatibility in practitioner-patient dyads, fluctuations in levels of practitioner empathy during long-term care, specific practitioner behaviours which communicate empathy, and the relationship between factors of patient satisfaction and the perception of empathic understanding.

D. Increased Trust in the Clinician

Hall, M. A., Dugan, E., Zheng, B., & Mishra, A. K. (2001). Trust in physicians and medical institutions: What is it, can it be measured, and does it matter? *The Milbank Quarterly*, 79(4) 613-639.

Despite the profound and pervasive importance of trust in medical settings, there is no commonly shared understanding of what trust means, and little is known about what difference trust actually makes, what factors affect trust, and how trust relates to other similar attitudes and behaviors. To address this gap in understanding, the emerging theoretical, empirical, and public policy literature on trust in physicians and in medical institutions is reviewed and synthesized. Based on this review and additional research and analysis, a formal definition and conceptual model of trust is presented, with a review of the extent to which this model has been confirmed by empirical studies. This conceptual and empirical understanding has significance for ethics, law, and public policy.

Kaiser Family Foundation (2009). More than half of Americans say family skimped on medical care because of cost in past year. Retrieved on March 2, 2009 from <http://www.kff.org/kaiserpolls/kaiserpolls022509nr.cfm>

As economic conditions continue to worsen, the public is increasingly worried about the affordability and availability of care, with many postponing or skipping treatments due to cost in the past year and a notable minority forced into serious financial straits due to medical bills, according to the Kaiser Family Foundation's first health care tracking poll of 2009.

In the face of the country's current economic challenges, the public's support for health reform remains strong and their trust in President Obama to do the right thing in health care reform is high.

Slightly more than half (53%) of Americans say their household cut back on health care due to cost concerns in the past 12 months. The most common actions reported are relying on home remedies and over-the-counter drugs rather than visiting a doctor (35%) or skipping dental care (34%). Roughly one in four report putting off health care they needed (27%), one in five say they have not filled a prescription (21%), and one in six (15%) say they cut pills in half or skipped doses to make their prescription last longer.

The survey was conducted February 3 through February 12, 2009, among a nationally representative random sample of 1,204 adults ages 18 and older. Telephone interviews conducted by landline (903) and cell phone (301, including 123 who had no landline telephone) were carried out in English and Spanish. The margin of sampling error for the total sample is plus or minus 3 percentage points. For results based on subgroups, the margin of sampling error is higher.

Schattner, A., Rudin, D., & Jellin, D. (2004). Good physicians from the perspective of their patients. *BMC Health Services Research*, Retrieved on November 21, 2005, from

<http://www.pubmedcentral.gov/picrender.fcgi?tool=pmcentrez&blobtype=pdf&artid=520754>

BACKGROUND: It is not currently known what is the patient's viewpoint of a "good" physician. We set out to define patient's priorities regarding different physician's attributes in 3 domains important in medical care.

METHODS: Patients hospitalized or attending clinics at a large teaching hospital selected the 4 attributes that they considered most important out of 21 listed arbitrarily in a questionnaire. The questionnaire included 7 items each in the domains of patient autonomy, professional expertise and humanism.

RESULTS: Participating patients (n = 445, mean age 57.5 ± 16 years) selected professional expertise (50%), physician's patience and attentiveness (38% and 30%, respectively), and informing the patient, representing the patient's interests, being truthful and respecting patient's preferences (25– 36% each) as the most essential attributes. Patient's selections were not significantly influenced by different demographic or clinical background. Selections of attributes in the domain of patient's autonomy were significantly more frequent and this was the preferred domain for 31% and as important as another domain for 16% – significantly more than the domain of professional expertise (P = 0.008), and much more than the domain of humanism and support (P < 0.0005).

CONCLUSIONS: Patients studied want their physicians to be highly professional and expert clinicians and show humaneness and support, but their first priority is for the physician to respect their autonomy.

Thom, D. H., Bloch, D. A., & Segal, E. S. (1999). An intervention to increase patients' trust in their physicians. *Academic Medicine: Journal of the Association of American Medical Colleges*, 74(2) 195-198.

PURPOSE: To investigate the effect of a one-day workshop in which physicians were taught trust-building behaviors on their patients' levels of trust and on outcomes of care.

METHOD: In 1994, the study recruited 20 community-based family physicians and enrolled 412 consecutive adult patients from those physicians' practices. Ten of the physicians (the intervention group) were randomly assigned to receive a one-day training course in building and maintaining patients' trust. Outcomes were patients' trust in their physicians, patients' and physicians' satisfaction with the office visit, continuity in the patient-physician relationship, patients' adherence to their treatment plans, and the numbers of diagnostic tests and referrals.

RESULTS: Physicians and patients in the intervention and control groups were similar in demographic and other data. There was no significant difference in any outcome. Although their overall ratings were not statistically significantly different, the patients of physicians in the intervention group reported more positive physician behaviors than did the patients of physicians in the control group.

CONCLUSIONS: The trust-building workshop had no measurable effect on patients' trust or on outcomes hypothesized to be related to trust.

Thom, D. H., & Stanford Trust Study Physicians. (2001). Physician behaviors that predict patient trust. *The Journal of Family Practice, 50(4)* 323-328.

OBJECTIVE: The goal for this study was to assess the relative strength of the association between physician behaviors and patient trust.

STUDY DESIGN AND POPULATION: Patients (N=414) enrolled from 20 community-based family practices rated 18 physician behaviors and completed the Trust in Physician Scale immediately after their visits. Trust was also measured at 1 and 6 months after the visit. The association between physician behaviors and trust was examined in regard to patient sex, age, and length of relationship with the physician.

RESULTS: All behaviors were significantly associated with trust ($P < .0001$), with Pearson correlation coefficients (r) ranging from 0.46 to 0.64. Being comforting and caring, demonstrating competency, encouraging and answering questions, and explaining were associated with trust among all groups. However, referring to a specialist if needed was strongly associated with trust only among women ($r=0.61$), more established patients ($r=0.62$), and younger patients ($r=0.63$). The behaviors least important for trust were gentleness during the examination, discussing options/asking opinions, looking in the eye, and treating as an equal.

CONCLUSIONS: Caring and comfort, technical competency, and communication are the physician behaviors most strongly associated with patient trust. Further research is needed to test the hypothesis that changes in identified physician behaviors can lead to changes in the level of patient trust.

Wilson, I.B., Schoen, C., and Neuman, P., et al (2007). Physician–Patient Communication About Prescription Medication Nonadherence: A 50-State Study of America’s Seniors. *Journal of General Internal Medicine,*

An alarmingly high number of America's elderly are not talking to their physicians about problems they are having with prescription medications, including unwelcome side effects, costs, or perceived efficacy, finds a new study supported by The Commonwealth Fund and the Henry J. Kaiser Family Foundation.

According to the authors, 40 percent of seniors responding to a survey reported not adhering to their "doctor's orders" regarding their medication regimens. Among those who gave a cost-related reason for not complying with their drug regimen, 39 percent did not talk to their physicians about it—even though lower-cost alternatives were available. "This communication problem is an important quality and safety issue, and takes on added salience as physicians and patients confront new challenges associated with coverage under new Medicare prescription drug plans," according to the research team, which was led by Ira B. Wilson, M.D., of Tufts–New England Medical Center.

E. Improved Patient Satisfaction

Anden, A., Andersson, S. O., & Rudebeck, C. E. (2005). Satisfaction is not all: Patients’ perception of outcome of general practice consultations, a qualitative study. *BMC Medical Practice, 6(43)*. Retrieved November 23, 2005, from ProQuest database.

Background: Evaluation of outcome in general practice can be seen from different viewpoints. In this study we focus on the concepts patients use to describe the outcome of a consultation with a GP.

Method: Patients were interviewed within a week after a consultation with a GP. The interviews were made with 20 patients in 5 focus groups and 8 individually. They were analysed with a phenomenographic research approach.

Results: From the patient's perspective, the outcome of a consultation is about cure or symptom relief, understanding, confirmation, reassurance, change in self-perception and satisfaction.

Conclusion: General practice consultations are often more important for patients than generally supposed. Understanding is the most basic concept.

Aragon, S. J., & Gesell, S. B. (2003). A patient satisfaction theory and its robustness across gender in emergency departments: a multigroup structural equation modeling investigation. *American Journal of Medical Quality, 18(6)*, 229-241.

This investigation tested the patient-centered Primary Provider Theory of Patient Satisfaction across gender in national random samples of emergency patients. Using multigroup structural equation modeling, the results supported the model's robustness. Physician service, waiting time, and nursing satisfaction explained 48%, 41%, and 11% of overall satisfaction plus 92% and 93% of female and male satisfaction, respectively. Unit increases in physician service satisfaction increased waiting time, nursing, and overall satisfaction by 0.991, 0.844, and 1.031 units, respectively. Unit increases in waiting time satisfaction increased nursing and overall satisfaction by 0.417 and 0.685 units, respectively. A unit increase in nursing satisfaction increased overall service satisfaction by 0.221 units. The investigation offers an alternative paradigm for measuring and achieving emergency department satisfaction, hierarchically related to patient expectations, where the primary provider has the greatest clinical utility to patients, followed by waiting for the primary provider, and then by nursing service.

Cope, D. W., Linn, L. S., Leake, B. D., & Barrett, P. A. (1986). Modification of residents' behavior by preceptor feedback of patient satisfaction. *Journal of General Internal Medicine: Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 1(6) 394-398.

The authors tested the effect of preceptor feedback to residents of patients' ratings of perceived art and technical quality of care on residents' subsequent performances. New ambulatory patients were asked to complete questionnaires measuring satisfaction with physician behavior during initial encounters. Sixty-eight residents were evaluated by 424 patients over a six-month period. Continuing residents with the lowest scores were assigned to a feedback or a non-feedback group. Residents in the feedback group were individually shown their mean scores on each item, as well as scores for all residents, and were then advised of physicians' behaviors that could increase patient satisfaction. During a subsequent six-month survey of new patients, scores in the feedback group improved more than those in the non-feedback group in art of care, technical quality, and total patient satisfaction (p less than 0.001).

Davis, K., Schoenbaum, S. C., Collins, K. S., Tenney, K., Hughes, D. L., & Audet, A. M. (2002). *Room for improvement: Patients report on the quality of their health care*. New York: Commonwealth Fund. Retrieved December 7, 2005, from www.cmwf.org

Flocke, S. A., Miller, W. L., & Crabtree, B. F. (2002). Relationships between physician practice style, patient satisfaction, and attributes of primary care. *The Journal of Family Practice*, 51(10) 835-840.

OBJECTIVES: Style of physician-patient interaction has been shown to have an impact on patient outcomes. Although many different interaction styles have been proposed, few have been empirically tested. This study was conducted to empirically derive physician interaction styles and to explore the association of style with patient reports of specific attributes of primary care, satisfaction with care received, and duration of the visit.

STUDY DESIGN: A cross-sectional observational study.

POPULATION: We observed 2881 patients visiting 138 family physicians for outpatient care in 84 community family practice offices in northeast Ohio.

OUTCOMES MEASURED: Components of Primary Care Instrument (CPCI), patient satisfaction, and duration of the visit.

RESULTS: A cluster analysis of variables derived from qualitative field notes identified 4 physician interaction styles: person focused, biopsychosocial, biomedical, and high physician control. Physicians with the person-focused style rated highest on 4 of 5 measures of the quality of the physician-patient relationship and patient satisfaction. In contrast, physicians with the high-control style were lowest or next to lowest on the outcomes. Physicians with a person-focused style granted the longest visits, while high-control physicians held the shortest visits—a difference of 2 minutes per visit on average. The associations were not explained away by patient and physician age and gender.

CONCLUSIONS: In community-based practices, we found that the person-focused interaction style appears to be the most congruent with patient reported quality of primary care. Further investigation is needed to identify ways to support and encourage person-focused approaches and the time needed to provide such care.

Jackson, J. L., Chamberlin, J., & Kroenke, K. (2001). Predictors of patient satisfaction. *Social Science & Medicine*, 52(4) 609-620.

Correlates of patient satisfaction at varying points in time were assessed using a survey with 2-week and 3-month follow-up in a general medicine walk-in clinic, in USA. Five hundred adults presenting with a physical symptom, seen by one of 38 participating clinicians were surveyed and the following measurements were taken into account: patient symptom characteristics, symptom-related expectations, functional status (Medical Outcomes Study Short-Form Health Survey [SF-6]), mental disorders (PRIME-MD), symptom resolution, unmet expectations, satisfaction (RAND 9-item survey), visit costs and health utilization. Physician perception of difficulty (Difficult Doctor Patient Relationship Questionnaire), and Physician Belief Scale. Immediately after the visit, 260 (52%) patients were fully satisfied with their care, increasing to 59% at 2 weeks and 63% by 3 months. Patients older than 65 and those with better functional status were more likely to be satisfied. At all time points, the presence of unmet expectations markedly decreased satisfaction: immediately post-visit (OR: 0.14, 95% CI: 0.07-0.30), 2-week (OR: 0.07, 95% CI: 0.04-0.13) and 3-month (OR: 0.05, 95% CI: 0.03-0.09). Other independent variables predicting immediate after visit satisfaction included receiving an explanation of the likely cause as well as expected duration of the presenting symptom. At 2 weeks and 3 months, experiencing symptomatic improvement increased satisfaction while additional visits (actual or anticipated) for the same symptom decreased satisfaction. A lack of unmet expectations was a powerful predictor of satisfaction at all time-points. Immediately post-visit, other predictors of satisfaction reflected aspects of patient doctor communication (receiving an explanation of the symptom cause, likely duration, lack of unmet expectations), while 2-week and 3-month satisfaction reflected aspects of symptom outcome (symptom resolution, need for repeat visits, functional status). Patient satisfaction surveys need to carefully consider the sampling time frame as well as adjust for pertinent patient characteristics.

Keating, NL, Green, DC, Kao, AC, Gazmararian, JA, Wu, V. Y., & Cleary, P. D. (2002). How are patients' specific ambulatory care experiences related to trust, satisfaction, and considering changing physicians? *Journal of General Internal Medicine*, 17, 29-39.

Telephone survey of 2000+ patients of a large national health insurer (58% response rate) to assess relationships between outpatient problem experiences and patients' trust in their physicians, and consideration of changing physicians. Classified as problem experiences if the patient reported that the physician did not 1) give them enough time to explain the reason for their visit 2) give answers to questions that were understandable 3) take enough time to answer questions 4) ask about how family or living situation affects their health 5) give as much medical information as they want 5) involve them in decisions as much as they want. Conclusions: Problem experiences in ambulatory settings are strongly related to lowered trust.

Krupat, E., Bell, R. A., Kravitz, R. L., Thom, D., & Azari, R. (2001). When physicians and patients think alike: Patient-centered beliefs and their impact on satisfaction and trust. *The Journal of Family Practice, 50(12) 1057-1062.*

OBJECTIVE: To identify physician and patient characteristics associated with patient-centered beliefs about the sharing of information and power, and to determine how these beliefs affect patients' evaluations.

DESIGN: Surveys completed by physicians and patients. Physicians provided demographic information and completed a scale assessing their beliefs about sharing information and power with their patients (Patient-Practitioner Orientation Scale, PPOS). A sample of their patients filled out the same scale and made evaluations of their physicians before and after a target visit.

SETTING: University of California, Davis, Medical Group (UCDMG) or Kaiser Permanente (KP). **Subjects:** Physicians were involved in direct patient care at least 20 hours per week in family medicine, internal medicine, or cardiology. Forty-five physicians took part (22 from UCDMG, 23 from KP). English-speaking adult patients of the participating physicians, indicating they had a new or worsening problem. 909 patients completed questionnaires at the scheduled visit, with 81.4% white, 56% female and a mean age of 57 years.

MEASURES: Measurement of patient-centeredness among physicians and patients, in particular beliefs about the sharing of power and information. In addition, associations between personal characteristics and patient-centered beliefs among physicians and patients, and investigation of the extent to which patients felt positively about clinicians holding matching opinions about power and information sharing. **Results:** Physicians' mean scores were significantly higher than those of the patients (4.5 vs. 4.2, $P < .04$), indicating a strong belief in sharing power and information. Women patients were significantly more patient-centered in their beliefs, as were patients who were younger, more educated, and had a higher income. Visit satisfaction was not significantly related to any of the predictors. However, patient-centered patients and those whose attitudes were discrepant from their physicians were both significantly less trusting and less likely to endorse their physicians. Physicians who were patient-centered were marginally more likely to be trusted. Patient PPOS and degree of congruity were each found to be stronger independent predictors of the trust and endorsement than any of the potentially confounding variables (age, sex, education, income and ethnicity).

CONCLUSIONS/RECOMMENDATIONS: Visit satisfaction did not reflect the same strength of relationship with congruence, even though the outcome measures were themselves highly correlated. This may suggest that this pattern reflects the manner in which belief congruence operates within the physician-patient relationship. Thus, even when patient and physician have a shared sense of how much control makes them both feel comfortable, this may not be reflected in the success of any single encounter.

Lewin, S. A., Skea, Z. C., Entwistle, V., Zwarenstein, M., & Dick, J. (2001). Interventions for providers to promote a patient-centred approach in clinical consultations. *Cochrane Database of Systematic Reviews, (4).*

DESCRIPTION OF CONTEXT: A review of 17 studies (RCTs, CCTs, CBA's) examining the effects of interventions directed at health care providers that are intended to promote patient-centered care within clinical consultations, and the extent to which these interventions succeed in making consultations patient centered. It also examines the effects of the interventions on health care behaviors, health status and well-being and patient satisfaction with care.

TOPIC/SCOPE: A broad definition of Patient-Centered care was adopted for the purposes of the review as follows: 1) health care providers share control of consultations, decisions about interventions or the management of the health problems with patients, and/or 2) health care providers focus on the patient as a person, rather than solely on the disease, in consultations. A number of processes and outcomes might be affected by interventions that aim to promote patient-centered care in the clinical consultation. These outcomes were grouped in the following categories: 1) consultation processes, including the extent to which patient-centered care was judged to be achieved in practice; 2) other health care behaviors, including types of care plans agreed; providers' provision of interventions; patients' adoption of lifestyle behaviors; and patients' use of interventions and services; 3) health status and well-being, including physiological measures (i.e., blood pressure); clinical assessments (i.e., wound healing); patient self-reports of symptom resolution or quality of life; and patient self-esteem; 4) patient and/or families' satisfaction with care.

CONCLUSIONS/RECOMMENDATIONS: There is fairly strong evidence to suggest that some interventions to promote patient-centered care in clinical consultations may lead to significant increases in the patient centeredness of consultation processes. 12 of the 14 studies that assessed consultation processes showed improvements in some of these outcomes. There is also some evidence that training health care providers in patient-centered approaches may impact positively on patient satisfaction with care. Of the eleven studies that assessed patient satisfaction, six demonstrated significant differences in favor of the intervention group on one or more measures. It is important to note that none of the included studies used measures explicitly designed to assess the patient-centeredness of the consultation. There is currently no gold standard for measure of patient centeredness, and this area needs further work if the effects on consultation processes or interventions to promote patient-centered care are to be appropriately assessed.

Lewis, C. C., Pantell, R. H., & Sharp, L. (1991). Increasing patient knowledge, satisfaction, and involvement: Randomized trial of a communication intervention. *Pediatrics*, 88(2) 351-358.

A brief educational intervention to promote effective communication between physicians, children, and parents during pediatric office visits was designed and tested. A randomized clinical trial involving 141 children (5- to 15-year-olds) tested the effectiveness of the intervention to improve the process and outcome of medical care. The intervention was contained in three brief videotapes (one each for parents, physicians, and patients) and in accompanying written materials. Materials were designed to build skills and motivation for increased child competence and participation during pediatric medical visits. Control subjects saw health education videotapes and received materials comparable in length with those of experimental subjects. Postintervention medical visit process was analyzed using videotapes of visits. Visit outcomes, assessed with standardized instruments and interviews, included children's rapport with physicians, children's anxiety, children's preference for an active health role, children's recall of information, parents' satisfaction with the medical visit, and physician satisfaction. Results indicated that physicians in the intervention group, compared with their counterparts in the control group, more often included children in discussions of medical recommendations (50% vs. 29%, $t = 2.39$, P less than .05); that children in the intervention group, compared with control children, recalled more medication recommendations (77% vs. 47%, P less than .01) and reported greater satisfaction and preference for an active health role; and that the intervention and control groups did not differ in parent satisfaction, physician satisfaction, or child anxiety. The results suggest that a brief educational intervention administered during waiting room time can positively impact physician-child rapport and children's preference for an active role in health and their acquisition of medical information.

(Press Ganey Associates) Clark, P. A., Drain, M., & Malone, M. P. (2004). Return on Investment in Satisfaction Measurement and Improvement, Working Paper from Press Ganey Associates, Vol 1, Edition 1, Retrieved on November 21, 2005, from <http://www.all-health.com/products/qualitymanagement/PressGaneyROI.pdf>

This working paper reviews the consequences of measuring and improving patient and resident satisfaction with the experience of care on financial and quality of care outcomes. To date, the evidence or lack thereof for relationships between satisfaction and outcomes has not been gathered into a single, comprehensive corpus. Volume I, presents the existing evidence as a straightforward literature review using rigorous criteria, excluding volumes of anecdotal evidence. The paper categorized the literature to simulate an income statement, presenting payoffs to patients, to the topline (revenue), and to the bottomline (expenses). Since the concepts are fluid by nature, some overlap occurs. This study is classified as a working paper because investigations will never cease and the results of future studies will be added. Editions are numbered and dated for citation purposes. Future editions will not adhere to a calendar schedule; rather new editions will be published as new evidence or research emerges. For this reason, new editions will replace older editions. This working paper chronicles Press Ganey's ongoing comprehensive literature review and meta-analysis examining the effects of improving satisfaction (patient or resident) on the outcomes most important to healthcare organizations. A simple, objective approach is used to classify the findings of various studies and cases according to their level of evidence as defined by the Dictionary of Epidemiology. For example, studies using a control group are considered a higher level than a study that simply measures pre and post intervention. A systematic literature review represents the highest level of evidence and greatest generalizability because it takes into account all of the existing studies. We excluded studies that did not meet the standard criteria of science, studies exhibiting extreme bias, and studies with grossly ungeneralizable results. Case studies presenting only opinion or anecdotes without evidence were excluded.

Roter, D., Rosenbaum, J., de Negri, B., Renaud, D., DiPrete-Brown, L., & Hernandez, O. (1998). The effects of a continuing medical education programme in interpersonal communication skills on doctor practice and patient satisfaction in Trinidad and Tobago. *Medical Education*, 32(2) 181-189.

This study investigates the effects of a brief training programme on the communication skills of doctors in ambulatory care settings in Trinidad and Tobago. Evaluation of doctor performance is based on analysis of audiotapes of doctors with their patients during routine clinic visits and on patient satisfaction ratings. A pre-test/post-test quasi-experimental study design was used to evaluate the effects of exposure to the training programme. Doctors were assigned to groups based on voluntary participation in the programme. Audiotapes of the 15 participating doctors (nine trained and six control) with 75 patients at baseline and 71 patients at the post-training assessment were used in this analysis. The audiotapes were content-coded using the Roter Interaction Analysis System (RIAS). Doctors trained in communication skills used significantly more target skills post-training than their untrained colleagues. Trained doctors used more facilitations in their visits and more open-ended questions than other doctors. There was also a trend towards more emotional talk, and more close-ended questions. Patients of trained doctors talked more overall, gave more information to their doctors and tended to use more positive talk compared to other patients. Trained doctors were judged as sounding more interested and friendly, while patients of trained doctors were judged as sounding more dominant, responsive and friendly than patients of untrained doctors. Consistent with these communication differences, patient satisfaction tended to be higher in visits of trained doctors.

Smith, R. C., Lyles, J. S., Mettler, J. A., Marshall, A. A., Van Egeren, L. F., Stoffelmayr, B. E., Osborn, G. G., & Shebroe, V. (1995). A strategy for improving patient satisfaction by the intensive training of residents in psychosocial medicine: A controlled, randomized study. *Academic Medicine: Journal of the Association of American Medical Colleges*, 70(8) 729-732.

PURPOSE. To use a controlled, randomized design to assess the effect on patient satisfaction of an intensive psychosocial training program for residents.

METHOD. Twenty-six first-year residents, in two internal medicine and family practice community-based programs affiliated with the Michigan State University College of Human Medicine, were randomly assigned during 1991 and 1992 to a control group or a one-month intensive training program. Experiential teaching focused on many psychosocial skills required in primary care. A 29-item questionnaire administered before and after the residents' training evaluated their patients' satisfaction regarding patient disclosure, physician empathy, confidence in physician, general satisfaction, and comparison of the physician with other physicians. Analyses of covariance with groups and gender as factors and pre-training patient satisfaction scores as the covariate evaluated the effect of the training.

RESULTS. The patients of the trained residents expressed more confidence in their physicians ($p = .01$) and more general satisfaction ($p = .02$) than did the patients of controls. The effect of training on patient satisfaction with patient disclosure ($p < .01$) and physician empathy ($p < .05$) was greater for female than for male residents.

CONCLUSION. The intensive psychosocial training program for residents improved their patients' satisfaction.

F. Improved Clinician Satisfaction

Haas, J. S., Cook, E. F., Puopolo, A. L., Burstin, H. R., Cleary, P. D., & Brennan, T. A. (2000). Is the professional satisfaction of general internists associated with patient satisfaction? *Journal of General Internal Medicine : Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 15(2) 122-128.

BACKGROUND: The growth of managed care has raised a number of concerns about patient and physician satisfaction. An association between physicians' professional satisfaction and the satisfaction of their patients could suggest new types of organizational interventions to improve the satisfaction of both.

OBJECTIVE: To examine the relation between the satisfaction of general internists and their patients.

DESIGN: Cross-sectional surveys of patients and physicians.

SETTING: Eleven academically affiliated general internal medicine practices in the greater-Boston area. **PARTICIPANTS:** A random sample of English-speaking and Spanish-speaking patients ($n = 2,620$) with at least one visit to their physician ($n = 166$) during the preceding year.

MEASUREMENTS: Patients' overall satisfaction with their health care, and their satisfaction with their most recent physician visit.

MAIN RESULTS: After adjustment, the patients of physicians who rated themselves to be very or extremely satisfied with their work had higher scores for overall satisfaction with their health care (regression coefficient 2.10; 95% confidence interval 0.73-3.48), and for satisfaction with their most recent physician visit (regression coefficient 1.23; 95% confidence interval 0.26-2.21). In addition, younger patients, those with better overall health status, and those cared for by a physician who worked part-time were significantly more likely to report better satisfaction with both measures. Minority patients and those with managed care insurance also reported lower overall satisfaction.

CONCLUSIONS: The patients of physicians who have higher professional satisfaction may themselves be more satisfied with their care. Further research will need to consider factors that may mediate the relation between patient and physician satisfaction.

Larson, E. B., & Yao, X. (2005). Clinical empathy as emotional labor in the patient-physician relationship. *Journal of American Medical Association*, 293(9), 100-1106.

Empathy should characterize all health care professions. Despite advancement in medical technology, the healing relationship between physicians and patients remains essential to quality care. We propose that physicians consider empathy as emotional labor (ie, management of experienced and displayed emotions to present a certain image). Since the publication of Hochschild's *The Managed Heart* in 1983, researchers in management and organization behavior have been studying emotional labor by service workers, such as flight attendants and bill collectors. In this article, we focus on physicians as professionals who are expected to be empathic caregivers. They engage in such emotional labor through deep acting (ie, generating empathy-consistent emotional and cognitive reactions before and during empathic interactions with the patient, similar to the method-acting tradition used by some stage and screen actors), surface acting (ie, forging empathic behaviors toward the patient, absent of consistent emotional and cognitive reactions), or both. Although deep acting is preferred, physicians may rely on surface acting when immediate emotional and cognitive understanding of patients is impossible. Overall, we contend that physicians are more effective healers—and enjoy more professional satisfaction—when they engage in the process of empathy. We urge physicians first to recognize that their work has an element of emotional labor and, second, to consciously practice deep and surface acting to empathize with their patients. Medical students and residents can benefit from long-term regular training that includes conscious efforts to develop their empathic abilities. This will be valuable for both physicians and patients facing the increasingly fragmented and technological world of modern medicine.

Pathman, D. E., Konrad, T. R., Williams, E. S., Scheckler, W. E., Linzer, M., & Douglas, J. (2002). Physician job satisfaction, dissatisfaction, and turnover. *The Journal of Family Practice*, 51(7) 593.

OBJECTIVES: We studied how physicians' relative satisfaction and/or dissatisfaction with 10 distinct aspects of their work protected against or promoted their plans for leaving their jobs.

STUDY DESIGN: Cross-sectional mail survey.

POPULATION: A total of 1939 practicing generalists and specialists across the United States.

OUTCOME MEASURED: We used logistic regression analysis to assess whether physicians in the top and bottom quartiles of satisfaction for each of 10 aspects of their work and communities were more or less likely to anticipate leaving their jobs within 2 years, compared with physicians in mid-satisfaction quartiles. Separate analyses were compiled for generalists vs. specialists, and physicians by age groups (27-44 years, 45-54 years, and 55 years and older).

RESULTS: Generalists and specialists had generally comparable levels of satisfaction, whereas physicians in the oldest age group indicated greater satisfaction than younger physicians in 8 of the 10 work areas. One quarter (27%) of physicians anticipated a moderate- to-definite likelihood of leaving their practices within 2 years. The percentage that anticipated leaving varied with physicians' age, starting at 29% of those 34 years or younger, steadily decreasing with age until reaching a nadir of 22% of those from 45 to 49 years, then reversing direction to steadily increase thereafter. Relative dissatisfaction with pay and with relationships with communities was associated with plans for leaving in nearly all physician groups. For specific specialty and age groups, anticipated departure also correlated with relative dissatisfaction with other selected areas of work.

CONCLUSIONS: To promote retention, these data suggest that physicians and their employers should avoid physician dissatisfaction in particular. Building particularly high levels of satisfaction generally is not helpful for this end. Avoiding relative dissatisfaction with pay and with community relationships appears broadly important.

Suchman, A. L., Roter, D., Green, M., & Lipkin, M., Jr. (1993). Physician satisfaction with primary care office visits. collaborative study group of the American Academy on Physician and Patient. *Medical Care*, 31(12) 1083-1092.

OBJECTIVE: To establish a multidimensional measure of physician satisfaction and study determinants and correlates of physician satisfaction.

DESIGN: Survey – An exit questionnaire completed by physicians after each patient encounter. These data were subjected to multiple types of factor analysis.

SETTING: Office visits of patients at 11 sites in North America, including hospital outpatient departments, clinics, and private practices.

SUBJECTS: There were 124 physicians: 79% male; 95% white; average age 34. The patient population was composed of adults with chronic diseases who were well known to their physicians: 58% female; 55% white and poor (65% earned under \$10,000 per year).

INTERVENTIONS: None.

MEASURES: The physician satisfaction measure consisted of 20 items rated on a 5-point Likert scale. Physicians were also asked to rate the physical and emotional health of each patient and the patient's emotional condition during the visit.

RESULTS: Four distinct dimensions of physician satisfaction emerged: patient-physician relationship (RELATION), data collection process (DATA), appropriateness of the use of time (TIME), and absence of excessive demands on the part of the patient (DEMAND). Global satisfaction was most closely related to physician-patient relationship. Satisfaction with TIME and DATA tended to be stable for individual physicians across a range of patients whereas global satisfaction and satisfaction with RELATION and with DEMAND were more variable, and most unique to each encounter. Patient emotional distress was negatively associated with all satisfaction dimensions except TIME; these factors dominated the DEMAND subscale.

CONCLUSIONS/RECOMMENDATIONS: The most important determinant of physician satisfaction, the physician-patient relationship, has been shown to be one of the most important factors in patient satisfaction, as well. Therefore, it seems likely that educational strategies which improve communication and relationship skills would help to improve physicians' satisfaction with their daily experience in patient care.

G. Informed Consent

American Medical Association. (2004). Code of medical ethics: Current opinions with annotations, 2004-2005. Chicago, IL: American Medical Association.

See annotation in section II-C.

Braddock, C. H., Edwards, K. A., Hasenberg, N. M., Laidley, T. L., & Levinson, W. (1999). Informed decision making in outpatient practice, *Journal of American Medical Association*. 282:2313-2320.

CONTEXT: Many clinicians have called for an increased emphasis on the patient's role in clinical decision making. However, little is known about the extent to which physicians foster patient involvement in decision making, particularly in routine office practice.

OBJECTIVE: To characterize the nature and completeness of informed decision making in routine office visits of both primary care physicians and surgeons.

DESIGN: Cross-sectional descriptive evaluation of audiotaped office visits during 1993.

Setting and Participants A total of 1057 encounters among 59 primary care physicians (general internists and family practitioners) and 65 general and orthopedic surgeons; 2 to 12 patients were recruited from each physician's community-based private office.

MAIN OUTCOME MEASURES: Analysis of audiotaped patient-physician discussions for elements of informed decision making, using criteria that varied with the level of decision complexity: basic (eg, laboratory test), intermediate (eg, new medication), or complex (eg, procedure). Criteria for basic decisions included discussion of the nature of the decision and asking the patient to voice a preference; other categories had criteria that were progressively more stringent.

RESULTS: The 1057 audiotaped encounters contained 3552 clinical decisions. Overall, 9.0% of decisions met our definition of completeness for informed decision making. Basic decisions were most often completely informed (17.2%), while no intermediate decisions were completely informed, and only 1 (0.5%) complex decision was completely informed. Among the elements of informed decision making, discussion of the nature of the intervention occurred most frequently (71%) and assessment of patient understanding least frequently (1.5%).

CONCLUSIONS: Informed decision making among this group of primary care physicians and surgeons was often incomplete. This deficit was present even when criteria for informed decision making were tailored to expect less extensive discussion for decisions of lower complexity. These findings signal the need for efforts to encourage informed decision making in clinical practice.

Braddock, C. H., Fihn, S. D., Levinson, W., Jonsen, A. R., & Pearlman, R. A. (1997). How doctors and patients discuss routine clinical decisions. Informed decision making in the outpatient setting. *Journal of General Internal Medicine : Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 12(6) 339-345.

OBJECTIVE: To characterize the informed consent process in routine, primary care office practice. **DESIGN:** Cross-sectional, descriptive evaluation of audiotaped encounters.

SETTING: Offices of primary care physicians in Portland, Oregon.

PARTICIPANTS: Internists (54%) and family physicians (46%), and their patients.

MEASUREMENTS AND MAIN RESULTS: Audiotapes of primary care office visits from a previous study of doctor-patient communication were coded for the number and type of clinical decisions made. The discussion between doctor and patient was scored according to six criteria for informed decision making: description of the nature of the decision, discussion of alternatives, discussion of risks and benefits, discussion of related uncertainties, assessment of the patient's understanding and elicitation of the patient's preference. Discussions leading to decisions included fewer than two of the six described elements of informed decision making (mean 1.23, median 1.0), most frequent of these was description of the nature of the decision (83% of discussion). Discussion of risks and benefits was less frequent (9%), and assessment of understanding was rare (2%). Discussions of management decisions were generally more substantive than discussions of diagnostic decisions ($p = .05$).

CONCLUSIONS: Discussions leading to clinical decisions in these primary care settings did not fulfill the criteria considered integral to informed decision making. Physicians frequently described the nature of the decision, less frequently discussed risks and benefits, and rarely assessed the patient's understanding of the decision.

Golin, C., DiMatteo, M. R., Duan, N., Leake, B., & Gelberg, L. (2002). Impoverished diabetic patients whose doctors facilitate their participation in medical decision making are more satisfied with their care. *Journal of General Internal Medicine : Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 17(11) 857-866.

OBJECTIVE: Greater participation in medical decision making is generally advocated for patients, and often advocated for those with diabetes. Although some studies suggest that diabetic patients prefer to participate less in decision making than do healthy patients, the empirical relationship between such participation and diabetic patients' satisfaction with their care is currently unknown. We sought to characterize the relationship between aspects of diabetic patients' participation in medical decision making and their satisfaction with care.

DESIGN: Cross-sectional observational study.

SETTING: A general medical county hospital-affiliated clinic.

PARTICIPANTS: One hundred ninety-eight patients with type 2 diabetes.

MAIN MEASURES: Interviews conducted prior to the doctor visit assessed patients' desire to participate in medical decision making, baseline satisfaction (using a standardized measure), and sociodemographic and clinical characteristics. Postvisit interviews of those patients assessed their visit satisfaction and perception of their doctor's facilitation of patient involvement in care. A discrepancy score was computed for each subject to reflect the difference between the previsit stated desire regarding participation and the postvisit report of their experience of participation.

RESULTS: Overall, patients reported low postvisit satisfaction relative to national standards (mean of 70 on a 98-point scale). Patients perceived a high level of facilitation of participation (mean 88 on a 100-point scale). Facilitation of participation and the discrepancy score both independently predicted greater visit satisfaction. In particular, a 13-point (1 SD) increase in the perceived facilitation score resulted in a 12-point (0.87 SD) increase in patient satisfaction, and a 1.22 point increase (1 SD) in the discrepancy score (the extent to which the patient was allowed more participation than, at previsit, he or she desired) resulted in a 6-point (0.5 SD) increase in the satisfaction score, even after controlling for initial desire to participate. For women, but not for men, physician facilitation of participation was a positive predictor of satisfaction; for men, but not women, desire to participate was a significant positive predictor of visit satisfaction.

CONCLUSION: Clinicians may feel reassured that encouraging even initially reluctant patients with diabetes to participate in medical decision making may be associated with increased patient satisfaction. Greater patient participation has the potential to improve diabetic self-care because of the likely positive effect of patient satisfaction on adherence to treatment. Further research to assess the prospective effects of enhancing physician facilitation of patient participation is likely to yield important information for the effective treatment of chronically ill patients.

Kerrigan, D. D., Thevasagayam, R. S., Woods, T. O., Mc Welch, I., Thomas, W. E., Shorthouse, A. J., & Dennison, A. R. (1993). Who's afraid of informed consent? *BMJ (Clinical Research Ed.)*, 306(6873) 298-300.

OBJECTIVE: To test the assumption that patients will become unduly anxious if they are given detailed information about the risks of surgery in an attempt to obtain fully informed consent.

DESIGN: Preoperative anxiety assessed before and after patients were randomly allocated an information sheet containing either simple or detailed descriptions of possible postoperative complications.

SETTING: Four surgical wards at two Sheffield hospitals.

SUBJECTS: 96 men undergoing elective inguinal hernia repair under general anesthesia.

MAIN OUTCOME MEASURE: Change in anxiety level observed after receiving information about potential complications. **RESULTS--** Detailed information did not increase patient anxiety (mean Spielberger score at baseline 33.7 (95% confidence interval 31.3 to 36.2), after information 34.8 (32.1 to 37.5); $p = 0.20$, paired t test). A simple explanation of the facts provided a statistically significant degree of reassurance (mean score at baseline 34.6 (31.5 to 37.6), after information 32.3 (29.8 to 34.9); $p = 0.012$), although this small effect is likely to be clinically important only in those whose baseline anxiety was high ($r = 0.27$, $p = 0.05$).

CONCLUSIONS: In men undergoing elective inguinal hernia repair a very detailed account of what might go wrong does not increase patient anxiety significantly and has the advantage of allowing patients a fully informed choice before they consent to surgery, thus reducing the potential for subsequent litigation.

Kim, S. P., Knight, S. J., Tomori, C., Colella, K. M., Schoor, R. A., & Shih, L. et al. (2001). Health literacy and shared decision making for prostate cancer patients with low socioeconomic status. *Cancer Investigation*, 19(7) 684-691.

OBJECTIVE: To evaluate knowledge, level of satisfaction, and treatment preferences and intention of men with newly diagnosed Prostate cancer after participating in a shared decision making programs, and the relationship between prostate knowledge and health literacy.

DESIGN: Quasi-experimental design. **Intervention:** Interactive CD-ROM shared decision-making tool.

SUBJECTS: 30 newly diagnosed men with prostate cancer. 50% white, 43% African American, 7% Asian American. Mean age of 67 years. 63% married. 70% graduated from high school, 33.3% entered college or professional school. 23% received some high school or less.

SETTING: Two VA hospitals in Chicago.

MEASURES: REALM was used to assess health literacy. Patient ratings of satisfaction. 23 item questionnaire assessing knowledge - Prostate Cancer Knowledge Questionnaire (PCKQ). Treatment preference by asking patient to select from a list of all possible treatments.

RESULTS: Mean REALM score was 57 the equivalent of 7th to 8th grade. More than a third (36.7%) had lower than 9th grade. Mean score on PCKQ was 74%. 7 above 90%, 13 between 70 and 89 and 10 below 69% or lower. 3/4 rated the cd as very satisfying. Treatment preferences hormonal therapy 20%, radical prostatectomy 10%, Combination of hormone and radiation 13.5%. 11.5% other combinations, and 33% undecided. Younger patients were more likely to select surgical procedures. 47% said they were very likely to follow through with their choice, 42.9% were somewhat likely and the remaining neither likely or unlikely.

CONCLUSION: Little correlation between desired treatment and treatment selected. Knowledge scores raise questions as to whether patients understood well enough to make an informed choice.

Levinson, W., & Chaumeton, N. (1999). Communication between surgeons and patients in routine office visits. *Surgery*, 125(2) 127-134.

BACKGROUND: Research conducted in primary care settings has demonstrated that effective communication enhances patient recall of information, compliance, satisfaction, psychologic well-being, and biomedical outcomes. However, surgeons face communication challenges that are unique to the surgical situation. This study provides the first description of routine communication between community-practicing surgeons and their patients.

METHODS: Audiotapes of 676 routine office visits with 29 general surgeons and 37 orthopedic surgeons were coded for structure and content. Descriptive analysis of quantitative data is supplemented by illustrative examples of dialog selected to represent typical patterns of communication.

RESULTS: The mean visit length was 13 minutes. Surgeons talked more than patients, with typical surgical consultations containing relatively high amounts of patient education and counseling. Consultations had a narrow biomedical focus with little discussion of the psychologic aspects of patient problems. The affective tone of visits was generally positive, with few instances of overt criticism or disagreement by either party. However, surgeons infrequently expressed empathy toward patients, and social conversation was brief.

CONCLUSIONS: The study underscores the differences in both the content and process of routine surgical visits compared with primary care visits. On the basis of this work, it seems particularly important for surgeons to develop skills that enhance patient education and counseling. Further research is needed to understand the influences of surgeons' communication on patient behavioral, psychologic, and biomedical outcomes.

H. Reduces Medical Malpractice Risk

Ambady, N., Laplante, D., Nguyen, T., Rosenthal, R., Chaumeton, N., & Levinson, W. (2002). Surgeons' tone of voice: A clue to malpractice history. *Surgery, 132*(1) 5-9.

BACKGROUND: Interpersonal aspects of care, such as the communication behaviors of physicians, are often cited as central to patients' decisions to initiate malpractice litigation. Relatively little is known, however, about the impact of the communication behaviors of surgeons. In the current study, we investigated the relationship between judgments of surgeons' voice tone and their malpractice claims history.

METHODS: We examined the relationship between surgeons' voice tone during routine office visits and their history of malpractice claims. Surgeons were audiotaped while speaking to their patients during office visits, and very brief samples of the conversations were rated by coders blind to surgeons' claims status. Two 10-second clips were extracted for each surgeon from the first and last minute of their interactions with 2 different patients. Several variables were rated that assessed warmth, hostility, dominance, and anxiety from 10-second voice clips with content and 10-second voice clips with just voice tone.

RESULTS: Controlling for content, ratings of higher dominance and lower concern/anxiety in their voice tones significantly identified surgeons with previous claims compared with those who had no claims (odds ratio [OR] 2.74, 95% confidence interval [CI] 1.16 to 6.43 for dominance; OR 0.46, 95% CI 0.21 to 1.01 for concern/anxiety).

CONCLUSIONS: Surgeons' tone of voice in routine visits is associated with malpractice claims history. This is the first study to show clear associations between communication and malpractice in surgeons. Specific types of affect associated with claims can be judged from brief audio clips, suggesting that this method might be useful in training surgeons.

Beckman, H. B., Markakis, K. M., Suchman, A. L., & Frankel, R. M. (1994). The doctor-patient relationship and malpractice. Lessons from plaintiff depositions. *Archives of Internal Medicine, 154*(12) 1365-1370.

OBJECTIVE: To explore plaintiff depositions to gain insight into issues that prompt malpractice claims.

DESIGN: Retrospective content analysis of depositions.

SETTING: Large metropolitan medical center.

SUBJECTS: Convenience sample of 45 patient depositions randomly selected from a sample of 67 made available from settled claims between 1985 and 1987.

INTERVENTIONS: None.

MEASURES: Information extracted included responses to the following questions: "Why are you suing?" and "Did a health professional suggest maloccurrence?"

RESULTS: Relationship problems were identified in 71% of depositions. Four themes emerged: 32% deserting the patient; 29% devaluing patient and/or family views; 26% delivering information poorly; and 13% failing to understand the patient and/or family perspective. Fifty-four percent of plaintiffs responded affirmatively when asked if health professionals suggested maloccurrence. Of these cases, 71% named the post outcome consulting specialist as the one who suggested maloccurrence.

CONCLUSIONS/RECOMMENDATIONS: The decision to litigate is most often associated with perceived lack of caring and/or collaboration in health care delivery. Particular attention needs to be paid to post adverse event consultant-patient interactions.

Bhattacharyya, T., Yeon, H., & Harris, M. B. (2005). The medical-legal aspects of informed consent in orthopaedic surgery. *Journal of Bone and Joint Surgery, 87*(11):2395-2400.

BACKGROUND: Orthopaedic surgeons routinely obtain informed consent prior to surgery. Legally adequate informed consent requires a thorough discussion of treatment options and risks and proper documentation; however, there is little data to guide orthopaedic surgeons regarding effective methods of obtaining informed consent

METHODS: We performed a closed claims analysis on malpractice claims involving an allegation of inadequate informed consent brought during a twenty-four-year period with two malpractice insurers. Relevant malpractice claims were reviewed, and data were abstracted. We then performed statistical analysis to identify factors that positively correlated with a successful defense.

RESULTS: We identified twenty-eight lawsuits that included a claim of inadequate informed consent. All of the cases involved elective orthopaedic surgical procedures; there were no emergent cases. Three cases involved a disputed surgical site; all three cases involved foot and ankle surgery and resulted in an indemnity payment

Documentation of appropriate informed consent in the office notes of the surgeon was associated with a decreased indemnity risk ($p < 0.005$). Obtaining the informed consent on the hospital ward or in the preoperative holding area was associated with an indemnity risk ($p < 0.004$). When informed consent was obtained in the office by the operating surgeon, the risk of malpractice payment was significantly decreased ($p < 0.004$).

CONCLUSIONS: Surgeons may be able to decrease the risk of a malpractice claim by obtaining informed consent in their offices, rather than in the preoperative holding area, and by documenting the informed consent discussion within their dictated office or operative notes.

Brennan, T. A., Leape, L. L., Laird, N. M., Hebert, L., Localio, A. R., Lawthers, A. G., Newhouse, J. P., Weiler, P. C., & Hiatt, H. H. (1991). Incidence of adverse events and negligence in hospitalized patients. results of the Harvard medical practice study I. *The New England Journal of Medicine*, 324(6) 370-376.

BACKGROUND: As part of an interdisciplinary study of medical injury and malpractice litigation, we estimated the incidence of adverse events, defined as injuries caused by medical management, and of the subgroup of such injuries that resulted from negligent or substandard care.

METHODS: We reviewed 30,121 randomly selected records from 51 randomly selected acute care, nonpsychiatric hospitals in New York State in 1984. We then developed population estimates of injuries and computed rates according to the age and sex of the patients as well as the specialties of the physicians.

RESULTS: Adverse events occurred in 3.7 percent of the hospitalizations (95 percent confidence interval, 3.2 to 4.2), and 27.6 percent of the adverse events were due to negligence (95 percent confidence interval, 22.5 to 32.6). Although 70.5 percent of the adverse events gave rise to disability lasting less than six months, 2.6 percent caused permanently disabling injuries and 13.6 percent led to death. The percentage of adverse events attributable to negligence increased in the categories of more severe injuries (Wald test chi 2 = 21.04, P less than 0.0001). Using weighted totals, we estimated that among the 2,671,863 patients discharged from New York hospitals in 1984 there were 98,609 adverse events and 27,179 adverse events involving negligence. Rates of adverse events rose with age (P less than 0.0001). The percentage of adverse events due to negligence was markedly higher among the elderly (P less than 0.01). There were significant differences in rates of adverse events among categories of clinical specialties (P less than 0.0001), but no differences in the percentage due to negligence.

CONCLUSIONS: There is a substantial amount of injury to patients from medical management, and many injuries are the result of substandard care.

Cole, S. A. (1997). Reducing malpractice risk through more effective communication. *The American Journal of Managed Care*, 3(4) 649-53; quiz 656.

This activity is designed for physicians, health plan administrators, and other providers. GOAL: To help physicians, health plan administrators, and other providers learn more about the relationship between provider communication behaviors and subsequent negligence litigation and learn how to reduce malpractice risk through improving communication behaviors. OBJECTIVES: 1. To describe research findings concerning the relationship between provider communication behaviors and subsequent claims of negligence. 2. To describe the major interviewing deficiencies that have been identified as precipitants of malpractice litigation. 3. To describe three functions of effective interviewing. 4. To describe training and learning methods that can improve provider-patient relationships, leading to improved clinical outcomes and decreased malpractice risk.

Entman, S. S., Glass, C. A., Hickson, G. B., Githens, P. B., Whetten-Goldstein, K., & Sloan, F. A. (1994). The relationship between malpractice claims history and subsequent obstetric care. *JAMA: Journal of the American Medical Association*, 272(20) 1588-1591.

OBJECTIVE: To determine the relationship between prior malpractice claims experience and the quality of clinical obstetric care.

DESIGN: Historical cohort study of obstetricians, classified by their prior claims history and the quality of obstetric care.

SETTING: Florida.

SUBJECTS: Florida obstetricians who lost, settled, or defended malpractice claims between 1977 and 1983 and were still practicing in 1987. Physicians were divided into four groups according to claims history: no claims, high frequency and low pay, high frequency and high pay, and other (one claim).

MEASURES: Objective and subjective assessment of quality of care.

RESULTS: No differences were found on any of the objective or subjective measures of quality of care provided to patients.

CONCLUSIONS: No relationship was found between prior malpractice claims experience and technical quality of practice by Florida obstetricians. Strategies that attempt to identify physicians at risk for future clinical errors by using data on prior claims may be misjudging the likelihood that substandard clinical care will be provided by physicians with prior claims.

Hickson, G. B., Clayton, E. W., Entman, S. S., Miller, C. S., Githens, P. B., Whetten-Goldstein, K. & Sloan, F. A. (1994). Obstetricians' prior malpractice experience and patients' satisfaction with care. *JAMA : The Journal of the American Medical Association*, 272(20) 1583-1587.

OBJECTIVE: To identify self-reported reasons that prompt families to file malpractice claims following perinatal injuries.

DESIGN: Survey -- Telephone interviews using a questionnaire.

SETTING: Florida.

SUBJECTS: 127 mothers of infants who experienced permanent injuries or death, who had closed malpractice cases in Florida between 1986 and August 1989.

INTERVENTIONS: None.

MEASURES: Reasons for filing, family description of medical event, advice from acquaintances, and quality of physician communication.

RESULTS: Reasons for filing included the following: 33% were advised by knowledgeable acquaintance, 24% recognized a cover-up, 24% needed money, 23% recognized the child would have no future; 20% needed information; 19% decided to seek revenge or protect others from harm. Over 33% of the families were told by health care professionals that the care provided had caused the child's injuries. Physician-patient communication problems included the following: 13% said the physician wouldn't listen, 32% reported that the physician wouldn't talk openly, 48% believed the physician attempted to mislead them, and 70 % said the physician did not warn about long-term neurodevelopmental problems.

CONCLUSIONS: Patients who sue are not a homogeneous group. Communication is an important factor in medical care that cannot be overlooked. Many suits were brought because health care professionals informed parents of inferior care; this needs to be examined further.

Hickson, G. B., Clayton, E. W., Githens, P. B., & Sloan, F. A. (1992). Factors that prompted families to file medical malpractice claims following perinatal injuries. *JAMA : The Journal of the American Medical Association*, 267(10) 1359-1363.

OBJECTIVE: To examine the relationship between prior physician malpractice and patients' satisfaction with care.

DESIGN: Survey -- Historical cohort study.

SETTING: Florida obstetricians and their patients.

SUBJECTS: Mothers of all stillborn infants, infants who died, and mothers of a random sampling of viable infants drawn from 1987 Florida Vital Statistics were sorted into four groups based on malpractice claims experience of the obstetrician between 1983 and 1986. 963 of the sample of 1536 women were interviewed (910 by telephone and 53 in person). Physicians who had practiced obstetrics for at least 3 years in Florida were classified into four categories according to malpractice history. The four categories were as follows: no claims, high frequency and low pay suits, high frequency and high pay suits, and others (at least one claim).

INTERVENTION: None.

MEASURES: Responses to closed- and open-ended questions about the patients' perceptions of care they received.

RESULTS: Patients seeing physicians with high frequency and low pay suits were significantly more likely to complain that they felt rushed, never received explanations for tests, and were ignored. Additionally, these patients offered twice as many complaints about their physicians than those seeing physicians who had never been sued. Physician-patient communication problems were the most frequently cited complaints.

CONCLUSIONS/RECOMMENDATIONS: Physicians who have been sued frequently are more often the objects of complaints about the interpersonal care they provide, even by their patients who do not sue.

Hickson, G. B., Federspiel, C. F., Pichert, J. W., Miller, C. S., Gauld-Jaeger, J., & Bost, P. (2002). Patient complaints and malpractice risk. *JAMA : The Journal of the American Medical Association*, 287(22) 2951-2957.

OBJECTIVE: To examine the relationship between the distribution of unsolicited patient complaints and the extent to which a physician's risk management activities might be predicted.

DESIGN: Correlational -- Retrospective longitudinal cohort study.

SETTING: U.S. medical group over a 75-month period from January 1992 through March 1998.

SUBJECTS: 645 physicians including surgical and non-surgical practice types. 33.9% were surgeons, 66.1% were in medicine, pediatrics, or neurology. 79.1% were male and 89.3% received U.S. medical training.

INTERVENTION: None.

MEASURES: Unsolicited patient complaint data came from files of the medical center's Patient Advocates Office (PAO) with narratives coded for specific complaints using a standardized set of codes, and compared with risk management activities. Data on risk management activities during the study period were obtained through the Office of Insurance and Risk Management which collected risk management files (RMF's), containing description of an incident where the risk of subsequent legal action was assessed by the risk management staff. The patient complaint data included the alleged offender and was compared with each cohort member's risk management records during the study period.

RESULTS: Non-surgeons had less risk management activity than surgeons (32% for non-surgeons vs. 63% for surgeons having at least one risk management file). Patient complaints did vary by sex where female physicians were less likely than male physicians to be involved with RMF's, (31% female vs. 46% for male). Both complaint and risk management data were positively correlated with physicians' volume of clinical activity.

CONCLUSIONS/RECOMMENDATIONS: Unsolicited patient complaints obtained and recorded by a medical group's patient advocate office can be used to differentiate physicians at risk for malpractice.

Huntington, B., & Kuhn, N. (2003). Communication gaffes: A root cause of malpractice claims. *Baylor University Medical Center Proceedings*, 16, 157-161, Retrieved on November 16, 2005, from

http://www.baylorhealth.edu/proceedings/16_2/16_2_huntington.pdf

This article addresses and provides a response to the medical malpractice insurance crisis, specifically related to the availability of diminishing medical malpractice insurance, skyrocketing insurance premiums, bankruptcy of insurance carriers and refusal to write

insurance policies in certain states. The impact of this crisis on patients and physicians is addressed. For instance, the authors discuss the reality that some physicians are leaving medicine as a result of this crisis and the most concerning fallout is that patient access to care is being compromised. The article discusses the “art” of communication as it occurs in everyday patient encounters, the important dialogue that occurs when giving informed consent, the challenge of encountering an angry patient, and the new trend of disclosing unexpected outcomes and medical errors.

Levinson, W., Roter, D. L., Mullooly, J. P., Dull, V. T., & Frankel, R. M. (1997). Physician-patient communication. the relationship with malpractice claims among primary care physicians and surgeons. *JAMA : The Journal of the American Medical Association*, 277(7) 553-559.

OBJECTIVE: To identify specific communication behaviors associated with malpractice history in primary care physicians and surgeons.

DESIGN: Correlational.

SETTINGS: One hundred twenty-four physicians’ offices in Oregon and Colorado.

SUBJECTS: Primary care physicians (general internists and family practitioners) and general and orthopedic surgeons and their patients. Physicians were classified into no-claims or claims groups based on insurance company records, and were stratified by years in practice and specialty.

MEASURES: Audio tape analysis using the Roter Interaction Analysis System.

RESULTS: Significant differences in communication behaviors of no-claims and claims physicians were identified in primary care physicians but not in surgeons. Compared with claims primary care physicians, no-claims primary care physicians used more statements of orientation (educating patients about what to expect and the flow of the visit), laughed and used humor more, and tended to use more facilitation (soliciting patients' opinions, checking understanding, and encouraging patients to talk). No-claims primary care physicians spent longer in routine visits than claims primary care physicians (mean, 18.3 vs. 15.0 minutes), and the length of the visit had an independent effect in predicting claims status.

CONCLUSIONS: Physician-patient communication differs in primary care physicians with claims versus primary care physicians with no claims. The study identified specific and teachable communication behaviors associated with fewer malpractice claims for primary care physicians. Physicians can use these behaviors as they seek to improve communication and decrease malpractice risk.

Rice, B. (2005, July). Ten ways to guarantee a lawsuit. *Medical Economics*. Retrieved on November 16, 2005, from <http://www.memag.com/memag/article/articleDetail.jsp?id=168737>

This article provides a set of guidelines for clinicians to address the malpractice crisis. The author reminds the reader that the majority of patients who suffer an injury as a result of medical negligence do not end up suing their doctors. Instead, patients that decide to sue their physician are motivated by the nonclinical aspects of the problem, which they view as ineffective communication and subsequent problematic relationships with their physician. The author based the information in the article following interviews with malpractice attorneys—those who work for plaintiffs as well as for doctors—and risk management consultants to come up with a list of guidelines and actions for clinicians to avoid patient complaints and malpractice risk.

Virshup, B. B., Oppenberg, A. A., & Coleman, M. M. (1999). Strategic risk management: Reducing malpractice claims through more effective patient-doctor communication. *American Journal of Medical Quality: The Official Journal of the American College of Medical Quality*, 14(4) 153-159.

DESCRIPTION OF CONTEXT: The authors have developed an active-listening educational unit as a part of a Loss Prevention / Risk Management seminar for a California-based physician cooperative that operates in conjunction with a professional liability trust. Many malpractice suits are brought not because of malpractice nor even because of complaints about the quality of medical care but as an expression of anger about some aspect of patient-doctor relationships and communications. The theory presented is that under the stress of anxiety and physical illness, some patients regress to childhood needs; physicians are not generally trained to fill such needs. Thus, these patients, angry because of this, express their anger in malpractice suits. This theory has been taught to physicians and medical students as part of a physician continuing medical education (CME) seminar on Loss Prevention/Risk Management through demonstration of active-listening techniques to seminar participants.

TOPIC/SCOPE: A standing physician claims review committee conducts in-depth interviews with doctors in the organization who have been sued. The company has also established a mandatory three-hour training program for physicians. The physician CME committee and the staff of the organization have come to believe that, in most cases, the number of lawsuits suffered by a physician is not related to the quality of medicine practiced. Physicians who understand and can respond appropriately to the emotional needs of their patients are less likely to be sued. This may also translate into a more fulfilled practice of medicine by those physicians who are most aware of the importance of a positive relationship.

CONCLUSIONS/RECOMMENDATIONS: According to several studies, patients of lawsuit-prone physicians have more complaints about their doctor than the patients of physicians who are sued less often. An important reason for patient lawsuits is understood to be patient anger at the perceived failure of the physician to establish a good patient-doctor relationship. The principles of communication presented at the Loss Prevention / Risk Management seminar can improve the patient-doctor relationship. This is likely to be reflected in increased patient approval and in a lowered incidence of malpractice claims.

III. CLINICAL COMMUNICATION SKILLS

A. General

Mishler, E. G. (1984). *The discourse of medicine : Dialectics of medical interviews*. Norwood, N.J.: Ablex Pub. Corp.

This is the first full-length monograph devoted to the study of the "talk" between physicians and patients in a medical interview. Methods are developed to describe, analyze and interpret the discourse. Additionally, a critique and review of previous research in this area is included. In the course of the work, a critique of more traditional methods, studies, and interpretations of medical interviews is presented.

Keller, VF. & Carroll, JG(1994). A new model for physician-patient communication. *Patient Education and Counseling*, 23, 131-140.

The E4 model for physician-patient communication is presented with specific techniques for implementing the model. Derived from an extensive review of the literature on physician-patient communication, the model has proved to be a useful tool in workshops for and coaching of physicians regardless of specialty, experience or practice setting.

B. Healthcare Communication and Limited English Proficiency (The following annotations were selected from: Language Barriers in Health Settings, The California Endowment, 2003 and Medical Interpretation in Connecticut's Acute Care Hospital, Dept of Public Health, State of Connecticut and Southern CT State University, 2008).

Baker DW, Hayes R, Fortier JP.(1998). Interpreter use and satisfaction with interpersonal aspects of care for Spanish-speaking patients. *Medical Care*. 36(10):1461-1470.

This study was designed to evaluate the effect of language barriers on Spanish-speaking patients' satisfaction with the provider-patient relationship. It included a sample of 457 native Spanish-speaking adult patients who presented to a Los Angeles medical center emergency department for initial evaluation of a nonurgent medical problem. The treating physician or nurse decided whether to call for an interpreter based on their subjective assessment of need; patients were not routinely asked if they would like an interpreter. Participants were asked whether they preferred to be interviewed in English or Spanish. An interview was conducted to obtain demographic information, self-reported health, measures of literacy and anticipated satisfaction with the visit. One week after the appointment, a follow-up interview was performed, by telephone or in person, to assess patient satisfaction with the previous emergency department visit, including measures of provider friendliness, respectfulness, concern, adequacy of time spent and their ability to make the patient feel comfortable. Participants were also asked whether an interpreter was used, and if not, whether they felt one should have been used. Patients were divided into three groups: group 1 did not use an interpreter and did not feel one was needed, group 2 used a (primarily ad hoc) interpreter (only 12 of percent encounters involved professional interpreters), and group 3 did not use an interpreter but felt one should have been called. Generally, group 1 had the highest satisfaction on all measures of interpersonal aspects of care, followed by group 2, with group 3 having the lowest satisfaction of all three groups. Multivariate analysis showed that using an ad hoc interpreter or reporting that an interpreter was needed but not used were significantly predictive of lower satisfaction. The other significant independent predictor of satisfaction was inadequate literacy. Language barriers can negatively influence patients' perceptions of provider care.

Bernstein J, Bernstein E, Dave A, et al. (2002). Trained medical interpreters in the emergency department: Effects on services, subsequent charges, and follow-up. *Journal of Immigrant Health*.4(4):171-176.

This retrospective chart review investigated the impact of interpreter services at Boston Medical Center on the intensity of emergency department services, utilization and charges. The medical records of all 26,573 patients who were seen in the emergency department during a five-month period were reviewed. Five hundred patients met the inclusion criteria, which included presenting symptoms of chest pain, shortness of breath, abdominal pain, headache, or pelvic pain in non-pregnant women. Demographic data (age, sex, ethnicity, etc.), measures of clinical acuity and patient disposition (e.g. discharge or admission to the hospital) were also recorded. Only patients who spoke English, Spanish, Haitian Creole, or Portuguese Creole were included. Language data was obtained from the emergency department registration form on which clerks entered patient self-reported primary language and whether the patient was comfortable speaking English. Interpreter Service billing records were reviewed to identify which patients received professional medical interpretation. Utilization and charge data were then collected for the 30-day follow-up period after the initial

index visit. No other medical facilities were included in the study. Non-interpreted patients (NIP) who did not speak English had the shortest emergency department stays and the fewest tests, intravenous catheters and medications, while English-speaking patients (ESP) had the most services, the longest stays (an average of 3 hours longer) and the most charges. In post-discharge follow-up, interpreted patients received significantly more primary care and specialty clinic referrals than did either NIP or ESP; were more likely to follow-up in clinic than NIP; were less likely than NIP to return to the emergency department; and had the lowest charges

from both clinic visits and emergency department returns of all three groups. Use of a professional interpreter may result in improved quality and lower cost of follow up care for limited English proficient patients seen in the emergency department.

Connecticut Health Foundation (2008, April). *Medicaid Payment for Medical Interpreters: Implementation Questions and Recommended Actions.*

Presents available options for reimbursing for medical interpreters under Medicaid.

Cooke MW, Wilson S, Cox P, Roalfe A. (2000). Public understanding of medical terminology: Non-English speakers may not receive optimal care. *Journal of Accident and Emergency Medicine.* 17:119-121.

In the medical setting, unconsciousness is often an indicator of severity of illness. The objective of this research was to determine the general public's awareness and comprehension of the word "unconscious." Seven hundred adult patients attending an inner city accident and emergency department were asked, in English, one of seven questions regarding the concept of unconsciousness. Respondents with English as a first language were significantly more likely to give a correct answer than respondents who were non-native English speakers (77.8 percent vs. 62.7 percent). When the inter-relationships of all variables were examined via logistic regression analysis, the independent predictor of supplying a correct answer was having English as a first language. Non-native English speakers, even when speaking English, may have difficulty understanding frequently used medical terms.

Elderkin-Thompson V, Silver RC, Waitzkin H. (2001). When nurses double as interpreters: A study of Spanish-speaking patients in a U.S. primary care setting. *Social Science and Medicine.*52:1343-1358.

This qualitative study, based at a university-affiliated walk-in primary care clinic in Irvine, California, was designed to document communication errors when using untrained bilingual nurses as interpreters. Twentyone medical encounters with adult Spanish-speaking patients seeking first-time episodic care who required a nurse-interpreter were videotaped, transcribed, translated and analyzed for types of interpreting errors and processes that promoted the occurrence of errors. Each encounter was classified according to the number and types of errors. Examples of successful and unsuccessful encounters are presented. Successful interpreting often involved physicians who spoke slowly and distinctly, in short, simple sentences, and who used repetition and confirmation with the interpreter to confirm the patient's history. Developments of misunderstandings during interpreting were due to either the physician's inability to accommodate new information – for example, continuing with the exam without incorporating new, contradictory information – or the nurse-interpreters' attempt to solve differing perceptions of the problem by providing false information that correlated with what the physician expected to hear. Omissions, condensations, additions and other inaccuracies also led to discrepancies, as did instances when nurses would provide an answer without asking the patient, believing they had already obtained that piece of information. The use of untrained, ad hoc interpreters can lead to distortions in the information obtained from the clinical interview.

Fiscella K, Franks P, Doescher MP, Saver BG. (2002). Disparities in health care by race, ethnicity, and language among the insured. *Medical Care.*;40:52-59.

The objective of this study was to examine the effect of access barriers, including English fluency, on racial and ethnic disparities in health care. The data came from 31,003 respondents who completed the Community Tracking Study Household Survey in 1996 and 1997. Ethnicity was self-reported as Hispanic or non-Hispanic and language was classified according to the language used during the interview. After adjusting for demographic characteristics, need factors and enabling factors, Spanish-speaking Hispanic patients were significantly less likely than non-Hispanic white patients to have had a physician visit, mental health visit, mammogram or influenza vaccination. There were no significant differences between Englishspeaking Hispanic respondents and non-Hispanic white respondents, suggesting that language, and not Hispanic ethnicity, accounted for Hispanic disparities in use of health services. This study suggests that language may be the most important determinant of health disparities between Hispanic and white, non-Hispanic populations. [

Flores G, Barton Laws M, Mayo SJ, et al. (2003). Errors in medical interpretation and their potential clinical consequences in pediatric encounters. *Pediatrics.* 111(1):6-14.

The objectives of this study were to determine the frequency, types and potential clinical consequences of errors in medical interpreting. The investigators audiotaped and transcribed 13 pediatric encounters in a hospital outpatient clinic for which a Spanish interpreter was needed. The transcripts were coded for interpreting errors and the potential clinical consequences of those errors. Hospital staff interpreters were present for six encounters, while the remainder were interpreted by nurses (n=3), social workers (n=3) and an 11-year-old child (n=1). Hospital staff interpreters' proficiency in English and Spanish were reportedly assessed at some level; it is unclear whether they had any training. There were a total of 396 errors recorded. They included omission of a word/phrase uttered by parent, physician or child (52 percent), using an incorrect word/phrase (16 percent), inappropriately substituting words/phrases (13 percent), providing personal views (10 percent) and inappropriate addition by the interpreter (8 percent). Further analysis of errors in which the interpreter used an incorrect word or phrase found that most of these instances (75 percent) involved physicians trying to communicate while the interpreter was out of the room or on the phone; hospital interpreters

who did not know the correct Spanish words for medical terminology committed the majority of these errors. Sixty-three percent of all errors had potential clinical consequences and errors made by ad hoc interpreters were significantly more likely to have clinical consequences than those made by hospital interpreters (77 percent vs. 53 percent). Errors in medical interpreting in the pediatric setting are common and have potential clinical consequences. Ad hoc interpreters are more likely to make errors that can lead to clinical consequences.

Gerrish K. (2000). The nature and effect of communication difficulties arising from interactions between district nurses and South Asian patients and their carers. *Journal of Advanced Nursing*. 33:566-574.

The aim of this study was to examine how recent policy directives aimed at improving health care organizations' responsiveness to differences in language, culture and religion affected communication difficulties between nurses and South Asian (Bangladeshi, Pakistani and Indian) patients in a single English city. An ethnographic approach was taken and included participant observation of six district nursing teams, four with high South Asian caseloads and two with high white caseloads. The nurse collecting the data made a subjective evaluation of patient's English ability. According to her assessment, more than 45 percent of South Asian patients had a good command of English, while almost 30 percent understood no English at all. The majority of patients with poor English understanding were elderly and female. In cases where the patients spoke little or no English, the nurses relied on family members to interpret 60 percent of the time; 37.3 percent of the time no one was available to interpret. Although the health care organization provided interpreters in the main South Asian languages spoken in the community, the nurses rarely utilized them. The reasons cited for not using interpreters included the fact that they had to be scheduled two days in advance, nurses' lack of confidence in the dedicated interpreters' skills, and fear that patients would be uncomfortable with a stranger interpreting. Nurses also expressed discomfort in using family members due to issues of confidentiality and inaccuracy of interpreting, yet relied upon them heavily. Use of dedicated interpreters is hindered by a lack of timely access and fears about the quality and confidentiality of the interpretation they provide.

Ghandi TK, Burstin HR, Cook EF, et al. (2000). Drug complications in outpatients. *Journal of General Internal Medicine*.;15:149-154.

This study, based on a survey of 2,248 randomly selected adult outpatients from eleven Boston area ambulatory clinics, was designed to assess the incidence and characteristics of outpatient drug complications, identify their clinical and non-clinical correlates, and evaluate their impact on patient satisfaction. Patients were eligible for the study if they were between the ages of 20 and 75, had made at least one visit to an attending physician in the preceding year, and spoke English or Spanish. For participating patients, a chart review was performed to collect information on diagnoses, medications, allergies, hospitalizations and adverse drug events. This was followed by a telephone survey, conducted in English or Spanish, designed to collect information on sociodemographic characteristics, patient satisfaction, health status, utilization and drug complications. Multiple regression showed that having a primary language other than English or Spanish was an independent predictor of patient-reported drug complications, along with the number of medical problems and failure to have side effects explained before treatment. The level of overall satisfaction was significantly lower among patients who reported problems related to medication use than among those who did not. Language barriers may play a role in outpatient drug complications, which in turn is related to lower patient satisfaction.

Hampers LC, McNulty JE. (2002). Professional interpreters and bilingual physicians in a pediatric emergency department. *Archives of Pediatric Adolescent Medicine*. 156(11):1108-1113.

The objective of this study was to determine the impact of interpreters and bilingual physicians on emergency department resource utilization. The investigators measured the effect of having a bilingual physician or professional interpreter on the incidence and cost of diagnostic testing, use of intravenous hydration, length of emergency department stay and admission to the hospital. They studied four types of visits: 1) those conducted in English without difficulty (n=3596), 2) those conducted by the physician in a language other than English (n=170), 3) those conducted in a language other than English with the assistance of a professional interpreter (n=141) and 4) those conducted with an ad hoc interpreter or in English without an interpreter, even though the patient was not fluent in English (n=239). The treating physicians determined whether or not the patient had difficulty speaking English and whether or not they could communicate with their patient in a language other than English. In multivariate analyses, non-English-speaking patients seen

by bilingual physicians had similar rates of resource utilization to English-speaking patients. Non-Englishspeaking patients seen with a trained interpreter had similar test costs, were significantly less likely to have tests ordered, had significantly longer visit times, and were more likely to be admitted to the hospital than English-speaking patients. Patients seen when a language barrier was present and a professional interpreter was unavailable had a significantly higher incidence and cost of testing and were most likely of all four groups to receive intravenous fluids and to be admitted to the hospital; there was no difference in visit times. Professional interpreters may improve communication and increase physician assurance to a degree that approximates clinical encounters in which no language barrier exists.

Health Grades, Inc. (2007, April). *Fourth Annual Patient Safety in American Hospitals Study*.

Presents the patient safety incidence rates for nearly every hospital in the United States.

Jacobs EA, Lauderdale DS, Meltzer D, Shorey JM, Levinson W, (2001). Thisted RA. Impact of interpreter services on delivery of health care to limited-English-proficient patients. *Journal of General Internal Medicine*. 16:468-474.

The goal of this study was to determine the effects of a professional interpreter program on delivery of health services to limited-English-speaking patients in a large health maintenance organization. The investigators compared the receipt of clinical services between two groups in the year prior to (year 1), and the year after (year 2) the implementation of interpreter services. The interpreter service group (n=327) included Spanish and Portuguese speaking patients. The control group (n=4,053) was a random sample of all other health care members who did not use interpreter services. In multivariate analysis, the interpreter service group had a significantly greater increase between year one and year two in the number of office visits, receipt of preventive care, prescriptions written and prescriptions filled when compared to the control group. This suggests that the increase in these services was due to the implementation of the interpreter services and not a trend in the health maintenance organization overall. Provision of professional interpreter services can increase delivery of preventive and primary care.

The Joint Commission (2007). *The Joint Commission 2007 Requirements Related to Provision of Culturally and Linguistically Appropriate Health Care*

Presents Joint Commission standards and elements of performance (EPs) that are related to the provision of culturally and linguistically appropriate services in the various accreditation settings.

Martinez, L. S., Hitov, S. & Youdelman, M. (2006, Reissued 2007). *Language Access in Health Care Statement of Principles: Explanatory Guide*

Presents a conceptual guide for use in achieving quality care for patient with limited English Proficiency by addressing issues of language access in health care at the national, state and local levels.

Murphy S; Risk Management Division of ISMIE Mutual Insurance Company. (2004). Communicating with limited English proficiency (LEP) patients: question of health-care access. *J Med Pract Manage*.20(1):23-7.

In the United States, the ability to understand English plays an essential role in how well patients and health-care providers communicate. This article highlights the concerns of providers, differential health-care outcomes, and risk management concerns of providing health care in an increasingly diverse and polyglot population.

National Languages Services Network. (2007). *Speaking Together: Tools for Improving Language Services Delivery. The George Washington University Medical Center, School of Public Health and Health Service, Department of Health Policy*

Presents tools and ideas developed and tested that can be implemented in hospitals to facilitate effective, efficient and timely communication in their institution for improving the quality and availability of health care language services for patients with limited English language proficiency.

New Hampshire Medical Interpretation Advisory Board (2005, December). *New Hampshire Medical Interpretation Strategic Plan: A Roadmap for Linguistically Appropriate Services*

Presents the results of a study that examined how to improve health care for New Hampshire's deaf and hard of hearing and patients with limited English proficiency.

Office of Minority Health (2000). *Best Practices Recommendations for Hospital-Based Interpreter Services. Commonwealth of Massachusetts Executive Office of Health and Human Services, Massachusetts Department of Public Health*

Presents the components of an optimal interpreter services program for hospitals – both for emergency services and for other hospital-based clinical services.

Paras M. (2005). *Straight Talk: Model Hospital Policies and Procedures on Language Access*

Presents a set of tools to hospitals for utilization in updating their internal Policy and Procedures Manuals for the provision of services to patient with limited English proficiency.

Perkins, J. & Youdelman, M. (2008, January). *Summary of State Law Requirements: Addressing Language Needs in Health Care*

Presents a compilation of state laws on language access.

United States Department of Health and Human Services, Office of Minority Health, (prepared by IQ Solutions Inc.), *National Standards for Culturally and Linguistically Appropriate Services in Health Care – Final Report, 2001.*

The CLAS standards, issued by the U.S. Department of Health and Human Services' (HHS) Office of Minority Health (OMH), serve to ensure that patients, with limited English proficiency, accessing the health care system, receive medical care in a culturally and linguistically appropriate manner

Waxman MA, Levitt AM. (2000) Are diagnostic testing and admission rates higher in non-English-speaking versus English-speaking patients in the emergency department? *Annals of Emergency Medicine*. 36(5):456-461.

This was an observational study of English-speaking patients (n=172) and patients with Limited English Proficiency (LEP; n=152) presenting to a New York public hospital's emergency department with nontraumatic chest or abdominal pain. The goal was to explore whether or not there were differences in the use of diagnostic tests, admission rates and length of stay between the two patient groups. The research assistant defined patients as having LEP. Patients with LEP spoke more than nine languages. Interpreters were present for all LEP patient visits, but only 19.6 percent of them were professional interpreters. Analyses were conducted using logistic regression analyses to control for multiple comparisons, but the researchers did not control for potential confounders. Patients with LEP and abdominal pain received significantly more tests (five on average) than English-speaking patients; test ordering was the same in both groups when they presented with chest pain. There were no significant differences between the two groups in length of stay in the emergency department or admission to the hospital. Patients who do not speak English well may have more tests ordered in the emergency department than are necessary.

Wynia, R. H., Yonek, J., Pierce, D., Kang, R. & Greising, H. C. (2006). *Hospital Language Services for Patients with Limited English Proficiency: Results from a National Survey*

Presents results from a national survey of U.S. hospitals to seek information about patient language services.

Youdelman, M. & Perkins, J. (2002). *Providing Language Interpretation Services in Health Care Settings: Examples from the Field*

Presents an assessment of programs underway to improve access to interpreter services in health care settings.

C. E1 - Engage the Person

Platt, F. W., Gaspar, D. L., Coulehan, J. L., Fox, L., Adler, A. J., Weston, W. W., Smith, R. C., & Stewart, M. (2001). "Tell me about yourself": The patient-centered interview. *Annals of Internal Medicine*, 134(11) 1079-1085.

Offers pointers for physicians on how to improve their communication and rapport with their patients. Areas of concern in getting to know the person of a patient; Expectations of the patient from the doctor; Inquiry on the patient's main feelings about the illness; Suggested language and phrases to use.

Stewart, M. A., McWhinney, I. R., & Buck, C. W. (1979). The doctor/patient relationship and its effect upon outcome. *The Journal of the Royal College of General Practitioners*, 29(199) 77-81.

OBJECTIVE: To determine the factors that affect the doctor's knowledge of the patient's problem and to find out if such knowledge has a bearing on the patient's recovery and satisfaction with care.

DESIGN: Correlational.

SETTING: University-based family practice in Western Ontario.

SUBJECTS: Five part-time members of the Dept. of Family Medicine at the University of Western Ontario and 299 of their adult patients whose problem list included one of 13 chronic illnesses and who reported at least 1 of 15 social problems.

INTERVENTION: None.

MEASURES: Patients were asked to identify their complaints, associated worries and discomforts, disturbances in daily living, and social problems. Doctors were asked the same questions and these were compared with patient responses. Scores were calculated by dividing the number of problems known by doctor by the number of concerns mentioned by patient, a perfect score is indicated by 1.00. Outcomes measured at 3 months were 1) patient's evaluation of general progress; 2) patient's perception of recovery from discomfort, worry, disturbance in daily living, and social problems; and 3) level of activity measured by changes in patient status in terms of being bedridden, inactive, or feeling unhealthy. Patient satisfaction was also measured.

RESULTS: Doctor awareness of complaints was moderately high; knowledge of social problems was lower. Factors associated with doctor awareness were a small number of patient problems, a large number of recent visits, and the patient rather than the doctor initiating the consultation. In the group where patients initiated the consultation, doctors' knowledge was associated with patients' perception of recovery.

CONCLUSIONS/RECOMMENDATIONS: There are aspects of the doctor patient relationship that make important contributions to satisfaction, compliance, and recovery. The opening segment of doctor-patient interviews includes the patients' opening comments, and their ability to tell their perspective can impact outcomes.

D. E1 - Engage the Agenda

Barry, C. A., Bradley, C. P., Britten, N., Stevenson, F. A., & Barber, N. (2000). Patients' unvoiced agendas in general practice consultations: Qualitative study. *BMJ (Clinical Research Ed.)*, 320(7244) 1246-1250.

OBJECTIVE: To investigate patients' agendas before consultation and to assess which aspects of agendas are voiced in the consultation and the effects of unvoiced agendas on outcomes.

DESIGN: Qualitative study.

SETTING: 20 general practices in south east England and the West Midlands.

PARTICIPANTS: 35 patients consulting 20 general practitioners in appointment and emergency surgeries.

RESULTS: Patients' agendas are complex and multifarious. Only four of 35 patients voiced all their agendas in consultation. Agenda items most commonly voiced were symptoms and requests for diagnoses and prescriptions. The most common unvoiced agenda items were: worries about possible diagnosis and what the future holds; patients' ideas about what is wrong; side effects; not wanting a prescription; and information relating to social context. Agenda items that were not raised in the consultation often led to specific problem outcomes (for example, major misunderstandings), unwanted prescriptions, non-use of prescriptions, and non-adherence to treatment. In all of the 14 consultations with problem outcomes at least one of the problems was related to an unvoiced agenda item.

CONCLUSION: Patients have many needs and when these are not voiced they can not be addressed. Some of the poor outcomes in the case studies were related to unvoiced agenda items. This suggests that when patients and their needs are more fully articulated in the consultation better health care may be effected. Steps should be taken in both daily clinical practice and research to encourage the voicing of patients' agendas.

Bell, R. A., Kravitz, R. L., Thom, D., Krupat, E., & Azari, R. (2002). Unmet expectations for care and the patient-physician relationship. *Journal of General Internal Medicine : Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 17(11) 817-824.

OBJECTIVE: To profile patients likely to have unmet expectations for care, examine the effects of such expectations, and investigate how physicians' responses to patients' requests affect the development of unfulfilled expectations.

DESIGN: Patient and physician questionnaires were administered before and after outpatient visits. A follow-up telephone survey was administered 2 weeks post visit.

SETTING: The offices of 45 family practice, internal medicine, and cardiology physicians.

PATIENTS: Nine hundred nine adults reporting a health problem or concern.

MEASUREMENTS AND MAIN RESULTS: Before their visits, patients rated their general health and trust in the index physician. After the visit, patients reported upon 8 types of unmet expectations and any request they made. Two weeks thereafter, patients rated their visit satisfaction, improvement, and intention to adhere to the physician's advice. They also reported any postvisit health system contacts. Overall, 11.6% of patients reported ≥ 1 unmet expectation. Visits in which a patient held an unmet expectation were rated by physicians as less satisfying and more effortful. At follow-up, patients who perceived an unmet expectation for care also reported less satisfaction with their visits, less improvement, and weaker intentions to adhere. Patients with an unmet expectation related to clinical resource allocation had more postvisit health system contacts. Unmet expectations were typically reported by a patient whose request for a resource was not fulfilled.

CONCLUSIONS: Unmet expectations adversely affect patients and physicians alike. Physicians' nonfulfillment of patients' requests plays a significant role in patients' beliefs that their physicians did not meet their expectations for care.

Bergh, K. D. (1996). Time use and physicians' exploration of the reason for the office visit. *Fam Med* 28(4): 264-270.

BACKGROUND: Patient-centered clinical methods encourage physicians to explore the patient's reasons for the visit. Practitioners worry that this behavior may be inefficient. This study piloted a method to examine how the number of problems managed and time per problem vary with time spent exploring a patient's views. METHODS: Exploration of a patient's views, medical investigation, explanation, and management were mapped against time for a defined agenda from videotapes of eight second-year residents seeing three simulated patients. Performance of three of four tasks defined completion of work on an agendum. Visit length, time per agendum completed, and proportion of agenda completed were compared with time per task using regression methods.

RESULTS: Time on exploration correlated with visit length and proportion of agenda completed, but other tasks did not. Time per agendum completed was unrelated to time on exploration.

CONCLUSIONS: Visits were longer when more time was spent exploring the patient's reason for the visit because the physician tackled more problems. Time required per problem was not significantly increased. Task/agenda mapping is worth further development to examine differences in comprehensiveness and efficiency among practice styles.

Clever, S.L., Jin, L., Levinson, W., & Meltzer, D.O. (2008). Does Doctor–Patient Communication Affect Patient Satisfaction with Hospital Care? Results of an Analysis with a Novel Instrumental Variable. *Health Services Research* 43:5, Part I (October 2008): 1505-1519.

Objective. To determine the relationship between physicians' communication behaviors and patients' overall satisfaction with hospital care using a novel instrumental variable to address possible confounding of this association by patient attributes.

Data Sources/Study Setting. Administrative records and postdischarge survey data were obtained from patients discharged from the General Medicine service at an urban tertiary-care academic hospital between July 1, 1997 and June 30, 2000. Administrative data included comorbidities, demographic data, and payer status. In the discharge survey, patients rated their attending physician on four communication behaviors, other aspects of their hospital stay, and their overall hospital care.

Study Design. The primary outcome was patients' ratings of their overall satisfaction with hospital care, and the primary independent variable was patients' ratings of their physicians' communication behaviors. To remove possible confounding of the association

between patient ratings of physician communication and overall satisfaction by other patient-specific attributes, we created an instrumental variable (IV) in a two-stage linear regression. The IV was the mean of the communication ratings given to each physician by the other patients cared for by that physician. Principle Findings/Conclusions. Three thousand one hundred and twenty-three patients were included in the analysis. In the ordinary least squares regression, there was a significant positive relationship between overall satisfaction and overall ratings of attendings' communication behaviors, with an increase in overall satisfaction of 0.58 points on a 5-point scale for each 1-point increase in overall attendings' communication behaviors, $p < .001$. This relationship was maintained but attenuated in the IV regression, with a coefficient of 0.40, $p = .046$. Although we find that the relationship between patient communication ratings and overall patient satisfaction may be confounded by patient-level factors, we nevertheless continue to find evidence of a statistically significant and sizable relationship between physicians' communication behaviors and overall patient satisfaction after controlling for such factors.

Dugdale, DC, Epstein, R, & Pantilat, SZ (1999). Time and the patient-physician relationship. J Gen Intern Med 14 Suppl 1: S34-40.

Flocke, S. A., Frank, S. H., & Wenger, D. A. (2001). Addressing multiple problems in the family practice office visit. *The Journal of Family Practice*, 50(3) 211-216.

OBJECTIVE: To describe the number of problems addressed during family practice outpatient visits, the nature of additional problems raised, how they affect the duration of the visit and how well they are reflected in the billing record.

DESIGN: Observational, Cross-Sectional, randomized sample.

SETTING: Six Family Practice Outpatient Practices located in Northeast Ohio, and in Tulsa, Oklahoma from June to August 1999.

SUBJECTS: A total of 266 adult patients (average age of 48, 69% female, 85% Caucasian) representing 37 physicians.

INTERVENTION: None.

MEASURES: A problem was operationalized as an issue that required physician action in the form of a decision, diagnosis, treatment or monitoring. Type of problem and person who raised the problem was coded. Duration of visit and number of billing diagnoses were also measured and assessed.

RESULTS: On average, 2.7 problems were raised during an encounter with 44% classified as acute, 30% chronic, 14% preventive, 4% administrative, 2% psychosocial, and 6% classified as other. Of the observed encounters, 73% had more than one problem addressed where the physician raised 36% of the problems and patients raised 58%. On average, each additional problem increased the length of the visit by 2.5 minutes. In addition, the concordance between the number of problems observed and the number of problems listed on the billing sheet indicated a trend towards billing for fewer problems than observed.

CONCLUSIONS/RECOMMENDATIONS: Addressing multiple problems during a single outpatient visit is one important mechanism family physicians use to provide comprehensive care. Findings suggest that current views of physician productivity and the billing record are poor indicators of the reality of providing primary care.

Kravitz, R. L. (2001). Measuring patients' expectations and requests. Annals of Internal Medicine, 134(9 Pt 2) 881-888.

Patients seeking help for symptoms frequently worry about the underlying causes of their symptoms; have specific expectations for care; and request (or demand) time, information, and services. Understanding patients' concerns, expectations, and requests is important for clinicians, health care policymakers, and researchers. One obstacle to progress in this area has been disagreement over the most appropriate methods for identifying, monitoring, and classifying these phenomena. This article reviews the conceptual relationships linking patients' expectations, requests, and satisfaction with care; surveys contemporary approaches to the measurement of expectations and requests; and highlights recent empirical findings. The literature reviewed supports the conclusion that patients' expectations are wide ranging, can be measured, and have potentially important clinical consequences. For clinicians and policymakers alike, learning to elicit, evaluate, and understand patients' expectations will be a major task for the early part of the new century.

Marvel, M. K., Epstein, R. M., Flowers, K., & Beckman, H. B. (1999). Soliciting the patient's agenda: Have we improved? JAMA : The Journal of the American Medical Association, 281(3) 283-287.

OBJECTIVE: To examine the extent to which experienced family physicians in various practice settings, elicit the agenda of concerns patients bring to the office.

DESIGN: Cross-section survey using linguistic analysis of a convenience sample of 264 patient-physician interviews.

SETTING: Primary care offices of 29 Board-certified family physicians practicing in rural Washington ($n=13$), semi-rural Colorado ($n=20$; 69%), and urban settings in the United States and Canada ($n=8$; 27%).

SUBJECTS: 29 Board-certified family physicians (9 had fellowship training in communication skills and family counseling).

INTERVENTION: None.

MEASURES: Physician-patient verbal interactions including physician solicitation of patient concerns, rate of completion of patient responses, length of time for patient responses, and frequency of late-arising patient concerns. Interview transcripts were analyzed using a method described by Beckman and Frankel.

RESULTS: Physicians solicited patients concerns in 199 interviews (75.4%). Patients' initial statements of concerns were completed in 74 interviews (28%). Physicians redirected the patient's opening statement after a mean of 23.1 seconds. Patients allowed to complete their statements of concerns used only 6 seconds more, on average, than those that were redirected before completion of concerns. Late-arising concerns were more common when physicians did not solicit patient concerns during the interview (34.9% vs. 14.9%). Fellowship-trained physicians were more likely to solicit patient concerns and allow patients to complete their initial statements of concerns (44% vs. 22%).

CONCLUSIONS/RECOMMENDATIONS: Physicians often redirect patients' initial descriptions of their concerns. Once redirected, descriptions are rarely completed. Consequences of incomplete initial descriptions include late-arising concerns and missed opportunities to gather potentially important patient data. Soliciting the patients' agenda takes little time and can improve interview efficiency and yield increased data.

Makoul G, Zick A, Green M. (2007). An evidence-based perspective on greetings in medical encounters. . Arch Intern Med. 2007 Jun 11;167(11):1172-6.

BACKGROUND: Widely used models for teaching and assessing communication skills highlight the importance of greeting patients appropriately, but there is little evidence regarding what constitutes an appropriate greeting.

METHODS: To obtain data on patient expectations for greetings, we asked closed-ended questions about preferences for shaking hands, use of patient names, and use of physician names in a computer-assisted telephone survey of adults in the 48 contiguous United States. We also analyzed an existing sample of 123 videotaped new patient visits to characterize patterns of greeting behavior in everyday clinical practice. **RESULTS:** Most (78.1%) of the 415 survey respondents reported that they want the physician to shake their hand, 50.4% want their first name to be used when physicians greet them, and 56.4% want physicians to introduce themselves using their first and last names; these expectations vary somewhat with patient sex, age, and race. Videotapes revealed that physicians and patients shook hands in 82.9% of visits. In 50.4% of the initial encounters, physicians did not mention the patient's name at all. Physicians tended to use their first and last names when introducing themselves.

CONCLUSIONS: Physicians should be encouraged to shake hands with patients but remain sensitive to nonverbal cues that might indicate whether patients are open to this behavior. Given the diversity of opinion regarding the use of names, coupled with national patient safety recommendations concerning patient identification, we suggest that physicians initially use patients' first and last names and introduce themselves using their own first and last names.

Rao, J. K., Weinberger, M., & Kroenke, K. (2000). Visit-specific expectations and patient-centered outcomes: A literature review. Archives of Family Medicine, 9(10) 1148-1155.

BACKGROUND: Primary care patients often have certain expectations when visiting physicians, many of which may be undetected. These unmet expectations can affect outcomes such as satisfaction with care. We performed a formal literature review to examine the effect of fulfillment of patients' visit-specific expectations on their satisfaction as well as on health status and compliance.

PATIENTS AND METHODS: Included studies were conducted in primary care settings, systematically recruited patients, elicited previsit and/or postvisit expectations relative to specific visits, and measured patient-centered outcomes. Two reviewers abstracted information on study characteristics; types, timing, and method of expectation ascertainment; and outcomes. Disagreements were resolved by consensus.

RESULTS: Twenty-three studies were reviewed including 7 trials, 4 cohort studies, and 12 cross-sectional studies. Patients frequently expected information rather than specific physician actions, but physicians often did not accurately perceive patients' visit-specific expectations. In 19 studies that assessed postvisit patient satisfaction, a positive association between meeting patient expectations and overall satisfaction was demonstrated in 11 studies, inconclusive in 3, and not established in 5. In 2 studies assessing physician satisfaction, physicians with access to patients' expectations were more satisfied than those without access. Other outcomes (symptom or disease improvement, health status, test ordering, health care costs, psychological symptoms) were measured in only a few studies, and the results were inconclusive.

CONCLUSIONS: Addressing patients' visit-specific expectations appears to affect satisfaction to a modest degree. Future studies should evaluate methods that efficiently elicit, prioritize, and provide patients' previsit expectations for physicians and should examine the longitudinal effect of expectation fulfillment on patient outcomes.

Rowland-Morin PA, Carroll JG. (1990). Verbal communication skills and patient satisfaction. A study of doctor-patient interviews. Eval Health Prof. 1990 Jun;13(2):168-85

This research attempted to quantify specific behaviors in the physician's initial interviewing style and relate them to patients' perception of satisfaction. Five physicians were tape recorded during their initial interviews with 52 adult patients. The patients were asked to complete the Medical Interview Satisfaction Scale, a 29-item instrument with a 7-point response scale. These interviews were transcribed, timed, coded, and analyzed with the use of the Computerized Language Analysis System. Selected variables of the language dimensions were entered as the predictor variables in a multiple regression, along with satisfaction scores as the dependent variables. Twenty-seven percent of the variance (p less than .01) in the satisfaction scores of initial interviews were explained by three aspects of a physician's language style: (a) use of silence or reaction time latency between speakers in an

interview, (b) whether there was language reciprocity as determined through the reciprocal use of word-lists, and (c) the reflective use of interruptions within an interview. Considering the complexity of human communication, the fact that three variables were identified, which accounted for 27% of the variance in patients' satisfaction, is considered a substantial finding.

E. E2 - Empathy

Bonvicini, K.A., Perlin, M.P., Bylund, C.L., Carroll, J.G., Rouse, R., & Goldstein, M.G. (2009). Impact of communication training on physician expression of empathy in patient encounters. *Patient Education and Counseling*, 75(1), 3-10.

Objective: To examine whether an educational intervention that focused on physician communication training influenced physician empathic expression during patient interactions.

Methods: This study used a quantitative research method to investigate the influence of communication training on physician-expressed empathy using two measures (global and hierarchical) of physician empathic behavior.

Results: The differences in global empathy scores in the physician training group from baseline to follow-up improved by 37%, and hierarchical scores of physician empathic expression improved by up to 51% from baseline scores for the same group.

Conclusions: The results strongly supported the hypotheses that training made a significant difference in physician empathic expression during patient interactions demonstrated by both outside observer measures of global ratings and hierarchical ratings of physician empathic behavior.

Practice Implications: These findings have significant implications for program design and development in medical education and professional training with the potential to improve patient outcomes.

Bylund, C. L., & Makoul, G. (2002). Empathic communication and gender in the physician-patient encounter. *Patient Education and Counseling*, 48(3) 207-216.

Although empathy in the physician-patient relationship is often advocated, a theoretically based and empirically derived measure of a physician's empathic communication to a patient has been missing. This paper describes the development and initial validation of such a measure, the Empathic Communication Coding System (ECCS), which includes a method for identifying patient-created empathic opportunities. To determine the extent to which empathic communication varies with physician and patient gender, we used the ECCS to code 100 videotaped office visits between patients and general internists. While male and female patients created a comparable number of empathic opportunities, those created by females tended to exhibit more emotional intensity than those created by males. However, female patients were no more likely than male patients to name an emotion in their empathic opportunities. Physician communication behavior was consistent with the literature on gender differences: female physicians tended to communicate higher degrees of empathy in response to the empathic opportunities created by patients. The ECCS appears to be a viable and sensitive tool for better understanding empathy in medical encounters, and for detecting modest gender differences in patients' creation of empathic opportunities and in physicians' empathic communication.

Bylund, C. L., & Makoul, G. (2005). Examining empathy in medical encounters: An observational study using the empathic communication coding system. *Health Communication*, 18(2), 123-140.

Educators, researchers, clinicians, and patients often advocate empathy in the physician-patient relationship. However, little research has systematically examined how patients present opportunities for physicians to communicate empathically and how physicians respond to such opportunities. The Empathic Communication Coding System was used to investigate empathic opportunity-response sequences during initial visits in a general internal medicine clinic. This study focuses on 100 visits during which patients created at least 1 explicit empathic opportunity. Overall, patients presented 249 empathic opportunities in these 100 visits; physicians most often responded by acknowledging, pursuing, or confirming the patient's statement. The mean length of empathic opportunity-response sequences was 25.8 sec; sequences tended to be longer in duration when the physician used a more empathic response. Positively valenced empathic opportunities generated a more empathic response than did negatively valenced empathic opportunities. However, there was no relation between the emotional intensity of empathic opportunities and the level of empathy in subsequent physician responses. Further research should examine patient preferences and outcomes associated with varying levels of empathic responses.

Coulehan, J. L., Platt, F. W., Egener, B., Frankel, R., Lin, C. T., & Lown, B. et al. (2001). "Let me see if I have this right...": Words that help build empathy. *Annals of Internal Medicine*, 135(3) 221-227.

Emphasized the importance of the choice of words and sentences in the facilitation of empathy in the medical encounter. Difference between empathy and sympathy; Components of empathic communication; Potential empathic opportunities; Guidelines for clinical empathy in the cross-cultural setting.

Easter, D. W., & Beach, W. (2004). Competent patient care is dependent upon attending to empathic opportunities presented during interview sessions. *Current Surgery*, 61(3), 313-318.

OBJECTIVE: Core competencies in surgical education and clinical care rely on effective patient-physician communication. We aim to develop quantitative and empirical tools for understanding critical communication tasks during patient interviews.

METHODS: Residents in surgical training and attending physicians were separately video recorded during stressful, first visit oncology patient interview sessions. Taped sessions (n = 16) were analyzed in detail to identify and label patient-initiated actions (PIAs), or "empathic opportunities," that call for recognition or action from the caregiver. Doctor-responsive actions (DRAs) were labeled as matching to, or missing from, each empathic opportunity. Missed empathic opportunities occurred when a PIA did not have an associated DRA. Pre-session and post-session surveys queried the patient's perception of how well their health-care needs were met.

RESULTS: Resident trainees and attending physicians missed 70% of 160 clearly identified empathic opportunities. There was no clear association with the level of physician training. This pilot study did not have enough power to discern differences in patient satisfaction.

CONCLUSIONS: Physicians are often not very attentive to empathic opportunities offered by patients. Individual feedback and training regarding empathic opportunities in recorded patient communication encounters may improve resident and physician core competencies. These improvements may affect patient satisfaction related to these encounters.

Hojat, M., Gonnella, J. S., Nasca, T. J., Mangione, S., Vergare, M., & Magee, M. (2002). Physician empathy: Definition, components, measurement, and relationship to gender and specialty. *The American Journal of Psychiatry*, 159(9) 1563-1569.

OBJECTIVE: There is a dearth of empirical research on physician empathy despite its mediating role in patient-physician relationships and clinical outcomes. This study was designed to investigate the components of physician empathy, its measurement properties, and group differences in empathy scores.

METHOD: A revised version of the Jefferson Scale of Physician Empathy (with 20 Likert-type items) was mailed to 1,007 physicians affiliated with the Jefferson Health System in the greater Philadelphia region; 704 (70%) responded. Construct validity, reliability of the empathy scale, and the differences on mean empathy scores by physicians' gender and specialty were examined.

RESULTS: Three meaningful factors emerged (perspective taking, compassionate care, and standing in the patient's shoes) to provide support for the construct validity of the empathy scale that was also found to be internally consistent with relatively stable scores over time. Women scored higher than men to a degree that was nearly significant. With control for gender, psychiatrists scored a mean empathy rating that was significantly higher than that of physicians specializing in anesthesiology, orthopedic surgery, neurosurgery, radiology, cardiovascular surgery, obstetrics and gynecology, and general surgery. No significant difference was observed on empathy scores among physicians specializing in psychiatry, internal medicine, pediatrics, emergency medicine, and family medicine.

CONCLUSIONS: Empathy is a multidimensional concept that varies among physicians and can be measured with a psychometrically sound tool. Implications for specialty selection and career counseling are discussed.

Kim, S. S., Kaplowitz, S., & Johnston, M. V. (2004). The effects of physician empathy on patient satisfaction and compliance. *Evaluation & the Health Professions*, 27(3) 237-251.

The present study attempted to develop new scales of patient-perceived, empathy-related constructs and to test a model of the relationships of physician empathy and related constructs to patient satisfaction and compliance. Five hundred fifty outpatients at a large university hospital in Korea were interviewed with the questionnaire. The data were analyzed using structural equation modeling. Patient-perceived physician empathy significantly influenced patient satisfaction and compliance via the mediating factors of information exchange, perceived expertise, inter-personal trust, and partnership. Improving physician empathic communication skills should increase patient satisfaction and compliance. Health providers who wish to improve patient satisfaction and compliance should first identify components of their empathic communication needing improvement and then try to refine their skills to better serve patients.

Levinson, W., Gorawara-Bhat, R., & Lamb, J. (2000). A study of patient clues and physician responses in primary care and surgical settings. *JAMA : The Journal of the American Medical Association*, 284(8) 1021-1027.

OBJECTIVE: To explore the nature and frequency of patient clues during medical encounter and physician response among primary care physicians and surgeons.

DESIGN: Descriptive study of audio-taped office visits (data set was part of a larger research project that examined the relationship between physician-patient communication and medical malpractice).

SETTING: Community-based practices of primary care physicians and surgeons in Oregon and Colorado.

SUBJECTS: 116 randomly selected routine office visits to 54 primary care physicians and 62 surgeons (94% male, 91% Caucasian, 67% group practice). Ten patients per physician were selected sequentially from the waiting rooms (54% female, 88% Caucasian, 71% married, average age=54).

INTERVENTION: None.

MEASURES: Audio-taped interactions and transcripts were reviewed to identify and describe segments of the interview in which there were clues about patients' emotional or social concerns. Clues that were initiated by the patient were coded for type and timing and nature of physician response. In addition, physician questions that encouraged patient to discuss a personal topic were also coded as physician-initiated clues. Length of visit was also recorded.

RESULTS: Clues occurred in 52% of the primary care visits (mean number of clues =2.6) and in 53% of the surgical visits (mean number of clues = 1.9). Patients initiated approximately 70% of those clues and physicians initiated approximately 30%. Of the patient led clues in primary care visits, 76% were emotional and 60% in the surgical setting. Physicians missed the opportunity to respond to patient led clues 79% of the time in primary care and 62% in the surgical setting. In 50% of those interviews where the physician missed the opportunity to respond to the patient-led clue, the patient brought up the same issue (clue) a second or third time. In addition, in primary care, visits were longer when there was a missed opportunity to respond by the physician compared with visits where the physician responded with a positive response (mean time, 20.1 min vs. 17.6 min).

CONCLUSIONS/RECOMMENDATIONS: Patients offer clues to physicians that provide rich opportunities for empathy and a greater understanding of patients' lives. In primary care and surgery settings, physicians tend to miss these clues and thus overlooking opportunities to strengthen the doctor-patient relationship. Two aspects of the medical encounter uncovered in this study - patient clues and physician responses, should be recognized as being interdependent and necessary in building a trusting relationship between physician and patients and impacting health outcome.

Platt, F. W., Gaspar, D. L., Coulehan, J. L., Fox, L., Adler, A. J., Weston, W. W., Smith, R. C., & Stewart, M. (2001). "Tell me about yourself": The patient-centered interview. *Annals of Internal Medicine*, 134(11) 1079-1085.

See annotation in section III-A.

Platt, F. W., Gordon G. H.(2004) *Field Guide to the Difficult Patient Interview (2nd Edition)*. Philadelphia, Lippincott Williams & Wilkins

See annotation in section I.

Quill, T. E., Arnold, R. M., & Platt, F. (2001). "I wish things were different": Expressing wishes in response to loss, futility, and unrealistic hopes. *Annals of Internal Medicine*, 135(7) 551-555.

Physicians who care for patients encounter many powerful and painful emotions, including anger, sadness, fear, grief, loss, hopelessness, and blame. Many studies suggest that physicians should express empathy in response to emotion-laden patient statements to ensure that patients feel listened to and understood. These physician responses usually consist of efforts to comprehend how things feel to the patient and to express that understanding back to the patient. Situations that evoke loss, guilt, or hopelessness are particularly hard for physicians to respond to empathically. Physicians who think that they have failed a dying patient and who fear depriving the patient of hope may respond by avoiding the topic entirely, by overcompensating with overtreatment, or by apologizing for not "saving" the patient. When a patient expresses overwhelming anger or disappointment with limitations in medicine, physicians may be afraid that any explicit response to the patient's emotion may be construed as evidence of their failure, mistake, or inadequacy. In these challenging situations, we have observed that many physicians attempt to respond empathically by stating "I'm sorry." This well-intentioned response, although frequently appropriate, may be misinterpreted and misdirected. We have found that saying "I wish...(things were different)" to the patient and family is a more effective initial response. We explicate some of the challenges of saying "I'm sorry" and explore the potential benefits of joining with patients and families and saying "I wish..." in specific, difficult clinical scenarios.

Roter, D. L., Hall, J. A., Kern, D. E., Barker, L. R., Cole, K. A., & Roca, R. P. (1995). Improving physicians' interviewing skills and reducing patients' emotional distress. A randomized clinical trial. *Archives of Internal Medicine*, 155(17) 1877-1884.

See annotation in section II-A.

Spiro, H. M. (1993). *Empathy and the practice of medicine : Beyond pills and the scalpel*. New Haven, Conn.: Yale University Press.

DESCRIPTION OF CONTEXT: A book of essays by physicians, philosophers and nurses.

TOPIC/SCOPE: The book is divided into three sections. The introduction begins with a discussion of the definition of empathy and a debate about whether or not it is a teachable skill. Section one deals with the history of empathy being weakened or lost in the process of medial education and provides some suggestions for alleviating this problem. Section two describes the historical origins of empathy and arguments are presented for and against its place in medicine. The last section is a collection of stories of how physicians' lives and the lives of their patients are affected by their empathy for their patients. **CONCLUSIONS/RECOMMENDATIONS:** Empathy is an essential quality of the physician.

F. E3 - Educate

Anderson K. Improving communication is a doctor-patient effort [1 November 2002]. Available from: <http://seattle.bizjournals.com/seattle/stories/2002/11/04/focus14.html>. Accessed 24 October 2006.

Austin, P. E., Matlack, R., 2nd, Dunn, K. A., Kesler, C., & Brown, C. K. (1995). Discharge instructions: Do illustrations help our patients understand them? *Annals of Emergency Medicine*, 25(3) 317-320.

STUDY OBJECTIVE: To determine whether the addition of illustrations to discharge instructions improves patient comprehension.

DESIGN: Randomized, blinded, prospective study. A blinded investigator asked a series of questions designed to test the participant's comprehension of the discharge instructions. There were 10 possible correct responses.

SETTING: Emergency department of a rural Level I trauma center.

PARTICIPANTS: Convenience sample of 101 patients discharged with the diagnosis of laceration.

INTERVENTIONS: Patients were randomly assigned to receive discharge instructions with (n = 54) or without (n = 47) illustrations.

RESULTS: The median number of correct responses was five. Patients with illustrations were 1.5 times more likely to choose five or more correct responses than those without illustrations (65% versus 43%; P = .033). The effect of illustrations varied by demographic group. Among nonwhites (n = 51), patients with illustrations were more than twice as likely to choose five or more correct responses (P = .032). Among patients with no more than a high school education (n = 71), patients with illustrations were 1.8 times more likely to choose five or more correct responses (P = .038). Among women (n = 48), patients with illustrations were 1.7 times more likely to choose five or more correct responses (P = .006).

CONCLUSION: The addition of illustrations to discharge instructions for patients who have sustained lacerations improves patient comprehension. There is a large effect among patients who are nonwhite, female, or have no more than a high school education.

Baker, D. W., Parker, R. M., Williams, M. V., & Clark, W. S. (1998). Health literacy and the risk of hospital admission. *Journal of General Internal Medicine : Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 13(12) 791-798.

OBJECTIVE: To determine the association between patient literacy and hospitalization. **DESIGN:** Prospective cohort study.

SETTING: Urban public hospital.

PATIENTS: A total of 979 emergency department patients who participated in the Literacy in Health Care study and had completed an intake interview and literacy testing with the Test of Functional Health Literacy in Adults were eligible for this study. Of these, 958 (97.8%) had an electronic medical record available for 1994 and 1995.

MEASUREMENTS AND MAIN RESULTS: Hospital admissions to Grady Memorial Hospital during 1994 and 1995 were determined by the hospital information system. We used multivariate logistic regression to determine the independent association between inadequate functional health literacy and hospital admission. Patients with inadequate literacy were twice as likely as patients with adequate literacy to be hospitalized during 1994 and 1995 (31.5% vs. 14.9%, p <.001). After adjusting for age, gender, race, self-reported health, socioeconomic status, and health insurance, patients with inadequate literacy were more likely to be hospitalized than patients with adequate literacy (adjusted odds ratio [OR] 1.69; 95% confidence interval [CI] 1.13, 2.53). The association between inadequate literacy and hospital admission was strongest among patients who had been hospitalized in the year before study entry (OR 3.15; 95% CI 1.45, 6.85).

CONCLUSIONS: In this study population, patients with inadequate functional health literacy had an increased risk of hospital admission.

Bennett, C. L., Ferreira, M. R., Davis, T. C., Kaplan, J., Weinberger, M., Kuzel, T., Seday, M. A., & Sartor, O. (1998). Relation between literacy, race, and stage of presentation among low-income patients with prostate cancer. *Journal of Clinical Oncology : Official Journal of the American Society of Clinical Oncology*, 16(9) 3101-3104.

PURPOSE: Diagnosis of advanced prostate cancer is a major health problem, especially among low-income men. Opportunities vary for early detection of prostate cancer for low-income black and white men because of financial, cultural, and social factors. In this study, we evaluated the association of poor literacy skills with higher rates of presentation of advanced stages of prostate cancer among low-income black and white men who received care in equal-access medical systems.

PATIENTS AND METHODS: Literacy and stage at diagnosis of prostate cancer were evaluated in 212 low-income men who received medical care in Shreveport, LA, and Chicago, IL. The patients' literacy was assessed with the Rapid Estimate of Adult Literacy in Medicine (REALM), an individually administered reading screening test designed specifically for use in the medical setting. Logistic regression models were used to evaluate predictors of metastatic disease at presentation as a function of patient age, race, literacy, and city.

RESULTS: Whereas black men were almost twice as likely to present with stage D prostate cancer (49.5% v 35.9%; P < .05), they were significantly more likely to have literacy levels less than sixth grade (52.3% v 8.7%; P < .001). However, after adjustment for differences in literacy, age, and city, race was not a significant predictor of advanced-stage prostate cancer.

CONCLUSION: Low literacy may be an overlooked but significant barrier to the diagnosis of early-stage prostate cancer among low-income white and black men. The development of culturally sensitive, low-literacy educational materials may improve patient awareness of prostate cancer and improve the frequency of diagnosis of early-stage cancer.

Berland, G. K., Elliott, M. N., Morales, L. S., Algazy, J. I., Kravitz, R. L., Broder, M. S., Kanouse, D. E., Munoz, J. A., Puyol, J. A., Lara, M., Watkins, K. E., Yang, H., & McGlynn, E. A. (2001). Health information on the internet: Accessibility, quality, and readability in English and Spanish. *JAMA : The Journal of the American Medical Association*, 285(20) 2612-2621.

CONTEXT: Despite the substantial amount of health-related information available on the Internet, little is known about the accessibility, quality, and reading grade level of that health information.

OBJECTIVE: To evaluate health information on breast cancer, depression, obesity, and childhood asthma available through English- and Spanish-language search engines and Web sites.

DESIGN AND SETTING: Three unique studies were performed from July 2000 through December 2000. Accessibility of 14 search engines was assessed using a structured search experiment. Quality of 25 health Web sites and content provided by 1 search engine was evaluated by 34 physicians using structured implicit review (interrater reliability >0.90). The reading grade level of text selected for structured implicit review was established using the Fry Readability Graph method.

MAIN OUTCOME MEASURES: For the accessibility study, proportion of links leading to relevant content; for quality, coverage and accuracy of key clinical elements; and grade level reading formulas.

RESULTS: Less than one quarter of the search engine's first pages of links led to relevant content (20% of English and 12% of Spanish). On average, 45% of the clinical elements on English- and 22% on Spanish-language Web sites were more than minimally covered and completely accurate and 24% of the clinical elements on English- and 53% on Spanish-language Web sites were not covered at all. All English and 86% of Spanish Web sites required high school level or greater reading ability.

CONCLUSION: Accessing health information using search engines and simple search terms is not efficient. Coverage of key information on English- and Spanish-language Web sites is poor and inconsistent, although the accuracy of the information provided is generally good. High reading levels are required to comprehend Web-based health information.

Bessell, T. L., McDonald, S., Silagy, C. A., Anderson, J. N., Hiller, J. E., & Sansom, L. N. (2002). Do internet interventions for consumers cause more harm than good? A systematic review. *Health Expectations : An International Journal of Public Participation in Health Care and Health Policy*, 5(1) 28-37.

OBJECTIVE: To systematically review the effect of consumer use of online health information on decision-making, attitudes, knowledge, satisfaction and health outcomes and utilization.

SEARCH STRATEGY: Electronic databases searched included the Cochrane Controlled Trials Register, MEDLINE, PREMEDLINE (to 14 March 2001), CINAHL, Australian Medical Index, Health and Society, National Institutes of Health Clinical Trials Database and CenterWatch.

INCLUSION CRITERIA: All post-1995 comparative studies (including controlled studies, before and after studies, and interrupted time series analyses) of Internet users vs. non-Internet users and other communications mediums, and Internet characteristics such as e-mail vs. other communication mediums, were included. Outcomes included consumer decision-making, attitudes, knowledge, satisfaction and measurable changes in health status or health utilization.

DATA EXTRACTION AND SYNTHESIS: One reviewer screened all papers then two reviewers independently assessed studies against the selection criteria and any discrepancies were resolved by discussion with a third reviewer. No attempt was made to combine the data for further statistical analysis.

MAIN RESULTS: We identified 10 comparative studies. Studies evaluated the effectiveness of using the Internet to deliver a smoking cessation programme, cardiac and nutrition educational programmes, behavioural interventions for headache and weight loss, and pharmacy and augmentative services. All studies showed some positive effects on health outcomes, although the methodological quality of many studies was poor.

CONCLUSIONS: Despite widespread consumer Internet use to obtain health-care information, there is almost a complete lack of evidence of any effects this may have on health outcomes.

Britten, N., Stevenson, F. A., Barry, C. A., Barber, N., & Bradley, C. P. (2000). Misunderstandings in prescribing decisions in general practice: Qualitative study. *BMJ (Clinical Research Ed.)*, 320(7233) 484-488.

OBJECTIVES: To identify and describe misunderstandings between patients and doctors associated with prescribing decisions in general practice.

DESIGN: Qualitative study.

SETTING: 20 general practices in the West Midlands and south east England.

PARTICIPANTS: 20 general practitioners and 35 consulting patients.

MAIN OUTCOME MEASURES: Misunderstandings between patients and doctors that have potential or actual adverse consequences for taking medicine.

RESULTS: 14 categories of misunderstanding were identified relating to patient information unknown to the doctor, doctor information unknown to the patient, conflicting information, disagreement about attribution of side effects, failure of communication about doctor's decision, and relationship factors. All the misunderstandings were associated with lack of patients' participation in the consultation in terms of the voicing of expectations and preferences or the voicing of responses to doctors' decisions and actions. They were all associated with potential or actual adverse outcomes such as non-adherence to treatment. Many were based on inaccurate guesses and assumptions. In particular doctors seemed unaware of the relevance of patients' ideas about medicines for successful prescribing.

CONCLUSIONS: Patients' participation in the consultation and the adverse consequences of lack of participation are important. The authors are developing an educational intervention that builds on these findings.

Buckland, S. (1994). Unmet needs for health information: A literature review. *Health Libraries Review, 11(2)* 82-95.

This paper explores the recent literature on unmet needs for health information, giving an overview of some of the research that has been carried out since Kempson's review and study in 1987. Many of the studies looking at health information needs have been approached from a narrow focus of individual information needs for specific services, with limited research into the views of the general public. The greatest demand for health information appears to be in the area of specific diseases and medical conditions with limited demand for information on the availability and quality of care. These findings may be a reflection of the narrow focus of much previous research and/or the limited availability of health information on access and quality. The paper argues for the need to look widely at the health information needs of households and families at all stages of health and illness, taking into account the interrelationship of needs and the social context in which such needs are, or are not perceived.

Conlin, K. K., & Schumann, L. (2002). Literacy in the health care system: A study on open heart surgery patients. *Journal of the American Academy of Nurse Practitioners, 14(1)* 38-42.

OBJECTIVE: 1) Assess patients' ability to read and comprehend open-heart surgery discharge instructions if they have an educational level below 12th grade, 2) Determine if the comprehension of written material can be estimated by patient's education level, 3) Determine if the level of reading ability correlates with the reading level of written discharge instructions given to open-heart patients, and 4) Determine if health care facilities are providing written material instructions that is within the reading level of patients. Design: Survey.

SUBJECTS: Convenience sample of 34 patients recovering from open-heart surgery. 80% male with mean age of 62.4, most reported completing high school (n=13) or one year post high school (n=14). Measures: REALM used to screen tools for literacy. Assessment of patient literacy.

RESULTS: REALM 24 patients assessed at high school level, 5 at 7th to 8th grade, one at third grade level or below. Discharge instructions required high school or above. Discussion: Reading ability was not reflected by grade level completed. The REALM test was a more accurate measure of reading comprehension. Reading level for discharge was 6.41 to 10.10 grade level and consent forms was 10.82 to 15.45 grade level.

Davis, T. C., Crouch, M. A., Wills, G., Miller, S., & Abdehou, D. M. (1990). The gap between patient reading comprehension and the readability of patient education materials. *The Journal of Family Practice, 31(5)* 533-538.

Patient education materials and hospital forms are given to patients with little regard for their ability to read them. Nationwide sampling and data from the 1980 census suggest that a high proportion of patients cared for in public hospitals are functionally illiterate. In this study, 151 adult primary care patients in five different ambulatory care settings were tested for reading comprehension. Patient education materials and forms from each clinic were analyzed for readability using a standard computer program. A large discrepancy was found between the average patient reading comprehension and the ability levels needed to read patient education materials. The average reading comprehension of public clinic patients was 6th grade 5th month. Most tested patient education materials required a reading level of 11th to 14th grade, and standard institutional consent forms required a college-level reading comprehension. In the public clinics there was a gap of more than 5 years between patient reading levels and the comprehension levels required by written patient materials.

Davis, T. C., Williams, M. V., Marin, E., Parker, R. M., & Glass, J. (2002). Health literacy and cancer communication. *CA: A Cancer Journal for Clinicians, 52(3)* 134-149.

Health literacy is increasingly recognized as a critical factor affecting communication across the continuum of cancer care. We reviewed research on health literacy and examined its impact on cancer outcomes and communication. According to the National Adult Literacy Survey (NALS), considered the most accurate portrait of literacy in our society, about one in five American adults may lack the necessary literacy skills to function adequately in our society. As patients, such individuals are at a disadvantage in their capacity to obtain, process, and understand cancer information and services needed to make appropriate health care decisions. Patients with poor health literacy have a complex array of difficulties with written and oral communication that may limit their understanding of cancer screening and of symptoms of cancer, adversely affecting their stage at diagnosis. In addition, these barriers impair communication and discussion about risks and benefits of treatment options, and patient understanding of informed consent for routine procedures and clinical trials. More research is needed to identify successful methods for educating and communicating with patients who have limited health literacy. Based on our own experience, we offer practical communication aids that can help bridge the cancer communication gap.

Delp, C., & Jones, J. (1996). Communicating information to patients: The use of cartoon illustrations to improve comprehension of instructions. *Academic Emergency Medicine, 3(3)* 264-270.

OBJECTIVE: To evaluate the effect of cartoon illustrations on patient comprehension of and compliance with ED release instructions.

METHODS: A prospective, randomized, controlled study of consecutive patients who presented to the ED of a community teaching hospital with lacerations necessitating wound repair during a three-month study period. At ED release, the patients were randomly assigned to receive wound care instructions with or without cartoon illustrations. Three days later, the patients were followed up

by telephone. A blinded investigator asked a series of questions designed to test the patient's recall of, understanding of, and compliance with wound care instructions.

RESULTS: A total of 234 patients were successfully contacted by telephone; 105 (45%) had been given ED release instructions with cartoons, 129 (55%), without cartoons. There was no significant difference in age, gender, level of education, or satisfaction with the ED visit between the two groups. The patients given cartoon instructions were more likely to have read the instructions (98% vs. 79%, $p < 0.001$), were more likely to answer all wound care questions correctly (46% vs. 6%, $p < 0.001$), and were more compliant with daily wound care (77% vs. 54%, $p < 0.01$). Subset analysis of those patients who had less than a high school education ($n = 57$) demonstrated even larger differences between the two treatment groups in terms of comprehension of and compliance with ED release instructions.

CONCLUSION: Cartoon illustrations are an effective strategy for conveying information and may improve patient compliance with ED release instructions.

Dreger, V., & Tremback, T. (2002). Optimize patient health by treating literacy and language barriers. *AORN Journal*, 75(2) 280-5, 287, 289-93; quiz 297-300, 303-4.

More than 90 million Americans have limited literacy skills. Almost two million US residents cannot speak English, and millions more speak it poorly. The stigma of illiteracy or the inability to speak a country's predominant language keep patients from disclosing their limitations. Recognizing these facts is an important first step in improving health education for this vulnerable population. By adapting teaching techniques to patients' special needs, nurses can ensure that patients understand their health problems and plan of care. Statistics dramatically demonstrate the high cost of neglecting these needs. Patients who do not understand their plan of care do not comply with instructions and, therefore, suffer unnecessary complications. Health care providers who can communicate with their patients through multilingual, low literacy patient education materials and with the use of qualified interpreters markedly improve the quality of care for their patients and the resulting outcomes.

Fisher, E. (1999). Low literacy levels in adults: Implications for patient education. *Journal of Continuing Education in Nursing*, 30(2) 56-61.

BACKGROUND: Patients are being discharged with the need for more complex care in the home. Written information frequently is used in health education. Patients and caregivers must be able to read and understand this information.

METHOD: A comprehensive literature review of articles on literacy and health education materials was performed.

RESULTS: The literature review revealed that low literacy is more prevalent in the United States than is generally recognized. Health education materials often require a reading level higher than the reading level of most patients. There are a number of tools available for assessing reading levels.

CONCLUSION: Findings indicate there are implications for nursing practice, education, and research. There is a need for nurses to be aware of the prevalence of low literacy. They need to know how to accurately assess reading ability and develop material that is at the appropriate level for patients and caregivers. There is a need for research to investigate possible relationships between health status and low literacy and to examine the effects of remedial reading programs on health practices.

Foltz, A. T., & Sullivan, J. M. (1999). Limited literacy revisited implications for patient education. *Cancer Practice*, 7(3) 145-150.

PURPOSE: It is important to determine whether teaching materials are understood and deemed accurate by the cancer patients being served. The authors used a series of patient participatory interviews to evaluate two brochures: *Chemotherapy: What It Is and How It Helps* by the American Cancer Society; and *Helping Yourself During Chemotherapy: 4 Steps for Patients* by the National Cancer Institute. The authors sought to determine whether 1) the brochures were clear; 2) differences in presentation were perceived by patients; and 3) differences influenced respondents' understanding and opinions of the brochures.

DESCRIPTION OF STUDY: A qualitative, focus-group methodology was used. Twelve cancer patients, eight of whom were women and six of whom were African American, were recruited from three outpatient clinics. Participants ranged in age from 31 to 62 years of age, and in education from completion of ninth grade to graduate school. Patients participated in a series of five groups, with a series of semistructured questions about content and format being asked of each group. All sessions were audiotaped. The investigators reviewed data both independently and together to identify content and format evaluations.

RESULTS: Findings showed that most participants were drawn first by the National Cancer Institute format; the American Cancer Society brochure was seen as having more information; the two brochures were seen as complementary; some confusion arose from the content of both brochures; and the discussions of emotional and sexual aspects were important.

CLINICAL IMPLICATIONS: These findings support the need for simple, clearly written brochures rather than brochures of varying literacy levels. The confusion caused by differences in advice given by the two organizations indicates the need to address specific areas in which dissimilarities exist. Finally, the project demonstrates the utility of patient focus groups for evaluation of patient education material.

Fox, S., & Pew Internet & American Life Project. (2001). *Wired seniors : A fervent few, inspired by family ties*. Washington, D.C.: The Pew Internet & American Life Project.

Senior citizens comprise 13% of the U.S. population, but just 4% of the U.S. Internet population. Since their numbers are so small, there has not been much research about what these “wired seniors” are doing online and how they feel about the Internet. It turns out that seniors who have Internet access benefit greatly from the resources available online - communicating with family, researching health information, tracking their investments - all from the comfort of their home or senior center. So why aren't more older Americans going online? The Pew Internet & American Life Project surveyed 26,094 adults, 18 and older, between March and December 2000. This large sample provided an opportunity to talk to 4,335 people aged 65 and older, of whom 670 were Internet users. This has given us insights into what motivates seniors to go online and what they do when they get Internet access.

Fox, S. (2006) “Online Health Search 2006.” Pew Internet & American Life Project © 2006 Pew Internet & American Life Project.

This Pew Internet & American Life Project report is based on the findings of a daily tracking survey on Americans' use of the internet. All numerical data was gathered through telephone interviews conducted by Princeton Survey Research Associates between August 1-31, 2006, among a sample of 2,928 adults, aged 18 and older. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling and other random effects is +/- 2%. For results based on internet users (n=1,990), the margin of sampling error is +/- 3%.

Eighty percent of American internet users, or some 113 million adults, have searched for information on at least one of seventeen health topics. The percentage of internet users who search for health information has been stable over the past four years, even as the internet population has grown and broadband connections at home have become the norm. As in 2002 and 2004, certain groups of internet users in 2006 are the most likely to have sought health information online: women, internet users younger than 65, college graduates, those with more online experience, and those with broadband access at home.

Fox, S., & Rainie, L. (2000). *The online health care revolution : How the web helps Americans take better care of themselves*. Washington, D.C.: The Pew Internet & American Life Project.

Fifty-two million American adults, or 55% of those with Internet access, have used the Web to get health or medical information. A great many are using the Web to gather information on behalf of family and friends. Those who are in excellent health often seek material to help someone else; those who are in less-than-excellent health are more likely to be hunting for information for themselves. When it comes to the most recent time they used the Internet to get health information, most “health seekers” focused on getting information about an immediate medical problem. And the majority got information in conjunction with a doctor's visit. They appreciate the convenience of being able to seek information at any hour, the fact that they can get a wealth of information online, and the fact that they can do research anonymously.

Fox S, Rainie L. The Engaged E-patient Population Washington, DC: Pew Internet and American Life Project; 2008. Available at: http://www.pewinternet.org/pdfs/PIP_Health_Aug08.pdf

This latest Pew Internet Project survey confirms that information gathering has become a habit for many Americans, particularly those in the 55% of households with broadband connections. Home broadband has now joined educational attainment, household income and age as the strongest predictors of internet activity. For example, 78% of home broadband users look online for health information, compared with 70% of home dial-up users. Home broadband users are twice as likely as home dial-up users to do health research on a typical day -- 12% vs. 6%.

High-speed, always-on connections enable frequent and in-depth information searches, which is particularly attractive if something important is at stake.

Hadlow, J., & Pitts, M. (1991). “The understanding of common health terms by doctors, nurses and patients.” *Social Science & Medicine* 32(2): 193-196.

OBJECTIVE: To assess understanding of common medical and psychological terms among three groups: doctors, health care support staff, and patients.

DESIGN: Questionnaire survey

SETTING: East Kent, England

SUBJECTS: 40 doctors (20 GP & 20 Psychiatrists), 60 health support staff and 120 patients

INTERVENTION: None.

MEASURES: Twelve item, multiple choice questionnaire comprised of common medical terms with four definitions to choose from.

RESULTS: Significant differences in levels of understanding were found between these groups. The widest gap in doctor-patient understanding was shown for common psychological terms. The greatest discrepancies were between doctors and patients with other health support staff falling in the middle.

CONCLUSIONS/Recommendations: Health terms have both a clinical and lay meaning. Communication between doctor and patient is an important factor contributing to the effectiveness of medical care. It is clear that common terms have different and often potentially misleading meanings for patients. This could lead to poor satisfaction, adherence, and health outcomes.

Hay MC, Strathmann C, Lieber E, Wick K, Giesser B. (2008). Why patients go online: multiple sclerosis, the internet, and physician-patient communication. *Neurologist*, Nov;14(6):374-81

BACKGROUND: The online information seeking of multiple sclerosis (MS) patients, their reasons for doing so, and its importance for physician-patient communication have not been described. **METHODS**: Patients (n = 61) presenting for the first time at an MS clinic from December 2003 to July 2005 were interviewed pre- and postappointment and administered standard measures of pain and health quality of life. Consultations were audio recorded. Quantitative data were analyzed in light of qualitative data. **RESULTS**: Eighty-two percent of patients reported gathering medical information online before their first appointment; 36% discussed this information with their physician. Qualitative reasons for Internet information seeking and for not communicating it show some signs of wariness of health care potentially leading to nonadherence. **CONCLUSIONS**: Most MS patients are informed by online information, but are unlikely to discuss that research with physicians for reasons that may have implications for patient adherence.

Houts, P. S., Bachrach, R., Witmer, J. T., Tringali, C. A., Bucher, J. A., & Localio, R. A. (1998). Using pictographs to enhance recall of spoken medical instructions. *Patient Education and Counseling*, 35(2) 83-88.

Pictographs have been used in nonliterate societies to help people remember spoken instructions and, today, they could be used to help nonliterate people remember spoken medical instructions. This study tested the hypothesis that pictographs can improve recall of spoken medical instructions. Twenty-one junior college subjects listened to lists of 38 actions for managing fever and 50 actions for managing sore mouth. One of the action lists was accompanied by pictographs during both listening and recall while the other was not. Subjects did not see any written words during the intervention and, therefore, relied entirely on memory of what they heard. Mean correct recall was 85% with pictographs and 14% without (P < 0.0001) indicating that pictographs can enhance memory of spoken medical instruction--often to a very high level. For this technique to be clinically useful, further research is needed on how to achieve accurate recall of large amounts of medical information for long periods of time by nonliterate patients. By viewing illiteracy as a memory problem, the large body of research on learning and memory can be utilized in designing education materials for this group.

Houts, P. S., Witmer, J. T., Egeth, H. E., Loscalzo, M. J., & Zabora, J. R. (2001). Using pictographs to enhance recall of spoken medical instructions II. *Patient Education and Counseling*, 43(3) '231-242.

The first study in this series [Houts PS, Bachrach R, Witmer JT, Tringali CA, Bucher JA, Localio RA. *Patient Educ. Couns.* 1998;35:83-8] found that recall of spoken medical instructions averaged 14% but that, when pictographs (drawings representing the instructions) accompanied the spoken instructions and were present during recall, 85% of medical instructions were remembered correctly. Those findings suggested that spoken instructions plus pictographs may be a way to give people with low literacy skills access to medical information that is normally available only in written form. However, there were three important limitations to that study: (1) the subjects were literate and perhaps literate people remember pictograph meanings better than people with low literacy skills; (2) only short term recall was tested and, for medical information to be useful clinically, it must be remembered for significant periods of time and (3) a maximum of 50 instructions were shown in pictographs, whereas managing complex illnesses may require remembering several hundred instructions. This study addresses those limitations by investigating 4-week recall of 236 medical instructions accompanied by pictographs by people with low literacy skills. Subjects were 21 adult clients of an inner city job training program who had less than fifth grade reading skills. Results showed 85% mean correct recall of pictograph meanings immediately after training (range from 63 to 99%) and 71% after 4 weeks (range from 33 to 94%). These results indicate that people with low literacy skills can, with the help of pictographs, recall large amounts of medical information for significant periods of time. The impact of pictographs on symptom management and patient quality of life remains to be studied.

Jacobson, T. A., Thomas, D. M., Morton, F. J., Offutt, G., Shevlin, J., & Ray, S. (1999). Use of a low-literacy patient education tool to enhance pneumococcal vaccination rates. A randomized controlled trial. *JAMA : The Journal of the American Medical Association*, 282(7) 646-650.

CONTEXT: Pneumococcal immunization rates for elderly and high-risk patients are only one third to one half the target rate of 60% established by the US Public Health Service. Limited or marginal literacy, which affects nearly 100 million Americans, especially the elderly, may contribute to these low rates of immunization.

OBJECTIVE: To determine whether the use of a simple, low-literacy educational tool enhances patient-physician dialogue about pneumococcal vaccination and increases rates of immunization. **DESIGN**: A randomized controlled trial conducted between May and June of 1998.

SETTING: Ambulatory care clinic of a 900-bed public teaching hospital serving a predominantly indigent, low-literate, African American, inner-city population.

PARTICIPANTS: Of 433 patients who presented for routine primary care, had vaccine indications (age > or =65 years or chronic disease), and had not been previously vaccinated, 221 were randomly assigned to the intervention group and 212 to the control

group. Of the total patient population (mean age, 63 years), 280 (64.7%) had less than a high school education, 401 (92.6%) were African American, and 300 (69.3%) were female.

INTERVENTION: One-page, low-literacy (below fifth-grade level) educational handout encouraging patients to "ask your doctor about the pneumonia shot" vs. a control group (1 -page, low-literacy educational handout conveying information about nutrition).

MAIN OUTCOME MEASURES: Vaccination rates (documented by chart audit) of patients who received pneumococcal vaccination and rates of patients who self-reported having discussed vaccination with their physicians. **RESULTS:** Patients in the intervention group were 4 times more likely to have discussed the pneumococcal vaccine with their physicians than patients in the control group (87/221 [39.4%] vs. 21/212 [9.9%]; relative risk [RR], 3.97 [95% confidence interval [CI], 2.71-5.83]), and were more than 5 times as likely to have received the pneumococcal vaccine than the control group (44/221 [19.9%] vs. 8/212 [3.8%]; RR, 5.28 [95% CI, 2.80-9.93]). In a multivariate analysis controlling for race, sex, education, insurance status, age, level of physician training, health status, and vaccine indication, only assignment to the intervention group was statistically significantly related to the probability of being immunized or discussing the issue with their physicians ($P < .001$ for both trends).

CONCLUSIONS: A simple, low-literacy educational tool increased pneumococcal vaccination rates and patient-physician discussions about the vaccine in an elderly, low-literate, indigent, minority population.

Kemp, E. C., Floyd, M. R., McCord-Duncan, E., & Lang, F. (2008). Patients Prefer the Method of "Tell Back- Collaborative Inquiry" to Assess Understanding of Medical Information. J Am Board Fam Med. 2008;21(1):24-30.

Purpose: The goal of this study was to determine which approach to assessing understanding of medical information patients most prefer and perceive to be most effective.

Methods: Two videos were shown to participants: (1) a physician explaining a medical condition and its treatment and (2) a physician inquiring about patient understanding of the medical information the patient had been given using 3 different types of inquiry: Yes-No, Tell Back-Collaborative, and Tell Back-Directive.

Results: The Tell Back-Collaborative inquiry was significantly preferred over the other 2 approaches.

Conclusions: Patients strongly prefer the Tell Back-Collaborative inquiry when assessing their understanding. We recommend that physicians ask patients to restate what they understand using their own words and that they use a patient-centered approach.

Kemper, D. W., & Mettler, M. (2002). Information therapy: Prescribed information as a reimbursable medical service. Boise, ID: Healthwise.

Information Therapy uses how-to details and compelling examples to show how information prescriptions can be as important to a patient's health as any test, surgery, or medicine. Unlike free-floating health content on the Internet, information prescriptions—called information therapy—are delivered electronically to people right before or after a doctor visit, test, or surgery; when they receive medicine; or at any other specific "moment of care." It show doctors, health plans, and hospitals how to implement models so that consumers and doctors can better communicate in today's time-limited environment.

Kirsch, I. S., Jungeblut, A., Jenkins, L., & Kolstad, A. (1993). Adult literacy in America: A first look at the findings of the national adult literacy survey. Washington DC: National Center for Education Statistics.

This report provides a first look at the results of the National Adult Literacy Survey, a project funded by the U.S. Department of Education's National Center for Education Statistics and administered by Educational Testing Service, in collaboration with Westat, Inc. It provides the most detailed portrait that has ever been available on the condition of literacy in this nation -- and on the unrealized potential of its citizens. The aim of this survey is to profile the English literacy of adults in the United States based on their performance across a wide array of tasks that reflect the types of materials and demands they encounter in their daily lives. To gather the information on adult literacy skills, trained staff interviewed nearly 13,600 individuals aged 16 and older during the first eight months of 1992. These participants had been randomly selected to represent the adult population in the country as a whole. In addition, about 1,000 adults were surveyed in each of 12 states that chose to participate in a special study designed to provide state-level results that are comparable to the national data. Finally, some 1,100 inmates from 80 federal and state prisons were interviewed to gather information on the proficiencies of the prison population. In total, over 26,000 adults were surveyed. Each survey participant was asked to spend approximately an hour responding to a series of diverse literacy tasks as well as questions about his or her demographic characteristics, educational background, reading practices, and other areas related to literacy. Based on their responses to the survey tasks, adults received proficiency scores along three scales which reflect varying degrees of skill in prose, document, and quantitative literacy. The scales are powerful tools which make it possible to explore the proportions of adults in various subpopulations of interest who demonstrated successive levels of performance. This report describes the types and levels of literacy skills demonstrated by adults in this country and analyzes the variation in skills across major subgroups in the population. It also explores connections between literacy skills and social and economic variables such as voting, economic status, weeks worked, and earnings.

Kreuter, M. W., Strecher, V. J., & Glassman, B. (1999). One size does not fit all: The case for tailoring print materials. *Annals of Behavioral Medicine : A Publication of the Society of Behavioral Medicine*, 21(4) 276-283.

Printed health education materials frequently consist of mass-produced brochures, booklets, or pamphlets designed for a general population audience. Although this one-size-fits-all approach might be appropriate under certain circumstances and even produce small changes at relatively modest costs, it cannot address the unique needs, interests, and concerns of different individuals. With the advent and dissemination of new communication technologies, our ability to collect information from individuals and provide feedback tailored to the specific information collected is not only possible, but practical. The purpose of this article is to: (a) distinguish between tailored print communication and other common communication-based approaches to health education and behavior change; (b) present a theoretical and public health rationale for tailoring health information; and (c) describe the steps involved in creating and delivering tailored print communication programs. Studies suggest computer tailoring is a promising strategy for health education and behavior change. Practitioners and researchers should understand the approach and consider the possibilities it presents for enhancing their work in disease prevention.

Krishna, S., Balas, E. A., Spencer, D. C., Griffin, J. Z., & Boren, S. A. (1997). Clinical trials of interactive computerized patient education: Implications for family practice. *The Journal of Family Practice*, 45(1) 25-33.

A systematic review of randomized clinical trials was conducted to evaluate the acceptability and usefulness of computerized patient education interventions. The Columbia Registry, MEDLINE, Health, BIOSIS, and CINAHL bibliographic databases were searched. Selection was based on the following criteria: (1) randomized controlled clinical trials, (2) educational patient-computer interaction, and (3) effect measured on the process or outcome of care. Twenty-two studies met the selection criteria. Of these, 13 (59%) used instructional programs for educational intervention. Five studies (22.7%) tested information support networks, and four (18%) evaluated systems for health assessment and history-taking. The most frequently targeted clinical application area was diabetes mellitus (n = 7). All studies, except one on the treatment of alcoholism, reported positive results for interactive educational intervention. All diabetes education studies, in particular, reported decreased blood glucose levels among patients exposed to this intervention. Computerized educational interventions can lead to improved health status in several major areas of care, and appear not to be a substitute for, but a valuable supplement to, face-to-face time with physicians.

Mayeaux, E. J., Jr, Murphy, P. W., Arnold, C., Davis, T. C., Jackson, R. H., & Sentell, T. (1996). Improving patient education for patients with low literacy skills. *American Family Physician*, 53(1) 205-211.

Patients who misunderstand their diagnosis and treatment plans usually exhibit poor compliance. The 90 million adult Americans with low literacy skills struggle to understand such essential health information as discharge instructions, consent forms, oral instructions and drug labels. The Joint Commission on Accreditation of Health Organizations (JCAHO) now requires that instructions be given on a level understandable to the patient. Most physicians tend to give too much information on too high a level for many patients to understand. Physicians who speak in simpler language, repeat their instructions and demonstrate key points, while avoiding too many directives, enhance their patients' understanding. Combining easy-to-read written patient education materials with oral instructions has been shown to greatly enhance patient understanding. To be effective with patients whose literacy skills are low, patient education materials should be short and simple, contain culturally sensitive graphics and encourage desired behavior. Compliance with therapy also may be improved by including family members in the patient education process.

Murphy, P. W., Chesson, A. L., Walker, L., Arnold, C. L., & Chesson, L. M. (2000). Comparing the effectiveness of video and written material for improving knowledge among sleep disorders clinic patients with limited literacy skills. *Southern Medical Journal*, 93(3) 297-304.

BACKGROUND: Health care professionals often use written material or video recordings to teach their patients without knowing which is more effective for comprehension of the information.

METHODS: Patients watched either an instructional videotape about sleep apnea or read a newly designed brochure, then responded to a structured questionnaire containing 11 knowledge-based questions and 1 open-ended question (requesting suggestions for improvement of the brochure or videotape).

RESULTS: Mean reported educational level was grade 12, and mean reading level was between grade 7 and 8. Using video significantly improved only two areas of knowledge for low-level (below grade 8) readers: defining sleep apnea (66% vs. 43%) and identifying what continuous positive airway pressure (CPAP) does for the patient (94% vs. 78%). Patients requested material with more diverse cultural representation, more information on treatment and outcomes, and fewer polysyllabic words.

CONCLUSIONS: Emphasis on diagnosis and treatment, explained using simple words, should be reflected in the content of patient education brochures or videos. Providing information by video alone may have limited benefits.

Noone, J., Warren, J., & Brittain, M. (1998). Information overload: Opportunities and challenges for the GP's desktop. *Medinfo*, 9 Pt 2 1287-1291.

Recent developments in health data networks, the health sector and information systems, have created an overload of information available to the General Practitioner. The implementation of viable Health Data Networks within hospitals and subsequent connection to the GP's desktop PC enables increased access to patient records, decision-support and communication with experts

around the world To address the high usage of expensive health services and lengthy waiting lists health services around the world are embracing programs such as Community, Coordinated, Shared and Managed care. This focus on coordination of care and increased emphasis on evidenced-based medicine is greatly enhanced through the advent of viable health data networks. Other resources such as databases, best-practice guidelines, the web, email, telemedicine and a range of commercial programs that provide further services has created an overload of resources available to the GP. Current human-computer interface guidelines are not adequate for prescribing design solutions to deal with the information overload facing GPs. The challenge for the near future is to present the vast array of information sources to the GP in an acceptable and useable information system interface. Part of the solution may revolve around the development of standards for Electronic Health Record systems for GPs, as is being done currently in Australia; but we suspect that less mainstream interface technologies will be required to exploit the wealth of available healthcare information.

Pennbridge, J., Moya, R., & Rodrigues, L. (1999). Questionnaire survey of California consumers' use and rating of sources of health care information including the internet. *The Western Journal of Medicine*, 171(5-6) 302-305.

OBJECTIVE: To understand how Californians use and rate various health information sources, including the Internet.

RESEARCH DESIGN: Computer-assisted telephone interviews through which surveys were conducted in English or Spanish.

SUBJECTS: A household sample generated by random digit dialing. The sample included 1007 adults (18+), 407 (40%) of whom had access to the Internet.

MAIN OUTCOME MEASURES: Past health information sources used, their usefulness and ease of use; future health information sources, which are trusted and distrusted; and concerns about integrating the Internet into future health information seeking and health care behaviors.

RESULTS: Physicians and health care providers are more trusted for information than any other source, including the Internet. Among those with Internet access, a minority use it to obtain health information, and a minority is "very likely" to use e-mail to communicate with medical professionals or their own doctors and nurses, to refill prescriptions, or to make doctor appointments. Also, most of those with Internet access are "unlikely" to make their medical records available via the Internet, even if securely protected.

CONCLUSIONS: The public, including frequent Internet users, has major concerns about the confidentiality of electronic medical records. Legislation may not assuage these fears and a long-term, open and collaborative process involving consumers and organizations from all the health care sectors may be needed for full public assurance.

Pucci E. Is the Internet transforming the physician-consumer relationship? Preliminary data in a neurological setting. *Euro J Neurol*. 2002; 10:187. Letter to the Editor.

Schwartz, L. M., Woloshin, S., Black, W. C., & Welch, H. G. (1997). The role of numeracy in understanding the benefit of screening mammography. *Annals of Internal Medicine*, 127(11) 966-972.

BACKGROUND: Quantitative information about risks and benefits may be meaningful only to patients who have some facility with basic probability and numerical concepts, a construct called numeracy.

OBJECTIVE: To assess the relation between numeracy and the ability to make use of typical risk reduction expressions about the benefit of screening mammography. **DESIGN:** Randomized, cross-sectional survey.

SETTING: A simple random sample of 500 female veterans drawn from a New England registry.

INTERVENTION: One of four questionnaires, which differed only in how the same information on average risk reduction with mammography was presented.

MEASUREMENTS: Numeracy was scored as the total number of correct responses to three simple tasks. Participants estimated their risk for death from breast cancer with and without mammography. Accuracy was judged as each woman's ability to adjust her perceived risk in accordance with the risk reduction data presented.

RESULTS: 61% of eligible women completed the questionnaire. The median age of these women was 68 years (range, 27 to 88 years), and 96% were high school graduates. Both accuracy in applying risk reduction information and numeracy were poor (one third of respondents thought that 1000 flips of a fair coin would result in < 300 heads). Accuracy was strongly related to numeracy: The accuracy rate was 5.8% (95% CI, 0.8% to 10.7%) for a numeracy score of 0, 8.9% (CI, 2.5% to 15.3%) for a score of 1, 23.7% (CI, 13.9% to 33.5%) for a score of 2, and 40% (CI, 25.1% to 54.9%) for a score of 3.

CONCLUSIONS: Regardless of how information was presented, numeracy was strongly related to accurately gauging the benefit of mammography. More effective formats are needed to communicate quantitative information about risks and benefits.

Sleath, B., Roter, D., Chewning, B., & Svarstad, B. (1999). Asking questions about medication: Analysis of physician-patient interactions and physician perceptions. *Medical Care*, 37(11) 1169-1173.

OBJECTIVES: The purpose of this research was to examine physicians' and patients' question-asking about medications during medical encounters.

METHODS: A dataset of 467 audiotapes and transcripts of outpatient visits, as well as postvisit interviews with chronic disease patients and their primary care physicians, was analyzed.

RESULTS: All patients took at least one prescribed medication and were using an average of 3.9 continued medications. Physicians and patients spent an average of 3.94 minutes, or 20% of each medical visit, discussing medications. Physicians asked patients an average of 9.3 questions about medications during each medical visit. Physicians asked significantly more questions of non-white patients, lower-income patients, and patients using more continued medications. Almost half (47%) of the patients observed did not ask any medication questions at all even though they were currently taking at least one medication; for those patients who did ask questions, the average number asked was 2.4. Starting a new medication doubled a patient's likelihood of question-asking. Physicians perceive question-asking in a positive light; patients who asked questions about medication were rated by their physicians as more interested and assertive than patients who did not ask questions, but not any more irritated or angry.

CONCLUSIONS: The findings of the study illustrate the importance of improving physicians' and patients' question-asking about medications in primary care settings so that potential problems with medications can be detected and avoided and patient compliance can be improved.

Tai-Seale M., McGuire T.G., & Zhang W. (2007). Time allocation in primary care office visits. *Health Service Research, Oct;42(5):1871-94.*

OBJECTIVES: To use an innovative videotape analysis method to examine how clinic time was spent during elderly patients' visits to primary care physicians. Secondary objectives were to identify the factors that influence time allocations.

DATA SOURCES: A convenience sample of 392 videotapes of routine office visits conducted between 1998 and 2000 from multiple primary care practices in the United States, supplemented by patient and physician surveys.

RESEARCH DESIGN: Videotaped visits were examined for visit length and time devoted to specific topics--a novel approach to study time allocation. A survival analysis model analyzed the effects of patient, physician, and physician practice setting on how clinic time was spent.

PRINCIPAL FINDINGS: Very limited amount of time was dedicated to specific topics in office visits. The median visit length was 15.7 minutes covering a median of six topics. About 5 minutes were spent on the longest topic whereas the remaining topics each received 1.1 minutes. While time spent by patient and physician on a topic responded to many factors, length of the visit overall varied little even when contents of visits varied widely. Macro factors associated with each site had more influence on visit and topic length than the nature of the problem patients presented.

CONCLUSIONS: Many topics compete for visit time, resulting in small amount of time being spent on each topic. A highly regimented schedule might interfere with having sufficient time for patients with complex or multiple problems. Efforts to improve the quality of care need to recognize the time pressure on both patients and physicians, the effects of financial incentives, and the time costs of improving patient-physician interactions.

U.S. Department of Health and Human Services. (2000). *Healthy people 2010 : Understanding and improving health.* Washington, DC: U.S. Government Printing Office.

Healthy People 2010 presents a comprehensive, nationwide health promotion and disease prevention agenda. It is designed to serve as a roadmap for improving the health of all people in the United States during the first decade of the 21st century. Like the preceding Healthy People 2000 initiative—which was driven by an ambitious, yet achievable, 10-year strategy for improving the Nation's health by the end of the 20th century—Healthy People 2010 is committed to a single, overarching purpose: promoting health and preventing illness, disability, and premature death.

Waitzkin, H. (1984). "Doctor-patient communication: Clinical implications of social scientific research." *Journal of American Medical Association, 252:2441-2446.*

DESCRIPTION OF CONTEXT: Review of the literature on several areas of doctor-patient communication: information giving and withholding; non-verbal communication; and the sociolinguistic structure of medical communication.

TOPIC/SCOPE: In the area of information giving and withholding, the author examined the effect of patients' characteristics and doctors' characteristics on this process. Women tended to request and to receive more information than men. College-educated and upper class individuals received more information than those of lower class or those who did not go to college. Patients with uncertain or unfavorable prognoses received more time and information than other patients. Regarding doctors' characteristics, doctors of upper-class background gave more information than those of lower-class background. The income of internists was a strong indicator of informative behavior; doctors who were wealthy gave less information than those who earned less income. This is probably related to the number of patients the doctor sees each day. In the area of nonverbal communication, the presence of tension or anxiety in the physician is associated with greater patient satisfaction, and may reflect patients' perceptions that their concerns are being taken seriously. The doctors' nonverbal abilities - to recognize nonverbal cues in patients and to convey nonverbal messages - also contribute to patient satisfaction. On the sociolinguistic structure of medical communication, the interrogative mode adopted by many physicians is subtly dominating and may interfere with a mutual exchange of information. Interestingly, female doctors interrupt their patients to a much lesser degree than do male doctors, and therefore, provide a less "control oriented" style.

CONCLUSIONS/RECOMMENDATIONS: Training programs and standards of clinical practice should emphasize that improved doctor-patient communication is both desirable and possible.

Weiss, B. D., Reed, R. L., & Kligman, E. W. (1995). Literacy skills and communication methods of low-income older persons. *Patient Education and Counseling*, 25(2) 109-119.

The objectives of this study were to (a) characterize the literacy skills of low-income, community-dwelling, older adults, (b) determine how they obtain information, and (c) determine whether they have difficulty understanding written information provided by clinicians. We studied 177 subjects (mean age 72.2, range 60-94). None had cognitive or visual impairments that precluded assessing literacy. Reading skills were tested, sociodemographic data were recorded, and information was collected on whether subjects have trouble understanding information given to them by health providers. Data analysis determined if literacy was associated with how subjects obtain and understand medical information. The subjects' mean reading skills were at grade level 5, below those of the general US population. One-fourth of subjects reported difficulty understanding written information from clinicians; this was more frequent among poor readers ($P = 0.0002$). Ninety-seven percent of subjects, regardless of literacy, reported that television was their primary source of information. Health information for low-income seniors should be transmitted through literacy-appropriate communication methods.

Williams, M. V. (2002). Recognizing and overcoming inadequate health literacy, a barrier to care. *Cleveland Clinic Journal of Medicine*, 69(5) 415-418.

Health literacy-the ability to understand and act on health information-is essential for high-quality care. Many people, especially the elderly, who bear the greatest burden of disease, have inadequate health literacy. This adversely affects their quality of care, and places increased cost burdens on society. Learning to recognize when a patient may have low literacy skills and understanding the common ways in which these people misinterpret medical information can help physicians develop strategies to improve patients' health literacy.

Williams, M. V., Davis, T., Parker, R. M., & Weiss, B. D. (2002). The role of health literacy in patient-physician communication. *Family Medicine*, 34(5) 383-389.

BACKGROUND AND OBJECTIVES: Patients' health literacy is increasingly recognized as a critical factor affecting patient-physician communication and health outcomes. We reviewed research on health literacy, examined its impact on patient-physician communication, and offer recommendations to enhance communication with patients who have poor health literacy.

METHODS: We conducted a literature review using the MEDLINE database for January 1966 through July 2001. The keywords "literacy" and "health literacy" were searched independently and in combination with the medical subject headings (MeSH) "physician-patient communication," "communication," and "reading."

RESULTS: Poor health literacy is common, especially among elderly patients. More than 33% of patients ages 65 and older have inadequate or marginal health literacy, as do up to 80% of patients in public hospital settings. Patients with poor health literacy have a complex array of communication difficulties, which may affect health outcomes. Such patients report worse health status and have less understanding about their medical conditions and treatment; they may have increased hospitalization rates. Professional and public awareness of the health literacy issue must be increased, beginning with education of medical students and physicians and improved patient-physician communication skills.

CONCLUSIONS: Future research needs to address identification of optimal methods for communicating with patients who have low literacy skills. This should focus on the effect of poor health literacy on patients' ability to communicate their history and physicians' ability to solicit information, as well as identifying the most-effective techniques to educate patients.

Williams, MV, Parker, RM, Baker, DW, Parikh, NS, Pitkin, K, Coates, WC, & Nurss, JR (1995). Inadequate functional health literacy among patients at two public hospitals. *JAMA : The Journal of the American Medical Association*, 274(21) 1677-1682.

OBJECTIVE--To determine the ability of patients to complete successfully basic reading and numeracy tasks required to function adequately in the health care setting.

DESIGN--Cross-sectional survey.

SETTING--Two urban, public hospitals.

PATIENTS--A total of 2659 predominantly indigent and minority patients, 1892 English-speaking and 767 Spanish-speaking, presenting for acute care.

MAIN OUTCOME MEASURE--Functional health literacy as measured by the Test of Functional Health Literacy in Adults (TOFHLA), an instrument that measures ability to read and understand medical instructions and health care information presented in prose passages and passages containing numerical information (e.g., prescription bottle labels and appointment slips).

RESULTS--A high proportion of patients were unable to read and understand written basic medical instructions. Of 2659 patients, 1106 (41.6%) were unable to comprehend directions for taking medication on an empty stomach, 691 (26%) were unable to understand information regarding when a next appointment is scheduled, and 1582 (59.5%) could not understand a standard informed consent document. A total of 665 (35.1%) of 1892 English-speaking patients and 473 (61.7%) of 767 Spanish-speaking patients had inadequate or marginal functional health literacy. The prevalence of inadequate or marginal functional health literacy among the elderly (age ≥ 60 years) was 81.3% (187/230) for English-speaking patients and 82.6% (57/69) for Spanish-speaking patients, and was significantly higher ($P < .001$) than in younger patients.

CONCLUSIONS--Many patients at our institutions cannot perform the basic reading tasks required to function in the health care environment. Inadequate health literacy may be an important barrier to patients' understanding of their diagnoses and treatments, and to receiving high-quality care.

Wofford, J. L., Currin, D., Michielutte, R., & Wofford, M. M. (2001). The multimedia computer for low-literacy patient education: A pilot project of cancer risk perceptions. MedGenMed [Computer File] : *Medscape General Medicine*, 3(2) 23.

OBJECTIVE: Inadequate reading literacy is a major barrier to better educating patients. Despite its high prevalence, practical solutions for detecting and overcoming low literacy in a busy clinical setting remain elusive. In exploring the potential role for the multimedia computer in improving office-based patient education, we compared the accuracy of information captured from audio-computer interviewing of patients with that obtained from subsequent verbal questioning.

SETTING: Adult medicine clinic, urban community health center

PATIENTS: Convenience sample of patients awaiting clinic appointments (n = 59). Exclusion criteria included obvious psychoneurologic impairment or primary language other than English.

INTERVENTION: A multimedia computer presentation that used audio-computer interviewing with localized imagery and voices to elicit responses to 4 questions on prior computer use and cancer risk perceptions.

MEASUREMENTS AND MAIN RESULTS: Three patients refused or were unable to interact with the computer at all, and 3 patients required restarting the presentation from the beginning but ultimately completed the computerized survey. Of the 51 evaluable patients (72.5% African-American, 66.7% female, mean age 47.5 [+/- 18.1]), the mean time in the computer presentation was significantly longer with older age and with no prior computer use but did not differ by gender or race. Despite a high proportion of no prior computer use (60.8%), there was a high rate of agreement (88.7% overall) between audio-computer interviewing and subsequent verbal questioning.

CONCLUSIONS: Audio-computer interviewing is feasible in this urban community health center. The computer offers a partial solution for overcoming literacy barriers inherent in written patient education materials and provides an efficient means of data collection that can be used to better target patients' educational needs.

Wolff, J.L., & Roter, D.L. (2008). Hidden in Plain Sight: Medical Visit Companions as a Resource for Vulnerable Older Adults. *Arch Intern Med*, 168(13):1409-1415

Background Sicker patients are less satisfied with the quality of health care they receive than their healthier counterparts.

Methods A sample of 12 018 community-dwelling Medicare beneficiaries 65 years or older from the 2004 Medicare Current Beneficiary Survey was studied. Multivariate regression was used to describe whether beneficiaries' self-reported satisfaction with their usual-care physician was related to the presence or functions assumed by visit companions.

Results Overall, 38.6% of beneficiaries reported being typically accompanied to routine medical visits. Accompanied beneficiaries were older, less educated, and in worse health than their unaccompanied counterparts. More than 60% of companions facilitated visit communication by recording physician instructions (44.1%), providing information regarding patients' medical conditions or needs (41.6%), asking questions (41.1%), or explaining physicians' instructions (29.7%). After controlling for sociodemographic and health differences, accompanied beneficiaries were more highly satisfied with their physician's technical skills (odds ratio [OR], 1.15; 95% confidence interval [CI], 1.02-1.30), information giving (OR, 1.19; 95% CI, 1.05-1.35), and interpersonal skills (OR, 1.18; 95% CI, 1.03-1.35) than unaccompanied beneficiaries. Accompanied beneficiaries whose visit companions were more actively engaged in communication rated physician information giving (OR, 1.42; 95% CI, 1.14-1.77) and interpersonal skills (OR, 1.29; 95% CI, 1.05-1.59) more favorably. This relationship was strongest among beneficiaries with the worst self-rated health.

Conclusions Visit companions are commonly present in older adults' routine medical encounters, actively engaged in care processes, and influential to patients' satisfaction with physician care. More systematic recognition and integration of visit companions in health care processes may benefit quality of care for a particularly vulnerable patient population.

Woodcock, A. J., Kinmonth, A. L., Campbell, M. J., Griffin, S. J., & Spiegel, N. M. (1999). Diabetes care from diagnosis: Effects of training in patient-centred care on beliefs, attitudes and behaviour of primary care professionals. *Patient Education and Counseling*, 37(1) 65-79.

In a randomised trial, general practitioners and nurses in 21 practices were trained in patient-centred consulting and use of materials for people with Type 2 diabetes (GPs 0.5 days; nurses 1.5 days; two optional follow-up half-days). Twenty practices formed the comparison group. Professional beliefs, attitudes and behaviour were measured (pre-trial, close-of-course and end-of-trial), supported by patient reports of nurse behaviour (141 trained: 108 comparison patients, 1 year after diagnosis). A total of 49 practice nurses responded (29 trained; 20 comparison). Trained nurses rated relative importance of patient-centred to professional-centred care as greater than comparison nurses. Trained nurses became less keen on the approach during the trial, and perceived time constraints persisted. Patients diagnosed later in the study were less likely to recognize intervention materials. Trained nurses rated delivery of important aspects of care and satisfaction with style of care as lower than comparison nurses, but patients were more positive about delivery of care from trained than comparison nurses. Although nurses rated patient-centred care as important, whether or not they had been trained as part of the trial, the short, generalizable training programme significantly reduced nurse perceptions of their ability to deliver it. Nonetheless, patients reported that important aspects of diabetes care were delivered more

if their nurses had been trained in patient-centred consulting. This raises issues concerning measurement scales completed by trained professionals.

Ziegler, D. K., Mosier, M. C., Buenaver, M., & Okuyemi, K. (2001). How much information about adverse effects of medication do patients want from physicians? *Archives of Internal Medicine*, 161(5) 706-713.

BACKGROUND: Little information exists concerning the amount of information patients expect from physicians as to the risk for an adverse medication reaction. The present study was designed to determine such opinions in a population sample; to correlate results with sex, age, educational level, and previous experience with adverse effects; and to determine whether patients believe physicians should use discretion in the amount of such information given.

METHODS: Two thousand five hundred sequential adults visiting outpatient clinics filled out a 12-item questionnaire. Percentages of subjects desiring information about varying degrees of risk and those believing physicians should and should not use discretion in the amount of such information provided were recorded. Results were correlated with demographic variables and previous experience of adverse effects.

RESULTS: Among the respondents, 76.2% desired to be told of all possible adverse effects; 13.3% only if an adverse effect occurred 1 in 100 000 times; and 10.2% only if such occurrence was 1 in 100 times; 0.4% were not interested in any information. (Percentages have been rounded and do not total 100.) Percentages were closely similar to those for the same question that restricted opinion to serious adverse effects. Desire for maximum information was significantly correlated with lower educational level ($P < .001$) and previous frequent experience with adverse effects ($P < .001$) and in older women ($P < .001$). The opinion that the physician should give the same information to all patients was given by 67.6% of the sample, and 73.4% opined that physicians were never justified in withholding any information.

CONCLUSION: Most individuals desire from physicians all information concerning possible adverse effects of prescribed medication and do not favor physician discretion in these decisions.

G. E4 – Enlist

Beck, R. S., Daughtridge, R., & Sloane, P. D. (2002). Physician-patient communication in the primary care office: A systematic review. *The Journal of the American Board of Family Practice/American Board of Family Practice*, 15(1) 25-38.

OBJECTIVE: To identify physician and patient characteristics associated with patient-centered beliefs about the sharing of information and power, and to determine how these beliefs affect patients' evaluations.

DESIGN: Surveys completed by physicians and patients. Physicians provided demographic information and completed a scale assessing their beliefs about sharing information and power with their patients (Patient-Practitioner Orientation Scale, PPOS). A sample of their patients filled out the same scale and made evaluations of their physicians before and after a target visit.

SETTING: University of California, Davis, Medical Group (USDMG) or Kaiser Permanente (KP).

SUBJECTS: Physicians were involved in direct patient care at least 20 hours per week in family medicine, internal medicine, or cardiology. Forty-five physicians took part (22 from USDMG, 23 from KP). English-speaking adult patients of the participating physicians, indicating they had a new or worsening problem. 909 patients completed questionnaires at the scheduled visit, with 81.4% white, 56% female and a mean age of 57 years.

INTERVENTION: None.

MEASURES: Measurement of patient-centeredness among physicians and patients, in particular beliefs about the sharing of power and information. In addition, associations between personal characteristics and patient-centered beliefs among physicians and patients, and investigation of the extent to which patients felt positively about clinicians holding matching opinions about power and information sharing. **Results:** Physicians' mean scores were significantly higher than those of the patients (4.5 vs. 4.2, $P < .04$), indicating a strong belief in sharing power and information. Women patients were significantly more patient-centered in their beliefs, as were patients who were younger, more educated, and had a higher income. Visit satisfaction was not significantly related to any of the predictors. However, patient-centered patients and those whose attitudes were discrepant from their physicians were both significantly less trusting and less likely to endorse their physicians. Physicians who were patient-centered were marginally more likely to be trusted. Patient PPOS and degree of congruity were each found to be stronger independent predictors of the trust and endorsement than any of the potentially confounding variables (age, sex, education, income and ethnicity).

CONCLUSIONS/RECOMMENDATIONS: Visit satisfaction did not reflect the same strength of relationship with congruence, even though the outcome measures were themselves highly correlated. This may suggest that this pattern reflects the manner in which belief congruence operates within the physician-patient relationship. Thus, even when patient and physician have a shared sense of how much control makes them both feel comfortable, this may not be reflected in the success of any single encounter.

Bowling, A., & Ebrahim, S. (2001). Measuring patients' preferences for treatment and perceptions of risk. *Quality in Health Care : QHC*, 10 Suppl 1 i2-8.

A greater understanding of patients' preferences for mode of treatment is central to current models of shared patient-doctor decision making. It is also of potential importance in enhancing patient adherence to treatment and, in turn, patients' health

outcomes. Health services, with their emphases on patient involvement and satisfaction, audit and clinical governance, increasingly aim to be responsive to patients' concerns and ultimately to enhance the quality of health care. Hence there is a need for awareness of patients' preferences for treatment, and to develop appropriate, valid and reliable methods of eliciting these.

Britten, N., Stevenson, F. A., Barry, C. A., Barber, N., & Bradley, C. P. (2000). Misunderstandings in prescribing decisions in general practice: Qualitative study. *BMJ (Clinical Research Ed.)*, 320(7233) 484-488.

OBJECTIVES: To identify and describe misunderstandings between patients and doctors associated with prescribing decisions in general practice.

DESIGN: Qualitative study.

SETTING: 20 general practices in the West Midlands and south east England.

PARTICIPANTS: 20 general practitioners and 35 consulting patients.

MAIN OUTCOME MEASURES: Misunderstandings between patients and doctors that have potential or actual adverse consequences for taking medicine.

RESULTS: 14 categories of misunderstanding were identified relating to patient information unknown to the doctor, doctor information unknown to the patient, conflicting information, disagreement about attribution of side effects, failure of communication about doctor's decision, and relationship factors. All the misunderstandings were associated with lack of patients' participation in the consultation in terms of the voicing of expectations and preferences or the voicing of responses to doctors' decisions and actions. They were all associated with potential or actual adverse outcomes such as non-adherence to treatment. Many were based on inaccurate guesses and assumptions. In particular doctors seemed unaware of the relevance of patients' ideas about medicines for successful prescribing.

CONCLUSIONS: Patients' participation in the consultation and the adverse consequences of lack of participation are important. The authors are developing an educational intervention that builds on these findings.

Bruegel, R. B. (1998). Patient empowerment--a trend that matters. *Journal of AHIMA / American Health Information Management Association*, 69(8) 30-3; quiz 35-6.

Increased patient empowerment will generate an extensive shift in fundamental roles and procedures in healthcare, including the roles of HIM professionals. Here's a look at factors influencing patient empowerment and a forecast of how patient and provider communications are likely to be affected in the future.

Bruera, E., Sweeney, C., Calder, K., Palmer, L., & Benisch-Tolley, S. (2001). Patient preferences versus physician perceptions of treatment decisions in cancer care. *Journal of Clinical Oncology : Official Journal of the American Society of Clinical Oncology*, 19(11) 2883-2885.

PURPOSE: To examine patient preferences as well as physician perceptions of these preferences for decision making and communication in palliative care.

PATIENTS AND METHODS: Medical decision-making preferences (DMPs) were prospectively studied in 78 assessable cancer patients after initial assessment at a palliative care outpatient clinic. DMPs were assessed with a questionnaire using five possible choices ranging from 1 (patient prefers to make the treatment decision) to 5 (patient prefers the physician to make the decision). In addition, the physician's perception of this preference was assessed.

RESULTS: Full concordance between the physician and the patient was seen in 30 (38%) of 78 cases; when the five original categories were recombined to cover active, shared, and passive decision making, there was concordance in 35 (45%) of 78 cases. The kappa coefficient for agreement between physician and patient was poor at 0.14 (95% confidence limit, -0.01 to 0.30) for simple kappa and 0.17 (95% confidence interval [CI], 0.00 to 0.34) for weighted kappa (calculated on the three regrouped categories). Active, shared, and passive DMPs were chosen by 16 (20%) of 78, 49 (63%) of 78, and 13 (17%) of 78 patients, and by 23 (29%) of 78, 30 (39%) of 78, and 25 (32%) of 78 physicians, respectively. The majority of patients (49 [63%] of 78; 95% CI, 0.51 to 0.74) preferred a shared approach with physicians. Physicians predicted that patients preferred a less shared approach than they in fact did. Patient age or sex did not significantly alter DMP.

CONCLUSION: An individual approach is needed and each patient should be assessed prospectively for DMP.

Burge, S., White, D., Bajorek, E., Bazaldua, O., Trevino, J., Albright, T., Wright, F., & Cigarroa, L. (2005). Correlates of medication knowledge and adherence: Findings from the residency research network of South Texas. *Family Medicine*, 37(10), 712-718.

BACKGROUND: Medication adherence is a complex phenomenon, influenced by a variety of factors. Most adherence research focuses on one medicine and does not represent the realities of clinical family medicine. This analysis examined factors associated with medication knowledge and adherence in family medicine patients with chronic conditions.

METHODS: The Residency Research Network of South Texas (RRNeST) enrolled 150 patients with chronic disease who "sometimes have trouble taking medicines." Seventy-five percent were Latinos. This cross-sectional analysis used baseline survey data from an intervention study. Investigators correlated medication knowledge and adherence with known predictors--patient, health, medication, economic, and physician factors. New variables related to patients' motivation to change treatment behaviors ("importance" and "confidence") were also included.

RESULTS: Linear regression analysis demonstrated that patient satisfaction, education level, and confidence were associated with better medication knowledge. Higher confidence, Spanish language, better functional and health status, and more prescription medicines were correlated with medication adherence.

CONCLUSIONS: We recommend that family physicians enhance medication adherence by providing good information about treatment and counseling strategies to build patients' confidence. Our findings suggest that poor health status can be a barrier to, rather than a motivator for, treatment adherence.

Charavel, M., Bremond, A., Moumjid-Ferdjaoui, N., Mignotte, H., & Carrere, M. O. (2001). Shared decision-making in question. *Psycho-Oncology*, 10(2) 93-102.

Over recent years, communication within the physician-patient relationship has been profoundly changing. New modes of conveying diagnostic and therapeutic information influence the way in which decisions regarding treatment are made. We propose a critical review of the various theoretical models as presented in the literature, from the paternalistic to the shared decision model, in order to reveal conceptual ambiguities and their related methodological problems. This analysis leads to a project for clarifying these problems through a research protocol based on shared decision-making.

Charles C., Gafni A., Whelan T., & O'Brien MA.(2006). Cultural influences on the physician-patient encounter: The case of shared treatment decision-making. *Patient Educ Couns*. Nov;63(3):262-7.

OBJECTIVE: In this paper we discuss the influence of culture on the process of treatment decision-making, and in particular, shared treatment decision-making in the physician-patient encounter. We explore two key issues: (1) the meaning of culture and the ways that it can affect treatment decision-making; (2) cultural issues and assumptions underlying the development and use of treatment decision aids.

METHODS: This is a conceptual paper. Based on our knowledge and reading of the key literature in the treatment decision-making field, we looked for written examples where cultural influences were taken into account when discussing the physician-patient encounter and when designing instruments (decision aids) to help patients participate in making decisions.

RESULTS: Our assessment of the situation is that to date, and with some recent exceptions, research in the above areas has not been culturally sensitive.

CONCLUSION: We suggest that more research attention should be focused on exploring potential cultural variations in the meaning of and preferences for shared decision-making as well as on the applicability across cultural groups of decision aids developed to facilitate patient participation in treatment decision-making with physicians.

PRACTICE IMPLICATIONS: Both patients and physicians need to be aware of the cultural assumptions underlying the development and use of decision aids and assess their cultural sensitivity to the needs and preferences of patients in diverse cultural groups.

Charles, C., Gafni, A., & Whelan, T. (1999). Decision-making in the physician-patient encounter: Revisiting the shared treatment decision-making model. *Social Science & Medicine* (1982), 49(5) 651-661.

In this paper we revisit and add elements to our earlier conceptual framework on shared treatment decision-making within the context of different decision-making approaches in the medical encounter (Charles, C., Gafni, A., Whelan, T., 1997. Shared decision-making in the medical encounter: what does it mean? (or, it takes at least two to tango). *Social Science & Medicine* 44, 681-692.). This revised framework (1) explicitly identifies different analytic steps in the treatment decision-making process; (2) provides a dynamic view of treatment decision-making by recognizing that the approach adopted at the outset of a medical encounter may change as the interaction evolves; (3) identifies decision-making approaches which lie between the three predominant models (paternalistic, shared and informed) and (4) has practical applications for clinical practice, research and medical education. Rather than advocating a particular approach, we emphasize the importance of flexibility in the way that physicians structure the decision-making process so that individual differences in patient preferences can be respected.

Covello, VT. (2003). Best practices in public health risk and crisis communication. *Journal of Health Communication*. 8 Suppl 1:5-8; discussion 148-51.

Davison, B. J., Kirk, P., Degner, L. F., & Hassard, T. H. (1999). Information and patient participation in screening for prostate cancer. *Patient Education and Counseling*, 37(3) 255-263.

The purpose of this study was to determine if providing men with information about screening for prostate cancer would enable them to assume a more active role in decision making with their family physician, and lower levels of anxiety and decisional conflict. Men were recruited from one family medical clinic in Winnipeg, Manitoba. One hundred men scheduled for a periodic health examination (PHE) were randomly assigned to receive verbal and written information either prior to the PHE, or following the second interview. Men completed measures of preferred decisional role and anxiety prior to the PHE; and assumed decisional role, decisional conflict, and anxiety post PHE. Results demonstrated that men who received the information prior to the PHE assumed a significantly more active role in making a screening decision, and had lower levels of decisional conflict post PHE. The two groups did not differ with regard to levels of state anxiety. Providing men with information enables them to make informed screening decisions with their family physicians.

DeMatteo, M. R. (2003). Future directions in research on consumer-provider communication and adherence to cancer prevention and treatment. *Patient Education and Counseling*, 50, 23-26.

The goal of this paper is to examine emerging issues in consumer-provider communication and patient adherence to cancer prevention, screening, diagnosis, treatment, and coping with survivorship. Many factors that have been shown to affect adherence can be supported or hindered by provider-patient communication, including the provider-patient relationship, patients' beliefs, social and cultural norms, family and social support, mood, and behavioral management. Six research questions are posed, and substantive and methodological recommendations are offered for empirical research on the measurement and achievement of patient adherence.

Edwards, A., & Elwyn, G. (2001). Understanding risk and lessons for clinical risk communication about treatment preferences. *Quality in Health Care : QHC*, 10 Suppl 1 i9-13.

This paper defines risk and its component elements and describes where clinical practice may be starting from in terms of what is reported in the literature about understanding risks and the information requirements of consumers. It notes briefly how theoretical models in the literature contribute to our understanding by providing a basis from which to summarize current evidence about the effects of healthcare interventions which address risks and risk behaviour. The situations or types of interventions in which risk related interventions are most effective are described, but a significant caveat is noted about the types of outcomes which have been reported in the literature and which are most appropriate to evaluate. The effects of "framing" variations in the information given to consumers and the ethical dilemmas these raise for a debate about "informed choice" in healthcare programmes are discussed. In response to both the practical and ethical dilemmas that arise from the current evidence, some of the areas where attention should be focused in the future are outlined so that both health gain and informed choice might be achieved. These include the use of decision aids, although their implementation is not widespread at present. Lessons from the current literature on how further progress can be made towards improved communication, discussion between professionals and consumers, and enhancing informed choice are discussed.

Edwards, A., Elwyn, G., Smith, C., Williams, S., & Thornton, H. (2001). Consumers' views of quality in the consultation and their relevance to 'shared decision-making' approaches. *Health Expectations : An International Journal of Public Participation in Health Care and Health Policy*, 4(3) 151-161.

BACKGROUND: There is a recognized need to assess the effects of shared decision-making and other communication interventions. However, the outcomes usually assessed for evidence of 'effectiveness' are determined by researchers and have not been based on consumers' views.

AIM: This study aimed to identify the important outcomes of consultations for consumers, and to compare with those reported in the current literature.

SETTING AND PARTICIPANTS: Forty-seven participants attending six focus group interviews. Most interviews took place in and all were orientated towards the UK primary care setting. **METHODS:** Focus group study.

RESULTS: Many affective outcomes were identified, consistent with the current literature trends. However, many cognitive and behavioural outcomes that are assessed in the current literature were not noted by participants as important. Furthermore, a broader range of outcomes than is evident in the current literature was viewed as important to these participants.

CONCLUSIONS: There is a need to revisit the outcomes which are assessed in decision-making and communication research. The outcomes of greatest importance to consumers must be identified and confirmed by new research which is based directly on the views of consumers themselves.

Elwyn, G., Edwards, A., Mowle, S., Wensing, M., Wilkinson, C., Kinnersley, P., & Grol, R. (2001). Measuring the involvement of patients in shared decision-making: A systematic review of instruments. *Patient Education and Counseling*, 43(1) 5-22.

We wanted to determine whether research instruments exist which focus on measuring to what extent health professionals involve patients in treatment and management decisions. A systematic search and appraisal of the relevant literature was conducted by electronic searching techniques, snowball sampling and correspondence with field specialists. The instruments had to concentrate on assessing patient involvement in decision-making by observation techniques (either direct or using audio or videotaped data) and contain assessments of the core aspects of 'involvement', namely evidence of patients being involved (explicitly or implicitly) in decision-making processes, a portrayal of options and a decision-making or deferring stage. Eight instruments met the inclusion criteria. But we did not find any instruments that had been specifically designed to measure the concept of 'involving patients' in decisions. The results reveal that little attention has been given to a detailed assessment of the processes of patient involvement in decision-making. The existing instrumentation only includes these concepts as sub-units within broader assessments, and does not allow the construct of patient involvement to be measured accurately. Instruments developed to measure 'patient-centeredness' are unable to provide enough focus on 'involvement' because of their attempt to cover so many dimensions. The concept of patient involvement (shared decision-making; informed collaborative choice) is emerging in the literature and requires an accurate method of assessment.

Floyd DL, Prentice-Dunn S, & Rogers RW. (2000). A meta-analysis of research on protection motivation theory. *Journal of Applied Social Psychology*, 30 407-429.

This article reports the first meta-analysis of the literature on protection motivation theory (Rogers, 1975, 1983; Rogers & Prentice-Dunn, 1997), a model of disease prevention and health promotion that has generated research for over two decades. The literature review included 65 relevant studies (N = approximately 30,000) that represented over 20 health issues. The mean overall effect size ($d = .52$) was of moderate magnitude. In general, increases in threat severity, threat vulnerability, response efficacy, and self-efficacy facilitated adaptive intentions or behaviors. Conversely, decreases in maladaptive response rewards and adaptive response costs increased adaptive intentions or behaviors. This held true whether the measures were based on intentions or behaviors, and suggests that PMT components may be useful for individual and community interventions.

Frosch, D. L., & Kaplan, R. M. (1999). Shared decision making in clinical medicine: Past research and future directions. *American Journal of Preventive Medicine*, 17(4) 285-294.

CONTENT: Shared medical decision making is a process by which patients and providers consider outcome probabilities and patient preferences and reach a health care decision based on mutual agreement. Shared decision making is best used for problems involving medical uncertainty. During the process the provider-patient dyad considers treatment options and consequences and explores the fit of expected benefits and consequences of treatment with patient preferences for various outcomes. This paper reviews the literature on shared medical decision making. Several questions are considered. Although several studies suggest that patients do not want to be involved in decision making, these studies typically fail to separate decisions about technical aspects of treatment from preferences for outcomes. There is considerable evidence that patients want to be consulted about the impact of treatment. Studies on the acceptability of shared decision making for physicians have produced inconsistent results. Shared decision making is more acceptable to younger and better-educated patients. It remains unclear whether shared decision making requires expensive video presentations or whether the same results can be obtained with simpler methods, such as the decision board. We conclude that shared medical decision making is an important development in health care. More research is necessary to identify the effects of shared decision making on patient satisfaction and health outcomes. Further, more research is necessary in order to evaluate the most effective methods for engaging patients in decisions about their own health care.

Frosch, D. L., Kaplan, R. M., & Felitti, V. (2001). The evaluation of two methods to facilitate shared decision making for men considering the prostate-specific antigen test. *Journal of General Internal Medicine : Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 16(6) 391-398.

OBJECTIVE: California law (Grant H. Kenyon Prostate Cancer Detection Act) requires physicians to inform all patients older than aged 50 years who receive a prostate examination about the availability of the prostate-specific antigen (PSA) test. Physicians are not given guidance on how this information should be presented. We sought to evaluate the effects upon PSA screening rates of informing patients about PSA testing by 2 different techniques.

DESIGN: Factorial comparison of discussion versus video formats for presenting information about the PSA test.

SETTING: Patients were recruited through the Health Appraisal screening program in the Department for Preventive Medicine, Kaiser Permanente, San Diego, Calif.

PARTICIPANTS: Male patients undergoing health appraisal screening participated in 1 of 4 groups providing information about PSA screening: usual care (n=43), discussion about risks and benefits of PSA (n=45), shared decision-making video (n=46), or video plus discussion (n=42). Participants were sequentially assigned to 1 of the 4 groups.

RESULTS: No significant differences in demographics or family history was demonstrated between the groups at the time of group assignment. Participants in the intervention groups rated the information as clear, balanced, and fair. There were significant differences in the number of men requesting a PSA test, with the highest rate in the usual care group (97.7%), followed by discussion (82.2%), video (60.0%), and video plus discussion (50.0%).

CONCLUSION: Providing information about PSA screening in the form of video or discussion is feasible and significantly alters PSA screening rates.

Heisler M., Cole I., Weir D., Kerr E.A., & Hayward R.A. (2007). Does physician communication influence older patients' diabetes self-management and glycemic control? Results from the Health and Retirement Study (HRS). *J Gerontol A Biol Sci Med Sci*. 2007 Dec;62(12):1435-42.

BACKGROUND: Effective chronic disease self-management among older adults is crucial for improved clinical outcomes. We assessed the relative importance of two dimensions of physician communication-provision of information (PCOM) and participatory decision-making (PDM)-for older patients' diabetes self-management and glycemic control.

METHODS: We conducted a national cross-sectional survey among 1588 older community-dwelling adults with diabetes (response rate: 81%). Independent associations were examined between patients' ratings of their physician's PCOM and PDM with patients' reported diabetes self-management (medication adherence, diet, exercise, blood glucose monitoring, and foot care), adjusting for patient sociodemographics, illness severity, and comorbidities. Among respondents for whom hemoglobin A1c (HbA1c) values were available (n=1233), the relationship was assessed between patient self-management and HbA1c values.

RESULTS: In separate multivariate regressions, PCOM and PDM were each associated with overall diabetes self-management ($p < .001$) and with all self-management domains ($p < .001$ in all models), with the exception of PDM not being associated with medication adherence. In models with both PCOM and PDM, PCOM alone predicted medication adherence ($p = .001$) and foot care ($p = .002$). PDM alone was associated with exercise and blood glucose monitoring (both $p < .001$) and was a stronger independent predictor than PCOM of diet. Better patient ratings of their diabetes self-management were associated with lower HbA1c values ($B = -.10$, $p = .005$).

CONCLUSION: Among these older adults, both their diabetes providers' provision of information and efforts to actively involve them in treatment decision-making were associated with better overall diabetes self-management. Involving older patients in setting chronic disease goals and decision-making, however, appears to be especially important for self-care areas that demand more behaviorally complex lifestyle adjustments such as exercise, diet, and blood glucose monitoring.

Holmes-Rovner, M., Valade, D., Orlowski, C., Draus, C., Nabozny-Valerio, B., & Keiser, S. (2000). Implementing shared decision-making in routine practice: Barriers and opportunities. *Health Expectations : An International Journal of Public Participation in Health Care and Health Policy*, 3(3) 182-191.

OBJECTIVE: Determine feasibility of shared decision-making programmes in fee-for-service hospital systems including physicians' offices and in-patient facilities.

DESIGN: Survey and participant observation. Data obtained during Phase 1 of a patient outcome study.

SETTINGS AND PARTICIPANTS: Three hospitals in Michigan: one 299-bed rural regional hospital, one 650-bed urban community hospital, one 459-bed urban and suburban teaching hospital. All nurses and physicians who agreed to use the programmes participated in the evaluation ($n = 34$). **INTERVENTION:** Two shared decision-making(R) (SDP) multimedia programmes: surgical treatment choice for breast cancer and ischaemic heart disease treatment choice.

MAIN OUTCOME MEASURES: (1) clinicians' evaluations of programme quality; (2) challenges in hospital settings; and (3) patient referral rates.

RESULTS: SDP programmes were judged to be clear, accurate and about the right length and amount of information. Programmes were judged to be informative and appropriate for patients to see before making a decision. Clinicians were neutral about patients' desire to participate in treatment decision-making. Referral volume to SDPs was lower than expected: 24 patients in 7 months across three hospitals. Implementation challenges centred on time pressures in patient care.

CONCLUSIONS: Productivity and time pressure in US health care severely constrain shared decision-making programme implementation. Physician referral may not be a reliable mechanism for patient access. Possible innovations include: (1) incorporation into the informed consent process; (2) provider or payer negotiated requirement in the routine hospital procedure to use the SDP as a quality indicator; and (3) payer reimbursement to professional providers who make SDP programmes available to patients.

Keller, V. F., & White, M. K. (1997). Choices and changes: A new model for influencing patient health behavior. *Journal of Clinical Outcomes Management, Special Publication*, 17-20.

This article described the development of a model to guide clinicians in application of research-based principles of motivation and behavior change within the context of the clinician-patient encounters. The model presents a synthesis of the research evidence and specifies two core dimensions of motivation: conviction and confidence. Conviction refers to the values and beliefs that underlie a patient's readiness and intention to take action, while confidence is a reflection of self-efficacy. The model also identifies three components of effective intervention: assessment, rapport building and tailoring.

Lloyd, A. J. (2001). The extent of patients' understanding of the risk of treatments. *Quality in Health Care : QHC*, 10 Suppl 1 i14-8.

The scientific understanding of how people perceive and code risks and then use this information in decision making has progressed greatly in the last 20 years. There is considerable evidence that people employ simplifying heuristics in judgment and decision making. These heuristics may lead to bias in how people interpret information. However, much of our understanding of risk perception is based on laboratory studies. It is much less clear whether risk perception in the real world (as in the case of medical treatments) exhibits the same patterns and biases. This paper reviews the published literature on risk perception in patients who face substantial treatment risks. It examines how accurate patients' perception of risk is, what factors affect the perception of risk, and several possible explanations for why patients' risk perception is not always accurate.

Lutfey, K. E., & Ketcham, J. D. (2005). Patient and provider assessments of adherence and the sources of disparities: Evidence from diabetes care. *Health Services Research*, 40(6), 1803-1817.

OBJECTIVE: To (1) compare diabetes patients' self-assessments of adherence with their providers' assessments; (2) determine whether there are systematic differences between the two for certain types of patients; and (3) consider how the cognitive processing that providers use to assess adherence might explain these differences.

DATA SOURCES/STUDY SETTING: Primary survey data were collected in 1998 from 156 patient provider pairs in two subspecialty endocrinology clinics in a large Midwestern city.

STUDY DESIGN: Data were collected in a cross-sectional survey study design. Providers were surveyed immediately after seeing each diabetes patient, and patients were surveyed via telephone within 1 week of clinic visits.

DATA COLLECTION/EXTRACTION METHODS: Bivariate descriptive results and multivariate regression analyses are used to examine how patient characteristics relate to four measures of overall adherence assessments: (1) patients' self-assessments; (2) providers' assessments of patient adherence; (3) differences between those assessments; and (4) absolute values of those differences.

PRINCIPAL FINDINGS: Patient self-assessments are almost entirely independent of observable characteristics such as sex, race, and age. Provider assessments vary with observable characteristics such as patient race and age but not with less readily observable factors such as education and income. For black patients, we observe that relative to white patients, providers' assessments are significantly farther away from-although not systematically farther above or below-patients' self-assessments.

CONCLUSIONS: Providers appear to rely on observable cues, particularly age and race, to make inferences about an individual patient's adherence. These findings point to a need for further research of various types of provider cognitive processing, particularly in terms of distinguishing between prejudice and uncertainty. If disparities in assessment stem more from information and communication problems than from provider prejudice, policy interventions should facilitate providers' systematic acquisition and processing of information, particularly for some types of patients.

Montgomery, A. A., & Fahey, T. (2001). How do patients' treatment preferences compare with those of clinicians? *Quality in Health Care : QHC*, 10 Suppl 1 i39-43.

The shared model of medical decision making has been proposed as the preferred method of determining patients' treatment. However, agreement may be more difficult to achieve if patients' and clinicians' preferences are polarized. The aim of this paper is to explore how closely patients and clinicians agree in their preferences for different treatment options. Only studies that made quantifiable estimates of preferences were included. There is some evidence that patients and health professionals often do not agree on treatment preference in the areas of cardiovascular disease, cancer, obstetrics and gynaecology, and acute respiratory illness. However, the magnitude and direction of these differences vary and may depend on the condition of interest. Most of the research to date is cross sectional; longitudinal research is required to investigate whether preferences change over time and are related to treatment choice, adherence to medication if taken, and health outcomes.

Moumjid N., Gafni A., Brémond A., Carrère M.O (2007). Shared decision making in the medical encounter: are we all talking about the same thing? *Med Decis Making*. 2007 Sep-Oct;27(5):539-46

OBJECTIVE: This article aims to explore 1) whether after all the research done on shared decision making (SDM) in the medical encounter, a clear definition (or definitions) of SDM exists; 2) whether authors provide a definition of SDM when they use the term; 3) and whether authors are consistent, throughout a given paper, with respect to the research described and the definition they propose or cite.

METHODS: The authors searched different databases (Medline, HealthStar, Cinahl, Cancerlit, Sociological Abstracts, and Econlit) from 1997 to December 2004. The keywords used were informed decision making and shared decision making as these are the keywords more often encountered in the literature. The languages selected were English and French.

RESULTS: The 76 reported papers show that 1) several authors clearly define what they mean by SDM or by another closely related phrase, such as informed shared decision making. 2) About a third of the papers reviewed (25/76) cite these authors although 8 of them do not use the term in a manner consistent with the definition cited. 3) Certain authors use the term SDM inconsistently with the definition they propose, and some use the terms informed decision making and SDM as if they were synonymous. 4) Twenty-one papers do not provide or cite any definition, or their use of the term (i.e., SDM) is not consistent with the definition they provide.

CONCLUSION: Although several clear definitions of shared decision making have been proposed, they are cited by only about a third of the papers reviewed. In the other papers, authors refer to the term without specifying or citing a definition or use the term inconsistently with their definition. This is a problem because having a clear definition of the concept and following this definition are essential to guide and focus research. Authors should use the term consistently with the identified definition.

O'Connor, A. M., Fiset, V., DeGrasse, C., Graham, I. D., Evans, W., Stacey, D., Laupacis, A., & Tugwell, P. (1999). Decision aids for patients considering options affecting cancer outcomes: Evidence of efficacy and policy implications. *Journal of the National Cancer Institute. Monographs*, (25)(25) 67-80.

Some cancer screening and treatment decisions are not clear cut because outcomes are uncertain or options have different benefit/risk profiles. "Decision aids" have been developed as adjuncts to counseling so that patients can learn about benefits and risks, can consider their personal values, and can participate with their practitioner in decision making. The purpose of this paper is to review published evidence about the efficacy of decision aids focused on cancer outcomes and to outline research and dissemination issues. Studies evaluating cancer-related decision aids demonstrate that they are acceptable to patients and help those who are uncertain at baseline to make choices. They also increase the likelihood that choices are based on better knowledge, realistic expectations of outcomes, and personal values. Decision aids reduce some dimensions of decisional conflict, and their effect on decisions is variable. Few studies examine the downstream effects of decision aids on long-term persistence with choices, regret, and quality of life. The differences between simpler and more intensive methods of decision support appear to be negligible in terms of knowledge and satisfaction as well as variable in terms of decisions and decisional conflict. However, more intensive methods are

superior in terms of user acceptability and of the extent to which choices are based on realistic expectations and personal values. The clinical importance of these differences and the cost-effectiveness remain to be established. On the basis of this review, several recommendations for research are made, and dissemination issues are identified.

O'Connor, A. M., Rostom, A., Fiset, V., Tetroe, J., Entwistle, V., Llewellyn-Thomas, H., Holmes-Rovner, M., Barry, M., & Jones, J. (1999). Decision aids for patients facing health treatment or screening decisions: *Systematic review*. *BMJ (Clinical Research Ed.)*, 319(7212) 731-734.

OBJECTIVE: To conduct a systematic review of randomised trials of patient decision aids in improving decision making and outcomes.

DESIGN: We included randomised trials of interventions providing structured, detailed, and specific information on treatment or screening options and outcomes to aid decision making. Two reviewers independently screened and extracted data on several evaluation criteria. Results were pooled by using weighted mean differences and relative risks.

RESULTS: 17 studies met the inclusion criteria. Compared with the controls, decision aids produced higher knowledge scores (weighted mean difference=19/100, 95% confidence interval 14 to 25); lower decisional conflict scores (weighted mean difference=-0.3/5, -0.4 to -0.1); more active patient participation in decision making (relative risk = 2.27, 95% confidence interval 1.3 to 4); and no differences in anxiety, satisfaction with decisions (weighted mean difference=0.6/100, -3 to 4), or satisfaction with the decision making process (2/100,-3 to 7). Decision aids had a variable effect on decisions. When complex decision aids were compared with simpler versions, they were better at reducing decisional conflict, improved knowledge marginally, but did not affect satisfaction.

CONCLUSIONS: Decision aids improve knowledge, reduce decisional conflict, and stimulate patients to be more active in decision making without increasing their anxiety. Decision aids have little effect on satisfaction and a variable effect on decisions. The effects on outcomes of decisions (persistence with choice, quality of life) remain uncertain.

O'Connor, A. M., Stacey, D., Entwistle, V., Llewellyn-Thomas, H., Rovner, D., Holmes-Rovner, M., Tait, V., Tetroe, J., Fiset, V., Barry, M., & Jones, J. (2003). Decision aids for people facing health treatment or screening decisions. *Cochrane Database of Systematic Reviews*, (2).

BACKGROUND: Decision aids prepare people to participate in preference-sensitive decisions.

OBJECTIVES: 1. Create a comprehensive inventory of patient decision aids focused on healthcare options. 2. Review randomized controlled trials (RCT) of decision aids, for people facing healthcare decisions.

SEARCH STRATEGY: Studies were identified through databases and contact with researchers active in the field.

SELECTION CRITERIA: Two independent reviewers screened abstracts for interventions designed to aid patients' decision making by providing information about treatment or screening options and their associated outcomes. Information about the decision aids was compiled in an inventory; those that had been evaluated in a RCT were reviewed in detail.

DATA COLLECTION AND ANALYSIS: Two reviewers independently extracted data using standardized forms. Results of RCTs were pooled using weighted mean differences (WMD) and relative risks (RR) using a random effects model.

MAIN RESULTS: Over 200 decision aids were identified. Of the 131 available decision aids, most are intended for use before counseling. Using the CREDIBLE criteria to evaluate the quality of the decision aids: a) most included potential harms and benefits, credentials of the developers, description of their development process, update policy, and were free of perceived conflict of interest; b) many included reference to relevant literature; c) few included a description of the level of uncertainty regarding the evidence; and d) few were evaluated. Thirty of these decision aids were evaluated in 34 RCTs and another trial evaluated a suite of eight decision aids. An additional 30 trials are yet to be published. Among the trials comparing decision aids to usual care, decision aids performed better in terms of: a) greater knowledge (WMD 19 out of 100, 95% CI: 13 to 24); b) more realistic expectations (RR 1.4, 95%CI: 1.1 to 1.9); c) lower decisional conflict related to feeling informed (WMD -9.1 of 100, 95%CI: -12 to -6); d) increased proportion of people active in decision making (RR 1.4, 95% CI: 1.0 to 2.3); and e) reduced proportion of people who remained undecided post intervention (RR 0.43, 95% CI: 0.3 to 0.7). When simpler were compared to more detailed decision aids, the relative improvement was significant in: a) knowledge (WMD 4 out of 100, 95% CI: 3 to 6); b) more realistic expectations (RR 1.5, 95% CI: 1.3 to 1.7); and c) greater agreement between values and choice. Decision aids appeared to do no better than comparisons in affecting satisfaction with decision making, anxiety, and health outcomes. Decision aids had a variable effect on which healthcare options were selected.

REVIEWER'S CONCLUSIONS: The availability of decision aids is expanding with many on the Internet; however few have been evaluated. Trials indicate that decision aids improve knowledge and realistic expectations; enhance active participation in decision making; lower decisional conflict; decrease the proportion of people remaining undecided, and improve agreement between values and choice. The effects on persistence with chosen therapies and cost-effectiveness require further evaluation. Finally, optimal strategies for dissemination need to be explored.

Peek M.E., Quinn M.T., Gorawara-Bhat R., Odoms-Young A., Wilson S.C., & Chin M.H. (2008). How is shared decision-making defined among African-Americans with diabetes? *Patient Educ Couns*. 2008 Sep;72(3):450-8.

OBJECTIVE: This study investigates how shared decision-making (SDM) is defined by African-American patients with diabetes, and compares patients' conceptualization of SDM with the Charles model. **METHODS:** We utilized race-concordant interviewers/moderators to conduct in-depth interviews and focus groups among a purposeful sample of African-American patients

with diabetes. Each interview/focus group was audio-taped, transcribed verbatim and imported into Atlas.ti software. Coding was done using an iterative process and each transcription was independently coded by two members of the research team. RESULTS: Although the conceptual domains were similar, patient definitions of what it means to "share" in the decision-making process differed significantly from the Charles model of SDM. Patients stressed the value of being able to "tell their story and be heard" by physicians, emphasized the importance of information sharing rather than decision-making sharing, and included an acceptable role for non-adherence as a mechanism to express control and act on treatment preferences.

CONCLUSION: Current instruments may not accurately measure decision-making preferences of African-American patients with diabetes.

PRACTICE IMPLICATIONS: Future research should develop instruments to effectively measure decision-making preferences within this population. Emphasizing information-sharing that validates patients' experiences may be particularly meaningful to African-Americans with diabetes.

Protheroe, J., Fahey, T., Montgomery, A. A., & Peters, T. J. (2001). Effects of patients' preferences on the treatment of atrial fibrillation: Observational study of patient-based decision analysis. *The Western Journal of Medicine*, 174(5) 311-315.

OBJECTIVE: To investigate the effect of patients' preferences in the treatment of atrial fibrillation by using individualized decision analysis in which probability and utility assessments are combined into a decision tree.

DESIGN: Observational study based on interviews with patients.

SETTING: 8 general practices in Avon, England.

PARTICIPANTS: 260 randomly selected patients aged 70 to 85 years with atrial fibrillation.

MAIN OUTCOME MEASURES: Patients' treatment preferences regarding anticoagulation treatment (warfarin sodium) after individualized decision analysis; comparison of these preferences with treatment guidelines on the basis of comorbidity and absolute risk and compared with current prescription.

RESULTS: Of 195 eligible patients, 97 participated in decision making using decision analysis. Among these 97, the decision analysis indicated that 59 (61%; 95% confidence interval, 50%-71%) would prefer anticoagulation treatment, considerably fewer than those who would be recommended treatment according to guidelines. There was marked disagreement between the decision analysis and guideline recommendations ($\kappa > \text{or} = 0.25$). Of 38 patients whose decision analysis indicated a preference for anticoagulation, 17 (45%) were being prescribed warfarin; on the other hand, 28 (47%) of 59 patients were not being prescribed warfarin, although the results of their decision analysis suggested they wanted to be.

CONCLUSIONS: In the context of shared decision making, individualized decision analysis is valuable in a sizable proportion of elderly patients with atrial fibrillation. Taking account of patients' preferences would lead to fewer prescriptions for warfarin than under published recommendations. Decision analysis as a shared decision-making tool should be evaluated in a randomized controlled trial.

Quill, T. E., & Brody, H. (1996). Physician recommendations and patient autonomy: Finding a balance between physician power and patient choice. *Annals of Internal Medicine*, 125(9) 763-769.

Medical care in the United States has rapidly moved away from a paternalistic approach to patients and toward an emphasis on patient autonomy. At one extreme end of this spectrum is the "independent choice" model of decision making, in which physicians objectively present patients with options and odds but withhold their own experience and recommendations to avoid overly influencing patients. This model confuses the concepts of independence and autonomy and assumes that the physician's exercise of power and influence inevitably diminishes the patient's ability to choose freely. It sacrifices competence for control, and it discourages active persuasion when differences of opinion exist between physician and patient. This paper proposes an "enhanced autonomy" model, which encourages patients and physicians to actively exchange ideas, explicitly negotiate differences, and share power and influence to serve the patient's best interests. Recommendations are offered that promote an intense collaboration between patient and physician so that patients can autonomously make choices that are informed by both the medical facts and the physician's experience.

Rosen, P., Anell, A., & Hjortsberg, C. (2001). Patient views on choice and participation in primary health care. *Health Policy (Amsterdam, Netherlands)*, 55(2) 121-128.

Within modern health care, much attention is given to the tasks of identifying patient preferences and then delivering health care services accordingly. Standardised solutions are not always acceptable to patients with divergent needs and preferences, and the growing number of treatment alternatives makes patient participation increasingly important. In order to identify individual preferences for choice and shared decision making, a survey was conducted among 1543 primary care patients in Sweden. As suggested by earlier work, special attention was paid to the strong link between patient preferences and age. Results show both similarities and differences in attitudes among young and old patient groups, and differences could be explained by a combination of life-cycle effects, cohort effects and expectations ensuing from the need for future health care contacts.

Roter D. The enduring and evolving nature of the patient-physician relationship. *Patient Educ Couns.* 2000;39:5-15.

Just as the molecular and chemistry oriented sciences were adopted as the 20th century medical paradigm, incorporation of the patient's perspective into a relationship-centered medical paradigm has been suggested as appropriate for the 21st century. It is the medical dialogue that provides the fundamental vehicle through which the paradigmatic battle of perspectives is waged and the therapeutic relationship is defined. In many regards, the primary challenge to the field is the development of operationally defined and measurable indicators of medical communication that will provide a valid representation of the conceptual models of the therapeutic relationship. The purpose of this essay is to explore the implications of a relationship-centered medical paradigm on the nature of the patient-physician relationship and its expression in the communication of routine medical practice. An organizing framework for distinguishing commonly measured communication elements into conceptually distinct components is suggested. Application of this framework is illustrated through an empirical study of communication in primary care practice. The results of the study demonstrate the usefulness of this approach in linking communication to models of therapeutic relationships. The importance of medical communication is further explored in a summary of studies that establish its association to outcomes and in an overview of future challenges to the field.

Saba G. W., Wong S.T., Schillinger D., Fernandez A., Somkin C.P., Wilson C.C., Grumbach K. (2006). Shared decision making and the experience of partnership in primary care. *Ann Fam Med.* 2006 Jan-Feb;4(1):54-62

PURPOSE: Communication has been researched either as a set of behaviors or as a facet of the patient-physician relationship, often leading to conflicting results. To determine the relationship between these perspectives, we examined shared decision making (SDM) and the subjective experience of partnership for patients and physicians in primary care.

METHODS: From a convenience sample of experienced primary care physicians in 3 clinics, we recruited a stratified sample of 18 English- or Spanish-speaking patients. Direct observation of visits was followed by videotape-triggered stimulated recall sessions with patients and physicians. We coded decision moments for objective evidence of SDM, using a structured instrument. We classified patients' and physicians' subjective experience of partnership as positive or negative by a consensus analysis of stimulated recall sessions. We combined results from these 2 analyses to generate 4 archetypes of engagements and used grounded theory to identify themes associated with each archetype.

RESULTS: The 18 visits yielded 125 decisions, 62 (50%) of which demonstrated SDM. Eighty-two decisions were discussed in stimulated recall and available for combined analysis, resulting in 4 archetypes of engagement in decision making: full engagement (SDM present, subjective experience positive)--22%; simulated engagement (SDM present, subjective experience negative)--38%; assumed engagement (SDM absent, subjective experience positive)--21%; and nonengagement (SDM absent, subjective experience negative)--19%. Thematic analysis revealed that both relationship factors (eg, trust, power) and communication behavior influenced subjective experience of partnership. **CONCLUSIONS:** Combining direct observation and assessment of the subjective experience of partnership suggests that communication behavior does not ensure an experience of collaboration, and a positive subjective experience of partnership does not reflect full communication. Attempts to enhance patient-physician partnership must attend to both effective communication style and affective relationship dynamics.

Sainio, C., Eriksson, E., & Lauri, S. (2001). Patient participation in decision making about care. *Cancer Nursing*, 24(3) 172-179.

The purpose of this study was to find out how cancer patients perceive patient participation in decision-making and to see which factors in their view facilitate and restrict participation. Data were collected in focus group interviews with 25 patients, most of whom had breast cancer. Data interpretation was based on the method of qualitative content analysis. The results showed that patients, nurses and physicians all play a part in terms of how patients participate in decision-making. Patients defined participation in decision-making in terms of asking questions, obtaining/providing information and choosing from/presenting different alternatives. Among the factors that were thought to promote participation in decision-making were the patient's activity, the presence of a primary nurse/physician, the encouragement of nurses and physicians to participate, the treatment of patients as equals, and nurses and physicians having enough time for patients. As for factors hindering participation in decision-making, reference was made to patient ignorance, physical and mental imbalance and shyness on the part of the patient. Obstacles to participating in decision-making that originated in the nurses and physicians were the tendency for them to treat patients as objects, to fall in a routine, problems with information dissemination and lack of time.

Sevdalis N., & Harvey N. (2006). Predicting preferences: a neglected aspect of shared decision-making. *Health Expectations*. Sep;9(3):245-51.

In recent years, shared decision-making between patients and doctors regarding choice of treatment has become an issue of priority. Although patients' preferences lie at the core of the literature on shared decision-making, there has not been any attempt so far to link the concept of shared decision-making with the extensive behavioural literature on people's self-predictions of their future preferences. The aim of the present review is to provide this link. First, we summarize behavioural research that suggests that people mispredict their future preferences and feelings. Secondly, we provide the main psychological accounts for people's mispredictions. Thirdly, we suggest three main empirical questions for inclusion in a programme aimed at enriching our understanding of shared decision-making and improving the procedures used for putting it into practice.

Siminoff L.A., & Step M.M. (2005). A communication model of shared decision making: accounting for cancer treatment decisions. *Health Psychol.* Jul;24(4 Suppl):S99-S105.

The authors present a communication model of shared decision making (CMSDM) that explicitly identifies the communication process as the vehicle for decision making in cancer treatment. In this view, decision making is necessarily a sociocommunicative process whereby people enter into a relationship, exchange information, establish preferences, and choose a course of action. The model derives from contemporary notions of behavioral decision making and ethical conceptions of the doctor-patient relationship. This article briefly reviews the theoretical approaches to decision making, notes deficiencies, and embeds a more socially based process into the dynamics of the physician-patient relationship, focusing on cancer treatment decisions. In the CMSDM, decisions depend on (a) antecedent factors that have potential to influence communication, (b) jointly constructed communication climate, and (c) treatment preferences established by the physician and the patient.

Tabor, PA, & Lopez, DA (2004). Comply with us: Improving medication adherence. *Journal of Pharmacy Practice*, 17(3), 167-181.

Medication noncompliance is a pervasive problem resulting in significant morbidity and mortality. There are many terms used to describe medication-taking behavior including compliance, adherence, intelligent compliance, and drug forgiveness. More recently, clinicians have focused on the need for a collaborative partnership with patients to attain medication adherence. Problems identified include the patient's failing

to initiate therapy, underusing or overusing a drug, stopping a drug too soon, and mistiming or skipping doses. Adherence to medications is a complex health behavior. There are many risk factors associated with decreased compliance, and many strategies have been shown to improve drug-taking behavior and patient outcomes. By careful assessment, the pharmacist can identify the high-risk patient, recommend an individualized care plan, and provide the follow-up necessary to successfully change patient behavior. Pharmacists should focus on improving their own application of behavior modification principles and patient communication skills. Improved medication compliance results in improved humanistic, clinical, and economic outcomes.

Tai-Seale M., Bramson R., & Bao X. (2007). Decision or no decision: how do patient-physician interactions end and what matters? *J Gen Intern Med.* 2007 Mar;22(3):297-302

BACKGROUND: A clearly stated clinical decision can induce a cognitive closure in patients and is an important investment in the end of patient-physician communications. Little is known about how often explicit decisions are made in primary care visits.

OBJECTIVE: To use an innovative videotape analysis approach to assess physicians' propensity to state decisions explicitly, and to examine the factors influencing decision patterns.

DESIGN: We coded topics discussed in 395 videotapes of primary care visits, noting the number of instances and the length of discussions on each topic, and how discussions ended. A regression analysis tested the relationship between explicit decisions and visit factors such as the nature of topics under discussion, instances of discussion, the amount of time the patient spoke, and competing demands from other topics.

RESULTS: About 77% of topics ended with explicit decisions. Patients spoke for an average of 58 seconds total per topic. Patients spoke more during topics that ended with an explicit decision, (67 seconds), compared with 36 seconds otherwise. The number of instances of a topic was associated with higher odds of having an explicit decision (OR = 1.73, $p < 0.01$). Increases in the number of topics discussed in visits (OR = 0.95, $p < .05$), and topics on lifestyle and habits (OR = 0.60, $p < .01$) were associated with lower odds of explicit decisions.

CONCLUSIONS: Although discussions often ended with explicit decisions, there were variations related to the content and dynamics of interactions. We recommend strengthening patients' voice and developing clinical tools, e.g., an "exit prescription," to improving decision making.

Wensing, M. (2000). Evidence-based patient empowerment. *Quality in Health Care : QHC*, 9(4) 200-201.

Patient empowerment is a high priority for healthcare policy makers in many countries. By increasing the role of patients, health care providers should become more responsive to patients' needs and preferences and deliver better quality care. Patients can participate in health care in many ways. These include communicating directly to healthcare professionals in patient centred consultations; contributing to routine practice outside the consultation through quality of life questionnaires and patient satisfaction surveys; and, increasingly, by using information on health and health care through internet channels.

IV. Other Models of Communication

Frankel, R. M., & Stein, T. (2001). Getting the most out of the clinical encounter: The four habits model. *The Journal of Medical Practice Management : MPM*, 16(4) 184-191.

Medical interviewing is the foundation of medical care and is the clinician's most important activity. A growing body of evidence suggests that clinicians use distinctive, describable behaviors to conduct medical interviews. This article describes four patterns of behavior that we term Habits and reviews the research evidence that links each Habit with both biomedical and functional outcomes

of care. The Four Habits are: Invest in the Beginning, Elicit the Patient's Perspective, Demonstrate Empathy, and Invest in the End. Each Habit refers to a family of skills. In addition, the Habits bear a sequential relationship to one another and are thus interdependent. The Four Habits approach offers an efficient and practical framework for organizing the flow of medical visits. It is unique because it concentrates on families of interviewing skills and on their inter-relationships.

Kurtz, S. M., Silverman, J., Draper, J., & Silverman, J. (2005). *Teaching and learning communication skills in medicine (2nd Edition)*. Oxford ; San Francisco: Radcliffe Pub.

The authors synthesizes the literature on the complexities and deficiencies of physician-patient communication over a twenty-five year period and offers a theoretical model for skill development that is evidence-based. The main premise of the book includes communication as a core skill that medical students need to be taught and promotes a process of communication training that is evidence and problem based, experiential, and helical. The authors cite research that concludes that communication skills are essential for medical diagnosis, decision-making, treatment, and education and prevention.

Maguire, P., & Pitceathly, C. (2002). Key communication skills and how to acquire them. *BMJ (Clinical Research Ed.)*, 325(7366) 697-700.

When doctors use communication skills effectively, both they and their patients benefit. Firstly, doctors identify their patients' problems more accurately. Secondly, their patients are more satisfied with their care and can better understand their problems, investigations, and treatment options. Thirdly, patients are more likely to adhere to treatment and follow advice on behaviour change. Fourthly, patients' distress and their vulnerability to anxiety and depression are lessened. Finally, doctors' own wellbeing is improved. We present evidence that doctors do not communicate with their patients as well as they should, and we consider possible reasons for this. We also describe the skills essential for effective communication and discuss how doctors can acquire these skills.

V. Impact of Continuing Education and Communication Training

Aspegren K. (1999). Teaching and learning communication skills in medicine: A review with quality grading of articles. *Medical Teacher*, 21(6) 563-570.

A literature search for articles concerning communication skills teaching and learning in medicine was done. The search yielded 180 pertinent articles, which were quality graded into the three categories of high, medium and low quality, using established criteria. Only those of high and medium quality were used for the review, which thus is based on 31 randomized studies, 38 open effect studies and 14 descriptive studies. Communication skills can be taught in courses, are learnt, but are easily forgotten if not maintained by practice. The most effective point in time to learn these at medical school is probably during the clinical clerkships, but there is no study that has specifically addressed this question. After a short period of training, doctors can be effective as teachers. The teaching method should be experiential as it has been shown conclusively that instructional methods do not give the desired results. The contents of communication skills courses should primarily be problem defining. All students should have communication skills training since those with the lowest pre-course scores gain the most from such courses. Men are slower learners of communication skills than women, which should be taken into account by course organizers. As there is only one really long-term follow up into the residency phase of communication skills training at medical school, those who have done randomized studies in the field should if possible carry out further follow-up studies.

Bonvicini, K.A., Perlin, M.P., Bylund, C.L., Carroll, J.G., Rouse, R., & Goldstein, M.G. (2009). Impact of communication training on physician expression of empathy in patient encounters. *Patient Education and Counseling*, 75(1):3-10.

Objective: To examine whether an educational intervention that focused on physician communication training influenced physician empathic expression during patient interactions.

Methods: This study used a quantitative research method to investigate the influence of communication training on physician-expressed empathy using two measures (global and hierarchical) of physician empathic behavior.

Results: The differences in global empathy scores in the physician training group from baseline to follow-up improved by 37%, and hierarchical scores of physician empathic expression improved by up to 51% from baseline scores for the same group.

Conclusions: The results strongly supported the hypotheses that training made a significant difference in physician empathic expression during patient interactions demonstrated by both outside observer measures of global ratings and hierarchical ratings of physician empathic behavior.

Practice Implications: These findings have significant implications for program design and development in medical education and professional training with the potential to improve patient outcomes.

Clark, N. M., Gong, M., Schork, M. A., Evans, D., Roloff, D., Hurwitz, M., Maiman, L., & Mellins, R. B. (1998). Impact of education for physicians on patient outcomes. *Pediatrics*, 101(5) 831-836.

OBJECTIVES: This study was conducted to assess the impact of an interactive seminar based on self-regulation theory on 1) the treatment practices and communications and education behavior of physicians, 2) the health status and medical care utilization of their pediatric patients with asthma, and 3) the satisfaction with care of the subjects' parents.

METHODS: A total of 74 general practice pediatricians were assigned to either a program or a control group in a randomized controlled study. Data were collected from physicians at baseline, and 69 (93%) provided follow-up data 5 months after the program. Data were also collected from 637 of their patients at baseline, and in a 22-month window after the intervention, 472 (74%) of this number provided follow-up data.

RESULTS: After the seminar, physicians in the program group were more likely than were control group physicians to address patients' fears about medicines, review written instructions, provide a sequence of educational messages, write down how to adjust the medicines at home when symptoms change, and report that they spent less time with their patients. Parents of the children treated by program physicians were significantly more likely than were control group parents to report that the physician had been reassuring, described as a goal that the child be fully active, and gave information to relieve specific worries. After a visit with the physician, these parents were also more likely to report that they knew how to make management decisions at home. After the intervention compared to controls, patients of physicians in the program group were more likely to have received a prescription for inhaled anti-inflammatory medicine and to have been asked by the physician to demonstrate how to use a metered-dose inhaler. After the intervention, children seen by program physicians made significantly fewer nonemergency office visits and visits for follow-up of an episode of symptoms; however, there were no differences in emergency department visits and hospitalizations. Among children who were placed on inhaled corticosteroids during this study, however, children treated by physicians who had received education had significantly fewer symptoms and fewer follow-up office visits, nonemergency physician office visits, emergency department visits, and hospitalizations.

CONCLUSIONS: The interactive seminar based on theories of self-regulation led to patient-physician encounters that were of shorter duration, had significant impact on the prescribing and communications behavior of physicians, led to more favorable patient responses to physicians' actions, and led to reductions in health care utilization.

Langewitz, W. A., Eich, P., Kiss, A., & Wossmer, B. (1998). Improving communication skills--a randomized controlled behaviorally oriented intervention study for residents in internal medicine. *Psychosomatic Medicine*, 60(3) 268-276.

OBJECTIVE: We investigated whether patient-centered communication skills can be taught to residents in Internal Medicine by using a time-limited behaviorally oriented intervention.

METHOD: Residents working at the Department of Internal Medicine were randomly assigned to an intervention group (IG; N = 19) or a control group (CG; N = 23). In addition to 6 hours of standard medical education per week, the IG received specific communication training of 22.5 hours duration within a 6-month period. Initially and 10 months later, participants performed interviews with simulated patients. Interviews were rated by blinded raters who used the Maastricht History and Advice Checklist-Revised.

RESULTS: Compared with the CG, the IG improved substantially in many specific communication skills. Both groups improved in the "amount of medical information identified" and in the ability to "communicate about feasibility of treatment."

CONCLUSION: Patient-centered communication skills such as those presented in this intervention study can be taught. The ability to gain medical information and the readiness to communicate about aspects of medical treatment seem to improve with more professional experience; however, they also profit from the intervention.

Levinson, W., & Roter, D. (1993). The effects of two continuing medical education programs on communication skills of practicing primary care physicians. *Journal of General Internal Medicine: Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 8(6) 318-324.

PURPOSE: To evaluate and compare the effects of two types of continuing medical education (CME) programs on the communication skills of practicing primary care physicians.

PARTICIPANTS: Fifty-three community-based general internists and family practitioners practicing in the Portland, Oregon, metropolitan area and 473 of their patients.

METHOD: For the short program (a 4 1/2-hour workshop), 31 physicians were randomized to either the intervention or the control group. In the long program (a 2 1/2-day course), 20 physicians participated with no randomization. A research assistant visited all physicians' offices both one month before and one month after the CME program and audiotaped five sequential visits each time. Data were based on analysis of the content and the affect of the interviews, using the Roter Interactional Analysis Scheme.

RESULTS: Based on both t-test analysis and analysis of covariance, no effect on communication was evident from the short program. The physicians enrolled in the long program asked more open-ended questions, more frequently asked patients' opinions, and gave more biomedical information than did the physicians in the short program. Patients of the physicians who attended the long program tended to disclose more biomedical and psychosocial information to their physicians. In addition, there was a decrease in negative affect for both patient and physician, and patients tended to demonstrate fewer signs of outward distress during the visit.

CONCLUSION: This study demonstrates some potentially important changes in physicians' and patients' communication after a 2 1/2-day CME program. The changes demonstrated in both content and affect may have important influences on both biologic outcome and physician and patient satisfaction.

Pill, R., Stott, N. C., Rollnick, S. R., & Rees, M. (1998). A randomized controlled trial of an intervention designed to improve the care given in general practice to type II diabetic patients: Patient outcomes and professional ability to change behaviour. *Family Practice, 15(3) 229-235.*

AIM: Our objective was to evaluate the effect of training in a patient-centred intervention for GPs and practice nurses on outcomes for patients with Type II diabetes.

METHODS: We carried out a randomized controlled trial within general practices as the basis for randomization and a before-and-after design for measures of patient outcome. A parallel process study examined the use of the method by professionals. The study was carried out in 29 general practices in South Glamorgan who had participated for at least 2 years in a local scheme of audit and CME in relation to Type II diabetes care. The subjects were 252 Type II diabetic patients recruited by 15 experimental and 14 control practices. The main outcome measures were changes in glycosylated haemoglobin, patient satisfaction with care and treatment, functional health status and professional ability to apply the intervention.

RESULTS: Professionals adopted the innovative method with enthusiasm, but after 2 years only 19% continued to apply the method systematically. The trial was, therefore, unable to demonstrate significant biochemical or functional improvements. This highlights the need to understand the factors associated with professional uptake and subsequent ability to sustain changes in behaviour.

CONCLUSIONS: The efficacy of this behavioural intervention remains unproved, despite its acceptability to professional staff. Detailed and prolonged development and testing of behavioural interventions is an essential first step before embarking on randomized controlled trials which involve complex behavioural changes in professionals or patients.

Schirmer, J. M., Mauksch, L, Lang, L, Marvel, K. M., Zoppi, K, Epstein, R. M., Brock, D., & Pryzbylski, M. (2005). Assessing communication competence: A review of current tools. *Family Medicine, 37(3):184-192.* Retrieved on November 21, 2005, from <http://www.bowenresearchcenter.iupui.edu/images/br/zoppi-fammedart.pdf>

BACKGROUND: The assessment of communication competence has become a major priority of medical educational, policy, and licensing organizations in the United States and Canada. Multiple tools are available to assess communication competence, but there are few studies that compare the tools.

METHODS: A consensus panel of six family medicine educators evaluated 15 instruments measuring the physician-patient interview. The primary evaluation criteria came from the Kalamazoo Consensus Statement (KCS), which derived from a multidisciplinary panel of experts that defined seven essential elements of physician-patient communication. We evaluated psychometric properties of the instruments and other assessment criteria felt to be important to family physicians (exploring family issues, interview efficiency, and usability/practicality).

RESULTS: Instruments that received the highest ratings on KCS elements were designed for faculty raters and varied in their practicality/usability ratings and psychometric properties. Few instruments were rated high on psychometric properties or exploring family issues.

CONCLUSIONS: The process successfully reviewed and provided a framework for assessing communication skills instruments. There is a need to expand the study, including use of a larger cohort of reviewers to provide more validity to the results and minimize potential biases.

Smith, R. C., Lyles, J. S., Mettler, J., Stoffelmayr, B. E., Van Egeren, L. F., Marshall, A. A., Gardiner, J. C., Maduschke, K. M., Stanley, J. M., Osborn, G. G., Shebroe, V., & Greenbaum, R. B. (1998). The effectiveness of intensive training for residents in interviewing. A randomized, controlled study. *Annals of Internal Medicine, 128(2) 118-126.*

BACKGROUND: Interviewing and the physician-patient relationship are crucial elements of medical care, but residencies provide little formal instruction in these areas.

OBJECTIVE: To determine the effects of a training program in interviewing on 1) residents' attitudes toward and skills in interviewing and 2) patients' physical and psychosocial well-being and satisfaction with care.

DESIGN: Randomized, controlled study.

SETTING: Two university-based primary care residencies.

PARTICIPANTS: 63 primary care residents in postgraduate year 1.

INTERVENTION: A 1-month, full-time rotation in interviewing and related psychosocial topics.

MEASUREMENTS: Residents and their patients were assessed before and after the 1-month rotation. Questionnaires were used to assess residents' commitment to interviewing and psychosocial medicine, estimate of the importance of such care, and confidence in their ability to provide such care. Knowledge of interviewing and psychosocial medicine was assessed with a multiple-choice test. Audiotaped interviews with real patients and videotaped interviews with simulated patients were rated for specific interviewing behaviors. Patients' anxiety, depression, and social dysfunction; role limitations; somatic symptom status; and levels of satisfaction with medical visits were assessed by questionnaires and telephone interviews.

RESULTS: Trained residents were superior to untrained residents in knowledge (difference in adjusted post-test mean scores, 15.7% [95% CI, 11% to 20%]); attitudes, such as confidence in psychological sensitivity (difference, 0.61 points on a 7-point scale [CI, 0.32 to 0.91 points]); somatization management (difference, 0.99 points [CI, 0.64 to 1.35 points]); interviewing of real patients (difference, 1.39 points on an 11-point scale [CI, 0.32 to 2.45 points]); and interviewing (data gathering) of simulated patients (difference, 2.67 points [CI, 1.77 to 3.56 points]). Mean differences between the study groups were consistently in the appropriate direction for patient satisfaction and patient well-being, but effect sizes were too small to be considered meaningful.

CONCLUSION: An intensive 1-month training rotation in interviewing improved residents' knowledge about, attitudes toward, and skills in interviewing.

Smith, R. C., Mettler, J. A., Stoffelmayr, B. E., Lyles, J. S., Marshall, A. A., Van Egeren, L. F., Osborn, G. G. & Shebroe, V. (1995). Improving residents' confidence in using psychosocial skills. *Journal of General Internal Medicine : Official Journal of the Society for Research and Education in Primary Care Internal Medicine*, 10(6) 315-320.

OBJECTIVE: To evaluate an intensive training program's effects on residents' confidence in their ability in, anticipation of positive outcomes from, and personal commitment to psychosocial behaviors.

DESIGN: Controlled randomized study.

SETTING: A university- and community-based primary care residency training program.

PARTICIPANTS: 26 first-year residents in internal medicine and family practice.

INTERVENTION: The residents were randomly assigned to a control group or to one-month intensive training centered on psychosocial skills needed in primary care.

MEASUREMENTS: Questionnaires measuring knowledge of psychosocial medicine, and self-confidence in, anticipation of positive outcomes from, and personal commitment to five skill areas: psychological sensitivity, emotional sensitivity, management of somatization, and directive and nondirective facilitation of patient communication.

RESULTS: The trained residents expressed higher self-confidence in all five areas of psychosocial skill ($p < 0.03$ for all tests), anticipated more positive outcomes for emotional sensitivity ($p = 0.05$), managing somatization ($p = 0.03$), and nondirectively facilitating patient communication ($p = 0.02$), and were more strongly committed to being emotionally sensitive ($p = 0.055$) and managing somatization ($p = 0.056$), compared with the untrained residents. The trained residents also evidenced more knowledge of psychosocial medicine than did the untrained residents ($p < 0.001$).

CONCLUSIONS: Intensive psychosocial training improves residents' self-confidence in their ability regarding key psychosocial behaviors and increases their knowledge of psychosocial medicine. Training also increases anticipation of positive outcomes from and personal commitment to some, but not all, psychosocial skills.

VI. GENERAL REFERENCES

Cassell, E. J. (1991). *The nature of suffering : And the goals of medicine*. New York: Oxford University Press.

CORE ARGUMENT: The ability to recognize and relieve suffering is the test of the adequacy of any medical system. Cassell argues that it is people, not bodies, that suffer.

PRIMARY EVIDENCE: In the past century there has been an exclusive concern with scientific knowledge of the body and disease. This focus impedes our understanding of suffering and diminishes the care of suffering patients. Through the use of case studies, Cassell demonstrates that the sick person needs to become the central focus of medicine. In the new model, doctors will have to know the person as well as the disease, because different people with the same disease do not have the same sickness and suffering.

RECOMMENDATIONS: Medicine needs a systematic and disciplined approach to the knowledge that arises from clinicians' experience rather than the artificial division of medical knowledge into science and art. Exploration of the person will engage medicine in the next century just as understanding the body has occupied this century.

Cole, S. A. (2000). *The medical interview : The three-function approach (2nd ed.)*. St. Louis: Mosby Year Book.

CORE ARGUMENT: A textbook to teach medical students the art of the medical interview. The educational device used is the three function model which addresses three objectives: 1) gathering data to understand the patient (this includes both biomedical and psychosocial information); 2) developing rapport and responding to patients' emotions; 3) educating and motivating patients.

PRIMARY EVIDENCE: None.

RECOMMENDATIONS: Medical students and clinicians should study and master the art of interviewing. This includes a picture of the patient with biomedical, psychological, and social aspects. Addressing all aspects of the patient as a unique person will lead to both better health for the patient and greater satisfaction for the physician.

Cuff, P. A., Vanselow, N. A., Institute of Medicine . Committee on Behavioral and Social Sciences in Medical School Curricula, & Institute of Medicine . Board on Neuroscience and Behavioral Health. (2004). *Improving medical education : Enhancing the behavioral and social science content of medical school curricula.* Washington, D.C.: The National Academies Press.

Roughly half of all deaths in the United States are linked to behavioral and social factors. The leading causes of preventable death and disease in the United States are smoking, sedentary lifestyle, along with poor dietary habits, and alcohol consumption. To make measurable improvements in the health of Americans, physicians must be equipped with the knowledge and skills from the behavioral and social sciences needed to recognize, understand, and effectively respond to patients as individuals, not just to their symptoms. What are medical schools teaching students about the behavioral and social sciences? In the report, the committee concluded that there is inadequate information available to sufficiently describe behavioral and social science curriculum content, teaching techniques, and assessment methodologies in U.S. medical schools and recommends development of a new national behavioral and social science database. The committee also recommended that the National Board of Medical Examiners ensure that the U.S. Medical Licensing Examination adequately cover the behavioral and social science subject matter recommended in this report.

Feldman, M. D., & Christensen, J. F., Eds. (1997) *Behavioral medicine in primary care : A practical guide.* Stamford, Conn: Appelton & Lang.

DESCRIPTION OF CONTEXT: A comprehensive textbook for learners at all stages of medical education or teaching, covering the broad spectrum of psychosocial problems seen in primary care medicine.

TOPIC/SCOPE: The text is divided into five sections. Section one focuses on the development and maintenance of the relationship between doctor and patient. A number of factors are considered such as empathy, giving bad news, managed care, difficult patients, and physician well-being. Section two focuses on a more in-depth view of working with specific populations considerations such as developmental stage, gender, culture, and non-traditional sexual relationships. Section three focuses on behavior-related health care. This section begins with a discussion of the process one moves through on the path toward change, and the following chapters address common problems in primary care such as smoking, obesity, eating disorders, and substance abuse. Section four focuses on diagnosis and treatment of common mental and behavioral disorders seen in primary care. Section five addresses a variety of topics such as stress, chronic pain, HIV/AIDS, domestic violence, and medical mistakes.

CONCLUSIONS/RECOMMENDATIONS: This text brings together a broad spectrum of psychosocial problems commonly seen in primary care. It is filled with case illustrations and provides many clinically relevant solutions.

Institute of Medicine (U.S.). Committee on the National Quality Report on Health Care Delivery, Hurtado, M. P., Swift, E. K., Corrigan, J., & United States. Agency for Healthcare Research and Quality. (2001). *Envisioning the national health care quality report.* Washington, D.C.: National Academy Press.

How good is the quality of health care in the United States? Is quality improving? Or is it suffering? While the average person on the street can follow the state of the economy with economic indicators, we do not have a tool that allows us to track trends in health care quality. Beginning in 2003, the Agency for Healthcare Research and Quality (AHRQ) will produce an annual report on the national trends in the quality of health care delivery in the United States. AHRQ commissioned the Institute of Medicine (IOM) to help develop a vision for this report that will allow national and state policy makers, providers, consumers, and the public at large to track trends in health care quality. *Envisioning the National Health Care Quality Report* offers a framework for health care quality, specific examples of the types of measures that should be included in the report, suggestions on the criteria for selecting measures, as well as advice on reaching the intended audiences. Its recommendations could help the national health care quality report to become a mainstay of our nation's effort to improve health care.

Kleinman, A. (1988). *The illness narratives : Suffering, healing, and the human condition.* New York: Basic Books.

DESCRIPTION OF CONTEXT: A series of clinical cases illustrating the social and personal meaning of illness and healing.

TOPIC/SCOPE: The text outlines an analytical grid to assess the meaning of illness providing detailed case illustrations to highlight different aspects of illness meaning. Also provided is a guide for caring for chronically ill patients with suggestions for altering medical education and postgraduate training.

CONCLUSIONS/RECOMMENDATIONS: Understanding the human side of illness is essential and integral to providing care for the chronically ill patient.

Kreps, G. L., & Kunimoto, E. N. (1994). *Effective communication in multicultural health care settings.* Thousand Oaks: Sage Publications.

DESCRIPTION OF CONTEXT: The meaning of culture is explored and its integral part in each person's identity is noted. The modern health care system is multicultural, combining national, regional, ethnic, racial, generational, socioeconomic, and other orientations. In addition, individuals bring their own health beliefs with them which may conflict with those of the larger organization. The authors illustrate the iceberg model of multicultural influences on communication.

TOPIC/SCOPE: health care providers need to realize that illness is not just physical; it is symbolic as well. The decision about what is “well” and what is “not well” is strongly influenced by culture. Alternative medicine is discussed as one of the benefits of multiculturalism. The understanding of what can help people has grown because of the increasing acceptance and respect for alternative forms of treatment. The author reminds the reader that the task of the physician is to determine what the patient is really saying in addition to understanding the cultural differences presented. Providers may sometimes stereotype patients and underestimate their knowledge level regarding health care issues. This may hamper constructive communication. Poor interprofessional communication may also impede patient care. In addition to the varying cultural issues already mentioned, there are many professional cultures that must work together to successfully treat patients. Healthcare providers have been socialized in their educational and work experiences as strongly as they have in broader cultural aspects. Suggestions are provided for dealing with professional culture issues. Strategies for working with patient families or other powerful influences are provided.

CONCLUSIONS/RECOMMENDATIONS: The book provides 92 specific recommendations to help improve multicultural relations in health care settings. These deal with the culture of the health care organization, the various cultures of health care providers, and the multiple cultures of the patient population.

Lipkin, M., Putnam, S. M., & Lazare, A. (1995). *The medical interview : Clinical care, education, and research*. New York: Springer-Verlag.

DESCRIPTION OF CONTEXT: Textbook for clinicians at all stages of development.

TOPIC/SCOPE: The text is divided into eight sections. Part one provides a framework for the medical interview. Part two focuses on the structure and process of the interview. Part three focuses on the context of the interview. Part four focuses on special situations and types of interviews. Part five covers values, ethics and legal issues. Part six focuses on teaching and faculty development. Part seven focuses on evaluation of the medical interview. Finally, the eighth section focuses on research and measurement issues.

CONCLUSIONS/RECOMMENDATIONS: This is a comprehensive text for students, teachers, and practicing clinicians.

Meichenbaum, D., & Turk, D. C. (1987). *Facilitating treatment adherence : A practitioner's guidebook*. New York: Plenum Press.

DESCRIPTION OF CONTEXT: A textbook that provides practical clinical guidelines and describes techniques for enhancing patient adherence to treatment regimens.

TOPIC/SCOPE: The text is divided into three sections. The first part deals with the nature of adherence. The current research on incidence of non-adherence and its causes is summarized. Part two outlines clinical procedures to enhance adherence such as relationship building, patient education, and behavioral and cognitive techniques. Part three further explores the procedures and discusses possible impediments to their incorporation into clinical practice.

CONCLUSIONS/RECOMMENDATIONS: Facilitating treatment adherence is an ongoing process and not something that can be satisfactorily addressed by a brief discussion or simple techniques. It is essential to consider a patient perspective and to take this into account.

Ong, L. M. L., deHaes, J. C. J. M., Hoos, A. M., & Lammes, F. B. (1995). *Doctor-patient communication: A review of the literature*. *Social Science Medicine*, 40(7) 903-918.

DESCRIPTION OF CONTEXT: Review of the literature on clinician-patient communication.

TOPIC/SCOPE: This review is divided into five sections. Section one presents three different purposes of medical communication: creating a good relationship, exchanging information, and making medical decisions. Section two is a discussion of 12 different interaction systems used to assess doctor-patient communication. In section three specific communication behaviors are discussed. The fourth section focuses on the effect of good communication on outcomes such as patient satisfaction; patient adherence; patient recall and understanding; and physical and psychiatric symptoms. The last section includes concluding remarks and focuses on developing a theoretical framework that relates background, process, and outcome variables.

CONCLUSIONS/RECOMMENDATIONS: Background variable seem to influence both process and outcome. There is a need for empirical research studying the relationship between background, process, and outcome variables.

Platt, F. W., Gordon G. H.(2004) *Field Guide to the Difficult Patient Interview* (2nd Edition). Philadelphia, Lippincott Williams & Wilkins

See annotation in section I.

Smith, R. C. (1996). *The patient's story : Integrated patient-doctor interviewing*. Boston: Little, Brown.

DESCRIPTION OF CONTEXT: A textbook for students at all stages in their medical careers who want to learn how to interview patients as people.

TOPIC/SCOPE: Chapter one provides an orientation to interviewing and an overview of this approach. Chapter two and three describe patient-centered interviewing skills. Chapter four and five describe the doctor-centered process of symptom defining skills. Chapter six focuses on the process of the interview. Chapter seven focuses on the doctor-patient relationship including the need for

self-awareness on the part of the doctor. Chapter eight focuses on how the student integrates and presents the information gathered about the patient to the attending. Finally, chapter nine focuses on partnership building and patient education.

CONCLUSIONS/RECOMMENDATIONS: The author warns this interviewing approach must not be seen as a final destination, but rather a point of departure.

Spiro, H. M. (1993). *Empathy and the practice of medicine : Beyond pills and the scalpel*. New Haven, Conn.: Yale University Press.
See annotation in section III-D.

Stewart, M. (1995). *Patient-centered medicine : Transforming the clinical method*. Thousand Oaks: Sage Publications.

DESCRIPTION OF CONTEXT: A textbook describing and explaining the patient-centered model of medicine.

TOPIC/SCOPE: Section one covers the patient -centered model of six interacting components. The first three interacting components encompass the process between doctor and patient. This involves understanding both the disease and the illness experience of the patient as a whole person and finding a common ground on which to connect. The second three interacting components focus more on the context where the interaction takes place. This involves taking a realistic and forward perspective of prevention and health promotion and by engaging the patient in a relationships as a partner in health care. Section two focuses on learning and teaching patient-centered care. The last section deals with the research on patient-centered communication.

CONCLUSIONS/RECOMMENDATIONS: Learning the patient-centered approach to providing medical care is much more than skills training. Attention must be paid to the clinician's stage of development and own self-awareness. Finally, educators must attend to the parallel process between the patient-centered model of care and the learner-centered model of education.

Suchman, A. L., Walker, P. H., & Botelho, R. J. (1998). *Partnerships in healthcare : Transforming relational process*. Rochester, N.Y.: University of Rochester Press.

This extensive collection of 28 essays written by over 40 leading health care professionals in the United States provides both theoretical and practical approaches to improving the quality of partnership skills practiced within the health system, and whether at the level of patient and clinician or of insurers and government -without a commitment to partnership and the knowledge and skills to make it happen. Using theoretical models and a wide variety of specific examples from clinical, educational and administrative settings, the authors show how the partnership process can be guided by core values of respect, honesty, compassion, and accountability.

VII. CPC ONLINE RESOURCES

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National Guideline Clearinghouse (NGC) [Website]. Washington, DC: The Agency for Healthcare Research and Quality. c1998. Revised June 6 2005. Accessed June 7 2005. Available at <http://guidelines.gov>

National Literacy and Health Program [Website]. Ottawa, ON: Canada Public Health Association. c1997. Accessed June 7 2005. Available at <http://www.nlhp.cpha.ca>

Partnership for Clear Health Communication at the National Patient Safety Foundation. Ask Me 3. Accessed December, 21, 2008 available at http://www.npsf.org/askme3/PCHC/what_is_ask.php

Pfizer Health Resources [Webpage]. New York, NY: Pfizer, Inc. c2002. Accessed June 7 2005. Available at http://pfizer.com/pfizer/do/mn_health.jsp

TeamSTEPPS, Agency for Healthcare Research and Quality and Dept of Defense, 2008. Accessed on December 30, 2008 from <http://teamstepps.ahrq.gov/>