Editors’ Comments
4  Tom Janisse, MD; KM Tan, MD; Arthur L. Klatsky, MD; Lee Jacobs, MD; Scott Rasgon, MD

Letters to the Editor
8  Debating alternative therapies ◆ Tattoos for better health? ◆ Accolade ◆
Hemochromatosis screening pays off

Permanente Abstracts
12  Decreasing Antibiotic Use in Ambulatory Practice: Impact of a Multidimensional Intervention on the Treatment of Uncomplicated Acute Bronchitis in Adults ◆ Choice of a Personal Physician and Patient Satisfaction in a Health Maintenance Organization ◆ Public Health in Managed Care: A Randomized Controlled Trial of the Effectiveness of Postcard Reminders ◆ Gender, Psychosocial Factors and the Use of Medical Services: A Longitudinal Analysis ◆ Fast Relief: Buying Time with Medications ◆ Differences in Resource Use and Costs of Primary Care in a Large HMO According to Physician Specialty ◆ Effect of Cigar Smoking on the Risk of Cardiovascular Disease, Chronic Obstructive Pulmonary Disease, and Cancer in Men ◆ Predicting Advanced Proximal Colonic Neoplasia with Screening Sigmoidoscopy ◆ Identifying Women with Cervical Neoplasia: Using Human Papillomavirus DNA Testing for Equivocal Papanicolaou Results ◆ Advance Directives are More Likely among Seniors Asked about End-of-Life Care Preferences ◆ Cognitive-Behavioral Treatment of Adolescent Depression: Efficacy of Acute Group Treatment and Booster Sessions ◆ Maternal Placental Abnormality and the Risk of Sudden Infant Death Syndrome ◆ Alcohol Consumption and Breast Cancer Oestrogen and Progesterone Receptor Status ◆ Relationships Between Duration of Asthma and Asthma Severity among Children in the Childhood Asthma Management Program (CAMP) ◆ Computer-Assisted Health Counselor Visits: A Low-Cost Model for Comprehensive Adolescent Preventive Services

Clinical Contributions
19  Exercise-Induced Asthma. Robert Lawrence, MD; Ken Ettinger, MD; Michael Barrett, MD; Kuo Chang, MD; Fred Gill, MD; Jean Carney, MD

This common and poorly understood condition is manifested by bronchospasm occurring 5-10 minutes into sustained activity or several minutes after activity ends. Diagnosis is reached by conducting therapeutic trial of appropriate pharmacological agents or by ventilatory measurements during exercise. This article discusses management, with the objective of enabling the afflicted patient to maintain the desired healthy lifestyle.

25  Practitioner Prescribing Habits for Pharyngitis: Implications for Evaluation and Management. Harry S. Miller, MD; William A. Gardiner; Aracelis D. Fernandez, MD

Assuming that increasing development of bacterial resistance to antibiotics reflects, in part, inappropriate prescription of these drugs, the authors studied prescribing patterns of physicians who were awaiting throat culture results. Contrary to the recommendations of several national groups, more than half were treated pending culture reports, and physicians were less likely to treat than Nurse Practitioners or Physician Assistants. Factors influencing noncompliance and methods of improving compliance with recommendations are discussed.

30  Prostate Cancer Screening: Exploring the Debate. Howard Backer, MD, MPH

The author presents the controversial subject of the current role of screening for prostate cancer largely in the context of conflict between the perspectives of public health authorities and of individual practitioners. The article reviews much of the relevant data. Sections discuss the public as informed consumers, ethical issues, medical quality, and health care policy.
41 Esthesioneuroblastoma: What Family Practitioners Should Know.
Asdghig D. Daderian, MD, FAAP; M. Roy Thomas, MD, FACP; Loucine M. Huckabay, PhD

This brief report is a case presentation and discussion of a rare nasal cavity tumor, curable if diagnosed early. Emphasis is placed on the need for constant vigilance by primary care providers, especially when common symptoms persist after treatment.

43 Bedside Ultrasonography Done in Emergency Department Expedites Diagnosis of Abdominal Aortic Aneurysms: Three Case Studies.
Jeff Miller, MD, FACEP; Janna Chao, MD; Peter Grimes, MD

Using three cases of ruptured abdominal aneurysm diagnosed within an eight-month period as examples, the authors recommend routine use of physician-performed ultrasound examination in older patients with abdominal pain. The authors state that diagnostic accuracy and appropriate management of this surgical emergency are enhanced by this procedure.

The Lighter Side of Medicine

46 Life on the Sunnyside. Stephen Bachhuber, MD

Soul of the Healer

3 “My Kitchen.” Nooshin Farr, MD, FACP
29 sarah. Chuck Clemons, MD
89 Dylan and Winter and A Child's Last Leaf. Victor David, MD
90 “A Sad Winter.” Nooshin Farr, MD, FACP
90 Innocence. Victor David, MD

A Word From the Medical Directors

47 A Word on Service From the Medical Directors.
Instead of having one of the Executive Medical Directors write this edition's commentary, we have asked the Medical Directors to comment on the importance of service Kaiser Permanente. Their comments taken together create a call to action for all Permanente Medical Groups—it is imperative that we develop a competitive advantage in service!

Health Systems

49 A Physician's Call to Action: Delivering a Superior Care Experience.
Jill M. Steinbruegge, MD; Robert H. Sachs, PhD; Douglas Bonacum, MBA; Martin N. Gilbert, MD; Lisa B. Kolton, MS, HSA

This review of the impact of service quality on the overall value of the health care experience will be of interest to all Medical Groups seeking to enhance the service that they provide. The article puts to rest any doubt that patient satisfaction does significantly influence health outcomes, overall organizational costs, and clinician satisfaction.

54 Using Information from Linkage Research Studies to Improve Organizational Performance.
Sherilyn M. Kam, PhD; Fran Sincere, MSIR

This is a follow-up article to the preliminary research published last year in The Permanente Journal. The authors describe in this article how the leaders of Kaiser Permanente will use the information that links the customers’ opinion with employees’ opinion.
58 **Will Drop-In Group Medical Appointments (DIGMAs) Work In Practice?**  
Edward B. Noffsinger, PhD  

This innovative program has been received with excitement throughout the country. It is a classic “work smarter” approach in that it challenges the traditional mindset that the only product to offer patients is one-on-one interaction with physicians in an exam room. Dr. Noffsinger’s Drop-in Group Medical Appointments address the care experience from a quality, service, and efficiency viewpoint with a model that can potentially work with any physician practice.

68 **The Easy Access Program: A Way to Reduce Patient No-Show Rate, Decrease Add-Ons to Primary Care Schedules, and Improve Patient Satisfaction.**  
Philip J. Tuso, MD, FACP; Ken Murtishaw, RN, MA, DHE; Wadie Tadros, MD  

An innovation is presented that underscores the fact that service excellence can be achieved only if demand-capacity is well understood and is supported by a sound scheduling system. Although this may be one of several methods of dealing with scheduling changes to improve access, the principles of the article probably apply to all such initiatives.

72 **Improving the Quality of Service: The KPNW Experiment.** Wendy Ray, MPH  

Here is a very interesting article describing how the Northwest region is using a “Customer Service Collaborative” to create a service-oriented culture. The program is based on the Institute of Healthcare Improvements 1998 National Collaborative “Improving Service in Health Care.”

79 **Getting the Most out of the Clinical Encounter: The Four Habits Model.**  
Richard M. Frankel, PhD; Terry Stein, MD  

How could this edition focus on service without addressing the crucial component of the care experience—the clinician’s interaction with the patient? Building on the Four Habits Model that these authors have made famous, this article presents stimulating ideas to assist physicians and other care providers as they seek to refine their patient communication skills.

**External Affairs**

91 **How Graduate Medical Education Creates Community Service.**  
Jimmy H. Hara, MD, FAAFP  

Graduate Medical Education is a direct community service investment benefit which is funded by our Community Service budget. In his article, Dr. Hara of SCPMG reviews the history of graduate medical education and community service. He then describes a program with which he has been involved in Southern California, where medical residents are brought to the community to enhance their training and to benefit the community at large.

93 **Serving Legislators Serves Permanente: The Permanente Journal on Capitol Hill.**  
Donald W. Parsons, MD  

Don Parsons’ article speaks to the value of *The Permanente Journal* for his activities representing us in Washington, DC to affect public policy in the best interest of our organization.

95 **Kaiser Permanente Baldwin Park Medical Center: Pioneer in Labor-Management Partnership.** Teri G. Muse, BA  

On October 7, 1998, Kaiser Permanente of Southern California opened a new state-of-the-art hospital in Baldwin Park. One of the factors in opening the Medical Center was the help of a labor management partnership. This may be the first time a US hospital has been opened in this way.
Book Reviews

96 “The Neurologic Exam” by Martin A. Samuels, MD. Vincent J. Felitti, MD, Associate Editor

96 “Business @ the Speed of Thought: Using a Digital Nervous System” by Bill Gates. Vincent J. Felitti, MD, Associate Editor

97 “Dragon NaturallySpeaking, Medical Suite” by Dragon Systems. Eric P. Daniels, MD, and Robert Hogan, MD

Announcements

100 New Patient Education Videotapes Available in Southern California ◆ National CME ◆ Optimal Renal Care ◆ Kaiser Permanente National Primary Care Conference ◆ Correction

CME

101 Complete this form to receive Category I Credit

Instructions for Authors

103 We want you to submit your work. Look here to find out how.

"My Kitchen"

by Nooshin Farr, MD, FACP

This is an acrylic painting, converted here from color to grayscale.
Editors’ Comments

Service Behaviors That Create Heart for Members, Colleagues and Teams

Tom Janisse, MD, Editor-in-Chief

This Fall issue is dedicated to Service, and includes several articles on the theme that has taken hold in Kaiser Permanente as the single most important competency we need to retain and attract members now and in the future. However, something befuddles many of us. We think that we have delivered good service. Our assumption has been though, that “good medicine” is the good service people want. Good service is not just an efficient delivery process. Rather, the unrecognized critical component is service behavior that creates a heartfelt experience for people. For example, acknowledge that the patient before you is an individual person, and then really connect with them, even momentarily.

The Primitive Eye

Simple human regard, caring behaviors, the personal image we project, and our ability to develop meaningful relationships are the less objective, though more important, components of excellent service. Many of these, as you begin to delineate them, are basic human behaviors that create connection, comfort, and trust between individuals. Simple behaviors become very important because, in unfamiliar settings, strangers default to primitive feelings for clues. Actor Jack Nicholson, speaking about films, sums up for me what is at work in the healthcare encounter:

“Even in the most sophisticated people, it is the primitive eye that watches the film.”

Clinicians have often missed this level of interaction because of their focus on the content - the words, the knowledge, the synthesis - and their emphasis on the physical aspects and tools of diagnosis and treatment. No training prepared us well for patients evaluating us on how they “feel” about our encounter, in addition to what they “think.” Examining the questions we ask in the Star Membership Survey, “politeness and courtesy” are the proxy behaviors that patients often use to evaluate our “knowledge and competence.” Since these two sets of behaviors are the ones most responsible for creating the highest member satisfaction, our service behavior must demonstrate this basic human regard. If we just exhibit “knowledge and competence,” patients’ satisfaction can drop twenty to thirty percent.

Concern and Hope

Picture “Pigpen” (the Snoopy cartoon character) with the cloud of dust around him. Imagine this as an image of the concern and emotional turmoil that people bring with them into our clinics, laboratories, hospitals and exam rooms every day. Patients flow into our system not only with “a physical concern,” but also “feeling concerned.” We have to recognize their concern and respond to it: with reassurance, with information and education, with assurances about our work-up, with the comfort inherent in a relationship. This satisfies people when they reflect on their medical encounter with us. If these service behaviors occur, then people are certain they have received the best “medical care.” We know they have received the best medical “quality” because we have worked for years to create it. Great medical care is medical quality in the context of service quality. Consider for a moment a Charles Revlon quote: “In the factory we manufacture perfume, In the store we sell hope.”

Seeing Through The Routine

What is routine for us often passes unrecognized for its significance as a personal human event. When people have a physical malady they can often be concerned for their life, especially in older age when the symptoms can be the first sign of cancer which could take their life in months. Even a symptom that may only keep them from work, or, lesser yet, may just limit their choice of food, causes great concern. All symptoms create anxiety about a change in life. Clinicians may recognize the low probability of a symptom meaning cancer, yet the patient’s concern and feeling of impending doom may be full and alive until there is resolution either as a benign diagnosis or the symptoms abate. Many of us know how anxious we feel if our hot water doesn’t work at home. What if it’s your foot that doesn’t work? This is the level of concern that we as clinicians must at least acknowledge and offer reassurance about, as well as offer information or understanding to allow a patient to quiet their emotional and psychological distress.

This is excellent service behavior in healthcare. At times it requires only a few moments or the right approach. Other times it requires many minutes that don’t fit into the day’s schedule. Clinicians need schedule flexibility to compensate for this. In at least one KP setting, lengthening the appointment time reduced patient demand for subsequent visits. Exploring this association could help to resolve the nearly constant outcry from clinicians that they don’t have enough time with their patients to be a good doctor; even if this means not enough time to spend the few moments of pleasantries at the beginning of a visit that
help to create relationship. Or if there isn’t enough time to clarify important or even unimportant questions, or appropriate education about a condition or treatment, then clinicians need more time. Patients need it. Is it okay to only leave a patient with the feeling that, “I’ll either die or feel better”? More commonly, as a patient is left waiting or treated routinely, they ask themselves, “Am I worth their time?”

Words From Clinicians Who Satisfy Patients Best

When clinicians from different regions who consistently have high patient satisfaction evaluations are asked what they do to create this, they commonly comment with a variation of the following:

- “I talk to my patients as a person.”
- “I introduce myself. I shake their hand. I acknowledge their presence.”
- “I explain things to them and involve them in decisions.”
- “I am with them when they are with me.”

In addition, these clinicians will compliment the people they work with:

- “My support staff should be being honored.”
- “Great relations with people is only possible with great people to work with.”
- “Consistent nursing staff and long-standing relationships satisfies patients.”

Serving Each Other

Great service behavior stems from attention to people as individuals, and making a real connection with them. How about your colleagues and co-workers? Recognize that each of us seeks good service from each other. We need good service, and we need each other to carry out our work well.

What To Do?

First, become aware of your common, everyday interactive behaviors. Then add simple elements that may be missing. The most important of these is to connect, personally, for at least a moment. Slow your pace, look into their eyes, suspend your mind and body activity, and realize that this is a big moment.

Continuing Medical Education

KM Tan, MD, Associate Editor

I am delighted by the invitation to join The Permanente Journal Editorial Team as the CME Editor. As Tom Janisse mentioned in the Summer issue, TPJ is fulfilling its evolving role of serving the Kaiser Permanente clinician community by becoming a vehicle for Category 1 CME credit. As the CME Editor, I will have the pleasure and challenge of selecting four articles in each issue for CME credit, as well as serving as liaison between the Kaiser Permanente National CME Committee and the TPJ Editorial Team.

I am both a practicing radiologist and an administrative physician (I am Assistant Physician-in-Chief in Richmond, California). I have been involved in the politics of CME accreditation for close to 25 years—locally, statewide, and nationally. Currently I am a member and senior consultant for the Kaiser Permanente National CME Committee, which has just gained national accreditation.

This issue includes our initial offering of Category 1 CME credit in the form of four diverse articles. First, Jill Steinbruegge’s clarion call to Permanente physicians to deliver superior care and service to our members is imperative for Permanente Medicine if we are to succeed in our mission to become the best wherever we are. Second, the review by Miller et al of the impact of antibiotics on emerging bacterial resistance patterns offers succinct suggestions for ameliorating this problem. Third, Drs Frankel and Stein’s elegant treatise on distinctive describable behaviors found in our clinical encounters with patients should provide much food for thought as we review our own medical interviewing techniques. Finally, Lawrence et al discuss exercise-induced asthma, a common disease affecting a significant proportion of the population, and offer practical remedies for resolution. Reading these four articles, filling out the enclosed evaluation form and returning it will earn two hours of Category 1 CME credit.

I hope you enjoy reading these and the other articles in TPJ and find them useful and informative. We try to offer practical and meaningful information on issues affecting your practice, and we trust that the value-added inducement of CME credit will be appreciated. Let me know your thoughts.
Clinical Contributions
Arthur L. Klatsky, MD, Associate Editor

The Single Patient Report (Case Report)

Among health professionals, presentation of narrative patient histories is the backbone of communication about patients. Most of us practice several of its myriad forms: ward rounding presentations, admission or discharge notes, outpatient intake notes, referrals for consultation or consultative responses, etc, etc. Of course, quality varies widely, and we often appropriately abbreviate to the essentials needed for the purpose in mind.

In fact, a detailed narrative presentation about a single case closely simulates real medical practice: Both contain puzzles, mistakes, surprises, and satisfactions. It is easy to see why such presentations are also one of the mainstays of medical teaching, serving as a framework for all sorts of didactic and informal exercises. Properly done, sometimes with the patient present, reviewing the unfolding of a history offers endless opportunities for gaining insight. The feeling of direct or vicarious participation is an important element of the process. The Clinicopathological Conference (CPC), a variant of the patient report, adds interest by hiding the presumed definitive answer to a puzzling case from the discussant and audience until the end of the exercise. The CPC thus has an element of suspense.

In the past, single patient reports (perhaps a less dehumanizing term than “case reports”) were also a mainstay of most medical journals. As medical knowledge has expanded, there has been a marked decrease in their number, probably because it has truly become more difficult to find single patient examples which present new concepts or which modify existing concepts. Many journals seek such new knowledge from all articles and, thus, give sole preference to new statistical analyses of data, detailed physiological dissertations, and comprehensive literature reviews or evaluations. Some journals have discontinued publishing individual patient reports altogether, but most continue to include a few. A notable example is the weekly New England Journal of Medicine CPC, a venerable but still popular feature of this publication. Readers who practice medicine resonate to the drama and intellectual stimulation of this format.

We agree with those who feel that there is value in well-written single patient reports, and we welcome submission of such reports. The writer should keep in mind the basic requirement that there should be a lesson or lessons for the reader of the report. This issue includes a single patient report (Daderian A. et al. Esthesioneuroblastoma, A case report and current review of the literature), which reminds us of the importance of constant vigilance for possible unusual explanations when common symptoms do not respond to treatment. It also includes an article based upon three patient reports (Miller et al: Emergency Physician Performed Bedside Ultrasound Expedites the Diagnosis of Abdominal Aortic Aneurysms), which shows how innovative application of available technology may enable rapid diagnosis of a surgical emergency. Most publishable individual patient reports will include something startling or unexpected. In medical practice, the unexpected always carries an implicit lesson; the report should make this lesson quite explicit. Sometimes, this can be expressed in personal terms; we are all humans struggling with decisions in daily medical practice.

The unexpected feature which makes the individual case report noteworthy is not always a rare diagnosis, or some feature of a commoner diagnosis rarely seen. Nor does it need, in any way, to involve laboratory tests or high technology. In fact, it may often consist of some historical feature which gives a clue about a diagnosis. This could be something learned from a surrogate because of cultural inhibitions about presenting certain types of information, failure of a usually effective treatment because of an unusual practice (cultural or personal), exotic travel, or more detailed family history than usually obtained. History remains the most important aspect of medical diagnosis. Such individual case reports are of value, as they always contain a lesson.

It is a given that the writer of a patient narrative will review the literature, but a single patient report need not and should not include a long bibliography. Better than this would be a selective, well-chosen list of about a half-dozen recent reviews as references. The article should be brief, with no more than six double-spaced typed pages, including references and one or two figures or tables. One final caveat: It is probably never wise to claim “the first” patient example of anything. No matter how esoteric a set of circumstances may seem, it is always likely that someone will point out a previous instance of exactly the same phenomenon!

So, please send us your single patient reports. If they conform to the above straightforward criteria, they will be a worthy addition to The Permanente Journal.
What will it take to improve KP service? Eight radical thoughts for the next millennium!

What will it take to improve KP service? In an issue of The Permanente Journal dedicated to service, this is a question that must be asked. Differentiating ourselves on the basis of service excellence will provide us with the ultimate competitive advantage. Here are eight thoughts on what might enable the Permanente Medical Groups to attain a service-based competitive advantage over the next several years:

1. We will get to the next level of service improvement only after we have team-based care with the appropriate leadership, problem-solving skills, and incentives necessary to address local service issues. The ultimate answers to resolving long-standing service barriers such as appointment access and waiting-room times will come from frontline, committed health care teams, instead of from regional initiatives and programs.

2. We will have to understand and acknowledge the value that nonphysician providers (eg, nurse practitioners, physician assistants, certified nurse midwives) bring to service improvement initiatives. Historically, we have focused on their contributions to efficiency. However, these providers generally have strong patient communication skills and can therefore bond with physicians to increase access, giving the real potential to add tremendous value to the service aspect of our organization.

3. At all levels—health care team, Boards of Directors, the departments—Kaiser Permanente will have to be increasingly intolerant of chronically poor service performers—including physicians. Should there be a future with Permanente for a provider who, regardless of tenure, is unable to attain acceptable patient satisfaction scores?

4. We will have to change the mindset that the “product” we provide is a physician in the exam room. Several other interventions probably meet the needs of patients (see article on DIGMAs in this issue) while benefiting providers of care, as well.

5. We will have to stop trying to tell the “customer” how to behave (“you can’t walk in—we are going to teach you a lesson!”) and start making operational decisions that are truly patient-centered instead of provider-centered. Yes, our patients are “customers” in every sense of the word, and it would be naive to believe that we can improve service levels without all providers of care coming to this conclusion.

6. We will have to establish clear measurements with targets that define service success, keep our focus on these targets, and make certain that our provider and team incentives and leader accountabilities are aligned to accomplish these targets. Stagnation in service scores means that some change is needed in leadership or in processes. Organizational impatience with poor service performance must permeate the Kaiser community.

7. We will need leaders who listen closely to the needs of the frontline caregivers and who do what it takes to support them in providing service excellence. Using tools such as the People Pulse Climate survey will need to be commonplace throughout Permanente.

8. We will have to proactively work on service enhancements in partnership with Health Plan. Only then will it be possible for Permanente physicians and other providers to excel in service.

What do you think about these eight ways for Permanente to enhance service in the next millennium? Let us hear from you!

External Affairs
Scott Rasgon, MD, Associate Editor

In this age of managed care, we find our organization being lumped with all managed care organizations. We all have felt the frustration of not being differentiated from other managed care organizations by the media. It is often difficult to get our message out to the public. The External Affairs section of The Permanente Journal illustrates the uniqueness of our health care organization. In particular, the article by Don Parsons illustrates the value of telling our story in our words. This is one way I believe The Permanente Journal will benefit the future of our organization. I hope the Journal has value for you in your work.
To the Editor.—I read with interest the results of the 1996 survey Gordon and Sobel performed on the interest level of clinicians in “alternative therapies” (Use of and Interest in Alternative Types of Therapy among Clinicians and Adult Members of the Kaiser Permanente Northern California Region: Results of a 1996 Survey, Permanente Journal, 1999;3:44-55). They asserted that nearly 90% of clinicians reported recommending at least one type of alternative therapy. I would suggest that this number is quite inflated since many of the higher percentage modalities were merely either standard, supportive types of things a doctor might say or simple extensions of standard medical practice. They even alluded to this in their note about special diets, at the bottom of Table 1.

Other examples are the following:

- Massage therapy. This is nothing more than good backrubs. Giving this some legitimacy by calling it a therapy is typical of the good PR sought by purveyors of nonscientific belief systems. They want to make you believe they actually have something to offer when in fact it is either snake oil or just plain common sense. A backrub makes anyone feel better. It is not a therapy and giving it this weight only inflates the number. This accounted for 42.5% of the “manipulation therapies.” It should not have accounted for any of it and similarly, should have reduced the total number interested in alternative therapies.
- Meditation/mindfulness. More psychobabble. If I were to tell someone to close their eyes, try to relax, and think of vacations in Hawaii, does that make me a supporter of “alternative therapies”? Spare me and count this as a marker of interest in alternative therapies. That is an indefensible extrapolation of data. The clinicians surveyed were only confirming that these interventions are a part of good standard medical care. They were not reaching out to exciting new vistas of new millennial medicine. It smells of favoritism and a lack of objectivity. One wonders if the authors have an interest in seeing “alternative therapies” broadly added as covered benefits. I’m afraid their manipulation of the data smells of this bias.

In summary, I believe their study is seriously flawed and its conclusion that “clinicians are highly interested in incorporating CAM into their medical care” (P. 54) is at best soft, and at worst, an unsubstantiated affirmation that can lead us down the road back to the Middle Ages.

Promoting nonscientific populist nostrums is a disservice we don’t need to offer to anybody, demand be damned. The Enlightenment already occurred two hundred years ago. Do we have to relearn those lessons?

Nelson A. Garcia, MD
Infectious Disease
Kaiser Permanente Bellflower

In Reply.—Our critic believes that our study and our interpretation of the results are seriously flawed, and that our conclusion about clinician interest represents “an unsubstantiated affirmation of ‘nonscientific populist nostrums’ that can lead us down the road back to the Middle Ages.” The key questions arising in response to the letter are:

1. Were the definitions used in the study comparable to the definitions used in other studies and the by NIH?
2. Were the definitions of different alternative therapies clearly spelled out in the survey?
3. Were our comments about the extent of clinician interest in alternative medicine justified by the survey data?
4. Did we intend to imply the scientific validity of different alternative therapies and promote their use or to describe the results of a scientifically conducted study?

The first question addresses our critic’s remark that our report inflated the use of alternative therapies as treatment modalities by TPMG clinicians in the Northern California Region by including many modalities that are either “standard, supportive types of things a doctor might say or simple extensions of standard medical practice.” Our list of alternative therapies...
parallels that used by Eisenberg et al in their widely cited survey of alternative therapy use among adults in the United States. In developing our list, we decided to omit commercial weight-loss programs and exercise because we felt that these methods had already become part of conventional medicine within our setting. We added psychological counseling to the list because TPMG physicians were being encouraged to refer patients for counseling when they felt a patient's health problems could be improved by psychological intervention. The other therapies the writer singles out—massage therapy, meditation/meditation/mindfulness, relaxation techniques, and 12-step/support groups—were all included in the Eisenberg et al list, and have also been included in the lists of most of the physician surveys we cited in our article, and at least currently fall under the NIH Office of Alternative Medicine's definition of alternative therapies, ie, “those forms of medicine not traditionally taught in Western medical schools.”

In response to the second question, to ensure that clinicians and members knew what we meant by different types of alternative modalities, we included brief descriptions of each therapy in the survey questionnaire. For example, meditation/mindfulness techniques were described as techniques “used to relax the body and mind by focusing attention on different objects, including sound, a repeated word or mantra, a visual image, or body sensation. Mindfulness meditation involves focusing on the sensations of breathing to improve concentration and calming of body and mind.” Relaxation techniques were also described as “techniques used to relax the body and mind. Different types of relaxation techniques include deep breathing, progressive muscle relaxation, and imagining a relaxing scene.” Neither of the descriptions of these techniques, which have been used successfully by psychologists and other behavioral health specialists for years to treat stress and stress-related health conditions, can be construed as simply telling a patient to “relax or think about a vacation.” In most cases, the clinicians were not actually teaching their patients how to do these techniques but instead were referring them to psychologists or behavioral health education programs for instruction. Finally, almost anyone who has had a massage from a trained massage therapist would say that it is more than a “good backrub” which an untrained spouse or friend might deliver.

The third question addresses the critic's concern that we imply that clinician use/recommendation of supportive therapies (psychological counseling, 12-step and support groups, religious health or prayer) is an indicator of clinician interest in all alternative therapies. When we interpreted the results of our survey as indicating a fairly high level of primary care clinician interest in use of alternative therapies, we based this on clinicians' responses to two general questions: “In general, how interested are you in the use of alternative therapies to treat health problems, alone or in combination with more traditional Western medicine approaches?” and “In the future, would you like to see Kaiser Permanente health care providers have greater opportunity to use alternative therapies to treat health problems?” Two thirds of APC physicians and three fourths of ob/gyn clinicians indicated that they were moderately or very interested in use of alternative therapies, and similar percentages answered “probably yes” or “definitely yes” to wanting greater opportunity to use them within their practice.

When we described the proportions of clinicians using/recommending alternative therapies, we clearly stated that 93% of both APC and ob/gyn clinicians had used or recommended to patients at least 1 of the 20 alternative therapies on the list we provided. We reported that this percentage dropped to 89% when we excluded special diet and the supportive therapies (psychological counseling, religious healing or prayer, 12-step or support groups), the very categories that the writer has criticized us for including in our list. We did not infer, as our critic suggests, that these clinicians used or endorsed all 20 therapies. In fact, it is the author of the letter who seems to lump together relaxation, crystals, and coffee enemas. Our purpose was to identify the differences in interest of the many different forms and varieties of alternative medical practice. We did this in Table 1, which presents data on the percentages of APC and ob/gyn clinicians who reported use or recommendation of these 20 different therapies during the previous 12 months. In Table 3, we presented data about why primary care clinicians have been reluctant to use or recommend specific alternative therapies, and on page 47 reported the percentages of primary care clinicians that would like or would not want to have specific alternative therapies covered by the Health Plan.

Finally, in response to the fourth question, our purpose was to assess interest and use, not to comment on the scientific validity of the practices. We agree that decisions to recommend or cover with
insurance should ideally be evidence-based—this should apply to conventional Western medical practice as well as to alternative therapies. We need more objective, scientific study to counter both uncritical acceptance of all therapies as well as rejection based on anger and bias.

References

Nancy P. Gordon, ScD and
David S. Sobel, MD, MPH
Kaiser Permanente, Northern California

To the Editor.—Lopez and Buell in “Coming Clean: Community Partnerships for Tattoo Removal” (Permanente Journal, 1998;2:88-91) describe an admirable program to treat tattoos among street people and gang members. While we support the goals and objectives of the program, we would remind the doctors and others embarking on such programs of the “Law of Unforeseen Consequences.”

Tattoos have been used over the millennia in a wide variety of cultures for group identification and protective effects. Other physicians, and we who treat large number of homeless and indigent patients, have noted that patients with four or more amateur tattoos are much more resistant to major illness and likely to survive diseases which would kill most people whose skin has not been discolored by the ink of cheap ballpoints inserted into pinholes. This rule was supported in an informal poll by every clinician working with homeless people who attended a national meeting of medical directors of homeless health centers. One went so far as to affirm, “No one with H, A, T, and E tattooed on the knuckles of the right hand and L, O, V, and E on the left has ever died of a medical illness.”

Thus, the Law of Unforeseen Consequences would suggest that by removing tattoos from their patients now, Lopez et al may be putting them at risk of future death. This observation opens the subject for several research projects. I would suggest that a cooperative Kaiser Permanente study of intensive care unit admissions could follow patients with more than four tattoos and compare their APACHE scores and mortality rates against known standards. Alternatively, outpatients who qualify could be matched with untattooed controls and followed over time. We hope that Lopez et al plan to follow their cohort to see what their experience after the tattoos are removed proves to be. It may be that erasure of the tattoos will restore these patients to the higher risk group. Or, the tattoos may continue to have their protective effect even after removal, which might indicate that it is not the tattoos themselves, but some other demographic or medical factor for which tattooing is only a marker.

In sum, while we support the efforts of Lopez et al to erase unwanted tattoos in homeless people, we urge both caution in embarking on any project that may have unforeseen consequences and further study of the questions of tattoos’ long-touted, but unproven, protective effects.

References

Neal Rendleman, MD and
H. Stanley Bennett, MD
Ecumenical Ministries of Oregon

In Reply.—As the clinicians involved in the tattoo removal project (Coming Clean: Community Partnerships for Tattoo Removal, Permanente Journal, 2:1998, 88-91), we are pleased to respond to the interesting and provocative letter from Drs. Rendleman and Bennett.

While the claims struck us as unorthodox, we decided that we would apply the basic principles of evidence-based medicine to see if there was any good information available to answer the contentions in the letter.

We asked Trina Histon of our Care Management Institute here in Oakland to do a search of the medical literature, specifically looking for articles and studies on the potential health effects of tattoo removal. She searched MEDLINE, STAT-REF and various journals unsuccessfully, finding only the following quote from her Bible study memories. “Thou shalt not make cuts unto your body for the sake of the dead or tattoo any marks upon you; I am the Lord” (Leviticus 19:28).

Her formal search did not turn up any studies documenting health effects of tattoo removal. Tattoos themselves have been associated with several blood-borne diseases. Of interest, as is too often the case, when
we finally were able to obtain an English translation of the referenced German publication, it had nothing to do with the points being made. The title of that German article is “The Significance of a Single Tattoo in Sociopaths.”

Had we found studies detailing health effects of tattoo removal, we would have graded them on the basis of strength of experimental design, summarized the findings in an evidence table, and attempted to construct a balance sheet detailing the benefits and harms to the patient by the intervention of removing existing tattoos.

Tattoos have been used medically in breast reconstruction surgery, for marking polyps in the colon, and in managing gingival vitiligo. Removing tattoos from gang members seeking to reenter mainstream society has been studied, and the benefits have been documented. The young people whom we work with commit themselves to community service and undergo a mildly painful procedure in their desire to be free of their gang stigmata.

In summary, in the absence of any scientific evidence of harm from removing tattoos, we plan on continuing a community collaborative program voluntarily entered into by the young people who are hoping to redirect their lives.

Jed Weissberg, MD and
Lorraine Weinstein, MD
Department of Surgery
The Permanente Medical Group

To the Editor.—Just got the latest (Summer 1999) issue of The Permanente Journal and want to say that you are doing a great job. I particularly like the Permanente Abstracts section and the Original Research because they are unique to our organization and help raise our consciousness. It would be better if we could dispense this info to the outside world, since our excellence is one of the best kept secrets in US medicine. Preaching to the choir is fine, but it is even better if the sermon is more widely heard. How about a more widespread circulation list à la Mayo Clinic Proceedings, university wellness letter, etc.?

Edgar Schoen, MD
Genetic Screening Program
Kaiser Permanente Northern California

To the Editor.—Thank you for the excellent article on hemochromatosis by Dr. Vincent Felitti (Hemochromatosis: A Common, Rarely Diagnosed Disease, Permanente Journal, 1999;3:10-20). After reading this, I began to do some screening of patients in my internal medicine practice and, in particular, one male patient in his thirties who was completely asymptomatic but who had borderline elevated liver enzymes for a year and a half with negative findings otherwise. This patient tested positive with a serum ferritin level over 5,000 µg/L. He has been referred now for further testing and treatment, and the family was also notified. His father, also asymptomatic, also tested positive for hemochromatosis and is receiving treatment as well. Prior to review of this article, I had not been aware that this medical condition could be so prevalent. I will certainly not overlook it in the future and hopefully will have a positive impact in maintaining the health of my patients because of this excellent article.

Dianne L. Wendling, PAC
Internal Medicine
Warren Paley Medical Office

Focus
You can't depend on your eyes when your imagination is out of focus.
Mark Twain
Decreasing Antibiotic Use in Ambulatory Practice: Impact of a Multidimensional Intervention on the Treatment of Uncomplicated Acute Bronchitis in Adults

Gonzales R; Steiner JF; Linn A; Barrett PH Jr; JAMA 1999 Apr 28;281(16):1512-9.

Context: The emergence and spread of antibiotic-resistant Streptococcus pneumoniae in US communities is due, in part, to the excessive use of antibiotics for acute respiratory tract infections.

Objective: To decrease total antibiotic use for uncomplicated acute bronchitis in adults.

Design: Prospective, nonrandomized controlled trial, including baseline (November 1996—February 1997) and study (November 1997—February 1998) periods.

Setting: Four selected primary care practices belonging to a group-model health maintenance organization in the Denver, Colorado, metropolitan area.

Participants: Consecutive adults diagnosed as having uncomplicated acute bronchitis. A total of 2462 adults were included at baseline and 2027 adults were included in the study. Clinicians included 56 physicians, 28 physician assistants or nurse practitioners, and 9 registered nurses.

Intervention: The full intervention site received household and office-based patient educational materials, as well as a clinician intervention consisting of education, practice-profiling, and academic detailing. A limited intervention site received only office-based educational materials, and control sites provided usual care.

Main Outcome Measure: Antibiotic prescriptions for uncomplicated acute bronchitis during baseline and study periods.

Results: Antibiotic prescription rates for uncomplicated acute bronchitis were similar at all four sites during the baseline period. During the study period, there was a substantial decline in antibiotic prescription rates at the full intervention site (from 74% to 48% [P = .003]), but not at the control and limited intervention sites (78% to 76% [P = .81] and 82% to 77% [P = .68], respectively). Compared with control sites, changes in nonantibiotic prescriptions (inhaled bronchodilators, cough suppressants, and analgesics) were not significantly different for intervention sites. Return office visits (within 30 days of the incident visit) for bronchitis or pneumonia did not change significantly for any of the sites.

Conclusions: Antibiotic treatment of adults diagnosed as having uncomplicated acute bronchitis can be safely reduced using a combination of patient and clinician interventions.

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Choice of a Personal Physician and Patient Satisfaction in a Health Maintenance Organization

Schmittdiel J; Selby JV; Grumbach K; Quesenberry CP Jr; JAMA 1997 Nov 19;278(19):1596-9. [Published erratum appears in JAMA 1998 Mar 4;279(9):656.]—

Context: Being able to choose one’s health care plan has been shown to increase subsequent patient satisfaction with the plan, but it is not known whether choosing one’s own primary care physician affects patient satisfaction with the physician.

Objective: To compare satisfaction with care between members of a group-model health maintenance organization (HMO) who chose their primary care physician and members who were assigned a physician.

Design: Cross-sectional mailed survey with response rate of 71.4%.

Setting: A large group-model HMO in northern California.

Main Outcome Measure: Nine questions on satisfaction with the primary care physician.
Subjects: Random sample of HMO members 35 to 85 years of age who were impaneled with a primary care physician.

Results: Among the 10,205 survey respondents, patients who chose their personal physician (n=4748) were 16 to 20 percentage points more likely to rate their satisfaction as “excellent” or “very good” than patients who were assigned a physician (n=5457) for nine satisfaction measures (P<.001 for each comparison). The association of choice with satisfaction was not due to physicians with higher patient satisfaction being chosen more often, or to differences in patient demographic or socioeconomic characteristics, health values, or health beliefs, or to differences in physician demographics or specialty. In a logistic regression model that adjusted for all of these characteristics, having chosen one’s physician was the single predictor most strongly related to having high overall satisfaction (odds ratio, 2.18, 95% confidence interval, 1.95-2.42).

Conclusion: These results suggest that even in a setting of limited physician choice, the opportunity to select one’s personal physician may influence subsequent satisfaction.

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Public Health in Managed Care: A Randomized Controlled Trial of the Effectiveness of Postcard Reminders


Objectives: This study evaluated the effectiveness of an annual public health intervention in a managed care setting.

Methods: Managed care organization members 65 years and older who received influenza immunization in 1996 were randomized to an intervention group (mailed a postcard reminder to receive an influenza vaccination in 1997) or a control group (no postcard). Vaccination rates for both groups were assessed monthly.

Results: Members receiving the intervention were no more likely to be immunized (78.6%) than members of the control group (77.2%, P=.222). Members were vaccinated at the same pace regardless of vaccination history and postcard intervention status.

Conclusions: Postcard reminders were not an effective intervention among seniors who had been vaccinated the previous year.

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Gender, Psychosocial Factors and the Use of Medical Services: A Longitudinal Analysis


Many researchers have reported gender differences in levels of reported symptoms, morbidity, mortality and medical care utilization, but the debate continues about the underlying causes of these differences. Some have argued that women use more medical services because they are more sensitive to symptoms and interested in health, while others believe that women’s greater service utilization arises from the fact that women experience more morbidities than do men. To date, these questions have not been studied prospectively. Using data from a household interview survey carried out in 1970-1971 and linked to 22 years of health services utilization records, we explored the effects of gender, self-reported health status, mental and physical symptom levels, health knowledge, illness behaviors and health concerns and interest on the long-term use of health services. After controlling for the aforementioned factors, female gender remained an independent predictor of higher utilization over the 22-year period studied, and psychosocial and health factors measured at the initial interview predicted service use even 19-22 years later. Controlling for factors identified as likely causes of gender-related differences in healthcare utilization, gender remains an important predictor of medical care use before and after removing sex-specific utilization. In addition, the consistent predictive ability of attitudinal and behavioral factors, combined with the finding that health knowledge did not predict utilization, indicates that efforts to help patients assess their service needs should target the attitudinal and behavioral factors that vary with gender, rather than health-related knowledge alone.

Fast Relief: Buying Time with Medications


The experience of time famine in contemporary US culture affects household decisions about self-care and the use of pharmaceuticals for self-medication. This article examines the manner in which time demands shape lay interpretations of medi-
pharmacological efficacy and drive increases in medication use for adults as well as children. Medicines, like other time-saving commodities, appear to shift the time-power differential in favor of individuals, placing them in control of how time is spent. When there is “no time to be sick,” allopathic medicines become time-saving devices that enable women to fulfill responsibilities at work or home while they attend to sick children or to being ill themselves. Medicines are used to beat the clock by increasing one’s own capacity to be productive.


Differences in Resource Use and Costs of Primary Care in a Large HMO According to Physician Specialty

Selby JV; Grumbach K; Quesenberry CP Jr; Schmittlet JA; Truman AF. Health Serv Res 1999 Jun;34(2):503-18.

Objective: To determine if primary care physician specialty is associated with differences in use of health services.

Data Sources: Automated outpatient diagnostic, utilization, and cost data on 15,223 members (35-85 years of age) of a large group model HMO.

Study Design: One-year prospective comparison of primary care provided by 245 general internists (GIMs), 60 family physicians (FPs), and 55 subspecialty internists (SIMs) with case-mix assessed during a nine-month baseline period using Ambulatory Diagnostic Groups.

Principal Findings: Adjusting for demographics and case mix, patients of GIMs and FPs had similar hospitalization and ambulatory visit rates, and similar laboratory and radiology costs. Patients of FPs made fewer visits to dermatology, psychiatry, and gynecology (combined visit rate ratio: 0.86, 95% CI: 0.74-0.96). However, they made more urgent care visits (rate ratio 1.19, 95% CI: 1.07-1.23). Patients of SIMs had higher hospitalization rates than those of GIMs (rate ratio 1.33, 95% CI: 1.06-1.68), greater use of urgent care (rate ratio: 1.14, 95% CI: 1.04-1.25), and higher costs for pharmacy (cost ratio: 1.17, 95% CI: 0.93-1.18) and radiologic services (cost ratio: 1.14, 95% CI: 1.01-1.30). The hospitalization difference was due partly to the inclusion of patients with specialty-related diagnoses in panels of SIMs. Radiology and pharmacy differences persisted after excluding these patients.

Conclusions: In this uniform practice environment, specialty differences in primary care practice were small. Subspecialists used slightly more resources than generalists. The broader practice style of FPs may have created access problems for their patients.

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Effect of Cigar Smoking on the Risk of Cardiovascular Disease, Chronic Obstructive Pulmonary Disease, and Cancer in Men

Iribarren C; Tekawa IS; Sidney S; Friedman GD. N Engl J Med 1999 Jun 10;340(23):1773-80

Background: The sale of cigars in the United States has been increasing for the past six years. Cigar smoking is a known risk factor for certain cancers and for chronic obstructive pulmonary disease (COPD). However, unlike the relation between cigarette smoking and cardiovascular disease, the association between cigar smoking and cardiovascular disease has not been clearly established.

Methods: We performed a cohort study among 17,774 men 30 to 85 years of age at baseline (from 1964 through 1973) who were enrolled in the Kaiser Permanente health plan and who reported that they had never smoked cigarettes and did not currently smoke a pipe. Those who smoked cigars (1546 men) and those who did not (16,228) were followed from 1971 through the end of 1995 for a first hospitalization for or death from a major cardiovascular disease or COPD, and through the end of 1996 for a diagnosis of cancer.

Results: In multivariate analysis, cigar smokers, as compared with nonsmokers, were at higher risk for coronary heart disease (relative risk, 1.27; 95 percent confidence interval, 1.12 to 1.45), COPD (relative risk, 1.45; 95 percent confidence interval, 1.10 to 1.91), and cancers of the upper aerodigestive tract (relative risk, 2.02; 95 percent confidence interval, 1.01 to 4.06) and lung (relative risk, 2.14; 95 percent confidence interval, 1.12 to 4.11), with evidence of dose-response effects. There appeared to be a synergistic relation between cigar smoking and alcohol consumption with respect to the risk of oropharyngeal cancers and cancers of the upper aerodigestive tract.

Conclusions: Independently of other risk factors, regular cigar smoking can increase the risk of coronary heart disease, COPD, and cancers of the upper aerodigestive tract and lung.

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Predicting Advanced Proximal Colonic Neoplasia with Screening Sigmoidoscopy

Levin TR; Palitz A; Grossman S; Conwell C; Finkler L; Ackerson L; Rumore G; Selby JV; JAMA 1999 May 5;281(17):1611-7.

Context: Indications are not well defined for follow-up colonoscopy for all patients with distal colonic tubular adenomas (TAs) found at screening sigmoidoscopy.

Objective: To determine whether distal adenoma size, number, and villous histology, along with family history and age, are predictors of advanced proximal colonic neoplasicia.


Setting: Large group-model health maintenance organization in northern California.

Patients: A total of 2972 asymptomatic subjects aged 50 years or older undergoing colonoscopy as follow-up to a screening sigmoidoscopy.

Main Outcome Measure: Based on sigmoidoscopy, colonoscopy, and pathology reports, occurrence of advanced proximal neoplasia, defined as adenocarcinoma or TAs 1 cm or larger or with villous features or severe dysplasia located beyond sigmoidoscopic view.

Results: The prevalence of advanced proximal neoplasia was similar among patients with no TAs at sigmoidoscopy, those with TAs less than 1 cm in diameter, and those with TAs 1 cm in diameter or larger (prevalence, 5.3%, 5.5%, and 5.6%, respectively). Of patients with a distal tubulovillous or villous adenoma, 12.1% had advanced proximal neoplasia. In multivariate analyses, having a distal tubulovillous adenoma or villous adenoma was the strongest predictor of advanced proximal neoplasia (odds ratio, 2.30; 95% confidence interval, 1.69-3.14). Age of 65 years or older, having more than 1 adenoma, and a positive family history of colorectal cancer were also significant predictors. Distal adenoma size was not a significant predictor in any multivariate analyses.

Conclusions: Advanced proximal neoplasia is not uncommon in subjects with or without distal TAs, but subjects with advanced distal histology and those older than 65 years are at increased risk. Age-specific screening using sigmoidoscopy starting at ages 50 to 55 years and colonoscopy after age 65 years may be justified.

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Identifying Women with Cervical Neoplasia: Using Human Papillomavirus DNA Testing for Equivocal Papanicolaou Results

Manos MM; Kinney WK; Hurley LB; Sherman ME; Shieb-Ngai J; Kurman RJ; Ransley JE; Fetterman BJ; Hartinger JS; McIntosh KM; Patelick GF; Hiatt RA; JAMA 1999 May 5;281(17):1605-10.

Context: A Papanicolaou (Pap) test result of atypical squamous cells of undetermined significance (ASCUS) presents a clinical challenge. Only 5% to 10% of women with ASCUS harbor serious cervical disease, but more than one third of the high-grade squamous intraepithelial lesions (HSILs) in screening populations are identified from ASCUS Pap test results.

Objective: To determine whether human papillomavirus (HPV) DNA testing of residual material from liquid-based Pap tests and referral of cases found to be HPV-positive directly to colposcopy could provide sensitive detection of underlying HSILs in women with ASCUS Pap results, compared with repeat Pap testing.

Design and Setting: Natural history of women with ASCUS Pap smear results, all of whom had liquid-based cytology, HPV testing, and subsequent repeat Pap tests and colposcopy with histologic evaluation, conducted at 12 gynecology clinics in a large managed care organization between October 1995, and June 1996.

Participants: From a cohort of 46,009 women who had routine cervical examinations, 995 women with Pap test results of ASCUS who consented to participate were identified.

Main Outcome Measures: Cervical histology, HPV test results, and repeat Pap smear results, and sensitivity of HPV testing to identify patients found to have HSIL+ histology.

Results: Of 995 participants with ASCUS Pap test results, 973 had both a definitive histologic diagnosis and HPV result. Sixty-five (6.7%) had histologic HSIL+ cancer. For women with histologic HSIL+, the HPV test was positive in 89.2% (95% confidence interval [CI], 78.4%-95.2%), and the specificity was 64.1% (95% CI, 60.9%-67.2%). The repeat Pap smear result was abnormal in 76.2% (95% CI, 63.5%-85.7%). Triage based on HPV testing only or on repeat Pap testing only would refer similar proportions (approximately 39%) to colposcopy. The sensitivity of HPV DNA testing for HSIL was equivalent to, if not greater than, that of the repeat Pap test. We further estimated that an HPV-based algorithm including the immediate colposcopy of HPV-positive women, and then repeat Pap testing of all others, would provide an overall sensitivity of 96.9% (95% CI, 88.3%-99.5%).
Conclusions: For women with ASCUS Pap tests, HPV DNA testing of residual specimens collected for routine cervical cytology can help identify those who have underlying HSIL. By testing the specimen collected at initial screening, the majority of high-risk cases can be identified and referred for colposcopy based on a single screening.

Advance Directives are More Likely among Seniors Asked about End-of-Life Care Preferences

Gordon NP; Shade SB; Arch Intern Med 1999 Apr 12;159(7):701-4.

Objectives: To estimate the proportion of seniors in a large health maintenance organization (HMO) who had been asked about their end-of-life care preferences (EOLCPs) by a clinician and who had completed an advance directive (AD). To examine the association of having had an EOLCP discussion and AD completion.

Subjects and Methods: A random sample of HMO members aged 65 years or older were asked to complete a mailed survey about health and health-related issues in 1996. Data provided by 5117 seniors (80% response rate) were used to estimate the prevalence of EOLCP and AD among seniors overall and in specific risk groups. Bivariate and multiple logistic regression models were used to identify predictors of AD completion, especially having been asked about EOLCP.

Results: One third of seniors reported having an AD on file with the HMO, but only 15% had talked with a clinician about EOLCP. Both having been asked about EOLCP and having an AD were positively associated with age, but not significantly associated with sex, race/ethnicity, marital status, or self-rated health status. Having been asked by a clinician about EOLCP was significantly associated with completion of an AD.

Conclusion: Clinicians can play an important role in increasing AD completion rates among seniors by bringing up the subject of EOLCPs.

Cognitive-Behavioral Treatment of Adolescent Depression: Efficacy of Acute Group Treatment and Booster Sessions


Objective: This trial examined the effects of both acute and maintenance cognitive-behavioral therapy (CBT) for depressed adolescents.

Method: Adolescents with major depression or dysthymia (N=123) were randomly assigned to one of three eight-week acute conditions: adolescent group CBT (16 two-hour sessions); adolescent group CBT with a separate parent group; or waitlist control. Subsequently, participants completing the acute CBT groups were randomly reassigned to one of three conditions for the 24-month follow-up period: assessments every four months with booster sessions; assessments only every four months; or assessments only every 12 months.

Results: Acute CBT groups yielded higher depression recovery rates (66.7%) than the waitlist (48.1%), and greater reduction in self-reported depression. Outcomes for the adolescent-only and adolescent + parent conditions were not significantly different. Rates of recurrence during the two-year follow-up were lower than found with treated adult depression. The booster sessions did not reduce the rate of recurrence in the follow-up period but appeared to accelerate recovery among participants who were still depressed at the end of the acute phase.

Conclusion: The findings, which replicate and expand upon a previous study, support the growing evidence that CBT is an effective intervention for adolescent depression.

Maternal Placental Abnormality and the Risk of Sudden Infant Death Syndrome

Li DK; Wi S; Am J Epidemiol 1999 Apr 1;149(7):608-11.

To determine whether placental abnormality (placental abruption or placenta previa) during pregnancy predisposes an infant to a high risk of sudden infant death syndrome (SIDS), the authors conducted a population-based case-control study using 1989-1991 California linked birth and death certificate data. They identified 2,107 SIDS cases, 96% of whom were diagnosed through autopsy. Ten controls were randomly selected for each case from the same linked birth-death certificate data, matched to the case on year of birth. About 1.4% of mothers of cases and 0.7% of mothers of controls had either placental abruption or placenta previa during the index pregnancy. After adjustment for potential confounders, placental abnormality during pregnancy was associated with a twofold increase in the risk of SIDS in offspring (odds ratio = 2.1, 95% confidence interval 1.3-3.1). The individual effects of placental abruption and placenta previa on the risk of SIDS did not differ significantly. An im-
paired fetal development due to placental abnormality may predispose an infant to a high risk of SIDS.

**Alcohol Consumption and Breast Cancer Oestrogen and Progesterone Receptor Status**

Enger SM; Ross RK; Paganini-Hill A; Longnecker MP; Bernstein L; Brit J of Cancer 1999 Mar;79(7-8):1308-14.

We examined the role of alcohol on the risk of breast cancer by the joint oestrogen receptor (ER) and progesterone receptor (PR) status of the tumour using data from two case-control studies conducted in Los Angeles County, USA. Eligible premenopausal patients were 733 women aged < or = 40 years and first diagnosed from 1 July 1983, to 1 January 1989. Eligible postmenopausal patients were 1169 women aged 55-64 years and first diagnosed from 1 March 1987 to 31 December 1989. Patients were identified by the University of Southern California Cancer Surveillance Program. Neighbourhood controls were individually matched to patients by parity (premenopausal patients) and birth date (+/-3 years). ER and PR status were obtained from medical records for 424 premenopausal and 760 postmenopausal patients. The analyses included 714 premenopausal and 1091 postmenopausal control subjects. Alcohol use was generally not associated with premenopausal risk of breast cancer, regardless of hormone-receptor status. Among the postmenopausal women, those who consumed, on average, > or = 27 g of alcohol/d experienced an odds ratio (OR) of 1.76 [95% confidence interval (CI) 1.14-2.71] for ER-positive/PR-positive breast cancer relative to women who reported no alcohol consumption. Alcohol use was less clearly associated with risk of other receptor types among postmenopausal women. These data suggest that alcohol may preferentially increase risk of ER-positive/PR-positive breast cancer in postmenopausal women.

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**Relationships Between Duration of Asthma and Asthma Severity among Children in the Childhood Asthma Management Program**

Zeiger RS; Dawson C; Weiss S; J Allergy Clin Immunol 1999 Mar;103(3 Pt1):376-87.

**Background:** Many factors, including heredity, atopic status, and environment, have been implicated in the determination of asthma severity. Relatively little is known about the degree to which asthma duration influences asthma severity.

**Objective:** The Childhood Asthma Management Program (CAMP), consisting of 1041 children (age 8.9 +/- 2.1 years at enrollment) with mild-to-moderate asthma, offers an opportunity to examine the relationship between asthma duration and asthma severity.

**Methods:** By using the extensive CAMP baseline cross-sectional data on asthma duration, spirometry, bronchial responsiveness, symptomatology, and markers of atopy, univariate and multivariate regression models were used to evaluate whether asthma duration is associated with asthma severity.

**Results:** Duration of asthma in the study cohort from time of diagnosis until randomization into CAMP ranged from 0.3 to 12.1 years (mean, 5.0; SD, 2.7; median, 4.8). Asthma duration is associated in univariate analyses both with lower levels of several lung functions (P<.001), including methacholine bronchial reactivity (natural log [ln] FEV1 PC20, mg/mL; r = -0.112), prebronchodilator and postbronchodilator percent predicted FEV1 (r = -0.176 and r = -0.130, respectively), and prebronchodilator and postbronchodilator FEV1/forced vital capacity (FVC) (%) (r = -0.237 and r = -0.211, respectively), as well as higher levels of symptoms (symptom score: r = 0.147, P < .001) and borderline greater use of albuterol for symptoms (r = 0.058, P=.064) during a 28-day screening period before randomization. Simple linear regression detected the following differences in lung functions per year of asthma duration: In FEV1 PC20, -0.050 mg/mL/y; prebronchodilator FEV1, -0.907 percent predicted/y; and prebronchodilator FEV1/FVC, -0.729 percent predicted/y. After controlling for potential explanatory variables (atopy, inflammatory markers, household Der p 1 levels, anti-inflammatory medication use, and clinical center), regression models revealed that the duration of asthma remained significantly and independently associated with ln FEV1 PC20 (P=.004), prebronchodilator percent predicted FEV1 (P=.043), and prebronchodilator and postbronchodilator FEV1/FVC (%) (P<.001), as well as being positively associated with mean daily symptom score (P<.001) and albuterol use for symptoms (P=.003) during a 28-day screening period. Duration was also found to be significantly associated with physician/nurse assessment of asthma severity and other historical measures of medication use.

**Conclusions:** These data demonstrate that asthma duration is associated with lower lung function, greater...
methacholine responsiveness, more asthma symptomatology, and greater use of as-needed albuterol, which are all measures of asthma severity. As such, early diagnosis and intervention may be necessary to ameliorate these adverse effects of persistent asthma.

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Computer-Assisted Health Counselor Visits: A Low-Cost Model for Comprehensive Adolescent Preventive Services


Objective: To evaluate a low-cost strategy for providing preventive health services to adolescents using computerized health assessments with individualized educational videos, trained health counselors, and nurses.

Design: Feasibility study, cost analysis, and comparative evaluation of health problems identified, guidance delivered, and patient satisfaction.

Setting: Eleven sessions at nontraditional sites including schools, universities, shopping malls, and after-hours clinics on Oahu, Hawaii.

Participants and Intervention: Adolescents (N=258, mean age 17 years) completed confidential computerized health assessments, received individualized feedback, and viewed automatically selected educational videos on a laptop computer. The computer additionally printed a prioritized problems list for the graduate student-level health counselor to review with the adolescent. The counselor subsequently reviewed each encounter with a nurse-educator who performed further counseling and physical examinations when indicated.

Results: Visit length averaged 44 minutes. Subjects spent an average of 21 minutes completing the automated health assessment and viewing interactive multimedia and 15 minutes with the health counselor. One third of subjects required further evaluation and counseling by the nurse (average, 8 minutes). A team of two counselors and one nurse provided comprehensive screening, health counseling, and physical examinations to one patient every ten minutes at a salary cost of $7.46 per visit. This model identified risk behaviors at levels consistent with local behavioral data, and addressed and documented them significantly more often than do physicians in traditional settings. Subjects (71%) preferred the computer-assisted visits to standard office visits, and 92% felt the amount of time spent was acceptable.

Conclusions: Computer-assisted delivery of adolescent preventive services using nonphysician health counselors is a feasible, economical, and acceptable alternative to traditional clinical practice for screening young people for health-compromising behaviors and providing individualized health education and routine physical examinations. This model would likely increase adolescents’ access to needed preventive services at a very modest cost.

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The Checkered Flag

Desire is the key to motivation, but it’s the determination and commitment to an unrelenting pursuit of your goal—a commitment to excellence—that will enable you to attain the success you seek.

Mario Andretti
Exercise-Induced Asthma

Exercise-induced asthma is a common disease affecting at least 15 million people in the United States. The etiology of exercise-induced asthma is not completely understood, although it is most probably triggered by cooling and dehumidifying of the respiratory airways during physical activity. Symptoms generally are related to bronchospasm and manifest 3-5 minutes after the physical activity ceases or 5-10 minutes into continued activity. Symptoms continue for approximately 10-30 minutes and are followed by a refractory period of 20-120 minutes. Exercise-induced asthma can be diagnosed using medication trials or by exercise challenge with peak-flow or spirometric monitoring. Treatment consists of controlling the underlying asthma; use of beta-adrenergic, mast cell inhibitor, or leukotriene antagonist medications; and by altering the ambient conditions under which the activity occurs. As a result, affected persons can live healthier lives and have better self-image.

Introduction

Exercise-induced asthma (EIA) is a common problem. A 1976 study indicated that 63% of children with asthma and approximately 40% of atopic, nonasthmatic children had demonstrable EIA. About 15 million people in the United States are known to have EIA. In addition, 25% of children who have a decrease of >20% in peak expiratory flow rate (PEFR) with exercise never complain of symptoms; they simply stop participating in activities. This article reviews the pathophysiology, clinical presentation, diagnosis, and treatment of EIA.

Definition of EIA

Many definitions of asthma have been used over the years. The most recently revised definition issued by the NIH National Heart, Lung, and Blood Institute Expert Review Panel consisted of a lengthy paragraph which essentially underscored our lack of certainty about the fundamental cause of asthma. For our purposes, asthma can be defined as a chronic, inflammatory disease of the airways triggered by multiple stimuli, resulting in reversible bronchospasm, and characterized by repeated episodes of dyspnea, wheezing, chest tightness, cough, and phlegm. EIA can be defined as bouts of asthma (with bronchospasm the main component) triggered by exercise.

Pathophysiology of EIA

The manifestations of EIA offer some insight into possible causative mechanisms. In persons who have EIA, the first 3-5 minutes of physical activity usually have normal effects. When the physical activity stops, lung function decreases (as measured by PEFR or forced expiratory volume in one second, FEV1) within 5-10 minutes after the activity stops; if physical activity resumes, symptoms begin to manifest during the first 5-10 minutes of resumed activity. This decrease in pulmonary function is usually accompanied by symptoms and persists for 15-40 minutes; pulmonary function then normalizes, and symptoms resolve (Figure 1). Decreases in FEV1 or PEFR often range from 20% to 50%. This early-phase response is the most common manifestation of EIA. In a few individuals, a late-phase response related more to inflammatory changes may occur within 3-10 hours after physical activity stops. The degree of late-phase decrease in pulmonary function is usually greater and more prolonged than in the early-phase response. A refractory period ranging from 40 minutes to 2 hours follows an episode of EIA; during this refractory period, it is difficult to recreate symptoms.

Multiple factors appear to affect frequency and severity of the change in pulmonary function and symptoms. To study possible pathologic pathways by which symptoms are produced, two primary models of asthma have been used: induction of symptoms by exercise and induction of symptoms by isocapnic hyperventilation. Use of these two models has led to the following information:

- The greater the person’s baseline level of bronchial hyperreactivity as measured by histamine or methacholine challenge, the greater the likelihood of EIA developing or worsening.
- The greater the minute ventilation (with all other factors controlled), the greater the...
intensity and duration of EIA up to a maximum of two thirds of the individual’s maximum working capacity.4
• The less humid the inspired air, the greater the trigger for EIA (Figure 2).5,6
• The cooler the air, the greater the trigger for EIA (Figure 2).5,6
• Exposure to airborne allergens worsens EIA.
• Certain air pollutants (eg, ozone) may worsen EIA.

This work and certain physiologic studies in animal models have led to two hypotheses of the pathway to EIA: one hypothesis focusing on water loss and another hypothesis focusing on postexertional rewarming of the airway.

The water-loss hypothesis (currently preferred) states that exercise causes decreased airway humidity through more rapid ventilation and thus increases mucosal osmolarity. Consequently, osmoreceptors trigger increased bronchial blood flow, which causes edema. Simultaneously, the increased osmolarity induces release of mediators that induce contraction of smooth muscle and additional obstruction of the airway. Slower production of inhibitory prostaglandins results in bronchodilation that ultimately reverses the smooth muscle contraction and manifests as the refractory period (Figure 3).

This hypothesis is supported by several observed phenomena: hyperpnea-induced bronchial water losses are substantial; prolonged hyperpnea reduces the water replacement capability of the airways; hyperosmolar aerosol inhalation directly triggers bronchoconstriction; hyperosmolar responsive cells do exist within the airway; and increased duration of hyperpnea leads to steadily increasing osmolar changes.

Evidence against the water-loss hypothesis also exists, however. In particular, the hypothesis does not explain why the most major constriction of the airways occurs after cessation of hyperpnea. Nor does the hypothesis explain how vasoconstrictors can blunt EIA and hyperventilation-induced asthma (HIA) in controlled settings.

The postexertional airway-rewarming hypothesis states that the initial airway heat loss associated with hyperpnea causes a vascular dilation and edema that physically narrows the airway. Slower production of inhibitory prostaglandins results in bronchodilation that ultimately reverses the smooth muscle contraction and manifests as the refractory period (Figure 3).9

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The postexertional airway-rewarming hypothesis states that the initial airway heat loss associated with hyperpnea causes a vascular dilation and edema that physically narrows the airway. This hypothesis is supported by several facts: some vasodilation in systemic vasculature occurs after cold exposure; alpha-adrenergic agonists limit HIA; vascular volume redistribution by antishock trousers limits HIA; and the time...
required for redistribution of blood flow theoretically matches the vessel rewarming time. Evidence against this theory includes the fact that in animals, pulmonary blood flow increases during cold-air HIA and decreases during the posthyperpnea period, and no direct evidence exists to support the possibility that rewarming hyperemia occurs in lung vessels or airway tissue. Moreover, minimum airway temperature is reached within two minutes, showing that bronchoconstriction is delayed even though prolonged hyperpnea causes no further temperature change.

The cellular mechanism of this process has yet to be defined. Sensory neurons have been implicated in animal models as possible pathways but have not been identified in humans.

Clinical Manifestations of EIA

The pathophysiologic mechanisms of asthma result in a number of physiologic changes occurring within the pulmonary tree. These changes include bronchospasm (the main component of EIA), hypoxia, hypercarbia (if airway obstruction is sufficiently severe, ie, FEV1 measured at ≤25% of predicted value), edema of the bronchial walls, mucosal sloughing, and excessive quantities of highly viscous mucus. The most major changes seen in patients with EIA are bronchospasm and edema. If a late-phase reaction occurs, all these factors may be involved.

Clinically, this set of changes results in EIA symptoms that include dyspnea, wheezing, coughing, chest tightness or pain, phlegm (occasionally), and abdominal pain (rarely). Onset of symptoms usually occurs as physical activity ceases or 5-10 minutes after resumption of activity. Symptoms resolve and pulmonary function tests return to normal about 20-30 minutes after onset of symptoms. The refractory period (in which further symptoms cannot be induced) can last from 30 minutes to two hours.

Conditions likely to elicit EIA include cold, dry ambient environment; high levels of air pollution and airborne allergens; and strenuous physical activity, whether of a type that tends to be highly asthmogenic (eg, long-distance running, bicycling, basketball, soccer, rugby, ice hockey, ice skating, cross-country skiing) or moderately asthmogenic (eg, gymnastics, karate, wrestling, boxing, sprinting, golf, football, baseball, downhill skiing, isometrics, diving, short-distance swimming). In addition, EIA may be elicited by individual factors such as poor control of underlying asthma, recent respiratory infection, and recent exposure to major airborne allergens.

Diagnosis of EIA

EIA is diagnosed primarily by medical history. In asthmatic persons, exercise should be assumed to exacerbate asthma. Atopic persons with or without asthma should be questioned carefully regarding possible EIA symptoms. Persons who complain of cough, wheezing, dyspnea, chest pain, or chest tightness after beginning aerobic activity should be questioned further regarding other symptoms related to EIA. Children who cannot keep pace with their peers during physical activity should be asked whether breathing is difficult during the activity. Any child or young adult who has stopped physical activity for reasons such as “I just couldn’t do it anymore” should also be questioned further.

When the diagnosis of EIA is suspected in the patient who is not known to have asthma, a trial of prophylactic drug therapy may be initiated first. This approach to diagnosis is reasonable in persons who can give reliable feedback about their symptoms and about their response to medication. If any question exists about the accuracy of the patient’s reporting, however, the diagnosis must be confirmed by EIA testing.

EIA testing is best done by a free-run challenge in which the patient is asked to run at full speed for 3-5 minutes, attaining a heart rate at least two thirds of their target heart rate (or 180 beats per minute in

![Figure 3. Model of pathways involved in exercise-induced asthma.](image-url)

(Reproduced by permission of the author and publisher from: Godfrey S, Bar-Yishay E. Exercise-induced asthma revisited. Respir Med 1991;87:318-9.)
children). The patient should stop after five minutes (or earlier if symptoms arise). Pulmonary function should be measured (by FEV₁ or by PEFR) at baseline, immediately after stopping the run, and at 5, 10, 15, 20, and 30 minutes after the activity is completed. A decrease of ≥15% in FEV₁ or PEFR is diagnostic of

Figure 4. Plot shows absolute effects of placebo and salmeterol on response to exercise over time. Morning baseline data were recorded after administration of study drugs. Values are mean ± SE.

Figure 5. Plot shows relative effects of placebo and salmeterol on response to exercise over time. Morning baseline data were recorded after administration of study drugs. Values are mean ± SE.
EIA, assuming that the breathing efforts are well done. Clinicians should be prepared to administer a bronchodilator during or after the test. Sensitivity of exercise testing ranges from 55% to 80%, and specificity is 93%. Testing should not be done during episodes of asthma.

**Treatment of EIA**

EIA can be treated by several methods. The purpose of treatment is to maximize the patient’s ability to participate actively in aerobic activity, whether it be recreation, serious athletics, work-related activity, or school-related activity. Treatment is intended to enhance patients’ sense of self-worth, socialization, physical conditioning, and even to help them retain employment. Can we successfully treat EIA? Yes! The 1988 US Olympic Team included 67 (of 597) members affected with EIA. These athletes won 15 gold, 21 silver, and 5 bronze medals in multiple sports, including long-distance running. To successfully control symptoms of EIA in any person with known asthma, excellent control of the underlying asthma is necessary.

**Nonpharmaceutical Treatment of EIA**

Medication is not the only way to treat EIA: Type of physical activity done by the patient is also important. Clinicians should encourage patients to choose less asthmogenic activities whenever possible. Ambient conditions should be considered as well: The more humid and warmer the air, the less the chance of stimulating EIA. Thus, indoor activity is less likely to trigger EIA. Wearing a mask or face covering (ie, a scarf) may help to warm and humidify outdoor air. Physical activity on days of high air pollution should be avoided or minimized (early-morning activity may reduce exposure in some cities). For asthmatic persons who are highly sensitive to pollen, activity should be timed to occur when diurnal pollen counts are lowest.

The refractory period also may be used beneficially. Encouraging an athlete to exercise in several 2- to 3-minute increments as “warm-ups” 10-20 minutes before the main physical activity may induce a period of up to one hour during which EIA does not develop. This precaution benefits only those whose duration of planned activity is short (eg, a sprinter).

**Pharmaceutical Treatment of EIA**

Several factors must be considered when initiating treatment: Does the patient have predictable periods of aerobic activity (eg, jogs each morning only, is a day laborer, or is a playful 4-year-old child)? Are the ambient conditions in which activity takes place controllable? Can the patient effectively use a metered-dose inhaler? How long will the physical activity continue? How intense aerobically is the physical activity?

In general, drug therapy is effective for patients whose physical activity is brief and predictable and who can use a metered-dose inhaler correctly. If physical activity continues for more than 2-3 hours or if the patient cannot use a metered-dose inhaler effectively, consideration of oral medication may be warranted.

Treatment is selected from three types of medication: beta-adrenergic drugs, mast cell inhibitors, and leukotriene antagonists.

Beta-adrenergic drugs are an excellent first-choice medication for treating patients whose activity must be limited in duration (ie, <3 hours). These drugs can be used 15 minutes before activity is begun and are relatively safe if they are not overused. Because bronchospasm is the main component of EIA, these drugs are highly effective. Albuterol and terbutaline are most commonly used. Recent data indicate that salmeterol can remain effective for 10-12 hours (Figure 4); duration of the effect diminishes with continued use (Fig 5). Clinicians should emphasize to patients that salmeterol dosing should never be repeated more frequently than every 12 hours because overuse can induce cardiac toxicity. Oral beta-adrenergic agents may also be used but must be taken at least 30-45 minutes before the activity is begun. Beta-adrenergic agents may cause more side effects when taken orally than when they are administered by metered-dose inhaler.

Another group of medications used to treat EIA are called mast cell inhibitors, but whether inhibition of mast cells is their primary mode of action is unclear. These medications are an excellent choice for preventing EIA, and they have an excellent safety profile. Cromolyn and nedocromil also have the advantage of blocking early-phase and late-phase responses. These drugs are delivered by metered-dose inhaler (2-3 sprays administered 10-15 minutes before onset of activity) and may be needed after every 2-4 hours of continuous activity.

Leukotriene antagonists constitute the third group of medications used to treat EIA. Of these drugs, montelukast (Singulair) has recently been shown effective in preventing EIA. Long-term use (ie, use longer than 12 weeks) was not associated with shortened duration of action or with dimi-
nution in protection offered as measured by FEV1.11 The medication is given orally in a single dose (tablet) each day. Because long-term side effects of these medications are not yet known, the drugs should be used with caution. Montelukast is not approved for use in children younger than six years. Other medications (eg, inhaled steroids) have been used but are generally used to decrease airway hyperreactivity; to achieve this result, a month or more of moderate-to-high-dose daily use may be required. These drugs are best reserved for use in controlling asthma that is not specifically related to exercise. Theophylline can be used and may be beneficial, but timing its use to the activity is more difficult, and its side-effect profile is not as favorable as for the other medications listed above. Overall, medications benefit 60% to 80% of patients susceptible to EIA and reduce the decrease in FEV1 in these patients from 40% to 80%.

**Athletic Competition and EIA**

Diagnosis and treatment of athletes participating in formal competition is essentially the same as for other persons except that competitive athletes tend to recognize even small changes in airway function, and this small amount of change may not respond noticeably to medication therapy. In addition, the degree of response achieved by using these medications may not warrant use of the large amounts of medication needed to relieve all symptoms. This consideration should be discussed carefully with each affected athlete.

In addition, athletes in competition are also likely to behave stoically when having physical discomfort and thus may underreport symptoms. Detailed questions about performance and the symptoms of EIA are therefore especially necessary for these persons. Each sport’s governing body has established its own rules requiring disclosure by athletes regarding their use of medications as well as the acceptability of specific medications for athletes participating in formal competition. Athletes participating in formal competition should obtain these rules from their sport’s governing body.

The US Olympic Committee Drug Hotline can be reached at 1-800-233-0393.

**Conclusion**

EIA is a common problem that affects millions of people annually in the United States. It is often unrecognized by patients and physicians; a reasonable index of suspicion and some simple screening questions lead to a presumptive diagnosis in most cases. EIA is treated pharmaceutically and using nonpharmaceutical approaches. Most important, control of any underlying asthma is essential for control of EIA. The importance of recognizing and treating EIA is essential if we are to provide all affected persons with the opportunity for better overall health, better socialization, and better self-image.

**References**

Practitioner Prescribing Habits for Pharyngitis: Implications for Evaluation and Management

Emerging bacterial resistance patterns suggest that clinicians should use restraint in prescribing antibiotics for various infections. We used pharyngitis as the model for studying prescribing habits, because many clinicians recommend that culture results be analyzed before antibiotics are prescribed. We compared prescribing habits of three groups: practitioners in the Pediatrics, Adult Medicine, and Urgent Visit Departments. Overall, 55% of patients were treated while culture results were pending. Nurse practitioners and physician assistants were more likely than physicians (including osteopaths) to treat patients with pharyngitis who had negative culture results (57% vs 38%). Our results thus show that practitioners should be encouraged to avoid overprescribing for this common condition.

Introduction

Pharyngitis prompts a substantial proportion of outpatient visits to primary care practitioners. Despite a plethora of guidelines, continuing medical education (CME) activities, and assumed knowledge about caring for this condition, its evaluation and management continues to vary greatly. For example, in response to a national questionnaire survey mailed to a random sample of primary care practitioners,1 fully one quarter of 398 respondents who performed microbiologic studies reported that they used only a rapid antigen test. Of these respondents, 24% of pediatricians and 58% of family practitioners failed to confirm negative test results with cultures, despite recommendations to do so from the Centers for Disease Control and Prevention (CDCP), American Academy of Pediatrics (AAP), and the American Hospital Association (AHA). Although the methods used for rapid antigen tests vary, they are generally similar with regard to sensitivity and specificity. Specificity of these tests approaches 95%; sensitivity averages 75% to 80%. Therefore, negative results of a rapid antigen test should be confirmed by throat culture.2

Other recommendations identify patients who should be treated with antimicrobial agents. A recent practice guideline3 is consistent with previous recommendations concerning treating individuals after an infectious organism’s presence in the throat is confirmed by microbiologic or immunologic means. In clinical practice, this guideline is rarely followed; patients and parents simply return to daycare, school, work, and other normal activities when they perceive improvement in symptoms. For patients, the idea of withholding antibiotic therapy is a barrier to returning to these normal activities, even though most such patients are told they probably have a viral infection.

The purpose of our study was to examine use of antibiotic drugs for treatment of pharyngitis. We looked for different patterns among clinical departments and among different types of practitioners (ie, physician extenders and physicians). We also investigated how culture results were used to guide subsequent treatment.

Methods

We reviewed the medical charts of approximately 100 patients from each of three clinical departments (Adult Medicine, Pediatrics, Urgent Visit) in the Warren Paley Medical Office who were seen for pharyngitis during a one-month period.

Charts were reviewed to determine presenting symptoms; treatment selected; type of treating practitioner (nurse practitioner (NP), physician assistant (PA), physician (MD), or osteopath (DO)); whether treatment was started empirically; and whether the patient was diagnosed with another condition that required treatment. Documentation of cough, rhinorrhea, or viral symptoms was also noted. In addition, a random sample of patients who tested culture-negative were called after the visit to be informed of the results and to determine their subsequent attitudes about stopping antibiotic therapy.

Results

Charts of 308 patients were reviewed. Of these 308 patients, 119 were seen in the Pediatrics Department, 94 were seen in the Urgent Visit Department, and 95 were seen in the Adult Medicine Department. Overall, 30% of pediatric patients and 16% of adult patients tested culture-positive. Charts lacked documentation of cough for 53% of patients and lacked documentation of rhinorrhea for 40% of patients. Of patients who tested culture-positive, cough

By Harry S. Miller, MD
William A. Gardiner
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Clínica contribuciones

“For patients, the idea of withholding antibiotic therapy is a barrier to returning to these normal activities, even though most such patients are told they probably have a viral infection.”
Figure 1. Viral symptoms of pharyngitis documented in medical charts of 308 consecutive patients seen in a one-month period (%).

Figure 2. Treatment of pharyngitis by health care practitioners in three departments (%).

Figure 3. Treatment of pharyngitis by physicians and physician extenders (%).

was documented in 17%, and rhinorrhea was documented in 17% (Figure 1).

Figure 2 lists treatment given by each of the three clinical departments for patients who tested culture-positive and were initially appropriately treated as well as for patients who tested culture-negative and were initially not treated. Overall accuracy of treatment (number of treated culture-positive patients plus number of untreated culture-negative patients divided by total number of patients) is also shown. We found a significant relation between accuracy of treatment and treating department ($p < 0.001$, 2 df, $\chi^2 = 34.01$) (Table 1).

Figure 3 shows the difference between treatment selected by physicians (MD/DO) and by physician extenders (PA/NP). Patients who were culture-negative and seen by a physician extender were 66% more likely to receive antibiotic therapy than patients seen by physicians (65% vs 38%). This practice did not result in more culture-positive patients being treated (75% for PA/NP vs 76% for MD/DO). Overall accuracy of treatment was thus higher for physicians (79%) than for physician extenders (53%). We found a significant relation between accuracy of treatment and type of professional credential ($p < 0.001$, 2 df, $\chi^2 = 33.22$) (Table 2).

Of 308 patients, 97 (31.5%) were instructed to continue the prescribed antibiotic regimen regardless of culture results. Practitioners’ reasons for giving this instruction are listed (Table 3). The three most common reasons cited (sinusitis, otitis media, bronchitis) accounted for 73.6% of reasons given.

Of the 308 patients, 96 (31.1%) were called by our staff to be informed of culture results. Of these 96 patients, 31 (32.3%) were unwilling to stop antibiotic therapy. Some of the more common comments from patients included “I don’t think my doctor wanted me to stop it”; “I feel better, so I think I will continue”; “I think the doctor wanted me to take it if I felt better”; and “My doctor told me to take it just in case.”

Discussion

Our study confirms the variation in evaluation and treatment of pharyngitis. Indeed, although cough, hoarseness, and rhinorrhea strongly suggest a viral cause, our study showed that almost one third of medical charts contained no documentation of either presence or absence of these symptoms. In addition, a substantial number of patients had these symptoms and had cultures taken anyway. Recovery of Group A streptococcus from the pharynx does not distinguish patients with streptococcal infection (defined by a serologic antibody response) from strep-
tococcal carriers who have pharyngitis caused by a different organism (ie, a virus). Given the viral symptoms, the pretest likelihood of streptococcal pharyngitis is extremely low, making a positive test result more likely to suggest a carrier state than a diagnosis of streptococcal pharyngitis.

During this era of antibiotic resistance, many authors advocate restraint in presumptively starting therapy until infection is confirmed. Our comparison of treatment administered by the three clinical departments shows that although Adult Medicine had the highest percentage of treated culture-positive patients (92%), that department had the lowest treatment accuracy (42%). This value was statistically significant, but a potential bias may exist due to a higher likelihood that pediatric practice strongly advocates conservative treatment pending receipt of culture results. This position was formed primarily as a result of the combination of lower incidence of streptococcal pharyngitis in adults and higher number of culture-negative patients who received antibiotic treatment pending receipt of culture results. Presumptively starting antibiotics is discouraged by most clinicians because treatment is often continued despite a negative test result. Our study showed that one third of patients are openly unwilling to stop antibiotic therapy. We did not identify ourselves as physicians when we called patients, and they may be less likely to stop the antibiotic treatment unless a physician instructs them to do so. However, in most offices, physicians are not the most likely personnel to inform patients that their test results are negative. Our finding therefore probably reflects patients’ experience in most cases.

When pooled together from all departments, physician extenders were more likely than physicians to prescribe antibiotics pending receipt of culture results. This result may reflect bias, given the possible statistically significant impact of each individual treating department. The Pediatric Department employed only one nurse practitioner, so that department cannot easily be compared with the others. The nurse practitioners and physician assistants we surveyed said that they felt more pressure to prescribe and that patients’ comments added to this pressure with comments such as “I had to come back last time for an antibiotic,” “I called the physician for a prescription after I left here,” or “I’d rather see a physician if you’re not going to give me an antibiotic.” Other studies have shown how practitioners differ by credentials in responding to patient requests for antibiotics. These studies and ours reflect an underlying need for clinicians to have a repertoire of behaviors that positively respond to patients’ requests for antibiotics. Some examples of these behaviors include: 1) having an open discussion among practitioners and physician extenders within a practice about how they address this issue;
2) during well visits, giving patients handouts (available from the AAP, American Academy of Family Practice (AAFP), and CDCP) about antibiotic resistance; 3) in examination rooms, posting newspaper and magazine articles about antibiotic resistance; 4) in waiting areas, posting posters (available from the CDCP) about antibiotic resistance; 5) acknowledging the difficulty of treating viral symptoms; and 6) discussing with patients the therapeutic value of particular symptoms (e.g., fever boosts the immune system, cough protects the lungs from pneumonia, runny nose washes out the virus).

We have preliminary data indicating that use of a rapid antigen detection test substantially reduces the number of prescriptions given for antibiotic drugs. Moreover, our analysis of cost indicates that the resultant savings in antibiotic drugs as well as reduced use of office resources may offset the cost of the rapid antigen detection test. In addition, the substantial reduction in antibiotic drug prescriptions is consistent with the CDCP, AAP, and AAFP efforts to reduce unnecessary antibiotic use.

Many patients are instructed to continue taking their prescribed antibiotic drugs regardless of culture results (Table 1). Tests should logically not be done if they do not affect case management. Exceptions to this proposition are possible; however, if our study is representative of most practice, almost a third of culture procedures could be eliminated. This reduction would greatly increase the availability of resources (i.e., receptionist time, nurse time, medical recordkeeping time, laboratory time, and practitioner time).

Conclusion

Pharyngitis is a common medical condition whose evaluation and treatment varies greatly among primary care practitioners. Our study confirms this variability. Clinicians should have an open discussion about individual approaches to patients’ requests for antibiotic therapy in general and for antibiotic drugs to treat pharyngitis in particular. Physician extenders need support from physician colleagues to enhance appropriate patient care and utilization of resources.

Viral symptoms should be inquired about in every evaluation of pharyngitis. Nurses should be taught to refrain from obtaining throat cultures in those situations, because doing so promotes the patient’s expectation that the culture will be sent to the laboratory for analysis. Patients who have viral symptoms (e.g., rhinorrhea, cough, conjunctivitis, hoarseness, diarrhea, anterior stomatitis, or discrete ulcerative lesions) are unlikely to have Group A streptococcal infection and should therefore not have specimens taken for culture. Presumptively starting therapy pending receipt of culture results should be discouraged because treatment often continues despite a negative test result. Early initiation of antimicrobial therapy results in faster resolution of symptoms, but two facts should be remembered. First, group A streptococcal pharyngitis is usually a self-limited disease; fever and constitutional symptoms disappear spontaneously within three or four days after onset, even when antimicrobial therapy is not administered. Second, therapy can be safely postponed for as long as nine days after onset of symptoms and still prevent the occurrence of the major nonsuppurative sequela (acute rheumatic fever).

Each intervention to reduce unnecessary antibiotic drug use for common conditions such as pharyngitis can reduce the number of serious infections that do not respond to conventional antibiotic therapy. Clearly, education of health care practitioners and patients is essential for changing behavior and for helping to reduce the likelihood of antimicrobial resistance.

References
"my name is clemons, can I help you?"
the elderly young doctor asked the woman.

She sat quietly.
a tear at the corner of her eye

he sat down
his white coat was clean
a stethoscope
peeked out
of the side pocket

"I don’t know if you will understand"
she spoke hesitantly.

"Let me try... “
he focused intently

"well, I can’t find my daughter"
"I love her so ... and I’m afraid I’ve lost her"

"Well, tell me about her;
what is her name?
... when did you last see her?"

"I saw her early this morning,
she was smiling;
her name is Sarah."

the doctor looked into the adjoining room
"I see two children playing there”
he observed.

"Yes, Sarah is their little sister
... and I fear I’ve lost her."

"Can you give me more information?
maybe I can help you.
When was she born?"

"I fear you won’t understand."
"I’m afraid I don’t know what to say”

"Perhaps if I know more ...
please try to explain.”
the doctor focused his mind;
he tried to listen with care.

"I’ll try, even though I doubt
you will understand."

the woman wiped the tear from her eye.
"Her name is Sarah
she has light brown hair
and blue eyes.”

“Continue” the doctor spoke
“and how old is she?”

A tear returned to the woman’s eye
"she is not yet conceived” ...
she finally said
and I’m afraid for her.

The doctor sat forward,
"This is illogical” he said
“Don’t you have your children?”

"I don’t have the words;
please don’t ask me more.”

He sat for a long time;
confused.

"Perhaps I do understand”
the old young man finally spoke
and “I’m afraid too.”

He took off the white coat
and hung it on the hook.

He took his wife by the hand
a tear at the corner of his eye,
“come” he said
"I believe that together
.. we can find Sarah.”

sarah
By Chuck Clemons, MD

perhaps if i know more ... please try to explain.
the doctor focused his mind; he tried to listen with care.

i’ll try, even though i doubt you will understand.
the woman wiped the tear from her eye.
her name is sarah she has light brown hair and blue eyes.

continue the doctor spoke
and how old is she?

a tear returned to the woman’s eye
she is not yet conceived ... she finally said
and i’m afraid for her.

the doctor sat forward,
this is illogical he said
don’t you have your children?

i don’t have the words; please don’t ask me more.
he sat for a long time; confused.

perhaps i do understand
the old young man finally spoke
and i’m afraid too.

he took off the white coat and hung it on the hook.
he took his wife by the hand
a tear at the corner of his eye, “come” he said
i believe that together .. we can find sarah.

chuck clemons, md (right), is a board certified pediatrician with the permanente medical group, where he has practiced since 1980. he explains that this poem came to him while driving to work one morning in november of 1995, and was written from his heart to acknowledge that a not yet conceived child was beckoning to his wife and him. emily sarah (pictured above) was born march 31, 1997, and is a happy, active two year old.
Prostate Cancer Screening: Exploring the Debate

Despite widespread use of prostate specific antigen (PSA) serologic testing to screen for prostate cancer in men, authorities disagree on the benefit of this test and its optimal use. The epidemiology of prostate cancer and the characteristics of the PSA test provide compelling arguments for its use, but no clear evidence shows that the test improves outcomes as measured by cause-specific mortality—the only measure without bias. Further, the cost-effectiveness of using PSA for population screening and the policy issues related to prostate cancer screening and treatment create an apparent conflict between the public health perspective and the interests of individual patients and practitioners.

Introduction

Prostate cancer screening offers a vivid contemporary example of how the divergent perspectives of public health and clinical practitioners can lead to a rancorous debate. The conflict originated from a recent shift in medical practice toward prevention and evidence-based practice. Preventive medical practice is becoming standard practice because of its ability to improve health outcomes and because of its presumed long-term potential to decrease the cost of medical care. To minimize variation in practice and to achieve the best health outcomes, preventive care attempts to consistently follow practices that are based on valid scientific evidence. To support these goals, the US Public Health Service and the Canadian Task Force on the Periodic Health Examination jointly developed an explicit process for formulating evidence-based guidelines and used these guidelines to review preventive practices. This process did not produce adequate evidence to recommend routine screening for prostate cancer; instead, routine screening was given a “D” rating, indicating that the practice is potentially harmful. Using different assumptions, methods, and level of required evidence, other groups disagreed with these recommendations for prostate cancer screening (Table 1). Recommendations from the various Kaiser Permanente Regions mirror this spectrum of opinion. While the medical community debates the available evidence and most appropriate threshold for screening, patients and community health groups remain confused; in this scenario, health care agencies and health plans are caught in the middle, attempting to diplomatically maintain their credibility with all sides.

This discussion elucidates the various expert opinions in this controversy and explores the basis for their divergence. Other references provide more extensive and explicit reviews of the voluminous literature.

Prostate Cancer: Epidemiology and Risk Factors

Few would dispute the serious personal consequences and substantial public health impact of prostate cancer, which is the second leading cause of death from cancer among men in the United States and accounts for 14% of all cancer-related deaths in US males. Prostate cancer will affect one in five American men during their lifetimes, and about 3% of these men will die from it. A total of 209,000 new cases of prostate cancer and 41,800 deaths from the disease were predicted for 1997. The prevalence, incidence, and mortality rate increase exponentially for men aged 50 years and older, guaranteeing that the problem of prostate cancer will grow as our population ages. The age-adjusted incidence rate is 21 cases per 100,000 person-years for US white men under age 65 years and is 819 per 100,000 person-years for US white men aged 65 years and older.

One-third to one-fourth of men who have clinically significant prostate cancer will die from it; however, due to its association with older age, prostate cancer causes the least loss of mean life-years of all cancers: eight years. In 1992, 61% of prostate cancer patients were aged 75 years or older; median age at death was 77 years. Survival depends on stage and histologic grade of tumor and whether or not it is confined to the prostate.

“Survival depends on stage and histologic grade of tumor and whether or not it is confined to the prostate.”

By Howard Backer, MD, MPH

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Table 1. Recommendations of major authorities for prostate cancer screening

<table>
<thead>
<tr>
<th>Organization</th>
<th>Recommendation</th>
<th>Endorsement</th>
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<tbody>
<tr>
<td>American Cancer Society (1997)</td>
<td>PSA test and digital rectal examination should be offered annually, beginning at age 50 years, to men who have life expectancy ≥ 10 years and to younger men who are at high risk. Information should be provided to patients regarding potential risks and benefits of intervention.</td>
<td>Endorsed by the American Urological Association (AUA). Similar statement by the American College of Surgeons (ACS).</td>
</tr>
<tr>
<td>American College of Radiology (1999)</td>
<td>Annual PSA testing is recommended for all men aged ≥ 50 years with life expectancy of ≥ 10 years. Annual screening should be offered to men aged ≥ 40 years who are at high risk for prostate cancer.</td>
<td></td>
</tr>
<tr>
<td>National Cancer Institute (1998)</td>
<td>Insufficient evidence exists to establish whether screening by DRE, TRUS, or serum markers (including PSA) decreases mortality from prostate cancer.</td>
<td></td>
</tr>
<tr>
<td>British National Health Service, Health Technology Assessment (1997)</td>
<td>Routine testing to detect prostate cancer should be discouraged. Purchasers of health care services should not fund screening.</td>
<td></td>
</tr>
<tr>
<td>Canadian Task Force on the Periodic Health Examination (1994)</td>
<td>Does not recommend the routine use of PSA or DRE as part of periodic health examination.</td>
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</tr>
<tr>
<td>Canadian Workshop on Screening for Prostate Cancer (1994)</td>
<td>No PSA for screening unless for a screening trial or if patient requests test after having pretest counseling and giving informed consent.</td>
<td>Endorsed by the Canadian Cancer Society; National Cancer Institute of Canada; Health Canada; Canadian Urologic Association.</td>
</tr>
<tr>
<td>American Academy of Family Physicians (1998)</td>
<td>Men aged 50-65 years should be counseled about known risks and uncertain benefits of prostate cancer screening.</td>
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</tr>
<tr>
<td>American College of Physicians (1997)</td>
<td>Men should not be screened routinely for prostate cancer; instead, physicians should describe potential benefits and known disadvantages of screening, diagnosis, and treatment; listen to patients' concerns; and individualize the decision to screen. The College strongly recommends that physicians enroll eligible men in ongoing clinical studies.</td>
<td></td>
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</table>
“In addition to their ability to improve outcomes, screening tests should be judged on their accuracy as measured by sensitivity and specificity.”

Table 2. General criteria to justify use of mass screening test

<table>
<thead>
<tr>
<th>Test criteria</th>
<th>Criteria met for routine PSA screening?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease has serious consequences and substantial public health impact</td>
<td>Yes</td>
</tr>
<tr>
<td>For cancer: detectable, prevalent, asymptomatic nonmetastatic phase is present</td>
<td>Yes</td>
</tr>
<tr>
<td>Natural history of disease is adequately understood</td>
<td>No</td>
</tr>
<tr>
<td>Screening test is simple to perform, available, low-cost, has adequate sensitivity and specificity, is acceptable to physician and patient, and is safe</td>
<td>Yes, except specificity</td>
</tr>
<tr>
<td>Test improves outcomes as measured by decrease in cause-specific mortality rate</td>
<td>Insufficient evidence</td>
</tr>
<tr>
<td>Improvement in prognosis justifies the cost, effort, risks, and discomfort of screening; cost is considered in context of overall medical system and health priorities</td>
<td>Insufficient evidence</td>
</tr>
<tr>
<td>Agreed-upon policy exists regarding whom to screen and treat</td>
<td>Screening: yes Treatment: no</td>
</tr>
</tbody>
</table>

“Use of Screening Tests”

Screening refers to testing done to detect disease in persons who are not yet symptomatic and who are apparently well. Although appealing in principle, effectiveness of screening can be difficult to prove. Screening tests are usually not intended to be diagnostic; persons who screen positive must be further evaluated to determine if they have the disease. We tend to assume that earlier detection leads to intervention that decreases morbidity or mortality from the disease, but this assumption is not always true. A higher standard is needed to show the effectiveness of screening a population of apparently healthy persons. Several criteria should be used to determine whether a test can be used effectively for mass screening (Table 2).

In addition to their ability to improve outcomes, screening tests should be judged on their accuracy as measured by sensitivity and specificity. Sensitivity is the probability that a person affected with the disease will test positive. High test sensitivity means that few people affected with the disease test negative; low test sensitivity means that many persons who actually have the disease will test negative. These false negative results incorrectly reassure affected persons that they do not have the disease. Specificity is the probability that the test will yield a negative result when the disease is not present. If conditions other than the disease cause the test to be positive, these false positive results will lead to more unnecessary testing. For diseases with low prevalence (eg, cancer), screening tests generate many more false positive results than true positive results. The discretionary cutoff level that defines a positive test determines sensitivity and specificity; gains in one are made at the expense of the other.

The positive predictive value (PPV) of a screening test measures yield of the test when applied to a
population and indicates the probability that a person who tests positive actually has the disease. For a given sensitivity and specificity, the PPV varies directly with prevalence of the disease. Actual yield also depends on compliance with screening, follow-up diagnosis, and treatment.

**Screening Tests for Prostate Cancer**

Identifying prostate cancer early in the course of the disease is compelling because the cancer generally causes no symptoms until it reaches an advanced stage. Most men who have been diagnosed with prostate cancer were initially thought to have the disease on the basis of digital rectal examination (DRE) and serum prostate-specific antigen (PSA).37,38

Screening with DRE seems a logical approach because most prostate cancer begins in the peripheral zone adjacent to the rectum. However, for several reasons, DRE is a poor routine sequential screening test. DRE is not sufficiently sensitive, having a PPV ranging from 15% to 30%, and has a detection rate of 1% to 3% in screened populations.19,39 Because most prostate cancer detected has already spread beyond the gland, DRE fails to improve survival. The test is relatively subjective, has poor reproducibility, and is highly dependent on the examiner’s level of experience. In addition, regular DRE is unacceptable to many men.

The PSA test, which measures levels of an enzyme produced by prostatic tissue, has some of the attributes of an ideal screening test: it is reproducible, inexpensive, generates results rapidly, is easy to perform, is accessible to clinicians, and is well tolerated by patients. The availability of the PSA test has resulted in a steep increase in its use40 and has been credited with “creating an epidemic” of prostate cancer (because it revealed many existing cases of cancer). Unfortunately, the PSA test has several disadvantages: it lacks specificity; PSA levels can be elevated not only in cancer but also in benign prostatic hypertrophy; and the test cannot reliably predict prognosis or progression of disease.41 Results of PSA testing have varied widely between studies; however, on average, the PSA test has a sensitivity of 70% to 80%, specificity of 38% to 59%, and PPV of 20% to 30% in asymptomatic men, and the detection rate among study volunteers is about 3% to 5%.49 Thus, at the common cutoff point of 4.0 mg/ml, the PSA test may fail to detect 10% to 30% of clinically relevant cases of cancer; and as many as three of four positive test results are falsely positive.17

Nonetheless, many studies have documented the validity of PSA testing as a method for assessing the risk of prostate cancer.38,39,42,43 Moreover, most cancer detected by PSA is considered clinically significant,44-47 and by detecting localized cancer, annual screening can reduce the frequency of metastatic cancer.48 Some of the most convincing evidence for the usefulness of PSA testing comes from prospective studies of other illnesses where serum was frozen, tested for PSA level, and compared with serum of patients subsequently diagnosed with prostate cancer.49 One such study of 22,000 physicians50 found sensitivity of 73% in the first four years and a mean lead time of 5.5 years until diagnosis. A single test would have detected 80% of aggressive cancers diagnosed within five years and 50% of aggressive cancers appearing 9-10 years later. Few men in the study had a long disease-free interval followed by diagnosis of nonaggressive cancer.51 However, the authors40 did not state the number of men who had potentially curable disease when the blood sample was taken.

Several methods have been proposed for increasing the sensitivity and specificity of the PSA test, including measurement of age- and race-specific values, velocity (rate) of change in PSA level, ratio of bound to unbound forms of PSA, and PSA density; but none of these methods have gained widespread acceptance.50

Currently, the most effective method for early detection of prostate cancer is combined use of DRE and PSA testing to assess risk. PSA detects 35% of cases missed by DRE, and DRE finds 20% of cases missed by PSA. A third technique, transrectal ultrasound, has not been found to be an effective screening test when used by itself, but the technique is commonly used to guide biopsy of the prostate gland.42,51,52 The standard for confirming the diagnosis of prostate cancer is transrectal biopsy using a spring-driven instrument, taking six specimens in a systematic pattern.

**Outcomes of Screening for Prostate Cancer**

To determine ultimate outcome, treatment must be considered in combination with screening. Early diagnosis leads to other invasive tests and treatments that may produce complications without improving cause-specific mortality. Three main treatments are used for prostate cancer—radical prostatectomy, external or interstitial radiation therapy, and hormonal treatment—but radical prostatectomy predominates because the prospect of surgically curing localized
cancer is so appealing. Driven by the increased number of prostate cancer diagnoses resulting from PSA testing, rates of prostatectomy have risen steadily. This increase cannot be fully justified by results, because the rates remain high in men aged 70 years and older (who account for a third of the procedures done) despite the suggestion that less aggressive treatment is indicated when life expectancy is less than 10 years.53-56 Whether and when early treatment effectively reduces mortality remains to be proved.

One argument for aggressively treating prostate cancer is the survival rate after such treatment: this rate approximates the expected survival rate among men of similar ages in the general population. Studies promoting nonintervention are criticized for their technique and conclusions,57 yet studies of aggressive treatment are all uncontrolled.26 Pooled data of nonrandomized studies of conservative treatment suggest that low-grade tumors could be treated conservatively with delayed hormone therapy.56 At 15-year follow-up, a nonrandomized group of patients with low-grade tumors had 4% to 7% cause-specific mortality.58 Although the benefit of treatment is debated, the complications are well known and may be higher than commonly reported59-62 (Table 3).

In the absence of experimental screening trials with the end point being cause-specific mortality, decision analyses have attempted to determine screening outcomes. A structured literature review published in 199315 was unable to determine treatment effectiveness for localized cancer because of methodologic inadequacy in studies reported in the literature. Other analyses17,41 show the potential for excess deaths from treatment, even given conservative assumptions. One decision analysis for localized prostate cancer screening and treatment55 showed that in most cases, the potential benefits of therapy are small enough that the choice is sensitive to patient preference for various outcomes and discounting.55 When this analysis was redone with assumptions favoring screening and treatment, a 50-year-old man could expect to gain, on average, 17 days of life as a result of screening. For clinically localized cancer, surgery can add 3 years of life at age 55 years and 1.5 years at age 65 years.18

Barry22 analyzed a model for treating Medicare-eligible men who had been screened once and treated with radical prostatectomy; the net expected benefit shown was 1.52 additional years of life at age 65 years, 0.85 additional years of life at age 70 years, and 0.43 additional years of life at age 75 years. The study22 showed that if aggressive treatment is ineffective, each cohort would lose 200 life-years, many biopsy procedures would be done, and a small number of surgical deaths and many new complications would result.

### Table 3. Summary of complications of prostate cancer treatment reported by various authors56,21,49

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Complication</th>
<th>Reported range of complications (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>Impotence</td>
<td>(25-30 in nerve sparing)</td>
</tr>
<tr>
<td></td>
<td>Incontinence</td>
<td>5-30</td>
</tr>
<tr>
<td></td>
<td>Urethral stricture</td>
<td>10-18</td>
</tr>
<tr>
<td></td>
<td>Thromboembolism</td>
<td>2-30</td>
</tr>
<tr>
<td></td>
<td>Permanent rectal injury</td>
<td>1-3</td>
</tr>
<tr>
<td></td>
<td>Death</td>
<td>0.5-1</td>
</tr>
<tr>
<td>Radiation therapy</td>
<td>Impotence</td>
<td>25-67</td>
</tr>
<tr>
<td></td>
<td>Incontinence</td>
<td>0.5-7</td>
</tr>
<tr>
<td></td>
<td>Urethral, bladder</td>
<td>3-17</td>
</tr>
<tr>
<td></td>
<td>Acute gastrointestinal or genitourinary complications</td>
<td>3-67</td>
</tr>
<tr>
<td></td>
<td>Chronic gastrointestinal or genitourinary complaints requiring prolonged hospital stay or surgery</td>
<td>1-2</td>
</tr>
<tr>
<td></td>
<td>Anorectal</td>
<td>2-23</td>
</tr>
<tr>
<td></td>
<td>Death</td>
<td>0.2-0.5</td>
</tr>
</tbody>
</table>
Uncertainty about the benefit of aggressive intervention and screening is created by the inability to predictively identify aggressive cancers.44,45 The definition of clinically significant cancer depends on tumor size, pathologic grade of tumor, doubling time, and patient life expectancy as well as host factors46; however, these factors cannot all be known at initial detection. For indolent tumors detected by PSA testing, less aggressive therapy would give the same results as radical surgery or radiation therapy45; clinical markers can be used to predict the need for intervention.46 However, using PSA density, PSA volume, and tumor grade noted at biopsy, Catalona and colleagues39 found that only 11% of prostatic tumors were clinically insignificant. They predicted clinically significant cancer with 95% accuracy but had only 66% accuracy in predicting when to use watchful waiting in identifying clinically significant cancer. They concluded that an aggressive approach to diagnosis and treatment should be used for men who have 10- to 15-year life expectancy and apparently localized cancer.39 Arguments for and against routine prostate cancer screening are summarized in Table 4.10,66-70

**Analyzing the Cost of Screening for Prostate Cancer**

All routine health screening programs result in higher net costs than when no screening is done. Therefore, the cost-effectiveness of these interventions must be evaluated before monetary and personnel resources are committed to a program of routine screening. Prospective cost-effectiveness analyses of routine screening for prostate cancer are necessarily imprecise, because questions remain concerning the effects of various treatments.

Although screening may cost as little as $1500 per patient diagnosed with prostate cancer compared with $30,000 per patient diagnosed with breast cancer,52 the main costs incurred from routine health screening are attributable to follow-up diagnostic and treatment modalities and the complications which result from use of these modalities.52 Cost analyses of prostate cancer screening have yielded widely different values, which range from a low of $12,000-$15,000 per year of life saved (in 55-65 year-old men)18,22 to more commonly accepted figures ($113,000-$214,000 per year of life saved)11,65 and to an extreme value of $729,000 per life-year saved.41 No reliable conclusions about precise costs can be made, but screening can be cost-effective. Given the scope of population screening, however, the cost may be staggeringly high. A clinical decision analysis estimate that the cost of mass screening for prostate cancer and treatment of cancers identified and complications resulting would be $12.28 billion (depending on PSA cutoff) and $3 billion per year thereafter—in other words, 5% of the total annual US expenditures for health care. High costs could continue to result if detection levels were high.71

**Future Research on Prostate Cancer**

Currently, data on treatment outcome are derived from observational cohort studies. The gold-standard study method used in medical science is the randomized controlled trial, which eliminates the biases found in uncontrolled, volunteer, early-detection studies.72 Several large-scale trials currently in progress could provide valid data to answer the question of whether routine screening and treatment for prostate cancer reduce cause-specific morbidity and mortality in this disease. However, because these trials are prospective and because their endpoint—prostate cancer outcome—remains unknown for as long as 15 years after detection by screening, reliable results are not likely for another decade. The trials include the International Prostate Screening Trial Evaluation Group, recruiting 300,000 men from nine European countries73; the National Cancer Institute’s Prostate, Lung, Colon, Ovarian cancer (PLCO) study,74 which has recruited nearly 50,000 men in the United States; the Prostate Cancer Intervention versus Observation Trial (PIVOT),75 launched by the National Cancer Institute; the Scandinavian Prostatic Cancer Group (SPCG4),76 a randomized trial begun in the 1980s which compares results of radical prostatectomy and results of deferred treatment; and the United Kingdom Medical Research Council trial (PRO6).77

Critics claim these trials are unnecessary, because sufficient data already exist to justify treatment.

Critics claim these trials are unnecessary, because sufficient data already exist to justify treatment. Others argue that randomized studies are premature because the PSA test is inadequate (ie, it fails to differentiate between clinically significant and insignificant cancer).74 Social policies that promote mass screening undermine the studies and make it difficult to recruit volunteers to be randomized. Despite the pressure for immediate screening and treatment, a more rational approach is to devote resources and time to generating convincing evidence for or against routine screening for prostate cancer; such an approach will benefit patients and the health care system in the long run.30

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The controversy over routine screening for prostate cancer can be framed from several different perspectives, each contributing to the vigor of the policy debate.

To justify widespread population screening for any condition, planners must identify a benefit more precisely defined than “ill people should be treated”; the benefit must be based on more than the general belief that “it is a good idea” or that it is “likely to be effective.” Clinicians tend to believe that patients benefit from diagnosis itself and that after a diagnosis is made, the clinician must necessarily treat the disease; in regard to cancer, the mission is to find cancer as early as possible and to eradicate it.20 From the perspective of the urologist, adequate tests and treatment for prostate cancer exist: because prostate cancer cannot be prevented and because metastatic prostate cancer is incurable.

### Table 4. Routine prostate cancer screening debate

<table>
<thead>
<tr>
<th>Arguments for prostate cancer screening using DRE, PSA, or both</th>
<th>Arguments against routine use of prostate cancer screening tests</th>
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</thead>
<tbody>
<tr>
<td>Screening increases proportion of early-stage cases of cancer, allowing increased use of curative therapy. Most patients who present with prostate cancer symptoms have metastases, but no effective treatment for prostate cancer has been advanced.41,5,6,46,48,54,60,27</td>
<td>Screening may inflate incidence due to lead time bias, length bias (preferentially finding low-risk, slow-growing tumors)6,43 and serendipity (elevated PSA due to BPH leads to biopsy and random discovery of otherwise undetectable tumors).46</td>
</tr>
<tr>
<td>PSA test is sensitive enough to provide adequate lead time for a substantial percentage of cancers yet is insensitive enough to avoid identifying the common cases of microscopic focal disease.45 Cancer undetectable by PSA is likely to be small, localized, low-grade, and detectable over time before the cancer becomes incurable.4,46,51</td>
<td>The PSA test has not been adequately studied as a screening test with clinical endpoints beyond diagnosis.39,40.45 Effects of screening on intermediate outcomes of tumor stage and histologic grade do not prove clinical effectiveness despite their statistical association with outcome.39 For each fatal cancer found, five other will be found that could be left untreated.27,23,43</td>
</tr>
<tr>
<td>Published estimates for sensitivity and specificity of PSA testing are better than those of mammography, Papanicolaou (PAP) smear, and fecal occult blood screening.20</td>
<td>Accurate calculations of sensitivity and specificity for screening with PSA are not possible because the criterion standard (biopsy) is not done in patients who test negative. Only the positive predictive value (which ranges from 8% to 33% in various studies) can be determined with confidence.10,17,20,40</td>
</tr>
<tr>
<td>Most cancers detected are clinically significant and have histologic features of serious cancer.27 Long-term follow-up with watchful waiting has shown that small localized cancers may cause substantial morbidity and mortality within 15 years.44,46,47,57</td>
<td>Rate of false-positive test results is 75%, and many of the cancers found will prove to be clinically insignificant, leading to unnecessary biopsy and surgery with risk of serious morbidity, especially among low-risk men. Mortality from watchful waiting is similar to that achieved with aggressive therapy.37,18,26,25,50,70</td>
</tr>
<tr>
<td>New, nerve-sparing techniques for radical prostatectomy and radiation implants decrease the incidence of complications, and new therapies for impotence and incontinence can ameliorate these morbidities.</td>
<td>Incidence of side effects occurring after radical prostatectomy has been underestimated.41,45 Decision analyses conclude that morbidity resulting from aggressive treatment outweighs unproven advantages for low-grade, localized cancer.10,52,21</td>
</tr>
<tr>
<td>A 6% decline in mortality was seen between 1991-1995, when screening began.25</td>
<td>No experimental trials exist which show that screening asymptomatic men improves quality or quantity of life; PSA testing is therefore not comparable to mammography or PAP smear.25,26,22</td>
</tr>
</tbody>
</table>

“Clinicians tend to believe that patients benefit from diagnosis itself and that after a diagnosis is made, the clinician must necessarily treat the disease; in regard to cancer, the mission is to find cancer as early as possible and to eradicate it.”
static disease cannot be cured, the best hope of decreasing mortality lies in detecting and removing organ-confined cancer in young men.

The perspective of the individual patient is that every man has a right to know if he has prostate cancer when it is still at a curable stage. Survivors of prostate cancer are convinced that PSA testing saved their lives despite decrease in quality of life. Patients dying from prostate cancer and friends and relatives of men who died from the disease are convinced that early detection saves lives.

The Public as Informed Consumer

Until consensus develops over the data, patients should be educated concerning the potential benefits and drawbacks of early detection and treatment and should be allowed to make individual decisions jointly with their medical provider. As much as patients like to be involved in making medical decisions, they prefer a clear choice and cannot understand how studies can give conflicting information and create disagreement within the medical community. Decisions require assessment of patient preferences about health outcomes, and the patient’s willingness to trade current health (diagnosis of cancer and potential treatment complications) for potential future benefit (decreased cancer morbidity or mortality). The profusion of Internet sites providing detailed medical information reflects the need for information as well as patients’ suspicion that they cannot get adequate or accurate information from physicians. The proliferation of cancer support groups attests to the complexity of these decisions and the anxiety that they cause.

Group Health Cooperative of Puget Sound has trained physicians to use a process of shared decision-making in addressing patients’ concerns about prostate cancer screening. In so doing, they found that PSA test ordering decreased, especially among 50- to 74-year-old men who came for routine visits; this finding suggests that patients who have been fully informed of the risks and benefits of screening by PSA testing may choose not to receive this screening.

Ethical Issues

Ethical arguments can support either side of the prostate cancer screening debate: delaying screening for prostate cancer until randomized controlled trials are completed is unethical when detecting localized cancer is of some benefit; conversely, until better modes of treatment for prostate cancer are available or current modes of treatment are found to have more obvious benefits, randomized trials of screening are unethical because they result in morbidity in patients with localized cancer. An opposing view is that a randomized trial is unethical only if the answer is already known. After medical opinion has accepted the value of treatment, no ethical alternative exists; at that point, objection arises to planning randomized trials of intervention and treatment. To represent an intervention as effective when its efficacy is uncertain is itself unethical.

Role in Medical Quality

Prostate cancer screening illustrates both the importance and the limitations of evidence-based methods in medical practice. In the past, many medical interventions based on reasonably sound pathophysiologic principles (for example, chest x-ray and sputum cytology for lung cancer screening) were championed until clinical trials proved them worthless for the given purpose. The US Preventive Services Task Force based its conclusions on strict methodology so that these conclusions would be consistent and credible for a broad range of screening tests and therapeutic interventions. Circumventing this methodology could be detrimental to quality and value as evolving forces in medicine. The paradigm may be shifting so that the burden of proof rests with the promoters of a particular treatment; however, in the current debate, those who cautiously advise waiting for further proof appear to be on the defensive. The traditional approach of assembling a consensus conference that includes experts and members of the public is unlikely to resolve the disagreement among the experts and is unlikely to explicitly weigh scientific and value decisions. This scenario occurred in the case of a consensus conference on breast cancer screening for 40- to 50-year-old women: the conference contributed nothing to resolution of the dispute.

Health Care Policy Issues: Complicating the Debate

The question of routine prostate cancer screening is becoming increasingly distorted by financial and political interests. When federal health care agencies decided not to sponsor or fund population screening for prostate cancer, the decision was seen as discriminatory, “two-tiered” health care. Governmental refusal to pay may also seem to conflict with physicians’ obligations to individual patients and may seem to ignore the desires of individual patients.
Resources are not unlimited, and the pursuit of unproved interventions shifts resources from known effective health services.\textsuperscript{2,10} We can no longer provide all services to everyone without first identifying likely beneficiaries of these services; however, it is difficult to withdraw or restrict services—even to groups who receive these services inappropriately—after these services have become expected.\textsuperscript{36}

Public debate may be inappropriate for crafting health policy. Disdainful of the slow process of scientific trials and armed with painful stories of prostate cancer deaths, an impatient public insists on routine screening. Eager to support these members of the public, elected officials have proposed numerous initiatives that mandate coverage for routine prostate screening and treatment and that require physicians to provide information on prostate cancer screening. The 105\textsuperscript{th} Congress proposed at least six different bills to provide coverage for early detection of prostate cancer under part B of the Medicare program despite a comprehensive, evidence-based analysis sponsored by the Agency for Health Care Policy and Research that concluded “it is premature to offer a Medicare benefit for PSA testing for early detection of prostate cancer.”\textsuperscript{32} In California, the Grant H. Kenyon Prostate Cancer Act (SB 1) was passed in 1997 because Congressman John Burton’s friend (for whom the act is named) died from prostate cancer, and Representative Burton believed that PSA screening could have saved his friend’s life. The bill requires physicians to provide information about diagnostic procedures, including PSA testing, to patients having DRE of the prostate. This mandate is an ominous example of legislated health care policy-by-anecdote that leads to microregulation of medical practice. Moreover, the mandate shows the degree to which the public distrusts the medical profession to determine and provide the best care for patients. This microregulation has continued under the guise of HMO reform and as such could create two standards for medical practice: evidence-based guidelines and legislation-based mandates. Further, this microregulation threatens to deter the move toward a scientific, outcome-based approach to medicine and undermines efforts to rationally budget and control medical expenditures.

Conclusion
Despite growing use of PSA testing to screen for prostate cancer in adult men, authorities disagree about the optimal use of this test. Lack of knowledge concerning the relative effectiveness of treatment options—and our inability to predict disease course and prognosis in individual cases of cancer detected by screening—prevent consensus over the widespread use of this screening. Physicians are faced with conflicting recommendations, patient demand, and the threat of legal mandates for PSA screening.\textsuperscript{36} Currently, the most rational response by individual physicians is to make informed decisions jointly with the patient before testing is done. Early detection may not change the outcome for cancer patients, but in this emotionally and politically charged climate, patients may benefit from knowing the diagnosis and having the opportunity to participate in treatment decisions. Even if pending randomized controlled trials show that routine PSA testing has no benefit, we will have an uphill battle to overcome patients’ and physicians’ desire for early diagnosis. Ironically, widespread disagreement about the benefit of an intervention is likely to indicate that the effectiveness is minimal.\textsuperscript{83,87} We can only hope that future advances will provide a screening test that can better predict prognosis as well as diagnosis and will provide modes of treatment that result in less morbidity than is seen currently. Meanwhile, the pressure from medical practitioners, medical societies, advocacy groups and legislators to adopt population screening using PSA undermines attempts to scientifically evaluate new health care interventions and rationally allocate scarce health care resources.


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Esthesioneuroblastoma: What Family Practitioners Should Know

Esthesioneuroblastoma is an uncommon neoplasm of the nasal cavity which is curable if diagnosed early but fatal if neglected. We describe a case of Stage B esthesioneuroblastoma excised by using the lateral radical rhinotomy surgical technique followed by radiation therapy. The patient was free of the tumor and asymptomatic 13 years after treatment. Our diagnosis and treatment of this uncommon nasal tumor serves as an example of how family physicians and nurse practitioners must be alert to the possibility of such serious tumors and when to assertively seek consultation for their management.

Esthesioneuroblastoma (EN) is an uncommon neoplasm which arises from the olfactory epithelium in the cribriform region of the nasal septum. Of neuroectodermal origin, EN accounts for 3% of all nasal neoplasms and mainly affects white persons. Mean age at diagnosis is 48 years (range, 9 to 83 years). EN occurs 1.6 times more often in women than in men.

Differentiation of EN from other tumors is difficult because it resembles other neuroendocrine tumors of the head and neck. The cause of EN is unknown. Smokers are at increased risk for EN. EN also is not as aggressive as undifferentiated carcinoma; however, if not treated early in its course, EN spreads rapidly and is fatal.

We describe our treatment of a case of EN and review its diagnosis and treatment.

Case report

A 50-year-old white man was seen by an otolaryngologist for nasal obstruction, chronic sinusitis, a feeling of fullness in the head, and numbness of the left cheek and left maxillary teeth. He was given antihistamines but returned the next month with continued nasal obstruction as well as rhinorrhea and dizziness. Because he was noncompliant, the patient was not seen until three months later, when he was seen for epistaxis. Nasal biopsy was done. Computed tomography (CT) scans and x-ray films of the sinuses showed a soft-tissue mass in the nasopharynx which crossed the midline, left maxillary sinus, ethmoid, inferior orbit, and cribriform plate. The left parasellar sinus was eroded up to the orbit. The patient was sent to an urban medical center for surgical and adjunctive treatment. Initial biopsy results suggested small cell neoplasm or a metastatic lesion from occult lung cancer. Bronchoscopy, sputum cytology, and chest x-ray results were negative. Chemistry panel and liver function test results were normal. The patient had mild anemia. Expert review of pathology slides showed EN.

The patient, raised on a farm, had smoked for 35 years but had no history of alcohol abuse. One of the patient’s two brothers had died of pancreatic cancer at age 65 years; and the other, a heavy smoker, died of a nasopharyngeal neoplasm. Because the tumor was located in the postnasal cavity and extended superiorly and posteriorly to the ethmoid labyrinth and into the maxillary sinus, the patient had subtotal maxillectomy and complete ethmoid and sphenoid exenteration through the lateral rhinotomy approach on the left side. The sphenoid bone was partly eroded anteriorly. The left nasal bone was removed with the maxillary mucosa. The orbital floor was eroded. The tumor was peeled off the petriorbital fascia, which was intact. The eroded sphenoid sinus was excised with the sphenoid mucosa. Three days after having maxillectomy, radiation treatment was begun.

The tentative diagnosis of undifferent, small cell, undifferentiated cancer was changed to EN at further review. The tumor weighed 25 g; consisted of soft, tan-to-yellow, friable tissue; and measured 2 × 2 × 3.2 cm. As is consistent with EN, no true rosette was seen. Careful evaluation by his physician and oncologist every six months showed that the patient remained disease-free 13 years after surgery.

Discussion

Clinical Diagnosing EN

Knowing the clinical manifestations of EN enhances the role of the primary care physician, the nurse practitioner, the ophthalmologist, the surgeon, and the oncologist in the vital early detection and prompt treatment of the disease.
tival erythema, eyelid edema, headache, blindness, excessive tearing, anosmia, diplopia, facial numbness and sweating, a polypoid intranasal mass with a granular red appearance, shortness of breath, fatigue, weight loss, and chest pain.

Our patient’s smoking history and family history of neoplasms made us suspect that the etiology of EN has a hereditary component.

**Treating EN**

Timely surgery with radiation therapy yields a good prognosis in Stage A disease, which is defined as a tumor confined to the nasal cavity. Stage B disease is defined as a tumor confined to the nasal cavity and one or more paranasal sinuses. A craniofacial approach followed by radiation therapy is required. In Stage C disease (defined as a tumor extended beyond the nasal cavity or paranasal sinuses into the orbit, base of skull or intracranial cavity, cervical lymph nodes, or distant sites), chemotherapy with such agents as cyclophosphamide is required in addition to surgery and radiation therapy.

The importance of salvage therapy to prolonging survival in patients with advanced EN has been recognized: a retrospective review of EN treatment reported survival rate of 88% in patients with Stage C disease after treatment with surgery, radiation therapy, and chemotherapy, in contrast to a survival rate of 50% after treatment with only combined craniofacial resection and radiation.

**Conclusion**

EN is an uncommon, complex olfactory tumor which is curable if diagnosed early but which may be fatal if misdiagnosed and neglected. To identify possible EN, the treating family physician, oncologist, surgeon, nurse practitioner, and pathologist should be alert for any initial complaints of nasal obstruction lasting longer than one month or of persistent rhinorhea or epistaxis with neurologic deficits (eg, anosmia, focal numbness of the face or cheek, or visual defects) especially in patients who have a history of smoking and a family history of neoplasm. X-ray films of the sinuses and CT scans should immediately be obtained when the family physician or nurse practitioner is in doubt about the differential diagnosis, and the patient must be promptly referred for head and neck or neurosurgery consultation for possible tumor resection. As in other conditions, patients should be instructed that noncompliance could affect prognosis.

Although esthesioneuroblastoma is still seen uncommonly, it is being observed with increasing frequency. Therefore, as for other such increasingly observed conditions, family practitioners must increase their awareness of this tumor.

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**References**

Ruptured abdominal aneurysms have a high rate of misdiagnosis and mortality. We report three cases of ruptured abdominal aneurysm diagnosed by an emergency department physician using bedside ultrasonography as part of routine abdominal examination.

Combined with clinical findings in one case, ultrasonographic detection of aneurysm and free intraperitoneal fluid obviated the need for computed tomography (CT) evaluation. In another case, the diagnosis of ruptured aortic aneurysm might have been missed had bedside ultrasonography not been done. In all three cases, bedside ultrasonography facilitated expeditious diagnosis and management of the condition.

Introduction

Abdominal aneurysm is defined as focal dilation of the aorta to a diameter ≥50% of normal or to a diameter >3 cm. When the correct diagnosis is established initially, the mortality rate for ruptured abdominal aortic aneurysms is 35%. However, mortality rate is increased to 75% when ruptured abdominal aortic aneurysm is not recognized before rupture. Unfortunately, rupture is frequently the first manifestation of aortic aneurysm, and as many as two thirds of abdominal aortic aneurysms are not recognized before rupture. Moreover, although abdominal pain is noted in more than 80% of patients with ruptured abdominal aneurysm, only half of patients with this condition show the classic triad—abdominal pain, hypotension, and a pulsatile mass.

In the Emergency Department at the Kaiser Permanente (KP) Medical Center in Bellflower, California, bedside ultrasonography has, for the past year, been part of the standard physical examination done for all patients evaluated for flank and abdominal pain. This aspect of the examination is brief and diagnosis-specific.

We present three cases where a quick ultrasonographic examination done at the bedside expedited the diagnosis of ruptured abdominal aortic aneurysm. In one case, the ruptured aneurysm might have been missed had bedside ultrasonography not been part of the routine evaluation. In another case, bedside ultrasonography obviated the need for computed tomography (CT) scan and expedited definitive care.

Case Reports

Case 1

A 78-year-old man was transferred to our Emergency Department from a non-KP emergency department with a diagnosis of nephrolithiasis made on the basis of left flank pain and microscopically detected hematuria. Hematocrit and results of abdominal x-ray series were normal. Vital signs at arrival in our Emergency Department were normal. Results of abdominal examination led to suspicion an aneurysm. Bedside ultrasonography showed a 9-cm abdominal aortic aneurysm (Figure 1). Rupture was confirmed by CT scan, and the patient was immediately taken to have surgery for definitive repair of the aneurysm. The patient did well postoperatively and was discharged home without adverse sequelae.

Case 2

A 91-year-old man was transferred by paramedics to our Emergency Department because of acute back and abdominal pain. Vital signs measured at arrival included blood pressure of 90 mmHg systolic and 60 mmHg diastolic, pulse rate of 110 beats per minute, 18 respirations per minute, and temperature of 36.4°C. Results of physical examination showed a slightly tender abdomen, suggesting presence of an aneurysm. Immediate bedside ultrasonography showed an 8.9-cm aortic aneurysm (Figure 2). Aneurysmal rupture into the peritoneum was increasingly suspected after fluid was noted in Morrison’s pouch (Figure 3). On
the basis of ultrasonographic findings and initial clinical appearance, the patient was taken to the operating suite for resection of the ruptured aneurysm and for placement of a tube graft; surgery began within 30 minutes after the patient arrived in the Emergency Department. Presence of blood in the peritoneum was noted intraoperatively; at that time, the patient received transfusion of 12 units of whole blood. On the third postoperative day, the patient became comatose and hypotensive. At the request of his family, he was not resuscitated. The patient died.

Case 3

Paramedics transferred an 85-year-old man to our Emergency Department because of acute weakness, dizziness, and abdominal pain. Vital signs measured at arrival in the Emergency Department included blood pressure of 120 mmHg systolic and 72 mmHg diastolic, pulse rate of 67 beats per minute, 18 respirations per minute, and temperature of 36.4°C.

Physical examination showed mild abdominal pain that completely resolved after the patient had a bowel movement. Bowel sounds were normal, and no mass was palpated. Laboratory examination showed guaiac-negative stool.

As part of the initial evaluation, preliminary bedside ultrasonography was done by the Emergency Department physician and showed a 3.3-cm abdominal aneurysm and intraluminal clot (Figure 4). Baseline laboratory results were normal and included a white blood cell count of 11.0 × 10⁹/L, and hematocrit of .40. The patient requested immediate discharge but was persuaded to have formal ultrasonography done in the Radiology Department; results of this examination corroborated the preliminary diagnosis of aneurysm. Contrast-CT scan confirmed that the aneurysm measured 3.8 cm. In addition, a small leak was noted in the posterior wall of the aorta. Ectasia of both common iliac arteries and an intraluminal clot were also seen. The patient was taken to the operating suite for resection of the leaking abdominal aortic aneurysm and for placement of a tube graft. He also received bilateral femoral thromboembolectomy. Postoperative complications included acute renal failure, ischemia of the spinal cord at T10-T12, areflexia of the knees and ankles, and minimal use of hip flexor and leg extensor muscles. The patient’s renal function gradually became normal, and he was discharged to a rehabilitation facility for physical therapy after two weeks of inpatient care at our medical center.
Discussion

Ruptured abdominal aortic aneurysm accounts for at least 15,000 deaths per year in the United States and is the tenth leading cause of death among men older than 55 years. Recent research suggests that abdominal aortic aneurysm in men older than 60 years may be more than twice as common as the traditionally reported value, 2%.1

In a review of 152 patients with ruptured abdominal aortic aneurysm, Marston et al2 noted a 30% rate of misdiagnosis, defined as six hours’ delay between initial and final diagnosis. Half of the patients in that series3 were misdiagnosed as having diverticulitis or gastrointestinal bleeding. In a review of referrals for radiologic evaluation for possible aortic aneurysm in Olmsted County, Minnesota, Beebe and Ballard6 reported that during a two-year period, clinical suspicion had a positive predictive value of only 14.7% (ie, clinical suspicion was confirmed for 17 of 116 patients).

Risk of aneurysmal rupture and subsequent long-term survival for patients who do not have surgery is directly related to size of the aneurysm. The 5-year rate of rupture of aneurysm exceeds 75% for patients with an aneurysm measuring 27.0 cm. For patients with an aneurysm measuring 6 cm, the 5-year rate of rupture is about 35%; and for patients with an aneurysm 5.0-5.9 cm, the rate of rupture is about 25%. About 10% of all aneurysms smaller than 4 cm rupture and cause death.5,6,7 Currently, elective surgery is recommended for all patients with an aneurysm >6 cm, and a selective approach is used for patients with an aneurysm measuring 5-6 cm.

Because of the high mortality rate associated with a ruptured aortic aneurysm, this diagnosis should be considered for elderly patients who are seen for abdominal or back pain and transitory hypotension. Clinical studies confirm that ultrasonography done in the Radiology Department is effective for diagnosing presence or absence of aneurysms in 94%-98% of patients. However, concealment of the aorta by intestinal gas or severe obesity can occasionally make radiologic evaluation difficult.

Ultrasonography is not routinely used to diagnose a ruptured aneurysm. In one of our patients, however, ultrasonography showed peritoneal fluid in Morrison’s pouch. In conjunction with presence of a large abdominal aneurysm, this finding obviated the need for a CT scan. Indeed, the patient was taken immediately to the operating suite on the basis of these two bedside ultrasonographic findings.

The sensitivity of ultrasound for detecting peritoneal bleeding is somewhat controversial. After nondiagnostic peritoneal lavage was done in patients who had blunt abdominal trauma, Branney et al9 infused fluid into the peritoneum while Emergency Department physicians, radiologists, and surgeons continuously scanned Morrison’s pouch. Only 10% of these surgeons detected peritoneal fluid volumes measuring <400 ml. After a liter of fluid was infused, sensitivity of detection increased to 97%. In contrast, Goldberg10 noted that 100 ml of intraperitoneal fluid injected into cadavers placed in various positions could be detected by ultrasonography.

For hemodynamically stable patients, contrast CT should be done. In most cases, high-resolution CT correctly identifies the proximal and distal extent of aneurysm as well as iliac aneurysms. CT is 77% sensitive and 100% specific for detecting retroperitoneal blood.11 Magnetic resonance imaging (MRI) is an excellent tool for preoperative evaluation of aortic aneurysms, but cost and availability favor use of CT for most patients seen in the Emergency Department.

Our three cases illustrate how bedside ultrasonography done by the Emergency Department physician expedited and improved the management of ruptured aortic aneurysm: In one case, bedside ultrasonography assisted our Emergency Department physician in correctly diagnosing a ruptured aneurysm after it was misdiagnosed elsewhere as a kidney stone; in another case, although the diagnosis was clinically apparent, results of bedside ultrasonography obviated the need for a CT scan and thus further expedited definitive care; in a third case, resolution of symptoms rendered the diagnosis of ruptured aortic aneurysm unlikely.

Conclusion

A compelling argument exists for any tool that expedites evaluation of patients by the Emergency Department physician. Given that bedside ultrasonographic screening for abdominal aortic aneurysm adds only minimal time to the physical examination and given the high rates of misdiagnosis and mortality associated with ruptured aneurysm, incorporating bedside ultrasonography into routine examination of patients—especially elderly patients—who come to the Emergency Department with abdominal or flank pain improves the clinician’s skill in diagnosing and expeditiously managing ruptured aortic abdominal aneurysm.
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References

The Lighter Side of Medicine

LIFE ON THE SUNNYSIDE

WE HIRED NINE NEW SURGEONS!

LIFE ON THE SUNNYSIDE

WE PAY A LOT FOR THE RIGHT TO OPERATE!

LIFE ON THE SUNNYSIDE

WE’VE CONTRACTED WITH THE SISTERS FOR OR. TIME!

THIS WILL GREATLY REDUCE OUR SURGERY BACKLOG.

AS SOON AS WE FIND A PLACE FOR THEM TO OPERATE!

IS THIS SPACE IN USE?

AND EACH CASE DONE INCURS MORE CHARGES,

SO WE WON’T SEND SURGEONS THERE BECAUSE IT COSTS TOO MUCH!

DIFFERENT FROM THE GROUND UP!

EXPENSES

RIGHTS OR TIME

(RIGHTS OR TIME)
A Word on Service from the Medical Directors

In keeping with the service theme of this edition, we asked the Permanente executive medical directors for their perspectives on the importance of service.

Dr. Ronald Copeland  
Ohio Permanente Medical Group  
Fundamentally, I believe, employees treat patients in the same manner as they themselves are treated by Management. If high integrity, fairness, and trust are valued and effectively modeled by leadership, then there is a great opportunity to create a compelling work environment that promotes and sustains high levels of service. When we consistently demonstrate to our people that they are highly valued, it is amazing how much they make our patients feel valued.

Although we clearly have to deal with the marketplace realities as they pertain to our cost structure and level of service, the manner in which we frame and execute our options for cost-structure reduction dramatically informs our workforce about their true value in the service improvement equation.

When we “institutionalize” our Programwide service agenda to the same degree as we have done for quality and cost-effectiveness, then I have no doubts about our capacity and ability to achieve and maintain market-leading service performance.

Dr. Oliver Goldsmith  
Southern California Permanente Medical Group  
I have seen PMG physicians recognize their need for service achievements and their willingness to be graded. Our MAPPS survey with financial incentives is an example. I believe our systems (phone, appointment) and our large and sometimes disengaged ancillary staff can contribute to the problem. Despite challenges, about 80% of our Region’s members feel that they have a primary physician. Our challenge is to keep patient and physician close.

Dr. Donald McGuirk  
Kansas City Medical Group  
I, as a PMG physician, have always been very proud of the quality medicine that all the Permanente Medical Groups provide to their patients. Indeed, survey after survey demonstrates the ability of our group model to coordinate care and accomplish high scores in recognized measures of quality such as HEDIS. Most recently, all Kaiser Permanente regions attained full NCQA accreditation, a marvelous accomplishment.

What we, as PMG physicians, must address in the “real world” reality of current medical practice is the definition our patients and their employers give to quality. In most cases, this definition does not include HEDIS scores or NCQA accreditation. Instead, their definition equates to service. Quality is quality service. As separate medical groups and as an organization, we must address our shortfalls in this area. As opposed to the above measures, service measures such as the STAR Survey show us significantly behind our market competitors in this critical area. I challenge my own Medical Group, as well as all PMGs to sincerely focus on service and to appreciate the competitive edge this emphasis can give us as we enter the 21st century.

Dr. Robert Pearl  
Northern California Permanente Medical Group  
For the past 50 years, we used our integration as a Program to keep our costs and rates below that of our competitors. However, during that time, service was a competitive disadvantage for Kaiser Permanente. Today, with our competition no longer fee-for-service, the dynamics of the health care marketplace have changed dramatically. The for-profit competition’s primary goal is to generate equity for its shareholders, and it achieves this by restricting care through use of gatekeepers, clerks, and formularies. As a consequence, the level of service and quality provided in the world around us has deteriorated markedly. This now creates a potential strategic opportunity for us to make service our competitive advantage.

For us to succeed, we must face the challenge of overcoming a 50-year culture of poor service. Addressing our service issues will require strong partnership with Kaiser Foundation Hospitals and Health Plan and with our labor unions. We must also differentiate ourselves from the rest of the for-profit managed care world in the eyes of both the media and government agencies. Ultimately, our success will depend on whether members perceive that we deliver better service, access, and quality; and whether purchasers are willing to fund added health care costs. As an organization, we will have to become more comfortable with increased autonomy, authority, and accountability at the local medical center, department, and functional unit levels. Moreover, we will have to learn to innovate locally and learn both regionally...
and nationally while understanding the variability in patient populations, facilities, and people across the different parts of our Program. Our greatest challenge will not be merely achieving this shift, but doing it in a time frame of months and years instead of decades.

**Dr. Bruce Perry**  
**The Southeast Permanente Medical Group**

In Atlanta, TSPMG has maintained a sustained intense commitment to improving our quality of service. Through this substantial commitment, we have learned three important lessons.

First, service can be improved. In recent review of STAR Survey results for 1991-1998, the Georgia Region had a 12% increase in overall satisfaction; a 32% increase in satisfaction with phone wait; a 15% increase in Care Index; and a 15% increase in seeing their personal care practitioner. Multiple activities have led to this increase: we have redesigned Primary Care into teams; we have intense communication concerning service goals and our progress for those goals; we hold managers accountable for reaching those targets; and there are significant monetary incentives and non-monetary awards for high-performing teams.

Second, a key success factor is accountability for service. Senior managers are held accountable by the Board for service levels. Senior managers in TSPMG hold Service Chiefs and Managing Physicians of facilities accountable, and individual physicians are held accountable for individual service levels. Patient satisfaction with individual practitioners accounts heavily in both the appraisal process and the annual service incentives. Through these mechanisms, accountability for service is spread throughout the organization.

Third, service must be treated as a business survival issue. Service can be distinguishing in the marketplace. In Georgia, state employees are our largest group. Through our intense work on service, we maintained a 10% advantage over our nearest competitor and 20 points over the rest of our competitors. We have found service to be a key distinguisher in member retention, and we will continue the focus because member retention is a business imperative.

The highest level of service can be provided even within budgetary constraints. It is not a mantra; it is not a “can do or could do.” It must be a “given” because of the business imperative that TSPMG faces.

**Dr. Allan Weiland**  
**Northwest Permanente Medical Group**

As we continue to focus on how we create value and achieve the “KP Promise,” it becomes more apparent that our Achilles’ heel is service. In most markets, we trail major competitors on most service dimensions. Not only is there a compelling business case to improve service and member retention, but we all want to belong to an organization that is recognized for excellence in quality and service. It is a matter of pride!

Most of the regions are looking to improve the care experience, and the program has recently started a Care Experience Council to bring the same focus to service as we do to quality and finance. At KP Northwest, we are changing our appointment scheduling practices in primary care to increase the number of times members will see their paneled practitioner. We have brought together a number of local module teams and trained them in rapid-cycle change methodology to test small interventions in service improvement and to learn from them.

Despite a number of efforts, ingrained attitudes and systems make us customer unfriendly. Many of our office buildings are large and impersonal; our appointing systems are inflexible; our staff are too busy to fix a service problem. It will take considerable work to move toward a truly member-friendly organization. I think it will be worth the work.
A Physician’s Call to Action: Delivering a Superior Care Experience

This article describes the chain of care—key steps that occur in the process of obtaining medical care that determine members’ satisfaction with their health care experience—and discusses how patients’ health care experience is shaped by physicians, both in their individual interactions with patients and collectively in their health care teams and departments. The article challenges us to adopt a view in which delivering a superior care experience is the most visible, compelling factor likely to differentiate Kaiser Permanente (KP) from its competitors in the health care marketplace.

Introduction

“Starbucks took the lovely coffee bean, a commodity, and elevated it to an experience. Health care has taken the most important human experiences and reduced them to the level of a commodity.”

—Brian D. Wong, MD, National Director, Healthcare Strategy, Arthur Andersen, LLP

Although few people may find the experience of visiting their doctor as gratifying as a visit to Starbucks, service quality greatly affects patients’ satisfaction with their health care experience as well as their ratings of physician knowledge and competence. A recent JAMA article noted that “if high quality service had a greater presence in our practices and institutions, it would improve clinical outcomes and patient and physician satisfaction while reducing cost.”

This article explores how understanding what members value in their health care experience can positively affect not only members’ health outcomes and satisfaction but also clinicians’ professional satisfaction and the financial health of Kaiser Permanente (KP).

Costs of Service Quality to Kaiser Permanente

Some people do not understand why, in this era of constrained financial resources, Kaiser Permanente (KP) is focusing on quality care more than ever before. These people probably do not realize that service problems cost KP millions of dollars every year through dissatisfaction rebates, member attrition, and members delaying their own medical care because of perceived or actual inconvenience presented by the medical care system.

Under the terms of our purchaser performance guarantees and policy of offering member dissatisfaction rebates, KP pays purchasers and members directly when members experience service problems. Performance guarantees provide reimbursement to employers when specific service measures (eg, appointment access) fall below agreed-upon levels. In 1998, KP Northern and Southern California Regions had performance guarantees totaling $17.5 million in reimbursements. In California, member dissatisfaction rebates (eg, reimbursed copayments) totaled approximately $1.3 million in 1998. To realize how significant this amount of money is, one must realize that our organization must earn at least $65 million in revenue before sufficient surplus funds are available to pay the $1.3 million in rebates. In this context, rebates constitute a substantial financial outlay.

Even more important, many members who choose to leave KP cite service issues as the primary reason. Replacing these members is costly. In 1998, more than 65,000 members who left KP cited service problems as the chief reason, and the marketing cost of acquiring one new member is approximately $340; thus, KP spent more than $22 million in 1998 to replace these members—a result which by itself achieved zero growth. If we were to include members who listed service problems as a secondary reason for leaving KP, this amount would be nearly double. Nonetheless, this marketing cost to replace dissatisfied members is small in comparison with the revenue lost by KP when these members switch to other health plans.

Members who leave KP are young, likely to report being in excellent or very good health, and likely to be relatively new members. When members leave, KP loses the revenue represented by these members’ premiums. At a mean individual premium of $150/month, members who left KP in 1998 because of service issues decreased revenue in 1999 by $118 million. During a 20-year period—the mean length of membership for satisfied members who stay with KP—the revenue lost from members who left in 1998 because of poor service quality would total $2.35 billion.

In addition, reluctance to engage a system in which it is time consuming to make an appointment or in which timely appointments are not readily available may cause patients to delay treatment and thus delay diagnoses and cause poor outcomes. The costs of these delays are unknown.

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Value and the Health Care Experience

Members evaluate KP at every interaction and judge the value of their health care experience in terms of four critical attributes: health outcomes, service quality, monetary price, and nonmonetary costs. The value of the health care experience as it relates to these four attributes can be depicted by the equation

\[
\text{Value of Health} = \frac{\text{Health Outcome} + \text{Service Quality}}{\text{Price Paid} + \text{Nonmonetary "Costs" to Member}}
\]

where health outcome is traditionally defined as clinical quality.

Service quality refers to how care is delivered, ie, clinical interaction with patients and their families. Research has shown that this clinical interaction—the service quality aspect of patient care—strongly affects clinical outcomes, patient adherence to prescribed treatment regimen, symptom resolution, functional health status, and physiologic measures of health.3,4

Price paid includes the premium (whether paid by employer or individual subscriber) and copayments (paid by the member for individual services).

Nonmonetary costs to members include time spent waiting on the phone to make an appointment; time spent waiting in the waiting room and in the examination room to see a clinician; time spent waiting in the laboratory to have tests done and in the pharmacy to have prescriptions filled; and the inconvenience inherent in attending the appointment (eg, taking time off work, traveling to and from the appointment, and parking at the medical office).

Member and patient satisfaction surveys allow us to identify specific aspects of the health care experience that matter most to members. Several specific factors correlate most strongly with members’ overall satisfaction with the care they receive at KP:5

- Interest and attention of the physician/practitioner;
- Having a primary care physician/practitioner (PCP);
- Being able to see the PCP;
- Time spent with the physician/practitioner;
- Time spent waiting in the examination room;
- Time spent waiting in the waiting room;
- Time spent waiting on the phone to schedule the appointment;
- Days wait for the appointment.

These factors are key elements of members’ health care experience. When analyzed from the patient’s perspective, these elements describe the chain of care—steps in the process of obtaining medical care.

To members, the most important factor in the chain of care is the interaction with their physician or health care practitioner.6

Role of Clinicians in Creating Health Care Value

To members, the most important factor in the chain of care is the interaction with their physician or health care practitioner. Data from KP Colorado patient satisfaction surveys show a 95% correlation between patients’ ratings of “knowledge and competence” of the provider and “courtesy and respect” shown by the provider. This correlation shows that patients assess the clinician’s medical skill largely in terms of the clinician’s interpersonal skills. In other words, patients evaluate how much clinicians know on the basis of how much clinicians are perceived to care.

Patients’ ratings of the physician or other health care practitioner are further affected by additional elements in the chain of care:

Time spent waiting in the examination room. The KP Colorado data show that ratings of physicians and other health care practitioners are affected by the amount of time patients wait in the examination room (Figure 1). As waiting time in the examination room increases from one minute (or less) to more than five minutes, patients’ ratings of the clinician’s “knowledge and competence” drops 6%.

Conversely, reducing the time spent waiting in the examination room from five minutes to one minute...
or less increases patients’ ratings for “knowledge and competence of the provider” by 6%. Longer waiting time in the examination room also reduces patients’ satisfaction with the time they later spend with the provider

Patient familiarity with the provider. Data from Northern California show that patients rate physicians or other health care practitioners as much as 30 percentage points higher when the provider is the clinician who provides most of the patient’s routine care than when the patient is not familiar with the provider (Figure 3). Patients who are familiar with the provider (i.e., have seen the provider before but receives most routine care from another person) give the provider intermediate ratings.

Choosing the physician. A study done by the KP Northern California Division of Research and published in JAMA in 1997 found that patients who chose their PCP were 16% to 26% more satisfied with their physician (as shown by nine measures of satisfaction with the physician) than patients who were assigned to their PCP.

Accordingly, whereas the clinical interaction between provider and patient is the greatest factor in patients’ satisfaction with clinicians, other factors often not under the clinician’s direct control greatly affect how highly the clinician is rated by the patient.

Role of the Physician in Improving the Health Care Experience

Because members evaluate KP at every interaction, improving members’ health care experience requires improving each link in the chain of care. These aspects of members’ experience with KP should be the focus of our attention and should guide our improvement efforts. Regional and interregional work has started to address key systems issues that impede KP’s ability to deliver health care experiences and outcomes that set quality standards for American medicine.

As important as systems issues are, even more important are the individual, team, and departmental actions that affect each patient’s health care experience. For example, because patients evaluate how much clinicians know (i.e., the most important factor in the chain of care) on the basis of how much clinicians are perceived to care, careful attention to effective communication skills with each clinical encounter will make a difference.

To improve their clinician encounters with patients, clinicians should use the Four Habits of Highly Effective Clinicians with each patient:

1. Invest in the beginning: create rapport quickly, draw out the patient’s concerns, and plan the visit with the patient;
2. Elicit the patient’s perspective: ask for the patient’s ideas, elicit specific requests, and explore the impact on the patient’s life;
3. Show empathy: be open to the patient’s emotions, be aware of your own reactions, and convey empathy both verbally and nonverbally;
4. Invest in the end: deliver diagnostic information, provide education, involve the patient in making decisions, and complete the visit by summarizing, checking for acceptance, and reassuring the patient of ongoing care.

Figure 2. Data from KP Colorado show relation between longer length of time patient waited in examination room and patients’ satisfaction with length of time spent with clinician. (Adapted and reproduced from Unraveling the chain of satisfaction. [Kaiser Permanente Patient Satisfaction Survey: Colorado Local Market. Quarter 1, 1998.] Oakland, California: Kaiser Permanente Medical Care Program; 1999, p. 7.)

Figure 3. Data for nine clinical departments at KP Northern California show relation between patients’ familiarity with clinician and patients’ satisfaction with clinician. Patients are most familiar with their own physician or provider (“My”); less familiar with clinicians they have received care from on some but not most occasions (“Familiar”); and least familiar with clinicians they have not seen before (“Stranger”). (Adapted and reproduced from Gregory K. Regional report: The importance of patient familiarity with provider to care provider ratings. Northern California Region Member Patient Satisfaction Survey. Oakland, California: Kaiser Permanente Medical Care Program; 1998.)
These communication behaviors are discussed in detail in this issue of The Permanente Journal.11 A growing literature on physician-patient communication documents the correlation between effective physician-patient communication and improved health outcomes,12 patient satisfaction,13 and clinician satisfaction.14-16 Stated differently, clinicians can improve not only their patients’ satisfaction and health outcomes but also their own professional satisfaction with their work by using the Four Habits at every clinical encounter.

Role of the Health Care Team and Clinical Department in Improving the Health Care Experience

Health care teams that produce high patient satisfaction minimize the amount of time patients wait in examination rooms and effectively manage waiting room time.17 As the KP Colorado data show, minimizing the time spent waiting in the examination room increases patients’ ratings of the clinician’s knowledge and competence as well as patients’ satisfaction with the amount of time spent with the provider—two areas that contribute greatly to patients’ overall satisfaction with their health care experience.

Departmental processes that both allow members to choose their PCP and enable patients to be seen by their PCP when they seek care will improve patient satisfaction. These aspects of the chain of care affect patients’ ratings of overall satisfaction with the health care experience as well as patients’ ratings of clinicians’ knowledge and competence.

Conclusion

Each of us can take the following actions that contribute to giving every patient a superior health care experience:

1. Fully understand how service problems affect KP’s affordability and patients’ perception of clinicians’ competence.
2. Identify the factors that matter most to our patients (ie, aspects of the chain of care):
   • Knowledge and competence of the clinician (directly correlated with courtesy and respect);
   • Having a primary care practitioner whom the patient has chosen;
   • Ability to see own primary care practitioner (or, at least, another clinician whom the patient has seen before);
   • Quality and quantity of time spent with the clinician;
   • Time spent waiting in the examination room (including extent to which delays are minimized and communicated);
   • Time spent waiting in the waiting room (including extent to which patients are kept informed and occupied);
   • Time spent on the phone to schedule the appointment;
   • Days wait for the scheduled appointment.
3. Use effective communication skills with every member, no matter how difficult the encounter may be. Be aware of and sensitive to cultural and lifestyle differences. Attend a clinician-patient communication workshop.
4. Lead by example in the patient care setting. Provide an environment that encourages ancillary staff to give top priority to the patient’s health care experience.
5. Discuss in a team or department meeting how to improve one aspect of the chain of care, such as reducing examination room wait time or increasing the ability of patients to see their PCP. Implement suggestions and track the results.
6. Engage and challenge KP leaders to address “system” issues (eg, telephone wait time, access) that affect members’ health care experience.

If improving patient satisfaction can improve our patients’ health outcomes, KP’s financial success, and clinicians’ professional satisfaction, we owe it to ourselves and our patients to take the actions that will enable us to deliver a superior health care experience.

Acknowledgments: Coauthors Doug Bonacum, MBA, Martin Gilbert, MD, and Lisa Kolton, MS, HSA were members of the Advanced Leadership Program-1998 class; many of the ideas presented in this paper were developed by the members of the 1998 Advanced Leadership Program (ALP). Leslie Francis, MBA, MHA, compiled the patient satisfaction data. Samuel Yates, BA, reviewed the manuscript.

References
Holding Water

The society which scorns excellence in plumbing because plumbing is a humble activity, and tolerates shoddiness in philosophy because philosophy is an exalted activity, will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water.

*John W. Gardner*
Using Information from Linkage Research Studies to Improve Organizational Performance

In a preliminary research study published about a year ago, we described some aspects of the relations between employee opinions and organizational performance measures. Of several organizational performance measures examined, we found that employee opinions and customer opinions were the most strongly and consistently related. This information can be used to improve aspects of the work environment by focusing on activities that have the greatest potential return on investment. In this article, we share some ways in which Kaiser Permanente organizational leaders are using the information gleaned from linkage research.

Introduction

In the Spring 1998 issue of The Permanente Journal, we presented the results of a preliminary research study aimed at describing some aspects of the relation between employee opinions and various organizational performance measures, including member satisfaction. Our study showed a strong relation between employee opinions and customer opinions. Notable relationships were found between overall customer satisfaction (as measured by the Satisfaction Tracking and Reporting (STAR) survey) and employee opinions about doctors, organizational flexibility, and training for customer service (as measured by the Employee Opinion Survey). In that article, we promised to share some practical implications of this work, and we have interviewed several people within Kaiser Permanente (KP) to determine how information from the article has been used. Interview data were collected from people in KP Program Offices as well as in the California, Central East, Hawaii, Northwest, Rocky Mountain, and Southeast Divisions. Readers unfamiliar with the original research are directed to the Spring 1998 issue for specific findings.

Because of space and time considerations, a step-by-step narrative describing each application is not feasible. Therefore, we hope that the current article will generate further thinking and discussion about the importance of employee satisfaction and customer satisfaction, the relation between them, and the ways in which such information may be used for organizational improvement. We share here some interesting ways in which KP organizational leaders are using the information from the linkage research study to pursue activities that could benefit employees as well as customers.

Overall Reaction to Kaiser Permanente’s Linkage Research

Linkage research has generally elicited a positive reaction; interviewees have expressed excitement about the findings as well as the direction of the research. Kaiser Permanente has usually examined organizational variables in relative isolation, as suggested by a “balanced scorecard” approach, which consists of interrelated performance measures of organizational success. For example, member satisfaction is a KP organizational goal toward which we are all striving; on a balanced scorecard, STAR scores would be a potential measure of this satisfaction. Another KP organizational goal is related to quality of care, and Health Plan Employee Data and Information Set (HEDIS) measures may be used as an organizational measure of quality. A balanced scorecard includes multiple performance measures like these that are most likely correlated, yet it does not explicitly address potential correlations. Linkage research provides a method for explicitly examining these relations and helps KP organizational leaders identify the employee opinions that matter most and the aspects of customer satisfaction with which these opinions correlate. Stated differently, linkage research can help to focus activities of the organization in ways that have the greatest return. This focus is particularly important because multiple demands for improvement can be overwhelming.

However, not everyone shares this rosy view of linkage research. Some have expressed valid concerns about the potential inappropriateness of taking action on the basis of correlational data (which do not confirm the direction of relationships). Concern has also been expressed that the research may prove unable to sustain interest and attract funding (eg, because of inadequate long-term vision, sponsorship, and communication) and that linkage research may be merely a passing management fad.

Given the financial pressure in some parts of our organization, some might be inclined to consider a focus on the employee environment as conflicting with other organizational priorities (eg, a financial

“...some interesting ways in which KP organizational leaders are using the information from the linkage research study to pursue activities that could benefit employees as well as customers.”

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turnaround) while leaving unchallenged the assertion that employee opinions are linked to organizational performance.

Applications of Linkage Research

Granted, these are potential obstacles. But we have found that several KP Divisions have taken information gleaned from the linkage research study and put it to use. We have categorized these applications as:

- Survey Program Design and Implementation;
- Education, Communication, and Training;
- Model Development;
- Assessment of Progress on Strategic Goals; and
- Human Resources Strategy Development.

These categories are illustrated in Figure 1.

Survey Program Design and Implementation

Information from our preliminary linkage research study was first used by the Employee Survey Resource Network (ESRN) to develop the People Pulse (“Pulse”) survey, which is essentially a shortened version of the Programwide Employee Opinion Survey (EOS) currently being administered. The Employee Opinion Survey (described in our Spring, 1998, TPJ article) contains core items covering 12 employee environment categories. Items for the EOS were chosen on the basis of statistical characteristics, strategic importance, supportive data, and ability to be benchmarked against normative, historical, or comparative data.

Items for the Pulse survey were chosen primarily on the basis of their linkage to customer satisfaction (as determined from the preliminary linkage research study), employee commitment, or other organizational performance indicators. Seventeen of the current Pulse items were chosen on the basis of linkage research.

The Pulse survey is being used as an optional component of the Health Plan/Hospitals Executive Incentive Plan but currently not in a rigid, formulaic way. The survey is also being used in some KP Divisions to assess whether our organization is achieving its strategic goals (e.g., increasing diversity and implementing the Labor Management Partnership). Participation in the EOS and Pulse Survey programs is also considered a Kaiser Permanente Business Fundamental.

Education, Communication, and Training

Linkage research results are also being used in an educational effort to inform divisional leaders about the relation between the work environment and employee opinions, as well as about the importance of improving both. In this way, research results are being used to communicate what the organization deems important.

At least one KP Division is using the linkage research results to show the importance of using employee opinion data to improve business performance. This message is especially important in our current environment, where a focus on financial performance can too easily mean that employee contributions are overlooked. The message being delivered with linkage research findings is that focusing on the employee environment may improve business performance.

Another area of focus for organizations today is customer satisfaction. One of the ways in which customer satisfaction can be improved is by focusing internal attention on activities that enable employees to provide optimum service and care. Such activities can take the form of various training applications of linkage research.

To train employees at the managerial level, at least one KP Division is using results of the preliminary linkage research study to inform managers about specific actions they can take to improve customer satisfaction and to achieve other organizational outcomes. Management training materials and learning experiences are organized in ways suggested by linkage research findings; for example, exercises in group decision-making are related to how employee input can be used to improve customer service.

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"One of the ways in which customer satisfaction can be improved is by focusing internal attention on activities that enable employees to provide optimum service and care."

Figure 1. How Kaiser Permanente Organizational Leaders Use Information from Linkage Research
The same KP Division has requested that customer service training for frontline employees include information on the relation between employee opinions and customer satisfaction. Customer service training is structured to encourage employees to question the service environment and procedures and to make changes in their departments to improve service for KP members.

Model Development

As part of the organization’s brand strategy (the KP Promise), efforts are underway to develop a model of a superior workforce and its relation to employees’ career experiences. Development of this model will identify some of the strategically important performance indicators to be tracked through the Program over time. Examination of the linkage research results has highlighted the fact that the organization is currently missing some critical pieces of performance information in the model. One such information gap is the examination of which aspects of the physician environment are linked to member satisfaction and other organizational outcomes. Future linkage research can be expected to help close this gap; accordingly, an interregional workgroup consisting of operational and research leaders throughout the Program has been formed to address these issues.

Although still in the developmental stage, this model is being discussed in the Advanced Leadership Program, an intensive training program for future leaders of the organization. Participants include Medical Group directors, Board members, and Health Plan/Hospitals senior leaders. Although the model is broad in scope, its goal is to help develop the performance measures and activities critical for achieving desired organizational outcomes.

Assessment of Progress on Strategic Goals

Linkage research findings have some indirect applications, such as use of the Pulse Survey (a direct application) to track progress on strategic goals (eg, employee diversity, superior customer service, staff recognition, and high customer satisfaction). As an example of how these goals are actually tracked, one KP Division has determined that a 5% increase on EOS items assessing the extent to which employees feel valued for their diversity is desirable. Another KP Division is assessing employee opinions monthly to track their relation to weekly reports of customer satisfaction.

Human Resources Strategy Development

In one KP Division, linkage research results are being used to identify and expand specific practices that relate to customer satisfaction. Statistical analyses identified employee environment variables that most strongly relate to employees’ assessment of the extent to which they receive the support necessary to satisfy our customers. These employee environment variables relate to perceptions about several issues, eg, the importance of quality, recognition of employees for doing good work, employee training to help them deliver good customer service, employees’ influence over decisions affecting their work, and the extent to which employees trust information they receive from their leaders. On the basis of the statistical analysis, this KP Division has developed its Human Resources strategy.

Future Directions for Linkage Research at KP

We plan to further examine our current data, and we hope to collect more. One of our goals is to expand the database, particularly to include physician opinions, and to determine whether the same correlations hold with this population. We also plan to replicate our preliminary research findings by using data from the entire Program.

The question of causality and the stability of correlations over time will also be examined. For example, one hypothesis that could be tested is whether employee satisfaction leads to customer satisfaction, whether that then leads to retention of employees and customers, and (ultimately) whether satisfaction among employees and customers leads to strong financial performance.

We will continue to hold discussions about ways in which linkage research information can be used further to inform Human Resources programs such as employee orientations, training, and selection. At least one area of our organization is contemplating development of a more balanced leadership accountability model that considers both customer satisfaction and employee morale. At least one KP Division is currently examining linkages at the team level.

We hope that research into the relations between organizational variables will continue and that our organizational leaders will creatively apply research findings to improve both the work environment (for physicians and for other employees) and our business performance. We believe that pursuing this research would be time well spent.
Despite the fact that the linkage research program is just beginning, information generated from it is already being used in many areas of our organization. This article does not attempt to present an exhaustive list of the applications being developed throughout the KP Program, but we nonetheless hope that the article will stimulate ideas about how linkage research information can be appropriately used within the organization. We welcome any and all additional information about how linkage research is being used in your team, module, department, facility, medical center, service area, or KP Division.

The mission of the Employee Survey Resource Network is to provide oversight for the Physician and Employee Survey program as well as to provide consultative support for the Divisions as they administer surveys. The ESRN consists of Kaiser Permanente staff, either from or representing all Divisions, as well as external representation from a survey research consulting firm.

Ant Colony: A Flat Organization

The basic mystery about ant colonies is that there is no management. A functioning organization with no one in charge is so unlike the way humans operate as to be virtually inconceivable. The nonhierarchical structure of ant society, and its dynamic organization, could generate important clues about the operation of other systems where small repertoires of activity add up to a far greater whole. Computer neural networks and the human brain are collections of small, simple units that produce complicated results through the interaction of the parts. It may be that the same kind of relations that link ants and colonies allow neurons to produce the behavior of brains.

Deborah Gordon, Stanford University biologist
The New York Times Magazine, October 31, 1999

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Use of Drop-In Group Medical Appointments (DIGMAs) at our San Jose Medical Center has substantially leveraged physician time; improved accessibility at both the individual physician and the departmental levels; increased quality of care by better addressing patients’ mind-body needs and improving follow-up care; achieved high levels of patient and physician professional satisfaction; and reduced cost to the organization by leveraging existing staffing resources. This article discusses the DIGMA model and suggests how it can be usefully implemented at other health care facilities.

Introduction

In this era of cost containment and managed care, specialists and primary care providers encounter ever-increasing pressure to efficiently see more patients in less time while simultaneously meeting competitive market demands for service and quality care. Optimal value, service, and quality of care will be achieved in today’s fast-paced health care environment only by providing the best possible mix of cost-effective group appointments and traditional individual appointments.

Because they are specifically designed to improve specialty and primary care access through use of existing resources, Drop-In Group Medical Appointments (DIGMAs) enable physicians to “work smarter, not harder.” DIGMAs enable physicians to see dramatically more patients in the same amount of time but in a way that increases patients’ satisfaction with their health care and physicians’ professional satisfaction while improving service and quality of care. DIGMAs offer an extended medical appointment with the patient’s own doctor in a group visit setting that enhances the patient’s care experience. The increased efficiency that DIGMAs provide can be used both to enable physicians to better manage their large practices and to improve the customer focus of the organization. Although still quite new, the DIGMA concept is already beginning to gain attention and recognition.

“I also encountered the demands of a rapidly changing health care environment where, increasingly, more must be done with less.”

“Although still quite new, the DIGMA concept is already beginning to gain attention and recognition.”

While incorporating most aspects of a traditional individual medical appointment, DIGMAs provide more integrated or holistic care by also dealing with patients’ psychological and behavioral health needs—needs which drive a large proportion of medical visits and which typically cannot be adequately addressed during the brief time span of an individual appointment.

Origin and need for the DIGMA concept

In 1996, I transferred to the Kaiser Permanente (KP) San Jose Medical Center from the KP Santa Clara Medical Center, where I had been Director of Oncology Counseling and Chronic Illness Services for more than a decade. At KP Santa Clara, I had specialized in designing and implementing large multidisciplinary group treatment programs for high-risk medical patients and their families. During my 23 years at KP Santa Clara, I worked closely with primary and specialty care physicians to provide integrated mind-body care to more than 10,000 medical patients. Through this work, I became familiar with the growing workload and the challenges that increasingly large patient panels presented to our physicians. I also encountered the demands of a rapidly changing health care environment where, increasingly, more must be done with less.

As a senior health psychologist in the Psychiatry Department put on long-term loan to the Division of Behavioral Medicine at the KP San Jose Medical Center, I had the responsibility of expanding the small Behavioral Medicine Department into the major medical illness arena by establishing such large integrated interdepartmental group programs as Cancer, Stroke, Major Medical Illness, Caregivers, Bereavement, Extra Care Group (for inappropriately high utilizers), etc. I also participated regionally and locally to help primary care and assist in the rollout of KP’s Adult Primary Care Redesign. All these activities caused me to reflect on how I might help specialty and primary care physicians to better manage their large and expanding practices.

Thus, my first priority at KP San Jose was to conduct a thorough primary care needs assessment by personally meeting with more than 50 internists, family practitioners, and administrators. Physicians at KP San Jose were struggling with many of the same problems as at KP Santa Clara: deteriorating access, substantially increased workloads, growing patient demands and expectations, morale issues, and managing increasingly large patient panels. Physicians felt that they scarcely had enough time during rou-
tine office visits to attend adequately to patients’ physical medical needs. Little if any time remained, either for dealing with the psychosocial needs of medical patients or for enriching the physician-patient relationship which, like physician professional satisfaction, was suffering as a result of these systemwide stresses.

Clearly, the system did not have sufficient resources—money or physicians—to solve these access and panel management problems solely by traditional means, ie, by simply increasing the total number of individual office visits available. A tool was needed that would work equally well in primary and specialty care settings to enable physicians to see dramatically more patients in the same amount of time, but do this in such a way that both patient and physician professional satisfaction were improved while access, service, and quality of care were simultaneously increased. On the surface, these objectives seemed mutually exclusive. It appeared to be impossible to simultaneously satisfy organizational needs (improved access, increased efficiency, and enhanced productivity by utilizing existing resources alone), patients’ needs (better access and more time with their doctor, increased quality of care, and improved patient satisfaction), and physicians’ needs (increased professional satisfaction and better management of large patient panels).

Of these three sets of needs, physician professional satisfaction seemed to present the greatest challenge, given the economic reality and rapid pace of change in today’s health care environment. During these early months, many models of care were conceptualized that would leverage physician time and increase productivity while simultaneously increasing patient satisfaction; however, the challenge was to achieve this while also increasing physician professional satisfaction. In 1996, the DIGMA model began to take shape and emerge as a viable means of meeting these seemingly conflicting demands of patients, physicians, and the organization and of providing a “win-win-win” situation for all three.

Structure and Types of DIGMAs

DIGMAs may be defined as group-setting medical visits which give patients an extended medical appointment with their own physician and the more relaxed pace of an effective support group with the behavioral health professional and other patients experiencing similar issues. To date, more than 8000 DIGMA patient visits have been made in 12 different specialty and primary care DIGMAs which I have co-led during the past two years in oncology, nephrology, endocrinology, rheumatology, neurology, and primary care at the KP San Jose Medical Center. Customized with heterogeneous, homogeneous, and mixed designs, DIGMAs are structured to respond to the particular needs, practice style, and patient panel constituency of the individual physician. DIGMAs are open to the physician’s entire patient panel, may be attended only by the physician’s own patients (and their support persons), and are typically held weekly for 90 minutes (Figure 1). They are co-led by the specialty or primary care provider and a specifically trained behaviorist (eg, psychologist, social worker, health educator, nurse) and are typically supported by a medical assistant and a scheduler.

The group typically consists of 10 to 20 patients, three to six family members or other caregivers, the behaviorist, and the physician.

Patients who are directly booked into the DIGMA in lieu of an individual visit enter from three sources: 1) by physician invitation during routine office visits to have their next visit be a DIGMA visit; 2) by the scheduler telephoning appropriate patients each week from the physician’s panel or waiting list and inviting them to attend; and 3) by patients attending the group on an unscheduled basis (often instead of scheduling an individual office visit or telephoning) when they have a medical need or question. Just as no one would expect a physician’s individual appointment schedule for the day to be fully booked without patients having been called and scheduled beforehand, a preassigned scheduler with adequate time dedicated for telephoning patients each week needs to be attached to most DIGMAs.

Figure 1. Drop-In Group Medical Appointment in progress

“To date, more than 8000 DIGMA patient visits have been made in 12 different specialty and primary care DIGMAs...”
Much of the economic and productivity gain of DIGMAs arises from the direct booking component: appropriately selected patients who agree to attend are scheduled directly into a DIGMA session instead of being scheduled into an individual office visit. However, much of the continuity of DIGMAs, as well as their warm and caring side, is provided by their spontaneous “drop-in” component.

A great amount of medical care can be provided during a DIGMA visit: vitals signs can be measured; medical charts can be reviewed and progress notes entered on each patient; questions can be answered; treatment options and medication side effects can be discussed; prescriptions can be changed or refilled; tests can be ordered and test results discussed; and brief private physical examinations or private discussions can be provided as needed during the last 10 to 20 minutes of group time in an adjacent examination room while the behaviorist leads the group, focusing on psychosocial, emotional, and healthy lifestyle issues of common interest to group members.

DIGMAs enable physicians to address in detail many issues of mutual interest to patients in a warm and supportive group setting where all can listen and learn—eg, the information and misinformation that patients glean from the media, Internet, friends, and direct advertising by pharmaceutical companies. Instead of repeating the same information to different patients with similar conditions—as is done during individual office visits—physicians can address an entire DIGMA group at once, often in greater detail because of the increased amount of time available. Similarly, the entire group can benefit simultaneously from the physician’s answer to one patient’s medical question, and further discussion is often stimulated. Patients often remark that in group they often get answers to important questions that they did not even know to ask. Patients clearly support one another and enjoy learning from each other’s experiences. Patients help other patients in group by sharing helpful information, encouragement, support, effective coping strategies, and disease self-management skills. Everyone leaves the group with the realization that things could be worse and that they are not alone.

**Unique Features of the DIGMA Model**

DIGMAs differ from other group visit models such as the CHCC model and the CHCC Specialty model developed by Dr. John Scott and his colleagues at the Cooperative Health Care Clinic (CHCC) of the Kaiser Thomas Abel, MD

“I have heard only positive and enthusiastic comments from my patients, and attendance has been consistently excellent.

Patients do not feel that they are relegated to a distant future appointment.

Personally, my DIGMA has given me an alternative method of caring for my practice. I believe it is more efficient, can save time, and augments my ability to meet the medical needs of my patients.”

C. Gregory Culberson, MD

“My neurology DIGMA has been the most satisfying new innovation brought to my practice during my 20 years with The Permanente Medical Group in San Jose ... Patient satisfaction is high because patients and their caregivers leave with the knowledge that their medical issues have been addressed comprehensively, and without the time pressure that sometimes intrudes into the routine office visit.

The results have easily surpassed my expectations. Patients’ acceptance has been gratifying, both because of their expanded access to me as their neurologist and because of their positive experiences within the group.

Many patients have commented that the availability of my weekly group has given them the message that we are here for them and that they need not worry about receiving insufficient attention or about being a bother!”

Monica Donovan, MD

“Patients seem very happy with the experience, and responses to anonymous patient satisfaction questionnaires confirm this impression.

I certainly believe that DIGMAs can better address psychological issues as well as issues common among group members with similar diagnosis. Patients can learn from each other and gain a great deal of information and emotional support from the group.

I believe that attending the group sessions can help people to build on their strengths, to pay closer attention to the positive aspects of their lives, and to make their medical care a more pleasant experience.

I find it important to get the word out to my patients about my group by routinely spending 15-30 seconds during every office visit telling patients briefly about the group and some of its advantages, inviting them to have their next visit be a group visit, and giving them a flyer describing my DIGMA.”

The Permanente Journal / Fall 1999 / Volume 3 No. 3
Permanente Colorado Medical Group. Both CHCC models focus on patient populations, either by utilization behavior (eg, the CHCC model for high-utilizing geriatric patients) or by diagnosis (eg, the CHCC Specialty model for high-risk patient populations with conditions such as hypertension, diabetes, hyperlipidemia, asthma, congestive heart failure, irritable bowel syndrome, depression, anxiety, and fibromyalgia).

In contrast, the DIGMA model focuses not on patient populations (either by diagnosis or by utilization behavior) but on the entire patient panel of the individual physician. This conceptual difference results in benefits specific to the DIGMA model. Because DIGMAs focus on improving access and helping physicians to better manage their entire large patient panels, physicians and their patients are the ones who directly benefit from DIGMAs. DIGMAs win physicians over out of self-interest, which ultimately leads to a high level of physician ownership and acceptance of the model.

How Patients Benefit from Participating in a DIGMA

Patient Satisfaction is High

Patients have accepted DIGMAs well and have consistently been highly satisfied with them. Many patients report that they actually prefer DIGMAs to traditional office visits. DIGMAs empower patients by giving them choice while giving assurance that individual appointments can also be scheduled as before.

Surveys have shown that patient satisfaction with DIGMAs is extremely high because the model gives patients what they most want: prompt access to high-quality care that attends to mind as well as body needs and gives patients more time with their own doctor. DIGMAs also release patients from the isolation of the individual office visit by having the help and support of other patients become an integral part of their medical care. These benefits of DIGMAs have inspired some patients to describe DIGMAs as “Dr Welby Care.”

Patients Help Other Patients

Patients attending the DIGMA provide encouragement and information to one another and are a source of realistic hope. Patients feel less isolated with their illness and gain a more balanced perspective about their situation because of the information and emotional support provided by other patients, including many who are seen as being worse off. Patients enjoy closer follow-up care because they can simply drop into the DIGMA any

**Rajan Bhandari, MD**

“From a professional standpoint, I feel more satisfied in being able to meet both the medical and psychosocial needs of my patients in a very warm and relaxed environment. Having the drop-in format empowers patients by giving them freedom of choice.”

**Lynn A. Dowdell, MD**

“The health psychologist and the encouragement, support, and gentle confrontation of other patients in the group with similar conditions are invaluable for breaking through denial and persuading patients to comply with recommended medical advice.

Overall, I have found my DIGMA group a valuable addition to my practice both by giving my patients more accessibility to me and by enabling me to deliver better service and follow-up care.

Because more time is available and the setting is more relaxed, my DIGMA lets me answer questions more fully and for many of my patients at once.

After individual consultations, I frequently use my DIGMA as a follow-up visit to discuss with patients the results of lab tests that I have ordered, to more closely monitor patients in a timely way, to order future tests, or to change medications as needed.”

**David Granovetter, MD**

“Simply put, it’s better care!

The groups have a wonderful healing energy about them that is not only helpful to patients, but also gives me hope in general for our ailing health care system.”

**Joseph E. Mason Jr, MD**

“One of the biggest and most pleasant surprises of my medical career has been my experience with my Cancer DIGMA, which has provided a totally new type of service for my cancer patients.

It is very popular among my patients, who receive a kind of support and education not easily possible within the confines of an examination room and brief individual visit.

My patients routinely report to me their great satisfaction with the experience.

As you can see, my DIGMA benefits my cancer patients in many ways. It improves their access to me by providing a weekly time when no barriers exist (not even a phone call) between them and me. It also gives my patients an opportunity to share their experiences and validate their predicament.”

**William Peters, MD**

“I believe that this model brings the human element back into health care. By providing a type of psychological management of medical illness that has not previously been available to physicians in traditional one-to-one office visits, the DIGMA more efficiently addresses psychological issues such as denial and noncompliance.”
week they have a question or medical need and spend a great deal of time with their own doctor (which enhances the physician-patient relationship) and other patients. Patients often remark that the presence of others in the group lets them feel safe enough to ask questions they were not comfortable asking during routine individual office visits.

The greater amount of time available—together with the presence of the behavioral health professional, the physician, and other group members—enables mind as well as body needs to be attended to. The emotional support and occasional confrontation from other patients who have already undergone the recommended treatment regimen with benefit or who have been dealing for a longer time with the same illness that the patient has can be extremely helpful in increasing medical compliance. Patients also benefit from presence of family members and other caregivers at the DIGMA and from their issues also being addressed.

In addition, because of the prompt, barrier-free access that DIGMAs offer, patients who otherwise might not have bothered to schedule an individual office visit (especially patients who deny or minimize the severity of their symptoms) sometimes drop into a DIGMA session where their medical condition—which might even be life-threatening—can be detected and appropriate care delivered (including referral to the emergency department in severe cases). Discussion of specific benefits that DIGMAs offer to patients is more fully developed elsewhere.

Even patients who chose not to participate in a DIGMA can benefit from the fact that their physician has a DIGMA program for his or her practice. This indirect benefit is improved access: by converting many individual visits appropriately into DIGMA group visits, DIGMAs increase the availability of individual office visits for patients needing or preferring them.

**Essential Steps for Developing a Successful DIGMA Program**

As is the case for all group visit programs, DIGMAs have certain specific requirements that must be met. Although these demands are reasonable and small compared with the multiple benefits that DIGMAs can offer, they are nonetheless real and critical to success. Failure to fulfill these nominal requirements will jeopardize the entire DIGMA program. Although this question is more fully developed elsewhere, I will summarize the essential steps here.

**Securing Administrative Support**

Formation of a successful DIGMA program requires early and adequate administrative support. For larger group practices, where multiple DIGMAs are to be established, the right person must be carefully selected to be the DIGMA champion. The champion, who must be very knowledgeable about all aspects of the DIGMA model, assumes primary responsibility for the entire DIGMA program, including its development and implementation throughout the medical facility. The champion serves as “point person” for attending to the myriad details necessary to ensure success. The champion must also inform physicians about the DIGMA model and its many benefits, address physicians’ questions and concerns, and encourage physicians to start a DIGMA for their practice. The champion customizes the structure and design of the DIGMA around the particular needs, goals, practice style, and patient panel constituency of each individual physician who chooses to add a DIGMA to their medical practice.

**Securing Patient Buy-In**

Formation of a successful DIGMA program requires support from patients. Because patients have grown to expect a traditional one-on-one office visit with their doctor, successful introduction of this radically different concept of group medical care has certain requirements for marketing the program. For example, all marketing materials directed at introducing patients to the DIGMA concept (eg, wall posters, fliers, announcements, follow-up letters to patients) must have a professional appearance that accurately portrays the high-quality medical care DIGMAs provide. In addition, physicians will need to take 15 to 30 seconds during every office visit to briefly explain some of the benefits that the DIGMA offers to patients, to hand patients a flier describing their DIGMA group, and to personally invite patients (as appropriate) to have their next visit be a DIGMA visit.

**Securing Physician Buy-In**

The DIGMA program must be allowed to evolve and develop among physicians at the grassroots level. Indeed, critical to the ultimate success of any DIGMA program is physician acceptance and buy-in, which can only be achieved by promptly and thoroughly addressing the concerns physicians raise. Resolution of these concerns will greatly facilitate physicians’ willingness to start a DIGMA for their own practice. I discussed elsewhere some common concerns ex-
pressed by physicians about DIGMAs: “It won’t work for my practice”; “I’m too busy to start a DIGMA”; “I’m not comfortable delivering medical care in a group”; “I still need individual appointments with my patients”; “What if I lose control of the group?”; “Is this increased quality of care or just more HMO cost-cutting?”; “It’s ‘meat market’ care”; “Groups strip away my easiest patients”; “I have some ethical concerns”; and “I’m concerned about confidentiality.” The DIGMA model addresses these concerns very well, so that they can either be resolved promptly or soon after the DIGMA is started.

Physicians who are concerned about confidentiality may wish to use a brief disclosure or informed consent form to be signed by all patients at the beginning of each DIGMA visit. I initially did this myself. However, it has been my experience that concerns about confidentiality have rarely, if ever, been expressed by patients attending DIGMAs and that any initial concerns regarding patients’ needs for confidentiality and possible unwillingness to discuss their medical issues in a group setting have proved unfounded. In general, patients feel safe and comfortable in a well-run DIGMA group and are surprisingly open and candid—a finding also reported elsewhere. 17

One concern in particular is frequently expressed by physicians: “Why should I start a DIGMA for my practice if the net long-term effect will only be 1000 more patients added to my panel?” This physician concern is the only one the DIGMA model itself does not solve, and the potential for long-term abuse in this area is real. Physicians are concerned that running DIGMAs for their practices will only produce a substantial net long-term increase in patient panel size that would completely nullify any net gain in efficiency that DIGMAs provide will be reasonable, so that they will be left with a substantial net gain for their efforts.

Assigning a Scheduler and Medical Assistant to the DIGMA

In most cases, a medical assistant and a scheduler must both be assigned to the DIGMA group. The scheduler must have enough dedicated time each week to telephone patients from the physician’s panel or waiting list (who have been approved by the physician as appropriate for the DIGMA) to invite them to attend the next DIGMA session.

The scheduler must be trained regarding the scripted telephone message to be used for inviting patients to the next DIGMA session and in how to answer patient questions about the DIGMA program. The scheduler must also be trained to send the personalized, computer-generated follow-up letter that includes all necessary information about the DIGMA and that incorporates the physician’s signature. The scheduler’s function is a clerical one that represents one of the least expensive personnel resources in the medical center; nonetheless, this function is a predictable, important expense that planners must include in the DIGMA budget.

The medical assistant assigned to the group must be trained to work with the increased patient volume that DIGMAs involve and the expanded responsibilities of this role, which includes not only taking vital signs but also performing many special duties, such as obtaining fingerstick blood glucose measurements for diabetic patients. Other special duties include reviewing all prompts on the registration forms for tests and medical services due, retrieving referral and testing forms, and completing as much patient information as possible before attaching the forms to the medical charts and returning them to the group, where the physician can efficiently order indicated tests and referrals during group time.

All personnel associated with the DIGMA—from the receptionists, medical assistant, and scheduler to the physician and behavioral health provider—must be well-trained, empathetic, and courteous. Accordingly, the medical assistant attached to the DIGMA should be selected on the basis of skill, pleasantness with patients, and a willingness to work hard and welcome the expanded role and responsibility that the DIGMA offers to medical assistants. Any medical assistant who complains about the workload and pace...
of care would be a poor choice for the DIGMA program. Try to select a medical assistant who is motivated to work with the DIGMA and perceives the added responsibility as an opportunity to gain experience and develop professionally.

**Choosing the Right DIGMA Champion**

Thoughtful, careful selection of the DIGMA champion is an important step for developing a successful DIGMA program. The champion’s clinical skills and knowledge of the DIGMA model are the foundation on which rests the success of the entire program, especially in its early stages. The champion must not only be skilled and experienced in working closely with both medical patients and physicians but also must engender a high level of physician confidence and respect—so much so that physicians will be willing, by working with the champion, to entrust delivery of medical care in the dramatically different format of a DIGMA group visit.

Physicians need much help from the champion when starting their DIGMA. The champion is responsible for implementing the entire DIGMA program at the facility. The champion should be a behavioral health professional who has adequate dedicated time and detailed knowledge about starting and running a successful DIGMA program; is comfortable working closely with physicians and hospital administrators; has experience in handling group dynamics and in leading large group programs; is compassionate toward the medically ill and is aware of their psychosocial needs; and can train other behavioral health professionals to lead DIGMAs which the champion has established—after which, the champion moves on to starting other DIGMAs with other physicians.

In addition to helping the physician to customize the design of the DIGMA to best meet the physician’s needs, the champion helps to develop the program description fliers and progress note (which is mostly preprinted in checklist form for quick charting) and takes the lead in getting the DIGMA program started. Whenever possible, the champion should start the DIGMA program with the physician and then remain with the group for a couple of months until it is running smoothly, all system problems (eg, medical charts not arriving on time) are solved, and the physician has become comfortable with the DIGMA model. The champion may also help the physician to learn how best to select and invite patients seen during routine office visits to have their next visit be a DIGMA visit. The champion can also advise physicians on how to best use DIGMAs to meet their stated goals and objectives, which continuously evolve as needs change.

The champion must also train different behavioral health professionals as replacements to assume the champion’s co-leadership of all DIGMAs established by the champion. Because they will be working closely together and need to be compatible, considerable care must be taken in selecting the best behavioral health professional for each DIGMA in order to ensure that this replacement is well matched to both the physician and the group.

**Choosing a Behavioral Health Professional for the DIGMA**

The behavioral health professional must be selected on the basis of skill set, scope of practice under licensure, and being well matched to the group and the physician (and not simply on the basis of lowest personnel expense). A poor choice of behaviorist is likely to reduce the productivity of the DIGMA and may even cause the group to fail.

The behavioral health provider introduces the group, manages group dynamics, addresses emotional and psychosocial issues, provides behavioral health evaluations and interventions, responds to any psychiatric emergencies, and helps to keep the DIGMA running smoothly and on time. In addition, the behaviorist helps the physician to resolve patient hostility or other negative emotions and leads the group alone (focusing on psychosocial issues) when the physician leaves the room to conduct brief private examinations or is otherwise absent. This arrangement enables physicians to focus on delivering quality medical care instead of worrying about group dynamic and psychosocial issues that require special expertise.

The behavioral health professional must be skilled in running groups; compassionate toward the chronically ill; knowledgeable about the psychosocial needs of medical patients; and have sufficient experience, training, and scope of practice under their license to handle all of the responsibilities that are likely to occur in the DIGMA. It is for these reasons that I particularly recommend using health psychologists in nephrology, oncology, and rheumatology DIGMAs, where anxiety, depression, and suicide are more likely to be major issues.

**Developing Effective Promotional Tools**

Well-designed wall posters (for the physician’s lobby and examination rooms) and descriptive fliers about the DIGMA program represent an im-
important but relatively small, one-time expense incurred at the beginning of each DIGMA program. Although small, considerable lead time should be allocated to this expense, which must be built into the DIGMA budget. Failure to obtain these important promotional tools will negatively impact the entire program.

**Maintaining Predetermined Minimum Census Levels**

I cannot overstate the importance of establishing and consistently maintaining a minimum patient census level for each DIGMA: Adequate census is the key to leveraging physician time and to attaining the levels of increased productivity and efficiency that well-run DIGMAs can achieve. Failure to consistently meet minimum census requirements would not only reduce efficiency and productivity, but could also jeopardize the entire DIGMA program.

Moreover, in contrast to the way the DIGMA model swiftly resolves most concerns, the concern around establishing and maintaining a minimum level of census is as real and important after a year or two as it was at the first DIGMA session. The minimum census level must be set high enough to meet the targeted goals for increasing physician productivity; at the same time, the minimum census level must not be set so high as to create an onerous workload or to reduce patient bonding. Experience has shown that the ideal census for most DIGMAs is between 10 and 16 patients plus an additional three to six family members and caregivers.

Maintaining census is critical to the success of each DIGMA and requires continuous vigilance. In addition, not only must a certain number of patients attend each group session; they must be the right patients (ie, patients whom the physician has specifically selected for inclusion and especially those who attend the DIGMA in lieu of an individual visit). Maintaining census converts individual visits into group visits, leverages physician time, improves accessibility, and achieves the goals for which the DIGMA model was originally designed.

The behavioral health professional has the responsibility of monitoring the group census each week and of notifying both the physician and the scheduler if census starts to drop or fails to meet the established minimum census level so that they can increase their efforts for inviting patients. In this way, the DIGMA census can be fine-tuned and maintained so that the DIGMA program’s desired objectives continue to be met.

**Implementing DIGMAs Throughout the Organization**

Larger group practices and managed care organizations may wish to first establish and evaluate the effectiveness of DIGMAs at a pilot site before disseminating the DIGMA model to facilities throughout the organization. Ultimately, full-scale implementation in both primary and specialty care settings is likely to be the organizational goal; this process is discussed in detail elsewhere; as are important keys to success—and pitfalls to avoid—when developing a DIGMA program throughout the organization.

**Barriers to Development of a Successful DIGMA Program**

The difficulties that I faced as DIGMA champion at the KP San Jose Medical Center should serve as a lesson for others and can be prevented by following the steps described in this article. Initially, primary care physicians were not easily convinced to try DIGMAs for their practices; I therefore started with specialists, and interest soon evolved among primary care practitioners. I also had difficulty obtaining funding for the three sets of framed wall posters and accompanying DIGMA program description fliers for the physicians’ lobby and for two examination rooms. In addition, there were sometimes difficulties reserving a group room that was adequately sized, comfortable, and with a well-stocked examination room nearby. Overcoming these difficulties often required improvisation, ingenuity, and persistence.

Due to lack of funding, we did not have a scheduler assigned to most DIGMAs with sufficient time dedicated each week (as much as four hours were needed in some weeks) to telephone patients and send follow-up letters. As a result, the census was sometimes below targeted levels, and the degree to which productivity was increased was correspondingly less than optimal.

Any perception by frontline physicians that the DIGMA model is being dictated “from the top down” is likely to engender physician resistance and resentment. Instead, managed care organizations should recognize that DIGMAs have the remarkable ability to win physicians over at the grassroots level out of self-interest and through word-of-mouth recommendations from colleagues already successfully running DIGMAs for their practices.

“Instead, managed care organizations should recognize that DIGMAs have the remarkable ability to win physicians over at the grassroots level out of self-interest and through word-of-mouth recommendations from colleagues already successfully running DIGMAs for their practices.”
that increases physicians' productivity from the "bottom up" rather than being imposed "top down." Instead, it is recommended that administrators simply provide the necessary support, carefully select the best possible candidate to be the DIGMA champion, and then allow the DIGMA program to develop and evolve among primary and specialty care physicians.

Conclusions

DIGMAs Help to Optimize Value

The DIGMA model offers an exciting new dimension to cost-effective delivery of high-quality health care. The extraordinary national response I have received to my published articles on the DIGMA model1-5 shows that the model is attractive to administrators and physicians alike. Because DIGMAs strike an optimal balance between economy and the needs of patients, physicians, and health care organizations, DIGMAs provide a "win-win-win" situation and can be expected to play an increasingly important role in the future of health care delivery.

Group Visits Complement Traditional Office Visits

DIGMAs work well in conjunction with the judicious complementary use of individual appointments. Both types of appointments have an important role in today’s health care environment; each has its own advantages and disadvantages, and neither is best for everyone in every situation. Physicians who use DIGMAs effectively can achieve tremendous results in their practices. DIGMAs excel at containing costs by making individual appointments more available for patients who need them most, by leveraging physicians’ time, by using existing staff resources more efficiently, by reducing return patient backlogs, and by increasing accessibility and therefore service. By addressing mind as well as body needs and by providing better follow-up care, DIGMAs enhance quality of care while improving patients' and physicians’ satisfaction with the total health care experience.

DIGMAs function most effectively when used to replace or supplement routine return appointments for relatively stable chronic illnesses, the worried well, patients with extensive informational and psychosocial needs, and patients who require much contact with their physician and a lot of professional handholding. Individual appointments are best used for initial evaluations, lengthy individual examinations, one-time consultations, most medical procedures, acute illnesses, urgent medical situations, and for patients who refuse to try group visits.

Why Physicians Like DIGMAs

Physician professional satisfaction has been consistently shown to increase with DIGMAs as a result of reduced backlogs and waiting lists, fewer patient phone calls and force bookings, less complaints about access, and more rewarding interactions with patients and their support persons. Physicians report that DIGMAs enable them to regain a sense of control over their practice by better managing their burgeoning panel sizes, delivering a more satisfying level of care, and enjoying improved physician-patient relationships. DIGMAs also offer physicians other benefits:

- A regular reprieve from the fast-paced treadmill of individual care;
- More time with the patient so that mind as well as body care can be provided, including addressing the psychosocial and behavioral health issues known to drive a large percentage of all medical visits;14-16
- An opportunity to try something new and different that provides an interesting learning experience;
- Improved access and a way to "work smarter, not harder";
- Less need to repeat information;
- Collegial interaction with the behavioral health professional;
- More compliant patients;
- A way to get back on schedule, even if the physician enters the group late;
- The ability to respond effectively to angry or demanding patients;
- The benefit of helpful assistance from both the behavioral health professional and the group itself.

Will DIGMAs Work in Practice?

Would the DIGMA model work in actual practice? After three years of development, over 8000 DIGMA patient visits, and experience with 12 specialty and primary care DIGMAs in three different phases, I can unequivocally answer this question in the affirmative: Carefully designed, properly run, and adequately supported DIGMAs can consistently work well in actual practice to achieve all of the goals for which the DIGMA model was originally designed. All 12 DIGMAs implemented to date have successfully met the goals for which they were designed.
DIGMAs Increase Access to Care

DIGMAs have been demonstrated to be extremely effective in solving individual physician's as well as departmental' access problems by converting many individual visits into more efficient, cost-effective group visits. DIGMAs work especially well for patients who are noncompliant, anxious, depressed, angry, distrustful of medical care, or have extensive psychosocial needs that require much time and emotional support. Physicians consistently remark how much easier it is to gain trust and medical compliance, even among resistant and noncompliant patients, when their treatment recommendations are reinforced by other patients in the group who have already received benefit from the recommended treatment.

DIGMAs excel in addressing the behavioral health, emotional, and psychosocial needs that are known to drive a large percentage of all medical visits, and this result can substantially reduce the demand for individual visits. Because DIGMAs can so effectively meet the medical needs of the relatively stable chronically ill, the worried well, and the psychologically needy, they can free up numerous individual office visits for rapidly evolving medical conditions, procedures, lengthy examinations, and patients truly needing an individual appointment.

DIGMAs Increase Patient and Physician Satisfaction

As important as any other benefit provided by DIGMAs, this model of health care delivery has been shown to increase the satisfaction of patients as well as physicians. DIGMAs reduce or eliminate appointment waiting lists and extra appointments force booked into already full schedules, decrease the need for patients to phone physicians' offices, increase access to medical care, and facilitate more rewarding interactions between physicians, patients, and patients' support persons.

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Oncology: Joseph Mason, Jr., MD; Joseph Remek, MD
Nephrology: William Peters, MD (assisted by Christopher DiMaio, MD, psychiatrist)

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The Easy Access Program: A Way to Reduce Patient No-Show Rate, Decrease Add-Ons to Primary Care Schedules, and Improve Patient Satisfaction

The Easy Access Program is a model plan to improve personalized care and patient access to primary care practitioners. In this model, Health Plan members who call for an appointment can see a clinician from their primary care module team within 48 hours. This article describes the background, rationale, design, and positive results of implementing this model access plan.

Introduction

After months of planning and after educating our physicians and staff, the Easy Access Program started on June 1, 1998, at the Southern California Permanente Medical Group (SCPMG) Antelope Valley Medical Offices. The Easy Access Program was created to solve problems of patient and staff dissatisfaction with our appointment system. Identified problems included long waiting time for appointments and inability of members to schedule an imminent, timely appointment with their primary care physician. In addition, clinical teams “added-on” patients to fully booked schedules each day; consequently, physicians’ and other staff’s stress levels were high. These issues are not limited to our clinic but have been reported elsewhere.1,5

The system’s inefficiency caused members to schedule more than one appointment for the same medical problem to help ensure being seen when the need arose. As a result, our no-show rate (ie, rate of patients who neither kept nor cancelled scheduled appointments) was 22%. Because appointments with members’ regular practitioners were nearly impossible to obtain on a same-day or nearly same-day basis, the volume of patients using the Urgent Care Department began to rise and ultimately exceeded 50% of all adult primary care visits. Our system required considerable “rework,” ie, follow-up visits to other, nonurgent care departments for medical problems not addressed earlier in the Urgent Care Department.

Working Within the Supply-and-Demand Model of Health Care

Before changing our appointment system, we had to determine if the number of appointments provided by our system (ie, the supply) was large enough to meet our members’ needs (ie, the demand). “Demand” in this context is defined as the number of patients seeking services—patients who call the clinic for advice or unsuccessfully seek service plus patients who obtain an Urgent Care or a routine appointment. The supply-and-demand model for health care hypothesizes that our appointment capacity meets the needs of our Health Plan members. Studies of our clinic population show a mean of approximately 3.0 appointments per year per adult member: 116,529 appointments made during a 12-month period divided by 37,685 adult members.

Given that a full-time equivalent (FTE) clinician in our system works five days per week, spends six weeks per year outside the clinic for continuing education and vacation, and can be scheduled for 22 appointments per day, each clinician can be scheduled for 5060 appointments per year (ie, 5 days/week × 22 appointments/day × 46 weeks). By definition, this figure is our projected supply of appointments.

According to these calculations, we need 23 full-time clinicians to care for our member population (ie, 116,529 appointments divided by 5060 appointments). Our supply of appointments must take into account the total number of clinician hours spent in the clinic. These clinicians include our full-time staff clinicians, extra clinicians, per diem practitioners, and clinicians working in the Urgent Care Department.

The supply-and-demand model should be used to guide a medical center to operate more efficiently. When, for example, patient panel size (ie, number of members assigned to a primary care practitioner) increases to the point that the need for appointments exceeds the number available, then demand exceeds supply, the system becomes less productive, employee stress levels rise, and satisfaction is decreased. At that point, members might leave the health care organization, causing a decrease in revenue and consequent rise in costs. In addition, a decrease in patient panel size and clinic FTE ratios would decrease the need for clinicians, and costs would begin to rise because salaries would exceed revenue. The ideal ratio of panel size to clinic FTE matches the supply of appointments to the demand for them.

Groundwork for Solving our Access Problem

Important work in the area of access within the Kaiser Permanente system had already been reported by Murray and Tantau,3 who showed that an open-access system improves members’ satisfaction and decreases waiting times for return appointments. Data presented by these authors3 and others4 were instrumental in allowing us to develop the concepts that were successfully implemented in our clinic.

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After we determined that our appointment capacity was sufficient to accommodate development of an Easy Access Program, we examined ways to improve our office efficiency. “Brainstorming” sessions with staff members identified two major areas of hidden capacity at our clinic: 1) a high percentage of patients who neither keep nor cancel a scheduled appointment, and 2) patients who are seen in the Urgent Care or Emergency Departments and are later seen by the primary care clinician for the same medical problem within one week after the initial visit. The Ambulatory Satisfaction Questionnaire (ASQ) survey was used to compare members’ general satisfaction with the Health Plan—and, in particular, their satisfaction with our appointment system—before implementation of the Easy Access Program.

A Gantt chart was developed to identify clinic stakeholders, and teams were formed to address issues relating to implementation of the program. In addition, we analyzed the function and length of appointment types and developed appointment types that would guide our call center personnel to give members the type of appointments they need.

Design and Implementation of the Easy Access Program

As an initial step in designing the new system, we agreed that all appointments would be 20 minutes long to avoid confusion between the 15-, 30-, and 45-minute appointment types used in our old system; 15-, 30-, and 45-minute appointments were eliminated. The call center receptionist scheduling an appointment would thus need only to look for one appointment type—the type which most members request. Appointment types were reviewed with the primary care provider teams, and 18 appointment types were replaced with four: hold, new, return, and same-day. Adjustments were made to accommodate Family Practice clinicians who provide pediatric services and other procedures on a same-day basis.

When members call for an appointment in our new system of access to care, the call center receptionist determines if the patient’s primary care clinician is available for a same-day appointment; in this sense, the new system is resource-specific. If an appointment is available, the receptionist gives the member the appointment; if the clinician is not available for a same-day appointment, the call center representative identifies another module team member who is available; in this sense, the new system is module-specific. If no module provider is available, the receptionist identifies an available clinician within the department; in this sense, the new system is department-specific. If no same-day appointments are available, the member is given an appointment in the Urgent Care Department.

Categories of future appointments were identified as “new member entry,” “preoperative screening,” and “hospital follow-up.” Clinic staff who interact with members needing these appointments were given the responsibility and authority to schedule future appointments for these patients.

To accommodate this change, the Medical Records Department had to change its chart-delivery system: instead of pulling charts only for routine future appointments—and thus deliver charts once or twice per day—personnel had to be available to pull charts and deliver them to the module several times per day on an as-needed basis.

Knowing that the long-term success of the program depended on encouraging both accountability and the potential for rapid change at the local level, we developed module teams consisting of nurses, physicians, pharmacists, social workers, receptionists, and clinical assistants and including a physician as team coleader and a nurse as team coleader. Teams met daily, weekly, and monthly to discuss quality and performance improvement issues. Original thought was encouraged. Every month, all module teams met jointly to share best practices. A physician master scheduler reviewed vacation and other absences to assure that not more than two providers from the module would be absent at one time. Module leaders were responsible for scheduling a clinician to be present in each module for after-hours clinic appointments.

The final step before implementing the Easy Access Program was to reduce the backlog of patients on the clinic or medical center’s appointment waiting list. One way to reduce the backlog would be for the clinic to increase the number of providers available to meet the future demand for appointments; however, this method is costly and generates a new list of patients waiting to be seen. In our clinic, therefore, we telephoned most of the patients on the waiting list and discovered that 25%-50% of these patients did not need a return appointment. Instead of being sent a card with appointment date, the remaining patients were sent a letter reminding them to call for an appointment. After initiating this process, our backlog was eventually reduced to a number which was easily absorbed by our new access program.

“After initiating this process, our backlog was eventually reduced to a number which was easily absorbed by our new access program.”
The numbers of no-show appointments for the five months before and seven months after implementation of the Easy Access Program are shown (Figure 1). The no-show rate dramatically decreased after we started the new program on June 1, 1998. The overall no-show rate decreased a mean of 857 appointments per month (for the five-month period before the program started) to a mean of 312 appointments per month (for the seven-month period after the program began). This decrease corresponded to a reduction in no-show appointments from about 214 per week to 78 per week. The most dramatic change among the four types of appointments—hold, new, return, and same-day—was seen for return appointments (Figure 2).

Because the new system allowed for same-day appointments, the number of appointments added to clinicians’ schedules was substantially decreased from a high of 639 (in April, 1998) to a low of 42 (in August, 1998) (Figure 3). In addition, because clinicians had increased their capacity to see Health Plan members in the primary care clinic, the percentage of Health Plan members seen in the Adult Urgent Care Department decreased from 48% to 29% after implementation of the Easy Access Program (Figure 4).

The Internal Medicine Department waiting list for routine appointments—an indicator of unmet demand—was reduced from a mean of 852 per month to a mean of 20 per month (Figure 5), a result which took about three months. After one month of experience working within the Easy Access program, we randomly surveyed several clinicians and receptionists to determine their opinions about the program. On a scale of 1-10 (a score of 10 was most positive), both groups gave the program a score of 8. Results of the patient satisfaction questionnaire asking for patients’ appraisal of physician and staff services showed dramatically improved patient satisfaction after implementation of the Easy Access Program—both for individual indicators of satisfaction and for overall satisfaction (Table 1).

**Conclusion**

The reasons for us to consider changing our present appointment system were related to specific clinic issues: Our member satisfaction scores were the lowest in our service area; no-shows (ie, appointments that are neither kept nor cancelled) contributed approximately 20% of all primary care visits scheduled per day; and the number of visits

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**Figure 1.** Number of “no-show” appointments at SCPMG Antelope Valley Medical Offices during the five months before and seven months after implementation of Easy Access Program.

**Figure 2.** Number of “no-show” appointments during the one-month periods before and after implementation of Easy Access program.

**Figure 3.** Number of appointments added to clinicians’ schedules during the five months before and three months after implementation of Easy Access Program.
to the Adult Urgent Care Department per day was exceeding the number of visits to nonurgent care clinicians per day. Our system encouraged patients to schedule follow-up visits for medical problems addressed earlier at the Urgent Care Department, yet members did not perceive visits to the Urgent Care Department as a satisfactory replacement for seeing their primary care practitioner.

The Easy Access Program implemented at the Antelope Valley Medical Offices has made our clinic more efficient, has changed the way we work with our internal and external customers, and has increased their level of satisfaction with the Health Plan. We have decreased the number of wasted appointments as well as the aggravation felt by clinicians as patients are added to schedules that are already fully booked. In addition, physicians and support staff now communicate daily, weekly, and monthly to monitor and improve patients’ access to appointments. The overall benefit of the Easy Access Program is development of a system of health care delivery that matches appointment supply with appointment demand.

We hope that further evaluating this system will help us to develop a program that fully meets both the acute and long-term needs of our members while reducing unpredictable deficiencies in appointment scheduling. Further work is needed to integrate the Easy Access Program with population care management programs and to accommodate members who want to schedule an appointment with their clinician in excess of 48 hours.

The data presented in this paper suggest that the Easy Access Program may make our system of health care more efficient while meeting access needs of our members.

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Improving the Quality of Service: The KPNW Experiment

In the mature, highly competitive Northwest US health care market, the Kaiser Permanente Northwest (KPNW) Region has adopted a central focus of exceeding members’ expectations of health care services. This article introduces readers to the KPNW Customer Service Collaborative, an activity organized in 1999 to solidify service quality as a core value throughout the Region.

Introduction

Kaiser Permanente Northwest (KPNW) leadership is committed to creating a service-oriented culture that permeates all levels of the organization. Given that the highly competitive and mature managed care environment in the northern Willamette Valley and in Southwest Washington has virtually eliminated KPNW’s historical price advantage, attention to meeting and exceeding members’ expectations of the health care experience has become a central focus for the Region. More specifically, dimensions of the care experience as described by the Picker Institute (an organization that has spent many years exploring the experiences of patients who have been treated in a variety of clinical settings) provide the KPNW Region multiple opportunities to assess current activities and to improve on them.

“Providing excellent customer service is no longer optional for us in Kaiser Permanente. Our members and customers expect to be treated with respect, honesty, and integrity. They also expect us to function as highly committed, customer-focused teams within our integrated health care system. Working together, I am confident we can meet or exceed these expectations for service excellence.”

Barbe West
Regional President, Kaiser Foundation Health Plan Northwest

“Improving service requires all members of the health care team to understand what our patients want and need, and communicate effectively among themselves about how to meet those needs. No one can sit on the sidelines; it requires the commitment of all.”

Allan Weiland, MD
Regional Medical Director, Northwest Permanente, PC

KPNW senior leaders recognize that a significant cultural shift is needed to understand these expectations and to organize services accordingly. This recognition has led the leadership team to identify several organizational components that are necessary if KPNW is to be a leader in service excellence:

- Knowledge of what constitutes an excellent care experience;
- Management modeling in which senior and middle managers model excellent customer service behaviors;
- Employee satisfaction and empowerment in which employees are engaged, mobilized, and empowered to maximize their performance contributions and intrinsic work satisfaction;
- Skills and competencies in which senior leaders, middle managers, clinicians, and employees have the capability to provide excellent service;
- Systems such as training, recognition/reward, and care delivery systems in place to support service quality;
- Strategy for becoming an organization known for service excellence; and
- Structure to support benchmarking activities and sharing of ideas; and a compensation and incentive system that reinforces all of the above.

Historical Foundation for the KPNW Customer Service Collaborative

In 1998, the Institute for Healthcare Improvement (IHI)—an independent, nonprofit organization—invited 28 health care organizations to participate in a new, national collaboration titled “Improving Service in Health Care.” KPNW participated in this collaboration, which challenged participating organizations to rapidly reshape customer service in areas important to customers. KPNW responded to the challenge by implementing a pilot project in one geographic area in the Region: the Salem Primary Care Service Area (PCS A). The Salem PCSA is one of six service areas within the Region and consists of two primary care medical offices, one specialty care medical office, and a centralized call center. Salem is located 50 miles south of Portland and serves approximately 48,000 members.

The support provided by the IHI Collaborative and the substantial attention given to improving customer
service in Salem led to major improvements in customer service in the Salem PCSA. From August 1998 to November 1998, the Salem PCSA achieved a statistically significant increase in overall satisfaction (72.6% to 81.8%, p = 0.01); the percentage of patients paired with a primary care provider (PCP) increased from 57% to 68%; the percentage of patient visits with the patient's PCP increased from 64% to 70%; and member concerns decreased by 31%. In addition, a nine-question employee satisfaction survey was distributed to KP clinicians, nurses, and receptionists in the Salem PCSA in April 1998 (before the start of the Collaborative), and again in November 1998; responses to six questions on that survey showed statistically significant improvement in employee satisfaction between April and November.

These successes led to formation of the KPNW Customer Service Collaborative, whose ambitious goals were 1) to increase overall customer satisfaction with service in the inpatient and ambulatory care settings by 30%; and 2) to increase by 50% employees' and physicians' ability to provide excellent customer service as perceived by the employees and physicians.

Formation of the KPNW Customer Service Collaborative

Modeled after the IHI Collaborative, the KPNW Customer Service Collaborative was designed to begin addressing the organizational components necessary for service excellence and to shift the organizational culture toward recognizing service quality as a core value. The Customer Service Collaborative is based on the premise that continuous learning drives continuous improvement. In February 1999, multidisciplinary health care teams were invited to explore ways to listen and learn from customers; to design small, site-specific improvements; and to rapidly adjust activities on the basis of customer feedback.

Planning and Measuring Improvement Using a Rapid-Cycle Approach

The Collaborative teams were encouraged to use a simple yet powerful accelerated improvement model, as described in The Improvement Guide: A Practical Approach to Enhancing Organizational Performance. This rapid-cycle, “trial and learning” approach to improvement is an adaptation of continuous quality improvement (CQI) methods designed to

Structure and Operational Model Used by the KPNW Customer Service Collaborative

Of the 16 applications received, 13 multidisciplinary teams were selected from primary, specialty, and inpatient care service areas to participate in the Customer Service Collaborative. All but two of these were naturally occurring work teams. Teams were selected on the basis of their excitement about improving customer service.

A strong organizational structure was created to support the teams’ work in improving customer service (Figure 1). In addition to the team co-leaders (one physician and one RN), each team is supported by:

- Local operational leaders who address barriers, provide needed resources, and reinforce change at the local level;
- One senior leader, who removes barriers to team progress and reinforces change at the organizational level; and
- A process consultant and a measurement consultant, who provide fundamental skills and tools for effectively implementing change.

In all, 13 Collaborative teams were encouraged to meet on a weekly basis. Most teams had a core group (5-7 multidisciplinary team members) who met every week for one to two hours over the lunch hour and then met with the other members of the patient care module once per month at a regularly scheduled module meeting.

Figure 1. Organizational support structure for KPNW Customer Service Collaborative.
both shorten turnaround times and make incremental changes at an accelerated pace. This approach has also been identified as the “quality in daily work” approach, in which clinicians and employees monitor their own performance and adjust it accordingly.

In the rapid-cycle improvement approach used by the Customer Service Collaborative, teams were continuously encouraged to try activities on a small scale by using the Plan-Do-Study-Act (PDSA) cycle, which teaches teams to try a small-scale change (for example, trying an activity with only one or two physicians using one or two examination rooms; or trying the activity with the next three patients). After observing the consequences of the activity, the team modifies the change on the basis of what is learned. If the cycle is successful as shown by appropriate measures, the next cycle may test the same change on a larger scale or under different circumstances (eg, on a different time of day or day of the week). If test results are unsuccessful, the team can try a different improvement activity and thus not waste time and resources on an unsuccessful activity.

Before solidifying aims or goals for the Collaborative, the teams were encouraged to look at customer service from the perspective of patients. On the basis of responses from many focus groups, customer interviews, and national surveys, the Picker Institute (Boston, Massachusetts) identified eight “dimensions” of care that are especially critical from the patient’s perspective. These dimensions of care helped to ensure that the Collaborative teams’ work toward improving customer service would make a difference to patients.

Measurements in the Collaborative are derived from results of locally administered surveys distributed by each team to members when they come into the office for a visit. Members return the completed surveys in confidential drop boxes before leaving the building. The surveys include six questions that are standardized to enable comparison across teams and three to six questions selected by each team to measure team-specific improvement activities.

At the start of the Collaborative, teams were supplied with a computer and a customized data entry and analysis program to enable teams to track their survey results frequently and independently.

**Shared Learnings**

In addition to three one-day conferences offered throughout the nine-month Collaborative, teams were continuously linked through a KPNW Customer Service Intranet site (Figure 3) that offered a wealth of current information to participating teams and outside observers and served as a vehicle for team communication. One team increased involvement among the Collaborative’s entire patient care module by posting to the Web site all customer service

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**Figure 2.** Model for planning and measuring rapid-cycle improvement. (Reproduced by permission of the author and publisher from Langley GJ, Nolan KM, Nolan TW, Norman CL, Provost LP. The improvement guide: a practical approach to enhancing organizational performance. San Francisco: Jossey-Bass Publishers; 1996. p.10. (The Jossey-Bass business & management series).)

**Figure 3.** KPNW Customer Service Collaborative Web site, designed and implemented as a vehicle for team communication.
meeting minutes, member satisfaction survey results, employee satisfaction survey results, direct patient and employee quotes, tributes to exceptional employees, team photographs, and all customer service improvement activities.

**Activities Designed to Improve Service**

With the assistance of the Collaborative support structure and regular team meetings devoted to customer service, all Collaborative teams have been actively pursuing their aims. To date, more than 100 customer service improvement activities are underway. Categorizing these improvement activities into Picker dimensions of care has clearly shown that most of these activities are clustered in two of the Picker dimensions: the Access dimension and the Information and Education dimension (Figure 4). Two other dimensions—Emotional Support and Respect for Patient Preferences—may be considered more subjective because they involve somewhat ambiguous aspects of the delivery system. The five Picker dimensions of care include Access, Respect for Patient Preferences, Continuity and Coordination of Care, Information and Education, and Emotional Support.

- **Access to Care:** Patients want access to care and therefore become frustrated by the barriers they often encounter (e.g., telephone triage or voice mail systems, scheduling difficulties, overzealous “gatekeepers,” or restrictions imposed by the managed care system).

- **Respect for Patient Preferences:** Patients describe feeling a sense of anonymity and loss of identity in hospital and clinic settings and a strong need to be recognized and treated with dignity and respect as individuals. They also express worry about how their sickness or treatment might affect their lives, and they want to be both informed about and involved in medical decisions.

- **Continuity and Coordination:** Patients have a unique vantage point on the process of care. Their perceptions of the competence and efficiency of their caregivers are shaped, in large part, by how well clinical care, ancillary and support services, and “front-line” care are coordinated. Patients often do not understand institutional and functional boundaries and have difficulty navigating the health care delivery system effectively.

- **Information and Education:** Patients often express the fear that information is being withheld from them or that they are not being completely or honestly informed about their illness or prognosis. In particular, they emphasize the need for information about their clinical status, progress, and prognosis; information about the processes of care; and information that helps them manage by themselves away from the clinical setting.

- **Emotional Support:** The fears and anxieties provoked by illness can be as debilitating as its physical effects. In particular, patients express anxiety about their illness and fears about possible outcomes or long-term prognoses; worries about the effect of their illness on their ability to care for themselves or for their dependents; and concerns about the costs of medical care or the implications of the illness on their family’s income.

Table 1 summarizes some KPNW Collaborative improvement activities included within each dimension of care. The critical key to all the improvement activities is use of the rapid-cycle methodology.

**Early Findings of the KPNW Customer Service Collaborative**

Tests for statistically significant differences in continuous and categorical data were done using \( t \) tests and \( \chi^2 \) tests, respectively, at the 95% confidence level. All analyses were done using SAS (SAS Institute, Cary, NC) software.

**Patient Surveys Distributed by the Collaborative Teams**

On the Collaborative surveys administered by teams at the point of service, three of the five standardized survey questions have shown statistically significant improvement from April 1999 to July 1999 (Table 2). Significant improvement has been seen in patients’ satisfaction with the interest and attention shown to them by nurses and medical assistants \( (p = 0.0001) \), satisfaction with how well the provider listened \( (p = 0.0001) \), and overall satisfaction with their medical care experi-
<table>
<thead>
<tr>
<th>Dimension of care</th>
<th>Associated activity</th>
</tr>
</thead>
</table>
| **Access**        | Provide clear instructions on use of mail-order prescription service  
                    | Provide information on estimated wait times at check-in  
                    | Acknowledge lengthy patient wait times  
                    | Ensure that nurses/medical assistants work to keep clinicians on schedule  
                    | Reduce wait times by shifting staff to reception desk at peak check-in times  
                    | Assign all members to PCP patient panels  
                    | Have patients fill out previsit interview form (“Doc Talk”) listing reasons for visit (saves Medical Assistant time and informs clinicians of patient expectations)  
                    | Call select patients to identify any medical needs that can be met by telephone  
                    | Provide patients espresso vouchers, co-pay waivers, or other form of apology for excessive waits  
                    | Provide pagers to patients who will have excessive waits  
                    | Enhance comfort in waiting rooms (eg, by providing toys, current magazines, newspapers, copies of KP Healthwise Handbook, television, videos, crayons, paper, telephones, water, coffee, writing tables, computer ports, fish displays)  
                    | Provide supervised play areas in waiting rooms for children  
                    | Read to children in pediatric waiting areas  
                    | Shift waits from examination rooms to waiting rooms  
                    | Modify schedules to better serve Urgent Care and walk-in patients  
                    | Modify schedules to increase patients’ ability to see PCPs  
                    | Assign selected appointment types to nurses and physical therapists  
                    | Encourage use of KP Healthwise Handbook and KP Online  
                    | Use central team e-mail account to enable patients to reach any team member  
                    | Distribute team brochures with clinician pictures and biographical information to patients not yet assigned to PCP panels  
                    | Expand schedules so appointments can be made further in advance  
| **Respect for patient preferences** | Personally contact every patient who has expressed a concern  
                    | Enhance computerized medical record by including personalized patient information such as nicknames used by patients  
                    | Address all patients by their preferred name, pronounced correctly  
                    | Ensure that nurses/medical assistants/other clinicians/receptionists wear nametags and introduce themselves to all patients  
                    | Ensure that nurses/medical assistants/other clinicians/receptionists participate in communication workshops  
                    | Ask all patients if their needs were met  
| **Continuity and coordination of care** | Make sure all collaborative teams work together to coordinate patient care  
                    | Have teams work with Emergicenter to coordinate care at walk-in and Urgent Care appointments  
                    | Have teams work with regional Call Center to improve customer service  
                    | Have medical assistants schedule follow-up appointments for patients  
                    | Have medical assistants verbally review clinician instructions and next steps at end of visit  
                    | Place computerized medical record workstations in examination rooms  
| **Information and education** | At check-in, give patients written suggestions for making the most of their next appointment  
                    | Customize information given on computerized After-Visit Summaries  
                    | Increase use of computerized After-Visit Summaries  
                    | Consolidate and standardize information given to patients  
                    | Update posters placed in examination room  
                    | Provide information packets to patients while they are in the hospital  
                    | Give patients a written explanation of laboratory test results in nontechnical terms  
                    | Redesign radiology prep sheets as necessary to be shorter and easier to understand  
                    | Provide welcome package (eg, containing welcome letter, team philosophy, team photograph, clinician biographical cards, service hours, interpreter phone numbers, and appointment instructions) to all new members. Provide business cards with phone numbers for appointment and advice (in English, Russian, Spanish, and Vietnamese)  
| **Emotional support** | Train clinical staff how to interact with frustrated/unhappy members  
                    | Sit while talking with patients to show greater empathy  

Table 1. KPNW Customer Service Collaborative improvement activities grouped by Picker dimensions of care
ence (p = 0.0017). No significant change was seen in patient’s satisfaction with the time it took to obtain an appointment (p = 0.134) or in the percentage of respondents who report that they received instructions or next steps at the end of the visit (p = 0.218).

Results at the team level are summarized (Table 3). Comparing the April and July overall patient satisfaction scores shows that two teams achieved a significant increase (p = 0.0236 and p = 0.0009): one team almost achieved a significant increase (p = 0.0921), and one team almost achieved a significant decrease (p = 0.07); the other teams did not show a statistically significant change in overall patient satisfaction during the first four months of the Collaborative.

Comparison with Results of KPNW Medical Office Visit (MOV) Survey

Results of the patient survey distributed by the KPNW Customer Service Collaborative teams were compared with the results of another survey, the KPNW Medical Office Visit (MOV) Survey, which is a mail survey administered by an outside vendor. Results for the second quarter of 1999 were separated into Collaborative team data and non-Collaborative team data. Whereas the Collaborative teams scored significantly higher than non-Collaborative teams on only one MOV question, the Collaborative teams scored higher on 76% of the MOV questions, a finding greater than could be expected by chance alone.

Discussion

The most important consideration in interpreting these results is that this is a mid-cycle report, not a detailed analysis of a completed project. At the end of the Collaborative, the final, complete results, including employee satisfaction data, will be analyzed in depth, permitting more sound conclusions. Our findings will be published in a subsequent issue of The Permanente Journal.

Aggregate results from the Collaborative surveys show promising signs of success. The substantial improvement in Nurse/Medical Assistant Interest and Attention, Provider Listening, and Overall Satisfaction is encouraging given the many improvement activities underway to address these areas. The lack of improvement in Time to Appointment is not surprising given that none of the Collaborative teams are addressing this area at this time. Until now, Collaborative teams have been focusing almost exclusively on aspects of the patient visit that are under the team’s direct control. The amount of time it takes to obtain an appointment involves more global system issues and will be more challenging for teams to address.

Results at the team level are more difficult to interpret given small survey sample sizes. The consultants for the teams are helping to diagnose problems and to remedy the situation so that the teams will be able to continue monitoring their progress.

In addition, the teams are progressing at varying speeds. Some teams discovered a need to address team dynamics before implementing many customer service improvement activities and thus are not yet in a

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Mean score April 1999</th>
<th>Mean score July 1999</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time to Appointment</td>
<td>7.91</td>
<td>7.79</td>
<td>0.1340</td>
</tr>
<tr>
<td>Nurse/Medical Assistant Interest and Attention</td>
<td>8.20</td>
<td>8.44</td>
<td>0.0001</td>
</tr>
<tr>
<td>Provider Listened</td>
<td>8.33</td>
<td>8.54</td>
<td>0.0001</td>
</tr>
<tr>
<td>Received Instructions/Next Steps</td>
<td>96.8%</td>
<td>97.6%</td>
<td>0.218</td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>8.24</td>
<td>8.42</td>
<td>0.0017</td>
</tr>
</tbody>
</table>

Survey responses scored on a scale of 1 to 9 (9 = highest possible result).

*Received Instructions/Next Steps is a Yes/No question. Results show percentage of respondents answering “yes.”

<table>
<thead>
<tr>
<th>Teams</th>
<th>Mean score April 1999</th>
<th>Sample size</th>
<th>Mean score July 1999</th>
<th>Sample size</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team 1</td>
<td>8.21</td>
<td>200</td>
<td>8.54</td>
<td>201</td>
<td>0.02</td>
</tr>
<tr>
<td>Team 2</td>
<td>8.01</td>
<td>245</td>
<td>8.14</td>
<td>65</td>
<td>0.52</td>
</tr>
<tr>
<td>Team 3</td>
<td>8.48</td>
<td>360</td>
<td>8.32</td>
<td>142</td>
<td>0.26</td>
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<tr>
<td>Team 4</td>
<td>8.31</td>
<td>197</td>
<td>8.40</td>
<td>189</td>
<td>0.60</td>
</tr>
<tr>
<td>Team 5</td>
<td>8.41</td>
<td>68</td>
<td>8.65</td>
<td>121</td>
<td>0.09</td>
</tr>
<tr>
<td>Team 6</td>
<td>7.99</td>
<td>211</td>
<td>8.53</td>
<td>199</td>
<td>0.0009</td>
</tr>
<tr>
<td>Team 7</td>
<td>8.57</td>
<td>145</td>
<td>7.90</td>
<td>40</td>
<td>0.06</td>
</tr>
<tr>
<td>Team 8</td>
<td>8.45</td>
<td>143</td>
<td>8.70</td>
<td>56</td>
<td>0.11</td>
</tr>
<tr>
<td>Team 9</td>
<td>7.66</td>
<td>181</td>
<td>7.42</td>
<td>24</td>
<td>0.61</td>
</tr>
<tr>
<td>Team 10</td>
<td>8.30</td>
<td>169</td>
<td>8.13</td>
<td>23</td>
<td>0.70</td>
</tr>
<tr>
<td>Team 11</td>
<td>8.49</td>
<td>111</td>
<td>8.15</td>
<td>100</td>
<td>0.07</td>
</tr>
</tbody>
</table>

*Two additional teams did not have enough surveys to be able to make this comparison.
position to significantly impact overall patient satisfaction. Other teams started strong and are already producing substantial results. Most teams are achieving results between these two extremes. The MOV Survey results for the Collaborative teams compared with the non-Collaborative teams provide additional preliminary evidence that the improvement activities may be making a difference. Data for the third and fourth quarters of 1999 will be analyzed and compared in the same way to determine if Collaborative teams continue to score higher than non-Collaborative teams in improving customer service.

Learnings and Next Steps

Teams must function well together before a project of this magnitude can be successfully undertaken; a key learning from the Collaborative’s work, therefore, is that involvement in the Collaborative can help to identify underlying dysfunctional team dynamics. To address the important issue of team dynamics, a portion of the agenda for the second Learning Session was devoted to team dynamics and communication. In addition, in future Collaboratives, this topic will be addressed at the initial Learning Session, and a structure for early intervention will be designed and implemented.

The support structure in place for each Collaborative team has been effective for some teams and not as effective for others. Two especially critical components are 1) the relationship between team and consultants and 2) the consultants’ comfort with rapid-cycle measurement and improvement, team facilitation, and team coaching skills. More formalized recruitment of consultants, establishment of clear consultant expectations, and enhanced training of consultants will be incorporated into the 2000 Service Collaborative. In addition, other potential consultant staffing models will be explored. Another critical component of the Collaborative is the role of senior sponsors: Allowing teams to help define the role of sponsors is already underway for the 2000 KPNW Customer Service Collaborative. The structure of the Collaborative is continuously being evaluated for potential improvement opportunities.

Conclusion

The 1999 KPNW Customer Service Collaborative is showing early signs of success. Although many modifications are planned for the Year 2000 Collaborative, the main structure of the Customer Service Collaborative will remain. KPNW senior leadership has recently reaffirmed its endorsement of the model for moving KPNW toward an organization known for service excellence.

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References


Uncited Supporting Articles

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.

Introduction

Medical interviewing is the foundation of medical care and the clinician’s most important activity. Physicians conduct a mean of 120,000 to 160,000 interviews in a practice lifetime. Even a modest improvement in efficiency, diagnostic accuracy, and adherence can greatly affect outcomes, satisfaction, and cost.

A growing body of evidence suggests that clinicians behave according to distinct, describable patterns. What was once called “bedside manner” and considered a matter of etiquette and personal style has now been the subject of a large number of empirical studies. The results of these studies suggest that the interview is integral to the process and outcomes of medical care, supporting Engel’s view that “the interview is the most powerful, ... sensitive and versatile instrument available to the physician ...”\(^3\) (p 115). Apparently, patients are less concerned with how much their physicians know than with how much they care.\(^4\)

Recently, several conceptual models of the medical interview have also been proposed.\(^5\)–\(^10\) These models have been quite helpful in laying out the basic tasks or functions of the interview. What has been lacking to date is a conceptualization of how the elements of the encounter relate to one another during and across encounters.

We describe a new approach to the medical interview called “The Four Habits Model.” It is derived from previous empirical and conceptual work on the interview and represents a synthesis of the available research literature on interviewing effectiveness plus our own clinical and teaching experience. The advantages of the Four Habits Model are that families of skills known to be related to outcomes of care are organized together into Habits and that the relationships among the Habits are made explicit.

We use the term Habit to denote an organized way of thinking and acting during the clinical encounter. The Four Habits are: Invest in the Beginning, Elicit the Patient’s Perspective, Demonstrate Empathy, and Invest in the End. The goals of the Four Habits are to establish rapport and build trust rapidly, facilitate the effective exchange of information, demonstrate caring and concern, and increase the likelihood of adherence and positive health outcomes.

Numerous studies show that both patients and physicians derive considerable satisfaction from interpersonal aspects of care and suggest that certain clinician behaviors affect the likelihood of achieving desired outcomes. Fortunately, growing evidence indicates that clinical communication skills can be taught, learned, and practiced\(^11\) (Table 1). However, many practicing physicians receive little or no training in this area.

Overview of the Model

Four Habits Grid

In the Four Habits Model (Table 2), the various communication tasks that make up each Habit are organized into families of skills, techniques, and payoffs. In addition, the Habits are seen as nested and interrelated. For example, failure to elicit the full spectrum of concerns at the beginning of the encounter and to assess their importance from the patient’s point of view leads to premature hypothesis testing, misplaced empathy and support, and the emergence of hidden concerns at the end. In contrast, eliciting and prioritizing all of a patient’s concerns, exploring the patient’s perspective, and showing appropriate empathy set the stage for successfully engaging the patient in joint decision-making and education. Understanding each of the skills individually and how they work together is important for creating mutually satisfying and effective encounters. The importance of
the skills associated with each Habit relates not only to their support of that Habit but to their support of the other Habits as well.

**Habit 1: Invest in the Beginning**

Three tasks must be accomplished at the beginning of the interview: creating rapport quickly, eliciting the patient’s concerns, and planning the visit.

*Creating rapport quickly.* The first few moments of the medical encounter are often overlooked by physicians as a pleasantrty or as preliminary to the clinical “business” of the interview, but they are key elements for establishing a trusting relationship and often affect the outcome of the visit.

Entering the examination room ready to engage the patient and using the first few seconds to establish a welcoming atmosphere can give the patient a sense of safety. For new patients in particular, a handshake during the introduction indicates an egalitarian stance and initiates touch. Finding out the names of each person in the room and their relationship to the patient also creates a personal connection without taking much extra time. Adapting voice tone, language level, and posture in response to the patient early in the visit underscores the clinician’s attentiveness and caring and can further set the patient at ease.

Issues of power and authority as reflected in the greeting can inhibit communication and rapport. To achieve trust and respect, the principle is to match terms of address by using the same terms with which the clinician would like to be addressed. For example, to greet a patient as Mary Jones or Mary and to refer to oneself as Dr. Baker is to select terms with different levels of formality. Patients thus addressed often feel that the relationship is being established on an unequal footing with the patient in an inferior position. This is avoided if Dr. Baker introduces herself as such and uses the formal term, “Ms. Jones,” in addressing the patient.

Physician preparedness has been associated with professionalism by Inui and Carter and with patient satisfaction by Frankel and Treger. In both studies, patients rated physicians who were unfamiliar with their cases or repeatedly referred to the chart during the encounter as less professional and as providing less satisfying care. Reviewing the case and planning the visit before entering the room is good practice. Saying explicitly, “I’ve reviewed your record,” conveys some familiarity with the patient’s history.

When the clinician has kept the patient waiting, it is effective to address this directly. Comments like “Thank you for waiting,” or “I’m sorry for keeping you waiting. I’m here now and you have my full attention,” can usually diffuse the patient’s irritation. Lengthy explanations about the reason for the delay, unless requested, reinforce the power differential and may worsen the patient’s resentment.

*Eliciting the full spectrum of concerns.* The second initial interview task is to accurately determine the reason(s) a person seeks care. Two strategies are recommended. The first involves drawing out the patient’s concerns with open-ended questions like “I’d like to begin today by getting a good idea of what concerns you’d like me to address” or “What would you like help with today?” or “I understand you’ve been having pain in your foot. Could you tell me about that?” After the first concern, saying “That’s an important concern which I’ll come back to in a moment. Before I do, is there anything else?” is useful. This statement can be followed by asking “Anything else?” until the patient either says no or a silence of more than three seconds elapses.

The second strategy is to draw upon a set of linguistic devices known as “continuers.” These include vocalizations such as “uh huh,” “I see,” “Go on,” and “Tell me more,” and nonverbal behaviors such as silence, vertical head shaking, and an engaged listening posture. Continuers encourage the patient to elaborate.

Traditional medical education teaches that a single chief complaint exists and that this complaint is either obvious or the first thing the patient mentions.

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**Table 1. How important are interviewing skills to satisfaction and medical outcomes?**

| A study of primary care patients by Brody and colleagues showed that educating, stress counseling, and negotiating during visits predicted patient satisfaction, whereas doing examinations or tests or providing medication did not. Similarly, when physicians were surveyed after office visits, their overall satisfaction most closely related to the quality of the patient-physician relationship. As far as medical outcomes are concerned, an early study by Wasserman et al showed that physician empathy was related to overall visit satisfaction and reduction in concerns. In contrast, reassurance and support, which were both used more frequently in the visits studied, had no relation to outcomes of care. In a series of studies, Greenfield et al found that a single 20-minute coaching intervention to enhance patient participation in care improved both biomedical and functional outcomes in patients with hypertension, diabetes, and ulcers. A review article on communication and health outcomes concluded that most of the studies demonstrated a correlation between effective physician-patient communication and health outcomes. The outcomes most impacted were patients’ emotional health, symptom resolution, functional status, physiologic measures, and pain control. Finally, several recent studies established a link between absence of supportive, empathic communication and medical malpractice suits. |
Table 2. The Four Habits Model

<table>
<thead>
<tr>
<th>Habit</th>
<th>Skills</th>
<th>Techniques and Examples</th>
<th>Payoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invest in the beginning</td>
<td>Elicit patient's concerns</td>
<td>• Start with open-ended questions:</td>
<td>• Establishes a welcoming atmosphere</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– &quot;What would you like help with today?&quot;</td>
<td>• Allows faster access to real reason for visit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Or, &quot;I understand that you're here for ... Could you tell me more about that?&quot;</td>
<td>• Increases diagnostic accuracy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• &quot;What else?&quot;</td>
<td>• Requires less work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Speak directly with patient when using an interpreter</td>
<td>• Minimizes &quot;Oh, by the way ...&quot; at the end of visit</td>
</tr>
<tr>
<td></td>
<td>Plan the visit with the patient</td>
<td>• Repeat concerns back to check understanding</td>
<td>• Facilitates negotiating an agenda</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Let patient know what to expect:</td>
<td>• Decreases potential for conflict</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;How about if we start with talking more about ..., then I'll do an exam, and then we'll go over possible tests/ways to treat this? Sound OK?&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prioritize when necessary: &quot;Let's make sure we talk about X and Y. It sounds like you also want to make sure we cover Z. If we can't get to the other concerns, let's ...&quot;</td>
<td></td>
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<tr>
<td>Elicit the patient's</td>
<td>Ask for patient's ideas</td>
<td>• Assess patient's point of view:</td>
<td>• Respects diversity</td>
</tr>
<tr>
<td>perspective</td>
<td></td>
<td>– &quot;What do you think is causing your symptoms?&quot;</td>
<td>• Allows patient to provide important diagnostic clues</td>
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<td></td>
<td></td>
<td>• Review possible side effects and treatment</td>
<td>• Uncovers hidden concerns</td>
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<td></td>
<td></td>
<td>• Ask about ideas from significant others</td>
<td>• Reveals use of alternative treatments or requests for tests</td>
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<td></td>
<td>Elicit specific requests</td>
<td>• Determine patient's goal in seeking care: &quot;When you've been thinking about this visit, how were you hoping I could help?&quot;</td>
<td>• Improves diagnoses of depression and anxiety</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check context: &quot;How has the illness affected your daily activities/work/family?&quot;</td>
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<tr>
<td>Explore the impact on</td>
<td></td>
<td>• Assess changes in body language and voice tone</td>
<td>• Adds depth and meaning to the visit</td>
</tr>
<tr>
<td>the patient's life</td>
<td></td>
<td>• Look for opportunities to use brief empathic comments or gestures</td>
<td>• Builds trust, leading to better diagnostic information, adherence, and outcomes</td>
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<td></td>
<td></td>
<td>• Name a likely emotion: &quot;That sounds really upsetting.&quot;</td>
<td>• Makes limit-setting or saying &quot;no&quot; easier</td>
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<tr>
<td></td>
<td></td>
<td>• Compliment patient on efforts to address problem</td>
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<tr>
<td>Demonstrate empathy</td>
<td>Be open to patient's emotions</td>
<td>• Use a pause, touch, or facial expression</td>
<td>• Increases potential for collaboration</td>
</tr>
<tr>
<td></td>
<td>Make at least one empathic statement</td>
<td>• Use own emotional response as a clue to what patient might be feeling</td>
<td>• Influences health outcomes</td>
</tr>
<tr>
<td></td>
<td>Convey empathy nonverbally</td>
<td>• Frame diagnosis in terms of patient's original concerns</td>
<td>• Improves adherence</td>
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<td></td>
<td></td>
<td>• Test patient's comprehension</td>
<td>• Reduces return calls and visits</td>
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<td></td>
<td>Be aware of your own reactions</td>
<td>• Explain rationale for tests and treatments</td>
<td>• Encourages self care</td>
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<td></td>
<td></td>
<td>• Review possible side effects and expected course of recovery</td>
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<td>• Recommend lifestyle changes</td>
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<td>• Provide written materials and refer to other resources</td>
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<td>Deliver diagnostic</td>
<td></td>
<td>• Discuss treatment goals</td>
<td>• Increases potential for collaboration</td>
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<td>information</td>
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<td>• Explore options, listening for the patient's preferences</td>
<td>• Influences health outcomes</td>
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<td></td>
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<td>• Set limits respectfully: &quot;I can understand how getting that test makes sense to you. From my point of view, since the results won't help us diagnose or treat your symptoms, I suggest we consider this instead.&quot;</td>
<td>• Improves adherence</td>
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<tr>
<td></td>
<td></td>
<td>• Assess patient's ability and motivation to carry out plan</td>
<td>• Reduces return calls and visits</td>
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<td>• Encourages self care</td>
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<tr>
<td>Invest in the end</td>
<td>Involve patient in making decisions</td>
<td>• Ask for additional questions: &quot;What questions do you have?&quot;</td>
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<td></td>
<td></td>
<td>• Assess satisfaction: &quot;Did you get what you needed?&quot;</td>
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<tr>
<td></td>
<td>Complete the visit</td>
<td>• Reassure patient of ongoing care</td>
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©Physician Education & Development, TPMG, Inc. No relation to Stephen R. Covey's book, The 7 Habits of Highly Effective People
Table 3. Provider assessment of initial patient concerns

In a study of the opening moments of 74 routine ambulatory patient encounters, Beckman and Frankel21 found that only 23% of patients fully completed their statements in response to the physician's request for a description of concerns. Further, they were interrupted a mean of 18 seconds after beginning to speak. Most interruptions (54%) came after the patient's first stated concern. Once interrupted, only 1 of the 51 patients added additional concerns after the beginning of the visit.

This study also found that patients with multiple concerns do not necessarily list them in order of priority, suggesting that physicians who interrupt patients are less likely to elicit a complete and accurate picture and are more likely to be faced with a patient's hidden concerns at the end of the visit. This relation was confirmed in a follow-up study by Beckman et al.22 In terms of accuracy, a recent study of elderly diabetic patients by Rost and Frankel23 showed that the patient's first stated concern is not a reliable guide to its importance. When patients were asked to list their range of concerns, most identified the third concern as most important. Yet nearly 70% never got past their first concern during the encounter.

In addition to facilitating accurate data collection, eliciting the full spectrum of patient concerns has been shown to relate to outcome. A study by the University of Western Ontario Headache Study Group24 found that resolution of chronic headache symptoms was best predicted by the patient's perception of having been listened to completely by the physician.

Costs of eliciting the full spectrum of concerns mainly stem from the additional time required. Beckman and Frankel25 found that no patient took more than 2-1/2 minutes to completely state their concerns. This cost is frequently offset by gaining a full and accurate understanding of the patient's agenda early in the visit and by using that information to negotiate how the remaining time can be used most effectively.

| “This strategy is used to state the amount of time allocated for the visit and asking the patient to state the issues of highest concern.” |

Prioritizing involves using positive language to set limits on what can be accomplished. For example, “In the time we have today, I want to make sure we talk about your chest pain and weight loss. You also mentioned your desire to get a cholesterol test. How about if we start our next visit discussing the other issues you mentioned?” This kind of respectful limit-setting reduces the chance that the patient will feel short-changed. If the patient presses further, it can be useful to use “I wish” statements. “I wish we had time to talk about all your concerns today” conveys a sense of alliance, whereas a rebuttal like, “I just don’t have time today for all those issues” risks alienating the patient.

Time-framing is another strategy which allows the physician to negotiate the agenda with the patient. This strategy is used to state the amount of time allocated for the visit and asking the patient to state the issues of highest concern. For example, “Mr. Smith, you are scheduled for a 15-minute visit. What are the concerns you most want us to cover today? ... If we are unable to address some issues, I will schedule a follow-up visit.” Using good clinical judgment about extending a visit should outweigh scheduling considerations. However, in general, being explicit about time saves time and distress.

Habit 2: Elicit the Patient’s Perspective

Habit 2 is used to assess the patient’s point of view concerning the meaning of symptoms and the request for care. It serves at least 2 important functions: showing respect for the patient’s experience and individuality and gathering clinical information in an efficient way. Eliciting the patient’s perspective during this phase of the encounter consists of three skills: assessing patient attribution, identifying patient requests for care, and exploring the impact of symptoms on the patient’s physical, psychological, and social well-being. Eliciting the patient’s perspective is not limited to Habit 2. It is useful in discussing treatment options and issues of nonadherence, for instance. Our focus in Habit 2, however, is on the context of understanding the meaning and impact symptoms have for the patient.

Assessing patient attribution. Assessing patient attribution consists of determining the patient’s perspective about what caused the problem. This approach requires asking directly, “What have you been thinking might be the cause of these symptoms?” or “What are you worried about most?” Patients frequently engage in a process quite similar to differential diagnosis; that is, they exclude certain causes and
include others. Knowing specifically what meaning the patient is giving to the symptoms allows the clinician to frame the rest of the dialogue accordingly. For example, a patient with a mild headache who is worried about a brain tumor is more likely to leave the visit reassured that the diagnosis is benign if the discussion includes consideration of a tumor. Assessing the patient’s attribution thus reduces the potential for miscommunication and misunderstanding. Tuckett et al. found that patients who were able to fully explain their illnesses recalled more information and were more committed to treatment.

Arthur Kleinman, who is both a physician and an anthropologist, refers to the sense-making practices patients use to understand the experience of illness as an “explanatory model.” According to Kleinman, explanatory models allow patients to place an experience in a personal and cultural context which is often overlooked in the clinical interview (Table 4).

Exploring the patient’s explanatory model provides the clinician with a “context of meaning” for the actions and actors participating in a patient’s experience of illness. In the example, if Dr. Phelps or the emergency department physician had asked what Mrs. Lue’s symptoms meant to her, they might have saved her additional distress by explaining that anniversary reactions frequently include experiencing the same symptoms as the person who died. A deeper exploration of the meaning Mrs. Lue’s symptoms had for her might have saved valuable medical resources. The cost of a thallium stress test is several hundred dollars; the cost of exploring Mrs. Lue’s explanatory model was two minutes of physician time.

Identifying patient requests. Unmet expectations for care occur in about 18% of visits according to one study. Factors which influence patient expectations include the nature of their somatic symptoms, perceived vulnerability to illness, past experiences, and knowledge acquired from the media and other sources. Soliciting the specific reason(s) the patient is seeking care can help reduce the extent of unmet expectations. To address this problem, Lazare et al. found that patients whose requests were fully listened to were more satisfied with their care, regardless of whether the requests were granted. Likewise, Froehlich and Welch showed that physician humanism rather than ordering expected tests correlated with satisfaction. A large number of studies of adherence to medical recommendations have shown that 40% to 80% of patients who receive recommendations do not follow them. Some patients do not follow recommendations because the advice may not fit the question, need, or priority they bring to the encounter. Therefore, finding out not only what the full spectrum of concerns is but also what, if anything, the patient wants the clinician to do about them is important.

Exploring the impact. The final skill in Habit 2 is determining the impact of the patient’s symptoms or illness on daily activities, work, and family. Many clinicians hesitate to explore the impact of illness on activities of daily living for fear of initiating a lengthy discussion. However, a patient with a mild headache who is worried about a brain tumor is more likely to leave the visit reassured that the diagnosis is benign if the discussion includes consideration of a tumor. Assessing the patient’s attribution thus reduces the potential for miscommunication and misunderstanding. Tuckett et al. found that patients who were able to fully explain their illnesses recalled more information and were more committed to treatment.

Table 4: Eliciting personal and cultural context in the patient interview

| Mrs. Lue, a native of Tonga, was seen after an Emergency Department visit by her primary care physician, Dr. Phelps inferred from a chart note "chest pain, rule out MI" that she should order a thallium stress test. However, when one of us (RMF) met Mrs. Lue while visiting Dr. Phelps' clinic, a different diagnosis was revealed: |

| Dr. Dr. Phelps tells me that you continue to have chest pains even though all of your tests show that your heart is fine. Can you tell me a little bit about what was happening when you first noticed them? |
| Pt: Well, it was the night I went to the ER. My in-laws had called me earlier and cursed me out for not sending my nephew a birthday gift [a strong tradition in Tonga]. It really upset me, because they know that I lost my husband a year ago that day. |
| Dr: That must have been difficult for you. What happened next? |
| Pt: Well, my chest began to ache and I was afraid I was going to die just like my husband did. He died of a heart attack in an ER two hours after getting into an argument with his father. |
| Dr: So you were afraid the same thing might be happening to you? |
| Pt: Yes. |
| Dr: Have things resolved between you and your in-laws? |
| Pt: No. |
| Dr: And have you continued to feel heartache? |
| Pt: Yes. |

Two separate issues converged in Mrs. Lue’s explanatory model, the first relating to the occurrence of this incident on the anniversary of her husband’s death, triggering an “anniversary reaction,” in which she experienced the same symptoms her husband had died from exactly one year earlier. She continued to report “heartache” due to the lack of resolution of conflict with her in-laws.
discussion of problems for which they may have few solutions. The benefit of asking this kind of focused question is that it often provides important diagnostic information about the patient’s functional ability and mental health while conveying interest in the broader context of the patient’s life. In addition, information on functional status is useful in planning treatment and negotiating realistic expectations of outcome. Knowing that a widow with severe degenerative joint disease is prevented from opening cans and jars to cook helps the clinician assess whether treatment and assistive devices are viable alternatives to nursing home placement.

**Habit 3: Demonstrate Empathy.**

“... to know and understand, obviously is a dimension of being scientific; ... to feel known and understood, is a dimension of caring and being cared for.”

Caring and compassion have characterized the doctor-patient relationship throughout history. In the modern era, great technological advances and economic pressures have led to a relative de-emphasis on the therapeutic benefits of caring and compassion both in training and practice. Nevertheless, researchers have linked the presence or absence of caring to medical outcomes such as satisfaction, adherence to medical recommendations, and propensity to sue. If caring and compassion form the core conceptual basis of the doctor-patient relationship, empathy is the core skill for enacting it (Table 5).

Although building rapport and empathy may be employed at any point in the medical encounter, the use of empathy in Habit 3 relates to responding to the core of the patient’s concern(s). In terms of the flow of the visit, this response usually occurs after gathering data about the full spectrum of patient concerns.

**Being open to the patient’s emotions.** One barrier to clinicians’ ability and willingness to show empathy toward patients can be the sense of practicing medicine in a highly time-pressured, stressful environment. How is it possible to experience empathy while feeling overwhelmed with patient care duties? One strategy is to look for brief “windows of opportunity” for responding to patients’ emotions, a skill noted in “outstanding” clinicians. Often a patient’s appreciation of an empathic response is sustaining to the clinician and adds meaning and depth to the relationship. Research at the University of Western Ontario by Stewart et al. showed that physicians who are sensitive to and explore patients’ emotional concerns take a mean of one minute longer to complete visits compared to physicians who do not.

Accurately identifying emotions begins with observing nonverbal behavior such as facial expression and body posture and listening closely to the patient’s description of the experience. For example, in describing the impact of having a tremor, a patient with multiple sclerosis may avoid using hand gestures to illustrate comments. Careful observation of the patient’s gestures and comments is useful for identifying the feelings of shame and embarrassment the symptom has caused. Physicians sensitive to nonverbal expression of emotion have more satisfied patients. Physicians who establish good eye contact are more likely to detect emotional distress.

Often patients only hint at an emotion. Statements such as “I’m considering retirement” or “My child is moving out of state” do not directly express an emotion. Suchman et al. define these occurrences as “potential empathic opportunities” and suggest that they are often used by patients as “trial balloons” to test whether it is safe to talk about the underlying emotion.

**Conveying empathy.** Two general options are available when responding to a potential empathic opportunity. The clinician can sidestep the opportunity by shifting the topic, by ignoring the potential emotion, or by offering premature reassurance; or he or she can encourage the expression of the emotion by using open-ended continuers such as “I see,” “Go on,” or “Tell me more.” Patients for whom an issue is emotionally charged generally express their feelings at this point. For example, in response to a “go ahead” signal from the clinician, the patient who mentions retirement would characteristically add a statement such as, “You know, retirement is really scary.”

The final step in helping the patient move from hinting at an emotion to fully expressing it is to show empathy. The patient’s response to the question, “Is there something in particular which scares you?” might be, “I’ve been very successful in business and don’t really need the money. But I’m not really sure what I would do with myself if I retired. After my wife died last year, it’s been hard to focus on the future.”

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**Table 5. What is empathy?**

According to Rogers, empathy is one of the most potent therapeutic interventions. Empathy allows the physician and patient to join in constructing a shared understanding of the illness experience. Cohen-Cole and Bird offer a more specific definition, stating that, “Empathy is a term indicating one person’s appreciation, understanding, and acceptance of someone else’s emotional situation.” In the context of the clinician-patient relationship, empathy requires identifying a patient’s emotional state accurately, naming it, and responding to it appropriately.
Several empathic responses are possible at this juncture. Cohen-Cole and Bird identified five types of empathic responses and suggest a generic format for each. They are:

- **Reflection**—“I can see that you are ...”
- **Legitimation**—“I can understand why you feel ...”
- **Support**—“I want to help.”
- **Partnership**—“Let’s work together ...”
- **Respect**—“You’re doing great.”

Returning to the example, it is possible to analyze the emotions elicited by the clinician and decide which empathic response best fits the situation. The primary feelings experienced by the patient are loss and fear. The accuracy of the assessment may be tested by using a statement of reflection such as, “It sounds like your wife’s passing has made the future look uncertain for you.” If this is an accurate statement, the patient will agree. Assuming that this occurs, the next step is to determine which need in the patient’s hierarchy of needs is most important. A supportive statement such as, “I am sorry you are faced with such uncertainty and such a difficult decision. I would like to help if I can ...” is likely to be most useful. The result of using empathy is that patients feel known and understood.

Researchers have begun to focus on the potential link between perceived lack of caring and dissatisfaction, including the decision to litigate for medical malpractice. Three recent studies, by Lester and Smith, Beckman et al. and Hickson et al., support the assertion that lack of empathy is a risk factor for dissatisfaction and malpractice suits in the event of a negligent outcome.

Investing in the relationship and getting to the heart of the problem by showing empathy is a rewarding strategy which can be learned, taught, and practiced. The time required to implement this strategy is minimal—a mean of <1 min. Including expressions of empathy during medical visits can add depth and meaning to clinical practice. Francis Peabody’s famous dictum that “the secret of the care of the patient is in caring for the patient” captures the essence of Habit 3, its importance for the relationship, and its potential for healing.

**Habit 4: Invest in the End**

Unlike the first three Habits, which primarily require information gathering, the last Habit 4, requires information sharing. This difference in emphasis is reflected in the tasks of the end of the encounter: delivering diagnostic information (giving good news, bad news, or no news); encouraging patients to participate in decision making; and negotiating treatment plans and probing for adherence.

**Delivering diagnostic information.** Patients generally seek medical care with at least two questions in mind: “Why am I experiencing these symptoms?” and “What can be done to relieve them?” Because the patient’s frame of reference and experience initiate both the search for care and what they are likely to do with answers to questions, the most important principle of delivering diagnostic information is to use the patient’s original statement of concerns to frame information to be shared.

Table 6 is an example of an actual encounter that shows information sharing that fails to incorporate the patient’s original statement of concerns.

<table>
<thead>
<tr>
<th>Table 6. Need to incorporate patient’s initial concern</th>
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<tr>
<td>Ms Jane Fox, a 47-year-old mother of three who came to the general internal medicine clinic complaining of unrelenting headaches, was seen by Dr Greg Antonio, an internist new to practice. Ms Fox’s initial statement of concerns to Dr Antonio appears below.</td>
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</tbody>
</table>
| **Dr:** What brings you here today?  
**Pt:** Spasms in my neck and shoulders. It’s gotten so bad it’s giving me headaches, vomiting. I’m really concerned about it. I can’t think; I can’t work. |
| A review of the patient’s opening statement contains multiple references to suffering. Fifteen minutes later, Dr Antonio delivered his diagnosis to the patient. Note the lack of responsiveness of the diagnostic news to Ms Fox’s initial statement of concerns. |
| **Dr:** First of all, it’s a fairly normal physical exam. I found only one abnormality—the tenderness over your spinous processes of your upper vertebrae. [pause] Your muscle strength and nerve exam—all within normal limits.  
**Pt:** Okay. |
| **Dr:** That’s good. I managed to review the laboratory results that they obtained from the ER, particularly for tests of arthritis or something called lupus. Those tests all came back negative.  
**Pt:** Okay. |
| **Dr:** They also measured to see if you had some muscle disease—whether there was nerve breakdown occurring. Those came back negative. Your blood counts were within normal limits. So where to go from here ... Because of the tenderness, let’s get an x-ray of your cervical spine. There’s probably a few more blood tests we can get.  
**Pt:** (interrupting) What do I do for my pain in the meantime? What do I do for my head and my nausea and my numbness? |
| Until the patient interrupted him, Dr Antonio had been engaged in a classic report of his findings. From a strictly biomedical perspective, Dr Antonio’s report could be viewed as “good news” in the sense that no serious underlying disease could be associated with Ms. Fox’s symptoms. However, her response is a strong repudiation of Dr Antonio’s “wait-and-see” strategy. The consequence was a protracted discussion. The visit took 50 minutes, and neither Ms Fox nor Dr Antonio felt satisfied.  
**For the busy clinician, nothing is more important than framing conclusions by using the patient’s initial problem statement: a suggested alternative strategy follows:** |
| **Ms Fox,** I know you’ve been experiencing some unpleasant symptoms which have affected your ability to think and work. I do know that it may take a while before we can get to the bottom of this. What I’d like to do is continue talking with and testing you. I’m also aware that you’re in pain, so we’ll need to try different techniques to deal with your symptoms in the short run. How does that sound to you? |
Traditional teaching about the logic of the clinical encounter suggests that delivering diagnostic information should be followed by prognosis and treatment planning with the patient. Abundant anecdotal evidence indicates that, once given a diagnosis, especially if the news is bad, patients’ ability to retain information is limited. One suggestion that has been tested successfully by Ley and his colleagues is to deliver prognostic information first followed by the diagnosis. This approach might mean making a statement such as, “After reviewing all the information, I feel confident that you have an excellent chance (95% or better) of making a full recovery from the problems you’ve been experiencing, and those problems we’ve diagnosed as prostate cancer.”

**Involving Patients in Decision Making**

A number of research studies have confirmed that increasing patient participation in decision making leads to positive functional and biomedical outcomes. Patient participation is particularly important at the conclusion of the visit when clear understanding and agreement on courses of action to be pursued become operative.

The importance of checking patient comprehension cannot be overemphasized. In addition to sharing decision making responsibilities, using this tactic provides the opportunity to educate patients about the condition and to correct misinformation or misunderstanding. Grueninger et al. suggested several helpful questions for use in educating patients and testing for comprehension. These include:

- What do you know about this condition?
- What have you tried in the past to help you deal with this problem?
- What has worked? What hasn’t?

These authors suggest that many patient requests or demands can be met with education instead of confrontation. For instance, the patient who comes to the office complaining of headaches and demanding a computed tomography (CT) scan can present a daunting challenge when confronted. An alternative approach is to explore what the person knows and has experienced regarding the demand. A constructed example (Table 7) illustrates this approach.

**Completing the visit: negotiating a plan, probing for adherence.** Unlike the inpatient setting, where patient activities can be monitored, ambulatory patients are solely responsible for implementing recommended treatment and lifestyle changes. The therapeutic alliance between the physician and patient becomes the basis for negotiating realistic management and treatment plans. Key skills required at the end of the visit are providing a clear rationale, exploring potential barriers to implementation of the plan, and offering support.

**Providing a clear rationale.** A key concept in establishing a partnership with patients is ensuring that they understand not just that the clinician is proposing a diagnostic or therapeutic plan but why. Like so many other aspects of effective clinical communication, providing a rationale depends on the patient’s level of comprehension and interest in the information. At minimum, providing a rationale should include a statement of intent, eg, “I’d like to spend a few minutes discussing your treatment plan so you will understand what I’m suggesting and why,” and an invitation to the patient or family to use memory aids (written notes, tape recording) and pre-existing information (pamphlets, videotapes, brochures) to optimize comprehension. Memory aids provide patients and family members with a resource which can be reliably consulted after the visit and are likely to increase information retention and adherence between visits.

**Exploring potential barriers to implementation of the plan.** After providing a clear rationale for the plan, checking with the patient to determine what barriers to its implementation exist is important. A question such as “What might prevent you from carrying out the treatment plan?” is often useful. For example, a highly visible advertising executive may be concerned about excusing himself or herself from meetings with clients to comply with 24-hour urine testing. Unless

<table>
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<th>Table 7. Drawing on the patient’s experiences</th>
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<td>Pt: Doctor, I’m having awful headaches. I know I need a CT scan, but I also know you make more money by not giving me the test.</td>
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<tr>
<td>Dr: It sounds like you’re very concerned about your headaches, and so am I. Before we make any decisions, however, can you tell me what you know about CT scans?</td>
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<td>Pt: Well, I know they can detect brain tumors. My next-door neighbor died last week of a brain tumor. He had bad headaches like mine, and they never did a CT scan.</td>
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<tr>
<td>Dr: So you’re concerned that the cause of your headaches might go undetected without a CT scan, is that right?</td>
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<tr>
<td>Pt: Yes.</td>
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<td>Dr: It’s true that CT scans can detect brain tumors, but other procedures may work better for you.</td>
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<td>Pt: I’m listening.</td>
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<td>Dr: The reason I want to use the right procedure in diagnosing your headaches has less to do with cost and more with making sure the test is appropriate for your needs. Are you aware that a CT scan poses some small health risks?</td>
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<tr>
<td>Pt: I wasn’t aware of any risks from a CT scan.</td>
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<tr>
<td>Dr: Let’s meet again next week. In the meantime, here is some information for you to read and think about. We can continue the discussion once you’ve had a chance to do that.</td>
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<td>Pt: That sounds like a good plan.</td>
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</table>
this concern is identified and an alternative testing strategy is negotiated, this patient may not comply with the plan.

Providing support. Acknowledging the difficulty in following a plan or making lifestyle changes and then providing support are critical. Patients are gratified to know that the physician understands and cares about the path they have embarked on. Viewing the physician as a “coach”—that is, as someone who is interested in and understands the intricacy of the “game plan” and has the skills and commitment to help the patient achieve the goals—also reinforces patient autonomy.

In a busy office practice, in which time is short, doctors may be tempted to “cut corners” by giving patients their diagnosis, recommending a treatment plan, and moving quickly to closure. As is true for the beginning moments of the encounter, investing in the end ensures that genuine partnership exists between doctor and patient and that both parties know and understand each other well enough to minimize the potential for misunderstanding and miscommunication.

Conclusion

An extensive body of literature on the medical interview and related skills already exists, and a number of elements of the interview known to relate to satisfaction and outcome have been identified. The Four Habits Model builds on previous empirical and conceptual contributions to the field by focusing at attention on the sequence of events that typically takes place during a medical encounter and the influence communication in one Habit or domain has on others. In this respect, the Model is an attempt to respond to the challenge identified by Inui and Carter to address the gap between associations of individual, isolated behaviors and the broader context of social interaction and meaning in which physicians and patients encounter one another.

We have found the Four Habits Model to be both practical and understandable to practicing physicians. Experienced clinicians intuitively understand that they must seamlessly blend the logic of clinical decision making, which is the basis for making an accurate diagnosis, with the logic of social interaction, within which successful relationships are established and which often determines how effective treatment and satisfaction with care will be (Vanderford ML, unpublished material). Investing in the Four Habits provides a stepwise approach to enhancing patient relationships, optimizing the amount and quality of information available for making clinical decisions, and making the practice of medicine more mutually satisfying for doctor and patient.

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Something for Nothing

Nothing else can quite substitute for a few well-chosen, well-timed sincere words of praise. They're absolutely free—and worth a fortune.

Sam Walton
Dylan and Winter
By Victor David, MD

My daughter was a pregnant flower
first in the year of 96, then
came Dylan
a burglar stealing her day and night
who was not allowed to cry for meconium’s curse.

We worried
anguished
wept
visited the NICU

and when he returned home a warrior
we uncorked the champagne
chilled a few weeks before.

Now his smiles and cries
are the promises that paint God’s giggles

Reminding me as I sit in my winter
chasing that kid of 96 who plays
tag with snowflakes
to watch the snow gather on his hat,
gleam his eyes, coat his shoulder

so when I embrace him, I feel his laughter
scatter winter.

Dare I brush the snow away,
away before it melts to tears
that forecast the flutter of his wings
and my memories.

A Child’s Last Leaf
By Victor David, MD

A few years ago when the oak tree was sick
Dad insisted it had to go
she cried out with alarm, “I dance on its limbs,
talk with the squirrels and when the window’s open
it whispers to me.”

Dad bowed his head, “OK we’ll wait.”

High in the branches of the oak tree
where larks jostled offspring to wing
in September when she wasn’t as well
she cradled herself in the boughs of the tree
remembering Doc’s prophecy only
on chemotherapy days.

Her candle burned swiftly

for she wore fine lace and fragrance to smile.

“I won’t leave you while the oak tree’s got leaves,
I’ve counted them
It has thousands, it’s still very green.”

As thousands became hundreds
the leaves matched her skin,
fine porcelain stained yellow reflecting
stress cracks for relief

Then with eyes as sunken diamonds,
she beamed through her windows
carrying sorrows, and uttered,
“the last leaf hasn’t fallen”

As she slept one fall night
with the wind’s help
that leaf floated freely.
Innocence
By Victor David, MD

waves of amniotic fluid flush
my face, myself without light
in a prophecy never remembered

never to suckle the nipples that bind
  or teach me to pray
  and weep in the cold
never to gaze in a mirror while counting my pimples
  nor to anticipate waiting arms
  laugh in the rain
  or run with the sun
  never to sleep
or turn off the alarm
  grow gray or bald or wrinkled
and anticipate G-d
  never to snicker
or be snickered at
  never to dream
  and remember
  him or her or them

unable to sweat
I await the whirlwind
the unheard roar
of the vacuum from
darkness to darkness
  is SILENCE


“A Sad Winter”
by Nooshin Farr, MD, FACP
This is an acrylic painting, converted here from color to grayscale.
How Graduate Medical Education Creates Community Service

As a nonprofit community service organization dedicated to improving the health of the communities we serve, Kaiser Permanente (KP) understands that our role extends beyond providing health care to our members: Our social mission leads us to serve the health care needs of the greater communities.

Historical and Current Funding

Historically, graduate medical education itself has been recognized as a community service and is therefore entitled to receive Medicare funding. In fact, Medicare has been a major source of funding for graduate medical education since the mid-1960s. Until 1983, Medicare paid for graduate medical education on a cost-reimbursement basis. With the enactment of the Consolidated Budget Reconciliation Act of 1985 (COBRA), Medicare replaced its cost-based funding formula with two types of discrete payments: direct medical education (DME) payments and indirect medical education (IME) adjustments. DME payments are intended to defray administrative costs associated with residency programs, and IME adjustments are intended to defray costs associated with the higher rates of morbidity associated with teaching hospitals and with the inefficiency inherent in teaching situations.

In the past, Medicare’s payment to health maintenance organizations (HMOs) was based on adjusted average per capita cost (AAPCC) for Medicare beneficiaries in the fee-for-service sector. Before the 1997 budget reconciliation agreement took effect, health plans received revenue for patient care provided by residents and by their sponsoring institutions. Academic teaching hospitals have historically been critical of HMOs not directly engaged in graduate medical education, because these HMOs benefited from the AAPCC formula despite not actually educating residents.

The 1997 budget reconciliation act encourages training in ambulatory settings by expanding eligibility for DME and IME at such sites; HMOs will no longer receive DME and IME payments through the AAPCC unless they actually participate in graduate medical education.

Direct Community Benefit Investment

The Southern California Permanente Medical Group (SCPMG) currently trains nearly 300 residents at Kaiser Permanente (KP) facilities and interacts with a comparable number of residents from other sponsoring institutions. Funding for residency education is provided through the Community Affairs Budget and is administered by the SCPMG Clinical Services Department. Beginning with the fiscal year 2000, evidence of direct community benefit investment (DCBI) will be a prerequisite for all funding. Under current federal statutes, graduate medical education qualifies as a community service; therefore, this education is entitled to receive tax benefits and Medicare support.

In 1994, the California state legislature passed Senate Bill 697, which required all not-for-profit hospitals in California to assess community needs as a basis for developing a community benefit plan. SCPMG partnered with United Way to conduct our community needs assessment because of United Way’s approach to community building: United Way works with the community to identify its unmet needs and targets philanthropic dollars and resources to build the community’s capacity to achieve greater health and wellbeing. Volunteer activities at both Los Angeles Free Clinic and Venice Family Clinic were included in the Metropolitan Los Angeles Community Benefit Action Plan.

The Free Clinics

The Los Angeles Free Clinic has been providing medical, dental, and legal services to uninsured people in the Hollywood area since the late 1960s. The Clinic now operates at two sites: one site provides comprehensive services, and the other site is dedicated to providing care for high-risk teenagers. Similarly, Venice Family Clinic has been serving the homeless, the medically underserved, and the working poor in the Westside communities of Los Angeles, Santa Monica, and Venice since the early 1970s. As a result of the Los Angeles County budget crisis, Venice Family Clinic expanded its services from the original Venice site to two facilities formerly associated with Los Angeles County: the Burke Health Center in Santa Monica and the Los Angeles County Venice Health Center. In recognition of its outstanding service to these communities, the Venice Family Clinic was recognized with the prestigious Presidential Volunteer Action Award in 1996.

“As Academic teaching hospitals have historically been critical of HMOs not directly engaged in graduate medical education, because these HMOs benefited from the AAPCC formula despite not actually educating residents.”
“Why Doctor Hara is a Lousy Golfer”

I have been volunteering at the Venice Family Clinic for more than 25 years and at the Los Angeles Free Clinic for more than 15 years. For more than 20 years, I have taken medical students from the University of California at Los Angeles (UCLA) and the University of Southern California (USC) to join me in my volunteer activities at both clinics. For the past 15 years, the Kaiser Permanente Los Angeles (KPLA) Family Practice Residency Program has also provided volunteer medical services to Venice Family Clinic and the Los Angeles Free Clinic on a weekly basis. As the Family Practice Residency Program Director, I provide on-site supervision for these services. I thereby hope to serve as a role model who embodies the spirit of volunteer community service that work in a Free Clinic represents. Typically, I take one senior resident, one or two interns, and a half dozen medical students from UCLA and USC on my volunteer activities. The KPLA Internal Medicine and Obstetrics-Gynecology Residency Programs have also been sending residents to work at the Los Angeles Free Clinic for the past five years.

Daniel Keatinge, Director of Continuing Medical Education for the KPLA Internal Medicine Department, currently serves with me on the Venice Family Clinic Board of Directors. Several years ago, an advertisement for Venice Family Clinic that gained nationwide circulation was titled “Why Doctor Hara is a Lousy Golfer.” And last year, I was invited to describe my community service activities to a group of graduate medical education leaders in the KP California Division who were attending the annual Marconi Conference (sponsored by The Permanente Medical Group-Northern California).

Special Benefits for Medical Residents

In addition to providing much-needed resources to the clinics they assist, residents find their participation in this program beneficial for their own personal and professional development. Residents see cases they might otherwise not see at our KP facilities. More important, many residents often acquire a sense of social responsibility that they carry throughout their careers and that motivates them to maintain similar relationships with the communities they serve. Michael Wada, a recent graduate of the KPLA Family Practice Residency Program, has continued his volunteer activities at Venice Family Clinic and has now enrolled in a fellowship at UCLA to further study unmet health care needs in Central and Southern California. Another graduate, Kendra Gorlitzky, serves as full-time staff physician at the Oscar Romero Clinic, a facility which serves the immigrant Central American population.

Last year, I was appointed to the California Health Manpower Policy Commission of the Office of Statewide Health Planning. The charge of our Commission is to provide funding to family practice residencies as well as to nurse practitioner and physician assistant training programs. The Commission is also charged with using State of California census tracts to identify geographic areas where health care professionals are in short supply and where the population has a substantial unmet need for health care. State and federal funding for health care facilities will both be based on the Commission’s findings.

Conclusion

By actively participating in graduate medical education that produces practicing physicians for the community—and even more important, by involving residents in actual volunteer community service and caring for a medically underserved population—the SCPMG residency programs in Los Angeles provide a direct community benefit in the truest sense of the term. This benefit is one that greatly enhances the value of the KP Program for individual patients and health care practitioners as well as for society in general.
Serving Legislators Serves Permanente:
The Permanente Journal on Capitol Hill

In the course of working on Capitol Hill and with regulatory agencies on various aspects of health policy, I have found TPJ to be a valuable source of information for multiple audiences. The variety of articles, commentary, history, illustrations, artwork, even editorials has a wide appeal. I often take a copy with me and leave it behind as an introduction to our medical care principles and practice. Serendipitously, sometimes the collection of offerings in the Journal is custom-made for a particular purpose. Such was the case in a recent encounter with regulators at the US Department of Health and Human Services (DHHS).

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) included a section on “Administrative Simplification” which dealt in part with the transfer and storage of electronic medical information. The Act stipulated that if the US Congress failed to develop federal policy to protect the privacy and confidentiality of medical records by August 21, 1999, the Secretary of DHHS would be instructed to issue regulations in this area within six months (ie, by February 2000). Congress hasn't been doing so well with this charge, having failed to reach agreement on any of several proposals generated over the past three years.

The deadline has passed, and the HHS policy staff have the unenviable task of drafting sensible rules that will please most stakeholders. HHS staff members are meeting with interested parties, such as privacy advocates who seem to distrust any use of medical information not related to specific treatment goals. Chain pharmacies and pharmacy benefit managers are advocating their own methods of disease management, and pharmaceutical companies are lobbying for more liberal use of medical information for privately funded research and marketing. During our meeting with HHS regulators, they were particularly interested in our views about security of electronic patient records and use of information for creating patient registries for various purposes, particularly for management of chronic illness. We were also asked about our research activities, how we used our institutional review boards (IRBs), and how we distinguished between research and other activities that we would classify as quality management or utilization management.

What a cornucopia of delicacies in the Summer 1999 (Vol 3, No 2) issue of TPJ—and how well they support our responses to the HHS Secretary’s questions! The lead series of articles (on awardees of the James A Vohs Award for Quality) describes the Comprehensive Computer-Based Patient Record (CPR) Project at the KP Northwest Region, which addresses many of the questions put to us on the utility, functionality, and security of an electronic medical records system and emphasizes our commitment to improving quality while lowering costs. Regulators could see from the accompanying article on the Clinical Pharmacy Anticoagulation Service of the KP Colorado Region how pharmacists, for example, can assume their clinical role in a way that benefits patients, not just marketing schemes. And the article about the Diabetes Prevention Care Program of the KP North Carolina Region gave regulators a wonderful example of a disease management program that had well-documented outcomes.

The list continues: the article by Drs Oyekan and Kung at the KP Los Angeles Medical Center on another type of disease management—a multidisciplinary approach to treating fibromyalgia; Dr Lee Jacobs’ article, “The KP Promise, Permanente Practice, and the Competitive Edge,” which shows diverse examples of excellence throughout our KP Program; and Dr Ron Copeland’s opinion piece, “Pursuing High Performance,” which also gives insight into our values of quality-oriented and patient-focused care—principles we hope regulators will try to reflect in the regulations they write.

Doctor Scott Rasgon’s interview with Dr Ray Hannah and Dr Joe Carlucci on Optimal Renal Care shows how we carry our best programs into the outside world. Can you imagine the delight of federal regulators at seeing an article that may give them reason to hope that Medicare might manage its end-stage renal disease program at lower cost and with superior outcomes?

For those regulation drafters struggling with the quandary of how to protect information while making it available for much-needed research, the dessert to this feast of information is found in the excellent piece by Dr Diana Petitti and Nancy King on Institutional Review Boards (IRBs).
criticism and is due for revision soon. Diana and Nancy demonstrate how the institutional review process can be conducted the right way.

To intrigue readers further in this bureaucratic world of ceaseless demands for more federally funded services, we present two excellent articles on alternative and complementary therapy, currently a topic of vigorous policy debate. I can foresee that Dr David Eddy, Dr Les Zendle, and Mitch Sugarman, with their new responsibilities on the Health Care Financing Administration Medicare Coverage Advisory Committee, may be struggling with these issues soon.

As they were perusing their copies of the journal, I’m sure the regulators noticed the wonderful artwork by Dr Doug Grey, Terry Laskiewicz, and Marian Savage as well as the thoughtful historical vignette by Dr Oliver Goldsmith.

And I congratulate Dr Tom Janisse and the editors of TPJ for producing an issue that was perfect cover-to-cover for distribution to a critical audience. How could they have known what to include—and to send it on the day before our vital meeting? And how could they have known that several of the meeting participants were proud KP members? ❖

**Spirit**

Every day we shed small pieces of ourselves. Particles of skin, borne aloft on the winds, can linger in the upper atmosphere for millennia before falling back to earth with the rain, meaning in a very literal sense that we soak in the essence of our ancestors. We are moved by those who have gone before us the way oceans are swayed by tides. In a world of machine time and networked information, their presence may get lost. But in dreams or in moments of inspiration we catch glimpses of the Mystery buried beneath the din of our ordinary lives.

Spirit tells the journey of a soul divided against itself. A man numbed by the automatic gestures of his daily life and deafened by the blistering cacophony of modern life suddenly “comes to his senses.” Stripping off professional skins and public masks, the Everyman dances around a primordial fire, pounding off the last vestiges of pain and anger to prepare himself to cross over the threshold into the spirit world. Once there, he encounters a native grandfather, an eagle guide, tempting sirens and the spirits of the ancestors and of those yet to be born. At journey’s end he realizes that he must redeem the past before he can be born into the future. Only then can he fulfillingly make his way among the living.

*Peter Buffett, composer and performer;*  
*Spirit*
Kaiser Permanente Baldwin Park Medical Center: Pioneer in Labor-Management Partnership

The Kaiser Permanente Baldwin Park Medical Center is the first US hospital to be designed and operated by labor and management groups cooperatively in a full partnership: the Kaiser Permanente National Labor-Management Partnership. This article gives some background about this important event.

Introduction

A mere seven months after final approval was given for its formation, the Kaiser Permanente (KP) Baldwin Park Medical Center opened its doors on October 7, 1998. This event was a result of open-mindedness, commitment, and sheer hard work—major features of the cooperative relationship between the labor unions and management teams participating in the Kaiser Permanente National Labor-Management Partnership. No other KP facility to date—let alone any other medical facility in the United States—has opened in this way.

Designing a New Kind of Workplace

To completely design all of the Baldwin Park Medical Center’s operations within this brief, seven-month time frame while building a positive working relationship, a steering committee composed of labor and management leaders was established at Baldwin Park. The committee was charged with developing a partnership culture and a model of patient care for the hospital.

To work collaboratively, management had to relinquish unilateral control over issues and information that typically fell solely under management purview. These issues included access to financial information, control over the interview and hiring processes, and selection of equipment and supplies. Conversely, union-affiliated employees had to trust that management would make all operational decisions with the employees’ interests firmly in mind.

According to Gary A. Lulejian, MD, Area Associate Medical Director for the Baldwin Park Area, the new leadership configuration also requires physicians of the Southern California Permanente Medical Group to adapt to a new environment. “Traditionally, physicians are not involved in union issues. We do not maintain expertise in this area, nor did we wish to disrupt the sometimes fragile labor-management relationship,” said Dr. Lulejian. “Yet, obviously, physician participation would be crucial to the success of the labor-management partnership. The physicians would be providing care to the patients and would be required to work collaboratively with union employees to ensure that this care was of the highest quality possible,” added Dr. Lulejian.

Updating the Leadership Structure

One of the most important tasks in designing the Baldwin Park Medical Center was to create a leadership structure that personified the labor-management partnership. That challenge was met by designing a structure whereby each unit is led by a labor-management “co-director” pair joined by a physician, who serves as the clinical leader of the unit. The codirectors are dedicated fulltime to their role, whereas the physician’s leadership duties and communication with the codirectors are integrated into the physician’s daily work schedule.

All leaders are responsible for the performance of their units, including financial aspects, level of service to patients, and quality of care delivered. Leaders also perform or oversee all unit functions, such as patient care, scheduling staff, keeping medical records, tracking competency, processing admissions, assigning beds, and coordinating with support departments. This operational configuration is very different from the traditional unit structures found in most hospitals and health systems across the country.

A Positive Precedent

Given that the Baldwin Park Medical Center has been operational for a year, it is too early to determine the impact of the labor-management partnership on our organization, employees, and patients. However, early results should be available by the end of 1999.

“It has been very rewarding to be a part of this precedent-setting labor-management partnership,” said Dr. Lulejian. “But when all is said and done, I am most proud of the dedicated employees and physicians at the Baldwin Park Medical Center. Their talent and commitment to developing the finest systems to deliver care will carry into the future and will represent a legacy to our Kaiser Permanente Medical Care Program,” concluded Dr. Lulejian.


**Book Reviews**

**“The Neurologic Exam”**

**Review by Vincent Felitti, MD, Associate Editor**

*The Neurologic Exam* is one of ten 90-minute videotapes made by Dr. Martin Samuels, Professor of Neurology at Harvard University, who is a memorably fine teacher. The other titles in the series are *Dizziness; Headache; Movement Disorders; Stroke; Degenerative and Demyelinating Diseases; Coma and Other Abnormalities of Consciousness; Functional Neuroanatomy; Peripheral Neurology; and Seizures.* This particular tape is the most broadly useful in the series because it addresses a problem most of us have with neurology: we often do not effectively know how to obtain the history and basic neurological examination results we need. Consequently, neurology referrals and MRI requests proliferate while our self-development stagnates.

Dr. Samuels’ explanations help us to understand the relation between and underlying rationale for the parts of a neurologic evaluation, and the relationship between those parts. He is an effective mime and often illustrates by mimicry the conditions he describes. He divides the neurologic examination into six parts:

- Mental status (psychiatric, neurologic)
- Cranial nerves
- Motor
- Sensory
- Coordination
- Reflexes

Dr. Samuels pays detailed attention to the mental status examination as the first part of the evaluation; more important, he illustrates why it is necessary and how it is done. We are not shown the rote, embarrassing, and even demeaning mental status examination that most of us learned and hardly ever use; instead, we are shown a sophisticated and interesting evaluation process that is highly focused while readily passing for conversation. Dr. Samuels’ presentation of the cranial nerve evaluation makes us realize that, despite the stresses of medical practice, we can find moments of peace and pleasure through properly understanding the logic of the neurologic evaluation process.

The presentation was videotaped in a re-created office in front of a live audience. Unfortunately, the sound quality of the tape is at times imperfect, especially given the substantial price charged. Nonetheless, the tape enables us to share a fine teaching experience provided by an extraordinarily capable and interesting teacher. Whether you purchase this videotape or borrow it from a KFH library, *The Neurologic Exam* is likely to provide far more practical value than can be obtained from attending many hours at conferences or from reading textbooks. This tape exemplifies video-based teaching at its best.


**“Business @ the Speed of Thought”**

**Review by Vincent Felitti, MD, Associate Editor**

Many improvements to our practices have resulted from computerized information systems: E-Script, the wonderful pharmacy refill system; KPDS, the archaic but nonetheless valuable laboratory results system; and RTAZ, the radiology reports system. Electronic mail, too is improving the efficiency of consultation and patient communication for many of us as we learn to use it. Many physicians include e-mail addresses on their business cards.

These advances are important because the most troublesome of all problems we face in medical practice is not having patient information available when we need it. In our knowledge-based profession, who of us has not cringed at not having the medical chart when we see a complex patient, or at having to reorder recently done radiology or laboratory procedures because the results could not be located?

Business @ the Speed of Thought suggests the beneficial results that digitized information can bring to any complex human endeavor, including medical practice. The book gives clear examples of how successful companies use computers to integrate multiple activities. Many examples are applicable to Kaiser Permanente. For instance, why do we use lab slips instead of ordering tests directly from a computer screen, especially when test results are posted on a computer screen? Bill Gates frequently poses basic questions: “Do you have people moving information around, or do your computers handle routine process flow while people handle exceptions...?” (p 60). Translating these questions to our own clinical practice, we might ask: are our clinical guidelines still hand-delivered via interoffice mail when they could be placed in a digital library, where they would not be lost or discarded?

The book extensively discusses use of the Internet and leads me to wonder: How might we use the
Internet to enable patients themselves to make the most of their appointments? Do barriers to making appointments accomplish anything other than increased anxiety? Conversely, how often might patient-doctor-patient e-mail accomplish the work of an appointment in less time? How might individual physicians or modules use the Internet in their practices? Is everyone familiar with Internet Grateful Med, the remarkably rapid and simple access service of the National Library of Medicine? Should we develop a questionnaire for use on the Internet to collect a standardized medical history on each member nationwide? If so, how frequently should we collect this information? Current technology certainly provides the confidentiality to gather that information safely, but what additional skills would we need to use the information productively? And perhaps the most basic question of all is also posed by Gates: Does it make sense to invest huge sums in developing custom software, or should we build on the enormous R&D investments of the software industry and customize their applications to meet our needs? The promise of the electronic medical record has led to its own mystique. To date, its effect often has been to provide an excuse for deferring action on current problems because they’ll disappear once we get the EMR.

The closing lines of Business @ the Speed of Thought resonate with the choice we have: “If we sit back and wait for the digital age to come to us on terms defined by others [we will lose] ... Digital tools magnify the abilities that make us unique in the world: the ability to think, the ability to articulate our thoughts, the ability to work together on those thoughts.” (p 415)

This straightforward book is written by a man who identified the unmet needs of people who were trying to work collaboratively, and then built the world’s largest fortune by successfully fulfilling many of those needs. The book will be useful reading for physicians who want to participate actively in making Kaiser Permanente the organization that it has the potential to be.


“Dragon NaturallySpeaking, Medical Suite”
Separate reviews by Eric P. Daniels, MD; and Robert Hogan, MD

In 1993, Dragon Systems of Newton, Massachusetts received a $47,500 Phase I Small Business award from the US Army Space and Missile Defense Command to study automated speech transcription—technology that enables a computer to transcribe recorded speech into written text. This funding helped Dragon Systems to secure two other contracts from the Defense Advanced Research Projects Agency to continue its R&D efforts. In 1997, the company produced Dragon Systems NaturallySpeaking software, a commercial software package that accurately transcribes dictation into printed words. Various versions of this product are described on the Dragon Systems Web site (www.dragonsys.com).

Because of the unusual nature of this technology and its powerful implications for medical practice, two reviewers from different fields of practice assess the latest medical version of this product.

Dragon Systems NaturallySpeaking Software: Use in a Radiology Department

Is there a benefit in being an early user of voice-recognition technology? Clearly, voice recognition software has the potential to lower labor costs and to remove a clerical aspect of the physician’s job, transforming transcriptionists into editors and quality-control professionals. Voice recognition software also provides the benefit of immediacy: reports are available at the moment the x-ray films are read. But how well does the software currently do this?

The CEO of Applied Voice Recognition recently stated, “Voice recognition technology is not perfect and is unlikely to be that way for 10 to 15 years at best.” Perhaps understandably, Claudier Tessier, Executive Director of the American Association for Medical Transcription, stated that he “would not hire a transcriptionist whose first pass looked like what is being produced as final from voice-recognition software.” By contrast, my own findings are of 95% accuracy under ideal conditions, and better than 80% accuracy in actual practice, and are quite in line with findings of others. As a result, at least six radiologists in my department are eager to pilot the technology. After a more formal cost/benefit analysis, the idea may be worth a trial. The basis for my conclusions is as follows: two different versions of Dragon Systems NaturallySpeaking software, Professional Suite, were tested on two computers with
different microprocessor speeds. Both variables—version of software and speed of microprocessor—produced important effects.

Methods

I first tested Dragon Systems NaturallySpeaking software, Professional Suite, v2.02, in the hospital on a 166-MHz Pentium II system equipped with 96 MB of RAM. After 45 minutes of being trained to the nuances of my voice, the system was able to identify approximately 85% to 90% of the words dictated. However, the software performed too slowly for clinical use and was very sensitive to pauses. In addition, breath sounds were detected and shown on the screen. (I have been told that this aspect of the software can be corrected by further training.)

I next tested the same version (v2.02) of the software at home on a 500-MHz Pentium III system equipped with 256 MB of RAM. After a similar 45-minute training period, the system successfully identified 85% to 90% of the words dictated. Speed of response was no longer unsatisfactory.

At home, I then tested the latest version of the software (v3.52) using each of the two Pentium systems. Before this software upgrade could be used, the speech files stored in the application had to be retrained; however, v3.52 is faster and more accurate than the earlier version and includes many new features. (For instance, it readily accommodates completion of special forms and tables.) Using the Pentium III system—which provides many of the software’s needs directly from the motherboard—I had the exhilarating experience of being unable to speak more rapidly than the system could transcribe my words. After only 30 minutes of training, the dictation accuracy was impressive. Between 90% and 95% of common as well as specialty-based words were transcribed correctly.

Discussion

My in-hospital, 166-MHz Pentium II proved too slow and unresponsive for radiologic dictation, so subsequent testing was done using a much faster machine in a quiet, peaceful environment. Accuracy may be decreased by factors unrelated to the software itself (eg, use of headphones, which can be distracting; the sounds made by handling film jackets; environmental disturbances; interruptions; and other extraneous noise); however, on the basis of my successful preliminary trial at home, an attempt will be made to upgrade the equipment in the hospital (ie, by adding a faster processor) for further evaluation of the software.

Conclusion

I suspect that people who are already comfortable with using computer technology will be right at home with this software. Conversely, those who do not currently enjoy working with computers now are unlikely to find this program a satisfactory experience. The real question remains, what about most people, who are in-between?

By the way, in case you are wondering, this evaluation was “typed” using Dragon Dictate.

Eric P. Daniels, MD

Dr Daniels is Chief of Radiology in San Diego and the Regional Coordinating Chief for Radiology for the Southern California Permanente Medical Group (SCPMG).

If you have never used a voice recognition program, just imagine entering text by merely speaking to the computer! Voice recognition by computers has been around since about 1985, when Kurzweil began marketing “Voice Rad,” a product designed to be used by radiologists. Much has changed in the intervening 15 years. Better voice recognition programs are now at hand.

Dragon Systems NaturallySpeaking software provides continuous speech recognition: this package transcribes your words whether you speak in full or incomplete sentences, and you can speak rapidly. As you speak, you can watch the computer screen and witness the nearly instantaneous appearance of each word on the screen—as I am doing right now, writing this review.

Why would anyone wish to use continuous speech recognition instead of dictating into a recording device or typing directly into a word-processing program? Speed, of course, is one reason: Few of us can type 100 words per minute, and the opportunity to record our thoughts very rapidly is attractive in its own right. In addition, use of voice recognition software can eliminate several steps between initial recording of thoughts and final production of finished, “polished” text.

To use a conventional transcription service, thoughts must first be recorded and then transcribed; later, the transcribed results of the dictation must be inspected to identify errors in the dictation. Imagine if errors could instead be spotted and corrected immediately as the words were appearing on the screen, thereby allowing production of a perfectly
word-processed document the first time. Indeed, continuous speech recognition promises error-free text produced almost instantaneously the first time—movement to paper at nearly the speed of thought.

This review is being prepared using Dragon Systems NaturallySpeaking software installed on an IBM-compatible computer equipped with a 166-MHz processor and about 100 MB of RAM. Text appears on the screen as words are spoken. The occasional errors are quickly corrected using spoken correction features. Alternatively, the keyboard can be used for correction; however, as you become more practiced with this software, less and less use of the keyboard is required.

Essentially, the software learns the user’s voice and pronunciation of much of the English language so that accuracy increases substantially with repeated use of the software. Ultimately, you can produce 100 words per minute with very few stops for correction. At the point at which recognition is flawless, the keyboard could even be discarded.

This review so far has consisted of nontechnical language. However, Dragon Systems NaturallySpeaking software can also recognize terms such as “flex,” “hysterectomy,” and “trigeminal neuralgia.” Dragon Systems NaturallySpeaking software might entirely replace medical transcription. Thus, any one of us can equip our examination room or office with a fully functional, computerized transcription system capable of rapidly producing medical notes in finished form. The professional benefits of this capability are obvious and come readily to mind. Perhaps not so obvious is the possible and potentially life-enhancing use of the simpler, nonmedical version of the Dragon Systems software for written communication by quadriplegic patients.

For physicians who wish to replace their hand-written notes with typed entries, for physicians who wish to avoid the expense of hiring transcriptionists, and for anyone who yearns for immediate completion of keyboard-free word-processed documents, the future is sufficiently at hand to carefully consider using this product. 

Robert Hogan, MD
Dr Hogan is a senior family practitioner with the Southern California Permanente Medical Group (SCPMG) in San Diego, is medical software review editor for JAMA, and has been an elected General Director of SCPMG. E-mail: RWHogan@Scal.kp.org

Dragon NaturallySpeaking, Medical Suite, v3.52 Dragon Systems, Newton, MA. Requires >133 Pentium processor, 64 MB RAM, 180 MB hard disk space, 16-bit sound card. Includes headset microphone. $995.

If you have a medically related book coming out, please ask your publisher to send a copy to The Permanente Journal for review. Permanente authors will receive preference in having their works selected for review. Reviewers are needed: if you enjoy reading, can express yourself clearly in writing, and would like to review medical books received, please let me know by e-mail. If you have areas of special competence and interest, please specify.

– Vincent J. Felitti, MD, Associate Editor (Vincent.J.Felitti@kp.org)
New Patient Education Videotapes Available in Southern California

The Kaiser Permanente Southern California Vascular Access QI Committee is ready to distribute two patient education videotapes with accompanying summary cards about hemodialysis access.

The first videotape discusses the different types of access along with their advantages and disadvantages. The importance of vein preservation and early referral for access must be individualized, and patients are encouraged to talk to their physicians if they have questions. Ideally, this video should be shown to patients with chronic renal insufficiency long before they need vascular access.

The second videotape deals with the day of surgery and perioperative and long-term care of the access site. It answers the most commonly asked questions about surgery and stimulates patients to take an active role in the care of their access site. Patients should see this tape when referred to vascular surgery or at the pre-op visit.

Contact: Renal Program Administration, (323) 259-4771, for more information or to obtain an order form.

Optimal Renal Care

Optimal Renal Care, LLC, announces the signing and implementation of a renal disease management contract with Kaiser Foundation Health Plan of Hawaii. Under this agreement, Optimal will provide its renal disease management program to Kaiser members with ESRD and pre-ESRD conditions. The heart of this program is a multidisciplinary care team approach for treating renal disease patients. The multidisciplinary team will include nurse care managers, dieticians, social workers, and a pharmacist who will work with the Hawaii Permanente Medical Group's nephrologists to provide a more focused and enhanced level of care. This model of care was developed by the Southern California Permanente Medical Group and has been responsible for helping them reduce mortality, improve outcomes, and increase rehabilitation for these patients. The Southern California Permanente Medical Group is recognized as a leader in renal disease management and has won various awards and recognition for its innovative programs.

In support of this new program the St Francis Medical Center and Fresenius Medical Care have formed a joint venture to create Integrated Renal Care of the Pacific. This new facility will provide dialysis services and will include offices for the multidisciplinary team from Optimal. Integrated Renal Care of the Pacific will also provide new dialysis therapies and technologies to enhance patient care and to improve clinical outcomes.

National CME

We are pleased to announce that beginning in August 1999, the Kaiser Permanente National CME Program has been accredited by the ACCME (Accreditation Council for Continuing Medical Education) to provide national CME credit to educational activities which the program sponsors. ACCME accreditation allows Kaiser Permanente to offer all Permanente physicians and allied health care professionals high-quality programs for CME credit regardless of where they practice.

The Kaiser Permanente National CME Program will sponsor and provide CME credit for national or interregional educational activities and enduring materials (eg, videotapes, CD-ROMs).

After January 1, 2000, only educational activities and enduring materials that are approved by the National CME Program for CME credit may describe the offering as “Kaiser,” “Kaiser Permanente” or “Kaiser Permanente ‘National’ or ‘Interregional’” (or any similar multistate term). This policy has been approved by all the Permanente Medical Group Medical Directors.

For more information, please contact Leslie Francis at (510) 271-6440 or by e-mail at Leslie.Francis@kp.org

Correction

An error in drug dosage was reported in table three of “A Review of Advances in Treating Fibromyalgia Syndrome (FMS) Using a Multidisciplinary Approach” (Permanente J 1999;3(2):69). Zolpidem was listed as 5-10 mg by mouth every hour; it should have read, “5-10 mg by mouth every evening, about 30 minutes before bedtime.”
CME Evaluation Form

All PMG physicians may earn up to two hours of Category 1 credit for reading and analyzing the four designated CME articles, selecting the most appropriate answer to the questions below, and successfully completing the evaluation form. This form must be returned (fax or mail to the address listed on the back of this form) to The Permanente Journal by December 31, 1999, to receive credit. You will receive an acknowledgment by January 31, 2000. **You must complete all sections to receive credit.**

The Kaiser Permanente National Continuing Medical Education Program (KPNCMEP) is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The KPNCMEP takes responsibility for the content, quality, and scientific integrity of this CME activity. The KPNCMEP designates this educational activity for up to two hours of Category 1 CME credit for each *TPJ* issue. This credit is applicable to the AMA Physician Recognition award and/or state award. Each physician should claim credit for only those hours that were actually spent in this educational activity.

**Section A.**

**Article 1. A Physician’s Call to Action: Delivering a Superior Care Experience (page 49)**

Patient satisfaction surveys show that factors which influence patients’ ratings of provider knowledge and competence include: *(Circle all that apply)*

a. Technical skills and training of the provider  
b. Courtesy and respect of the provider  
c. Wait time in the exam room  
d. Patient health outcomes

Which of the following statements is/are true about the “chain of care”? *(Circle all that apply)*

a. The chain of care refers to the diagnostic and therapeutic steps taken by a provider in treating a patient  
b. The chain of care describes, from the patient perspective, the steps that occur in the course of obtaining care  
c. The chain of care includes the key factors which determine patients’ overall satisfaction with the care experience  
d. The most important factor in the chain of care is the knowledge and competence of the provider

**Article 2. Exercise-Induced Asthma (page 19)**

Which one of the following statements is true about exercise-induced asthma?

a. Occurs within 10 minutes of starting exercise or 3-5 minutes after stopping exercise  
b. Very common in asthmatic children up to 60% of the time  
c. If treated properly, allows exercise as strenuous as Olympic-caliber levels  
d. All of the above

Which drug should be tried first to treat or prevent exercise-induced asthma?

a. Cromolyn  
b. Spray steroids  
c. Beta-2 agonist  
d. Leukotriene inhibitors

**Article 3. Getting the Most Out of the Clinical Encounter: The Four Habits Model (page 79)**

Eliciting the patient’s perspective involves which of the following? *(Circle all that apply)*

a. Assessing patient’s attribution of the problem  
b. Identifying patient’s expectations for care  
c. Exploring the impact of patient’s symptoms on his/her daily life  
d. Planning the visit

Which of the following statements about empathy are true? *(Circle all that apply)*

a. Lack of empathy is a risk factor for malpractice suits in the event of a negligent outcome  
b. Empathy must be expressed verbally to be effective  
c. Physicians who are sensitive to and explore patients’ emotional concerns take a mean of three minutes longer to complete visits than physicians who do not  
d. Physicians who establish good eye contact are more likely to detect emotional distress
Article 4. Practitioner Prescribing Habits for Pharyngitis: Implications for Evaluation and Management (page 25)

When treating pharyngitis, postponing antibiotic therapy while awaiting culture results: (Circle all that apply)

- a. Should be discouraged because it results in prolongation of symptoms and increases the risk of major nonsuppurative sequela
- b. Is more likely when seen by physician extenders (NPs and PAs) than when seen by physicians (MDs and DOs)
- c. Is safe and can be delayed up to nine days and still prevent the major nonsuppurative sequela (acute rheumatic fever)
- d. Is unnecessary because the sensitivity of rapid antigen tests approaches 95%
- e. Is recommended by AAP, CDCP, and AHA

Which of the following statements is/are true? (Circle all that apply)

- a. Reducing unnecessary antibiotic use for common conditions would not reduce antibiotic resistance for more serious infections
- b. Presumptively starting antibiotics is discouraged because treatment is often continued despite negative culture results
- c. Treating presumptively increases the percentage of culture-positive patients being treated
- d. Careful attention to other viral symptoms (cough, hoarseness, rhinorrhea) could significantly reduce the need for throat cultures
- e. All of the above

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Section B. Referring to the CME articles and the stated objectives, please check the box next to each statement as appropriate

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<thead>
<tr>
<th>Article 1</th>
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Section C.

What change(s) (if any) do you plan to make in your practice as a result of reading these articles? ________________________________________________________________

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Section D.

Name: ___________________________ E-mail Address: ___________________________

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Signature: ___________________________ Date: ____________

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  Clinical articles on the practice of medicine within The Permanente Medical Groups and their affiliates. Article topics may include reviews of “successful” practices, programs and policies, and analyses of new technologies.
  (word count range is 725-5000)

- Original Research
  Articles on Kaiser Permanente’s research contributions through original, empirically-based research in areas of great clinical importance. This includes outcomes research, studies that use Kaiser Permanente databases, and rigorous evaluations of best practices and innovations in clinical care.
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  Poetry, stories, musings, and nonfiction articles written by Permanente clinicians as an expression of the soul of the healer. This is a forum to appreciate each other personally through creativity in the humanities.
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- A Moment in Time
  A look back at milestones in the history of the Permanente Medical Groups.
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- Abstracts
  Abstracts from articles published in other journals, preferentially featuring the work of Permanente physicians.

- Announcements
  Significant achievements related to the practice or management of medicine by Permanente physicians or Permanente Medical Groups. Also posted will be upcoming courses, meetings, and conferences sponsored by the Permanente Medical Groups or Kaiser Permanente.

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  Jokes, stories, and humorous encounters tied to the practice of Permanente medicine, managed care, or health care in general.

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Examples.

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