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Editors' Comments

Tom Janisse, MD, Editor-in-Chief
1998-99 Strategic Planning

The Editorial Team and members of the Advisory Board of The Permanente Journal met in February for 1998-99 strategic planning. Although the group discussed many subjects in detail, I would like to highlight three important strategic intents.

Our work first focused on review of the Journal's mission statement. We asked, "Did the original statement adequately speak to our mission on the basis of what we learned in our first year of publication?" and "Could we enhance or clarify our mission?" While we did confirm our mission, we also sharpened the language to reflect the growing understanding of "Permanente Practice" subsequent to the formation of the Permanente Federation and the significant number of interactions now occurring among clinicians across the country.

Our revised mission statement reads:
"The Permanente Journal is written and published by the clinicians of the Permanente Medical Groups and Kaiser Foundation Health Plan to promote the delivery of superior health care through the principles and benefits of Permanente Medicine."

This commits the Journal to superior health care—the first phase of our national brand strategy and promise to members, and identifies the major strategic capability to accomplish this—"Permanente Medicine."

The second strategic focus was our primary audience and customers—the clinicians of Kaiser Permanente (KP). One of our attempts to understand clinician needs will be through the reader survey you will find in this issue. Please respond and help us bring you the value you seek when you hold the Journal, view it, and read it.

Our third strategic focus was to better understand and improve the key routine business processes for a medical journal: the performance of our editorial team, article generation, peer review process, issue layout and graphics, printing, distribution channels, and communication with our readers. We will be visiting more of you across the country this year at clinical and research conferences and facility meetings to learn about your successful practices and encourage you to write and submit your best work to your Permanente Journal.

In summary, our strategic planning focused on enhancing our core product, ensuring that it continues to define Permanente Medicine and helps to diffuse innovation—those most successful and best practices—into each Region, ultimately improving our care of our members. The cost to do this—for each Region's PMG to support our 1998 budget through allocation based on the number of clinicians in each Region—will be $9.02 per copy.

Alternative and Complementary Medicine

Alternative and complementary medicine suddenly appeared in the awareness of those in traditional medicine in 1993 with David Eisenberg's finding that one third of American people use some type of "alternative" medicine.

Permanente clinicians exhibit a high interest in this area through their questions, attendance at educational sessions, incorporation of alternatives into their practice, and even development of integrative alternative medicine programs. Lydia Segal, from the Mid-Atlantic PMG, who authors an article in this issue, is developing an integrative program after more than a year of exploration, analysis, and the creation of a business case.

When planning The Permanente Journal in 1996, we convened KP focus groups to assess the needs of Permanente physicians. These groups said the Journal is where they would look for information on alternative medicine. The publication of this article addresses that recommendation.

Transpersonal Phenomena

While we learn about these more recognized alternative therapies—acupuncture, chiropractic, massage therapy, and naturopathy—which appear to be on the frontier of medical care, research exists on other "alternative" processes called "transpersonal phenomena"—intuition and intention. Research on transpersonal communication has previously been relegated to the field of extrasensory perception. However, I believe these processes of information transfer are common in our daily practice.
By describing these processes it is not my intention to demystify and undermine the magical and personal aspects of healing. My main point here is that, as clinicians begin to see medicine changing to incorporate new complementary therapies and as we feel a growing distance from our training, intuition and intention are actually at the core of traditional medical practice. Recovering their value in our Permanente Practice will place us at the frontier of future medicine.

**Prevention Through Attention to Behavioral Medicine**

What the alternative dialogue prompts is an evaluation of how we usually do things. In my mind, one basic assumption of traditional medicine is that “disease happens.” We believe disease happens in response to genetic, physical, infectious, and environmental factors largely out of our control. In reacting to disease, we identify symptoms or signs of disease, diagnose the disease, and then treat the disease with chemical, physical, or surgical interventions. To improve this current approach, some clinicians now emphasize prevention and population-based care. We look to find disease sooner (early diagnosis), treat it faster (immediate access and therapy), treat it more consistently (guidelines), and both look for and treat disease in more people (population-based care).

I am puzzled about which questions we are asking and what answers we seek. In concert with the listed approaches, our treatment emphasis appears to be in response to the question, “How to get it down?” We use ACE inhibitors to lower blood pressure, lovastatin to lower cholesterol, and glyburide to lower blood sugar. Instead, I wonder if we should be attending more to the question, “Why did it go up?” If stress elevates our blood pressure, a high-fat diet elevates our cholesterol, and lack of exercise and diet control elevates our blood sugar, how much are we addressing prevention? It’s as though we are treating hypertension to prevent heart failure, treating hypercholesterolemia to prevent coronary occlusion, and treating hyperglycemia to prevent retinopathy. We appear focused on secondary prevention.

We may be chasing, with an increasing supply of drugs and clinicians, an unending demand for services that is symptomatic of a system disconnected from the cause of its problems. Within KP it is certainly not increased reimbursement for services that drives this process. Is it a medical model out of touch with our patients’ lifestyles? Perhaps it is frustration with the ineffectuality of our recommendations to alter lifestyle. Perhaps it is the way that we deliver these recommendations. Perhaps our members are resistant to our suggestions, are in a state of unreadiness for change, or lack a support system for change. Perhaps it is just too complex. Can there be some answers in the proliferation of the public demand for something alternative or complementary?

John Nelson, a Northwest Permanente internist who supported a case management project for his diabetic patients with difficulty controlling their blood sugar, said after seeing his patients improve, “Physicians, both because of time constraints and training, often tend to focus on the nuts and bolts of disease management and to overlook important psychosocial and lifestyle issues that may have a very profound effect on our patients’ health and their ability to follow through with a treatment program.”

The article in this issue, as well as the divergent efforts underway across KP’s Regions, will add some knowledge and experience to our group’s collective practice both to answer some questions and to ask new ones. If we don’t have integrated allopathic and complementary medicine soon, at least we may have integrated program learning through our dialogue about alternative medicine in these pages, in interregional groups, or on the Intranet.

Our end is always to better objectify new subject matter, understand and appreciate it, find what is beneficial, sort out what is harmful or of questionable effect, and bring higher value to our members.
Clinical Contributions
Arthur L. Klatsky, MD, Associate Editor

Once again, we present a varied menu in the Clinical Contributions section of this issue. All of the articles should be of interest to a large proportion of physicians practicing in many areas of Permanente Medicine. The article titled “Suppurative Appendicitis: Quality Improvement Study of Disease Duration,” by Kirtland Hobler describes a subset of acute appendicitis patients with a different clinical presentation and distinctly less benign course. The article suggests that there is clinical value in recognizing this group, and Dr. Hobler also points out the important (and, perhaps, comforting) concept that quality-of-care assessment—which lumps the “suppurative” subset with all acute appendicitis—may be intrinsically unfair to the physicians involved.

The article titled “Written Instructions and Compliance with Return Visits for Reading Mantoux (PPD) Skin Tests in a Large General Pediatric Practice” by Harold Faber is a reminder of the ubiquitous nontechnical problems which beset medical practice. In this era of highly-technical medicine, too many persons assume that all difficulties can be overcome, but front-line, busy clinicians know better. The problem here is patient noncompliance. The disappointing result of this experimental attempt to improve an abysmal rate for reading the Mantoux test is an object lesson in this regard.

George Longstreth’s article, “Relation Between Physical or Sexual Abuse and Functional Gastrointestinal Disorders,” is a learned, data-based discussion of a provocative and possibly controversial topic. Comments from readers about this or any article would be welcome.

Finally, this issue includes a Perspective article from the July 1943 Permanente Foundation Medical Bulletin entitled “Fat Embolism” by Bernard Gray and Nathan Meadoff, with commentary by Jerry Schilz, Chief of Orthopedic Surgery at the Kaiser Permanente Baldwin Park facility. Fat embolism had become a major, relatively newly recognized problem with the increase of traumatic injuries during WWII. It is fascinating to see what progress has been made and sobering to realize how incomplete our current understanding of this problem remains.

Health Systems Management
Lee Jacobs, MD, Associate Editor

This issue, Health Systems Management has contributions from Kaiser Permanente (KP) authors covering several topics that I’m certain you will find interesting. Addressing this edition’s System Challenge is Lydia Segal’s article, “Complimentary and Alternative Medicine Comes to Kaiser Permanente.” With her article, she opens the door to a controversial topic that I’m sure will provoke a valuable dialogue.

Shelton Kam and Scott Brooks introduce an exciting new study correlating KP employee commitment to customer satisfaction, and eventually to financial performance. While similar linkage studies in the banking industry suggest a high correlation, this is a land-mark study for health care and for KP specifically. Over the years a tremendous data pool of KP results will be compiled enabling extensive study. I would anticipate updated reports from this group at least annually.

Barney Newman’s group provides the small and medium-sized Permanente Groups with several very helpful guidelines on integrating a teaching program in their article, “A Strategy for a Permanente Academic Partnership in a Small Medical Group.” Involvement in teaching programs is beneficial not only for those in the Permanente community who enjoy teaching, but also provides an opportunity to assist the local academic institutions in providing students and residents with the best kind of ambulatory experience—the Permanente Practice experience!

Finally, Michael Chaffin, the Medical Director from the Hawaii Permanente Medical Group, presents his thoughts on the role of the partnership as the characteristic best distinguishing KP from our competitors.

I hope you enjoy these contributions in the Health Systems Management section. As in the past, the extent of dialogue in the Permanente community depends in large part on your response to these and future articles.

External Affairs
Scott Rasgon, MD, Associate Editor

Three articles in the External Affairs section by Don Parsons, Dennis Flatt, and David O’Grady in the opening comments refer to the movie As Good As It Gets and the reference in it to HMO care of asthmatic children. The audience response referred to represents the public’s image of poor care in HMOs created in the media that is completely opposite of what occurs in the Permanente Medical Groups. The Permanente Journal is one way to get the message out to differentiate us from all managed care and to show how we offer superior care—often being the leader and innovators in the health care field. Many examples of the high quality of Permanente Medicine appear in the issues of the Journal already published and many more will appear in future issues.

Linda Kotis speaks to our social mission in her article on our program to help insure uninsured children in California. The article about Ohio Permanente Medical Group’s new Medical Director illustrates his vision for the future. The last two articles again help differentiate us from other managed care organizations and reflect our social mission.
The prevalence of suppurative vs. acute appendicitis has traditionally been used to indicate quality of care, but recently acute and suppurative appendicitis have been suggested to be different disease processes. If so, quality of care might be better determined by measuring speed and accuracy of diagnosis and treatment. We retrospectively reviewed inpatient and outpatient medical charts of 208 health plan members in Raleigh, North Carolina, who had surgery for acute appendicitis during the years 1990 through 1995 to identify and compare duration and clinical features of acute and suppurative appendicitis.

Compared with acute appendicitis, suppurative appendicitis caused more days of pain (2.8 ± 2.2 days vs. 1.7 ± 2.1 days), pathology (3.1 ± 2.3 days vs. 1.1 ± 1.3 days), and delay before seeking treatment (1.7 ± 1.6 days vs. 1.1 ± 1.7 days). Suppurative appendicitis was also associated with a higher incidence of atypical history (65.5% vs. 21.6%). Duration of pain was shown to have a nonlinear relation to duration of pathology (R² = 0.3, P = .0001) for acute appendicitis and a linear relation (R² = 0.85, P = .0001) for suppurative appendicitis.

Our data and current medical literature suggest that unlike acute appendicitis, suppurative appendicitis starts with the suppurative process and has an atypical history which makes diagnosis difficult. Improving the speed of diagnosis and treatment of each condition is also discussed.

Introduction

Incidence of suppurative appendicitis has traditionally been used to indicate quality of care for appendicitis: because undiagnosed acute appendicitis was thought to precede suppuration, the latter condition was taken to indicate failure in diagnosis, treatment. We retrospectively reviewed the inpatient medical records of all Kaiser Foundation Health Plan members receiving emergency surgery for acute appendicitis at Rex Hospital in Raleigh, North Carolina, from April 1990 through April 1995. Chart review placed special emphasis on operative and surgical pathology reports. Outpatient records were reviewed for duration of abdominal pain and related evaluations. Normal appendixes were defined as those so indicated in the pathology report, although some patients with normal appendix had other disease processes. Suppurative appendicitis was defined as appendixes with intraperitoneal pus, perforation, gangrene, or abscess. Because perforation is sometimes difficult to recognize at surgery and acts clinically like suppurative appendicitis, perforation was classified as suppurative.

Researchers are also accumulating evidence that acute and suppurative appendicitis are actually different disease processes. Andersson et al showed that the incidence of suppurative appendicitis is constant for patients of all ages but that the incidence of acute appendicitis is highest at puberty. Suppurative appendicitis is more often associated with delay in seeking care and with obstruction of the appendix by fecolith or hyperplasia, whereas acute appendicitis is associated with mucosal ulceration. Perhaps a viral cause for these ulcerations might explain epidemic clusters of acute appendicitis. If acute and suppurative appendicitis are different disease processes, then speed of diagnosis and treatment (ie, disease duration) might be a better indicator of quality than incidence of suppuration.

Because the author observed empirically that the suppurative process often seemed to have started near the onset of abdominal pain, this study sought to correlate duration of pathologic process with duration of abdominal pain to determine whether suppurative appendicitis is a complication of acute appendicitis (ie, by noting short duration of suppuration after longer history of pain) or a separate disease process (ie, by noting a strong linear correlation between duration of pathologic process and pain in suppurative appendicitis).

Methods

We retrospectively reviewed the inpatient medical records of all Kaiser Foundation Health Plan members receiving emergency surgery for acute appendicitis at Rex Hospital in Raleigh, North Carolina, from April 1990 through April 1995. Chart review placed special emphasis on operative and surgical pathology reports. Outpatient records were reviewed for duration of abdominal pain and related evaluations. Normal appendixes were defined as those so indicated in the pathology report, although some patients with normal appendix had other disease processes. Suppurative appendicitis was defined as appendixes with intraperitoneal pus, perforation, gangrene, or abscess. Because perforation is sometimes difficult to recognize at surgery and acts clinically like suppurative appendicitis, perforation was classified as suppurative.
Because criteria for measuring duration of the pathologic process in appendicitis have not appeared in the biomedical literature, duration of the pathologic process in acute and suppurative appendicitis was estimated for pathologic conditions seen at surgery: erythema, edema, or fibrin on peritoneal surfaces (0.5 day); pus in peritoneal cavity or leukocytic infiltrates at serosa or outside the appendix (1 day); perforation or gangrene without collagen deposition (2 days); collagen formation outside appendix (4 days); early abscess cavity (5 days); and well-defined abscess (7 days). These estimates reflected the number of days which would ordinarily elapse before surgery would yield that finding. The estimates were based on well-accepted principles of stage of inflammation and wound healing and were adjusted by consensus of 4 Board-certified general surgeons and 6 Board-certified pathologists at Rex Hospital. These estimated durations were then applied to data obtained from operative notes and pathology reports.

Using recently proposed criteria, typical appendicitis-related medical history was defined as abdominal pain which progressed from upper abdomen to right lower quadrant and which was followed by either anorexia, nausea, or vomiting. Atypical appendicitis-related medical history was defined as sudden, nonprogressive lower abdominal pain, vague or absent pain localization, or predominant symptoms of diarrhea or vomiting. Typical appendicitis-related physical examination results were defined as guarding or spasm in the right lower quadrant. Typical laboratory findings were defined as white blood cell count \( >12,000/mm^3 \) (\( 12 \times 10^6/L \)) as a prominent feature. Delay before seeking treatment was defined as the difference (stated in days) between duration of pain and duration of medical care before appendectomy.

Statistical analysis was done using SPSS software. Statistical significance for differences was determined by using \( \chi^2 \) tests for frequencies; and Student's \( t \) statistic for means. Duration of pain and duration of pathologic process were evaluated for correlation by plotting days away from the mean for each variable and by using the standardized Scatterplot feature of SPSS. \( \chi^2 \) (the coefficient of determination) was used to determine whether the relation between duration of pain and duration of pathologic process was linear and strongly correlated (\( R^2 = 1.0 \)) or weakly correlated and nonlinear (\( R^2 = 0.0 \)).

**Results**

Of 208 appendectomy cases studied, 116 were acute appendicitis, 37 (17.8%) were normal appendixes, and 55 (32.2%) were suppurative appendicitis. No mortality occurred. Age, sex, and laboratory findings were similar for patients with acute and suppurative appendicitis (which included 27 perforations—15% of all appendicitis cases) (Table 1). Suppurative appendicitis had significantly longer duration of pain (2.8 ± 2.2 days vs. 1.7 ± 2.1 days, \( p = .001 \)), pathologic process (3.1 ± 2.3 days vs. 1.1 ± 1.3 days, \( p = .001 \)), delay before seeking treatment (1.7 ± 1.6 days vs. 1.1 ± 1.7 days, \( p = .03 \)), hospital stay (3.8 ± 2.9 days vs. 2.0 ± 1.7 days, \( p = .001 \)), and medical observation (1.1 ± 1.7 days vs. 0.6 ± 1.4 days, \( p = .03 \)) as well as a higher incidence of atypical medical history (65.5% vs. 21.6%, \( p = .0001 \)), atypical results of physical examination (36.4% vs. 12.1%, \( p = .0009 \)), and complications (16.4% vs. 6.9%, \( p = .05 \)) than did acute appendicitis.

<table>
<thead>
<tr>
<th>Patient characteristic</th>
<th>Acute appendicitis (n = 116)</th>
<th>Suppurative appendicitis (n = 55)</th>
<th>Healthy appendix (n = 37)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (yr)</td>
<td>26.4 ± 13.3</td>
<td>27.9 ± 16.1</td>
<td>29.5 ± 13.4</td>
</tr>
<tr>
<td>Male sex (%)</td>
<td>45.7</td>
<td>54.5</td>
<td>32.4</td>
</tr>
<tr>
<td>Mean duration (days):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pain</td>
<td>1.7 ± 2.1</td>
<td>2.8 ± 2.2*</td>
<td>2.9 ± 2.8</td>
</tr>
<tr>
<td>delay before seeking</td>
<td>1.1 ± 1.7</td>
<td>1.7 ± 1.6*</td>
<td>1.6 ± 2.1</td>
</tr>
<tr>
<td>care</td>
<td>0.6 ± 1.4</td>
<td>1.1 ± 1.7*</td>
<td>1.2 ± 1.9</td>
</tr>
<tr>
<td>hospital stay</td>
<td>2.0 ± 1.7</td>
<td>3.8 ± 2.9*</td>
<td>2.1 ± 2.0</td>
</tr>
<tr>
<td>pathologic process</td>
<td>1.1 ± 1.3</td>
<td>3.1 ± 2.3*</td>
<td>N/A</td>
</tr>
<tr>
<td>Typical medical history (%)</td>
<td>78.4</td>
<td>34.5*</td>
<td>27.0</td>
</tr>
<tr>
<td>Typical physical</td>
<td>87.9</td>
<td>63.6*</td>
<td>64.9</td>
</tr>
<tr>
<td>findings (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical laboratory</td>
<td>86.2</td>
<td>72.7</td>
<td>45.9</td>
</tr>
<tr>
<td>findings (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complications (%)</td>
<td>6.9</td>
<td>16.4*</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Where applicable, values are expressed as mean ± standard deviation.

* \( p < .05 \) for acute vs. suppurative appendicitis.
appendicitis. Duration of pain plotted against duration of pathologic process showed a widely scattered, nonlinear pattern for acute appendicitis ($R^2 = 0.30$, $p = .0001$) (Fig. 1) and a linear pattern for suppurative appendicitis ($R^2 = 0.85$, $p = .0001$) (Fig. 2). Differences noted between suppurative and acute appendicitis are listed in Table 2.

**Discussion**

Our data indicate that suppurative appendicitis and acute appendicitis are different disease processes. Suppurative appendicitis is more likely to be associated with atypical medical history and with physical findings which make diagnosis difficult. For this reason, suppurative appendicitis is associated with longer delays before seeking treatment and with longer duration of medical observation. Surgery for suppurative appendicitis yields pathologic findings which correlate well and linearly ($R^2 = .85$) with duration of pain (Fig. 1), indicating that peritonitis in patients with suppurative appendicitis occurred near time of onset of pain. If suppurative appendicitis were a complication of acute appendicitis, duration of the pathologic process would not be expected to be the same or longer than duration of pain. Instead, a typical medical history would be expected early in the disease course and then a shorter duration of the pathologic process would be expected to exist at surgery. Our data therefore support a concept of separate disease processes.

Diagnosing suppurative appendicitis requires appreciating atypical medical history and physical examination results as well as expecting a prolonged course which is difficult to diagnose and which does not show improvement after observation. Observation is currently thought to be safe because perforation rarely occurs during observation; this study explains why: the process has begun at the onset of pain and is already underway. Nonetheless, diagnosis (for which ultrasonography or CT scanning may be useful) and required surgery must be done as early as possible.

In contrast to suppurative appendicitis, acute appendicitis manifests as a mixture of findings seen at surgery (Fig. 2). Some cases show scant inflammation, suggesting that these cases may have been resolving and might have resolved without surgery. The main feature of acute appendicitis, however, is its typical clinical appearance, which allows early diagnosis and surgery—the best therapeutic choice after diagnosis is made. For most cases of acute appendicitis, use of diagnostic ultrasonography or CT scanning is both costly and unnecessary. Understanding acute appendicitis as a viral illness associated with mucosal ulceration—not luminal obstruction—reduces concern about perforation but does not remove the obligation to quickly and accurately diagnose the condition, to minimize duration of pain, and to perform appendectomy.

The criteria used in this study for measuring duration of the pathologic process might be criticized as hypothetical or arbitrary. However, the consensus of physicians experienced in this area easily validated the criteria as reflecting well-established...
principles of stage of inflammation and wound healing. The linear relation seen between duration of pain and duration of the pathologic process in suppurative appendicitis validates these criteria as useful for describing this disease process. Absence of linear relation between duration of pain and duration of the pathologic process in acute appendicitis also supports the concept that acute appendicitis can resolve spontaneously and can even recur. The criteria used in this study for measuring duration of the pathologic process might be useful not only to surgeons at surgery but also for clinicians deciding whether CT scanning is likely to show abscess. For these reasons, the criteria used in this study deserve further evaluation regarding their validity, not only for appendicitis but also for acute inflammatory processes such as diverticulitis and other inflammatory bowel disease.

Quality of care, then, should be gauged by speed and accuracy of diagnosis and treatment in cases of acute and suppurative appendicitis. The concept that these conditions are distinctly different disease processes requires that suppurative appendicitis should not be viewed as evidence of a missed diagnosis; instead, duration of each disease process should be shortened. Monitoring duration of illness, incidence of morbidity, incidence of mortality, and population rates of removing normal appendixes can further improve quality of care.

Summary and Conclusions

Duration of the pathologic process in appendicitis was measured by new criteria developed for findings determined at surgery. Duration of the pathologic process in suppurative appendicitis correlated well and linearly ($R^2 = 0.85$) with duration of pain, showing that the suppurative process begins at onset of abdominal pain and cannot be accurately defined as a complication of acute appendicitis; acute and suppurative appendicitis are different disease processes. Suppurative appendicitis is characterized by an atypical medical history, by atypical results of physical examination, and by obstruction of the lumen. Surgery is indicated when observation shows no clinical improvement. Ultrasonography, CT scanning, or both may be helpful for diagnosing suppurative appendicitis.

Acute appendicitis is characterized by a typical medical history, by typical results of physical examination, by mucosal ulceration, and by a duration of pathologic process which correlates poorly and nonlinearly ($R^2 = 0.3$) with duration of pain. For patients with acute appendicitis, diagnosis is reached more easily, and imaging studies are rarely needed. For both acute and suppurative appendicitis, quality of care should be determined by duration of abdominal pain (which is necessarily shortened by quick, accurate diagnosis). In addition, the incidence of morbidity, mortality, and of removing normal appendixes should be kept as low as possible for any given case mix of acute and suppurative appendicitis.

Table 2. Differences between acute and suppurative appendicitis as determined from retrospective chart review of 208 appendectomy cases, or literature review.\(^1,3,4\)

<table>
<thead>
<tr>
<th>Disease characteristic</th>
<th>Appendicitis</th>
<th>Suppurative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical history, results of physical examination</td>
<td>typical</td>
<td>atypical</td>
</tr>
<tr>
<td>Delay in seeking treatment</td>
<td>short</td>
<td>long</td>
</tr>
<tr>
<td>Ease of diagnosis</td>
<td>low</td>
<td>high</td>
</tr>
<tr>
<td>Incidence</td>
<td>peak at adolescence(^1)</td>
<td>consistent throughout life(^4)</td>
</tr>
<tr>
<td>Pathologic finding</td>
<td>mucosal ulcers(^4)</td>
<td>appendiceal obstruction(^2)</td>
</tr>
<tr>
<td>Course</td>
<td>possible spontaneous recovery or recurrence</td>
<td>progressive worsening</td>
</tr>
<tr>
<td>Correlation between duration of pathologic process and duration of pain</td>
<td>poor, nonlinear</td>
<td>good, linear</td>
</tr>
</tbody>
</table>

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5. Wagner JM, McKinney WP, Carpenter JL. Does this patient have appendicitis? JAMA 1996;276:1589-94.
Relation Between Physical or Sexual Abuse and Functional Gastrointestinal Disorders

Abuse is a psychosocial factor associated with functional gastrointestinal disorders: it appears to modify the way patients perceive and react to their symptoms. This review outlines what has been learned or postulated about the link between psychosocial factors of abuse and symptoms of functional gastrointestinal disorders.

Introduction

In many parts of the world, people are becoming increasingly aware of the major problem of sexual and physical abuse. Population estimates of self-reported sexual abuse range from 7% to 22% for childhood abuse and from 13% to 25% for lifetime abuse. An additional 10% of women report serious physical abuse, and an association between sexual and physical abuse has been reported. Women are abused much more commonly than men. Extensive information exists on the long lasting and serious psychologic effects of child abuse.

Recent research has focused on the important medical sequelae of abuse. For example, obesity, headache, drug abuse, chronic pelvic pain, somatization, and number of surgical procedures (especially hysterectomies) correlate with an abuse history. Evidence links abuse to functional gastrointestinal symptoms and to care-seeking behavior.

Hypotheses Explaining Pathogenesis of Irritable Bowel Syndrome

The mechanisms which lead to IBS are multifactorial and are not mutually exclusive. The varied nature of these underlying factors must be considered because it leads physicians to reject the reductionist concept that a single factor (eg, past physical or sexual abuse) is the “cause” of IBS.

Motor Function
Abnormalities of fasting, of postprandial colonic motor activity, and of myoelectric slow-wave activity have been reported; however, these findings have varied greatly, and the reported abnormalities are poorly correlated with pain. Smooth muscle hyperreactivity to various stimuli has been found consistently. In addition, colonic transit is accelerated in patients with diarrhea and is delayed in patients with constipation. Recent work by Kellow and Bennett has shown both abnormal small bowel motility (which is associated with pain) and motor hyperreactivity to balloon distention of the ileum.

Visceral Perception
Dysfunctional peripheral afferent nerves, central processing of afferent information, or both could be responsible for the visceral hyperalgesia which is clearly correlated with IBS. Autonomic dysfunction distinct for IBS symptom subgroups has been described.

Luminal Physiology
Intestinal symptoms may be induced by malabsorption of fructose and sorbitol. Some investigators believe that food sensitivity is a prominent factor in IBS. Ileal sensitivity to bile acids may lead to diarrhea or to a dominant complaint of bloating, which is of uncertain pathogenesis. Belching is related to aerophagia, whereas rectal gas is increased by colonic fermentation of indigestible carbohydrates.

Psychophysiologic Factors
Cognitive factors (eg, cancerphobia) can produce heightened anxiety and emotional arousal which, in turn, amplify gastrointestinal symptoms and cause patients to seek additional health care. Illness behavior—the way people perceive, interpret, and react to somatic sensations—may cause these sensations to be misinterpreted as symptoms of disease. The importance of such factors as anxiety, depression, and somatization is underscored by the observation that they predispose patients to development of IBS after onset of acute infectious diarrhea.

Relation Between Abuse and Gastrointestinal Disorders (Functional or Organic) and Their Severity
Drossman and colleagues described female gastroenterology patients, about half of whom had IBS and 44% of whom reported a history of sexual or physical abuse. Patients with functional disorders were more likely than those with organic disorders to report severe sexual abuse or frequent physical abuse. Similarly, at our medical center in San Diego, we found that a history of abuse was more than twice as common among examinées with IBS than among those without this condition. Of those
with IBS, sexual abuse was reported by 24%, physical abuse was reported by 22%, and emotional abuse was reported by 35%. A population-based American study found that a history of sexual, physical, or emotional abuse was associated with odds ratios of 2.3 for IBS and 2.0 for dyspepsia. A recent French survey found a higher prevalence of self-reported sexual abuse in patients with IBS than in patients with organic gastrointestinal disease, ophthalmology patients, or patients obtaining a routine health examination. Walker et al compared patients with IBS and inflammatory bowel disease and found a history of sexual abuse more often in IBS patients, but another survey showed that patients with these diagnoses did not differ regarding history of abuse.

Severity of Functional Disorders and Abuse

Classifying IBS according to number of Manning symptom criteria present, we found a statistically significant positive linear trend for sexual, physical, and emotional abuse in women whose IBS symptoms ranged from nonexistent to severe. Moreover, in the study by Drossman and colleagues, the IBS patients had been referred to a university gastroenterology department and so presumably had unusually severe IBS; these patients reported even more sexual abuse than was reported by patients in our study who had more severe IBS, indicating a progressive increase in abuse history with increasing IBS severity.

Functional Disorders and Severity of Abuse

In a random sample of female patients from a rural family practice, especially severe sexual abuse (eg, penetration or multiple abusers) correlated with a higher number of medical problems than did less severe abuse. Using sophisticated interviews and health status measures for female patients referred to the University of North Carolina gastroenterology department, Drossman et al found that rape and severe physical abuse (life-threatening attack) predicted poor health but that health status was not predicted by attempted sexual abuse lacking contact or by physical abuse which was not life-threatening. Because of the relation of abuse severity to health status, they created an abuse severity scale.

Relation Between Abuse, Health Status, and Care-Seeking Behavior

Studies of various patient populations have shown independent associations between abuse and pelvic pain as well as number of somatic symptoms, surgical procedures, and physician visits for gastrointestinal symptoms. Among female gastroenterology patients, Drossman and colleagues found an independent effect of abuse history on all six measures of health status: 1) pain severity, 2) number of days in bed, 3) degree of psychologic distress, 4) extent of daily function, 5) number of physician visits, and 6) number of surgical procedures throughout lifetime. The authors have recently extended their observations of this group to include number of health care visits for symptoms during the first year after entry into the study by taking into account abuse severity. Abuse severity correlated with number of symptoms, degree of functional disability at entry into the study, and number of health care visits during the subsequent year. Regression analysis showed that number of visits was related to severity of symptoms and disability, not to abuse itself.

Link Between Abuse and Gastrointestinal Symptoms

Drossman postulated specific factors linking the physiologic and psychosocial aspects of abuse to functional gastrointestinal symptoms: 1) Chronic or traumatic stimulation of the pelvic area could activate previously silent nociceptors by down-regulating the sensation thresholds of the visceral afferent receptors, thereby increasing sensitivity to abdominal/pelvic pain or other symptoms; 2) Belief that one’s sexual organs are “bad”—feelings of guilt and shame—could lead to sexual dysfunction and pain in the pelvis or abdomen (ie, whichever area the patient considers to be the “bad” area of the body); 3) Negative coping strategies could promote maladaptive adjustment to illness as well as increased illness behavior; 4) Association of psychiatric diagnoses (such as anxiety and somatoform disorders) with a history of abuse explains the tendency in some IBS patients for psychological distress to manifest as bodily symptoms, often without patients being aware of this phenomenon; 5) Childhood hypervigilance to illness complaints and other early reinforcement of illness behaviors from parents and others could explain the high frequency of abuse history and other psychosocial problems.

Providing additional insight into the link between abuse with its psychosocial factors in general and functional bowel disorders, Scarinci et al found altered pain perception and maladaptive pain coping by assessing psychologic and pain perception in women who had painful gastrointestinal disorders. Women who had a history of sexual or physical abuse showed more psychiatric disturbance. They also perceived a lower pain threshold when given finger-pressure stimulation than nonabused patients did, even after the authors controlled for psychiatric disturbance. The authors proposed that two factors un-
derlie pain threshold levels: the combination of lower response bias level and similar discrimination ability of abused patients compared with nonabused patients indicates that abused patients have a low cognitive standard for judging stimuli as noxious; in addition, abused patients report more functional disability, medication use, self-blame, and use of catastrophizing coping strategies. The authors concluded that acute pain and psychiatric disturbance may result from abuse and, through interaction with environmental stressors, may lead to hypervigilance for noxious stimuli, self-blame, maladaptive coping strategies, and functional disability.

Evans et al found a close relation between jejunal sensorimotor dysfunction and maladaptive coping strategies in female patients with IBS by comparing jejunal motor function, sensitivity to jejunal balloon distention, and psychosocial features in women with and without IBS. Among patients with IBS, 42% had hypersensitivity for thresholds of initial perception, and 25% had pain during jejunal distention. All IBS patients who had heightened sensitivity for initial perception had jejunal dysmotility after a high-energy meal, whereas jejunal dysmotility was seen in only a third of patients with normal perception. In patients who had both sensory and motor dysfunction, the psychologic profile was dominated by an ineffectual coping style featuring both anger hyperreactivity and defensive control of anger.

Silverman et al found altered central nervous system processing of visceral pain in IBS patients by comparing regional cerebral blood flow (measured by using positron emission tomography) in response to rectal pressure stimuli in these and normal subjects. Both actual and simulated rectal pain activated the anterior cingulate cortex in normal subjects but not in IBS patients; instead, the same stimuli activated the left prefrontal cortex. Stating that morphine increases anterior cingulate cortical activity, the authors suggested that the failure of morphine to activate this area in IBS patients represents a failure of pain inhibition mediated by endogenous opioids and that the frontal lobe area activated in IBS patients may represent activation of a vigilance network in the brain which enables a person to maintain a state of alertness toward expected stimuli. This finding may relate to the hypervigilance and response bias seen in IBS patients.

Summary and Conclusions

Surveys have shown more self-reported abuse among patients who have functional gastrointestinal disorders than among patients who have organic gastrointestinal disease. The proportion of subjects with self-reported abuse increases with the severity of IBS—the prototypical functional bowel disorder—although current health status is linked only to the most severe types of past sexual and physical abuse. Furthermore, health status is independently affected by a history of abuse and by functional gastrointestinal disease. Severity of abuse is related to multiplicity of symptoms, degree of functional disability, and number of health care visits.

Several factors have been proposed to underlie the physiologic and psychologic link between abuse and functional gastrointestinal disorders. Maladaptive coping strategies have been linked to altered pain perception in formerly abused patients who have painful gastrointestinal disorders and to jejunal sensorimotor dysfunction in patients who have IBS. Preliminary work indicates that altered central nervous processing of visceral pain occurs in IBS, may underlie the response bias for painful stimuli in IBS, and challenges the traditional separation of functional and organic gastrointestinal disorders.

Patients do not often volunteer a history of abuse, and physicians are usually unaware that it has occurred. Therefore, primary care physicians, gastroenterologists, gynecologists, and mental health professionals should keep in mind the link between past physical or sexual abuse and functional gastrointestinal disorders and chronic pelvic pain. They should inquire more often about this matter, especially in patients who have these disorders. Psychotherapy should be offered to abused patients who want it; at our San Diego medical center, for example, social workers conduct group psychotherapy for molested women. Such treatment promotes initial and long-term improvement in various aspects of psychologic status, including somatization.


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Order and Chaos

“Creativity happens at the boundary between order and chaos, when we’re poised between the two. In our own lives, the edge is where we are constantly reinventing our culture, constantly questioning our assumptions.”

Danah Zohar
Author of The Quantum Society
Fat Embolism

This is the third in this series of reprints from a quarterly publication, entitled The Permanente Foundation Medical Bulletin, which Morris Collen edited from 1943 to 1953. This entry (from Vol.1(1); July 1943) is a scholarly review of fat embolism (with four brief case reports) by Bernard Gray and Nathan Meadoff. The topic had become important during WWII with the rise in traumatic injuries. Dr. Collen was involved in the writing of the article and as the interpreter of the electrocardiograms. Jerry Schilz, Chief of Orthopedic Surgery at the Southern California Baldwin Park facility, has written an analysis and update. His comments point out the continued timeliness of Drs. Gray and Meadoff’s article as well as the ongoing enigmas of fat embolism.

Etiology and Pathogenesis

Bisgard considers three factors in bone surgery necessary to produce fat embolism: (a) free fluid fat, (b) this fat accumulated under pressure, and (c) the presence of uncollapsed veins. This conception probably over-simplifies the voluminous, confusing and contradictory literature on the pathogenesis of the subject. Actually the problem is not so lucid. Pulmonary embolism was produced by Wüttig in rabbits with excessive feeding of cod liver oil. Lehman and Moore presented the plausible hypothesis that the fat is derived from the minute particles in the blood fusing into large globules, as is evidenced by the presence of large amounts of fat in the brain and lung following a relatively mild injury.

The method of transportation of the fat is not any clearer than the source of the fat. Busch thought that veins act as avenues of transportation, since after the injection of olive oil with cinnabar into thial marrow of rabbits, he subsequently found the fat in pulmonary tissues, while the lymphatics and glands contained very little of the material. Gröndahl ligated both venous and lymphatic drainage of the extremities of experimental animals and fat embolism occurred. However, once the fat globules enter the circulation they are filtered through the pulmonary capillaries, and if the globules are of sufficient number they may cause pulmonary edema and hemorrhagic infarction. If the globules pass throughout the lung into the general circulation they produce little or no effect unless they lodge in the brain or heart. Nevertheless cases have been reported where the lungs were free but the systemic circulation contained emboli.

Conclusive evidence of fat embolism as the cause of death cannot be made with certainty, as Lehman and McNattin have shown it to be present in about 50 percent of unselected cadavers. Wright observed fat embolism in 52 of 100 consecutive autopsies, the majority of whom did not have fracture or contusion. Carra (sic; Carra) noted fat embolism in 22 percent of cases of cardiovascular-renal disease and 44 percent in cases of burns. Fat within the vessels of the brain, however, is uncommon except in true fat embolism. There is evidence that in adults some fat is mobilized with most if not every fracture and with most surgical damage to bone. Gröndahl has shown that fat embolism is directly accountable for not more than one percent of deaths associated with fractures. It has also been noted experimentally with dogs that they will tolerate much larger quantities of fat injected intravenously than could conceivably enter the blood stream in clinical cases. These observations add to the confusion regarding etiology and pathogenesis of fat embolism.

Commentary by Jerry L. Schilz, MD

“Cases of fat embolism are of particular interest at the present time with the increase of traumatic injuries due to the expansion of industry and to war casualties.”

“Conclusive evidence of fat embolism as the cause of death cannot be made with certainty, as Lehman and McNattin have shown it to be present in about 50 percent of unselected cadavers.”

not pictured A. BERNARD GRAY, MD, and NATHAN MEADOFF, MD were orthopedic surgeons in the group of physicians who comprised the staff supplying prepaid health care to workers at the Kaiser shipyard in Richmond, CA during World War II. right JERRY SCHILTZ, MD is Chief of the Department of Orthopedics at the Baldwin Park facility of the Southern California Permanente Medical Group.
Fat embolism is commonest in the fourth decade of life. It is believed that fat in the bone marrow is usually insufficient to cause embolism before fourteen years of age, although the youngest case on record is in a baby eight months of age. Alcoholic patients seem more predisposed to the development of fat embolism.

Symptoms

There is no clinical correlation between the apparent injury and the degree of embolic symptoms. The symptoms usually do not develop for three or four days following the trauma but they may develop earlier. This so-called free interval is fairly characteristic; the shortest interval is thirty minutes, the longest is nine days. Symptoms may be cyclic, corresponding to periodic showers of emboli. It may be impossible to differentiate early symptoms from surgical shock. Late symptoms may resemble postoperative pneumonia. Initial symptoms may be pulmonary or cerebral in character. The characteristic train of symptoms in pulmonary fat embolism is usually ushered in by a rise in temperature and dyspnea. Dyspnea may either become progressively severe or may be extreme at onset of symptoms. Very often the first sign that complications are going to develop may be a clinical presentation of nervousness and excitability. The sputum is frothy and may be blood tinged, but is associated with very little cough. The amount of chest pain varies with extent of infarction. Cyanosis when present varies with the extent of the pulmonary arterial resistance. Great strain is thrown upon the heart, and if the condition progresses the pattern of deep shock and cardiac failure appears. Pulmonary symptoms are absent in about one-third of cases reported. The earliest cerebral manifestations are insomnia, delirium, disorientation, and cortical irritative phenomena consisting of convulsions, rigidity or focal symptoms. Slumber is rapidly followed by an increasing coma, and death usually takes place in three to four days. Signs of increased intracranial pressure have rarely been observed, and the spinal fluid in nearly all cases has been entirely normal.

Cutaneous hemorrhages have been frequently reported as characteristic and were present in three of our four cases.

Since there is no proven successful treatment, prophylaxis is of prime importance.

Treatment

There is no specific treatment for fat embolism, although Rappert in 1939 [sic; 1938] claimed some successful results with sodium desoxycholate injected intravenously to emulsify the fat and reduce blood viscosity. He used 10 cubic centimeters of 20 percent solution every two hours. Further trial of this therapy is indicated. Since there is no proven successful treatment, prophylaxis is of prime importance. Prophylaxis should originate at the site of the accident; (1) in the avoidance of unnecessary or rough handling of patients, (2) immediate splinting and early reduction of all fractures, (3) use of a saw in orthopedic operation instead of a chisel if possible, (4) use of tourniquet and gradual release, with some venous bleeding before complete release. These precautions will lessen the incidence of immediate fat emboli. Other prophylactic measures have been suggested on the basis of experimental evidence. Czerny used venesection during the period of anesthesia to lessen venous congestion. Drainage of the medullary cavity and wound to prevent an increase in pressure is also important whenever feasible. Drainage of the thoracic duct has not been attempted.

Case 1. K.W., a 20-year-old white male, was injured on September 14, 1942. A 900-pound lead roll fell off a truck, striking the patient across the anterior aspect of both legs. Thomas splints were applied immediately and the patient was transferred to the hospital by ambulance.

On admission to the hospital, the patient showed no evidence of shock. There was a fracture of the right tibia and fibula at the junction of the middle and lower thirds, with slight displacement, and a bimalleolar fracture of the left ankle.

Three hours after the injury the patient was taken to surgery. Steinman pins were placed through the proximal and distal thirds of the tibia. The fracture was then reduced on the fracture table, and the extremity was immobilized in a cast. The left ankle was reduced and immobilized in a plaster cast. The patient's postoperative course was uneventful until September 18, 1942, four days after the injury, when he exhibited unusual signs of nervousness and restlessness, some pain in the region of the right shoulder blade, and a faint purpuric rash over the trunk and upper limbs. The following day the eruption was more pronounced, and a non-productive cough had developed. The temperature was essentially normal. There was no fat present in the urine. A diagnosis of mild degree of fat embolism was made. The temperature that afternoon rose to 102 degrees Fahrenheit.
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heit with moderately elevated pulse. X-ray examination of the chest revealed an opaque homogenous area in the right subapical region which was apparently due to atelectasis. In the right basal region there was an area of increased pulmonary markings, which suggested bronchopneumonia. The following day the patient raised some bloody sputum, but there was subjective improvement and he seemed brighter. The white blood count was 18,000 cells per cubic millimeter and there was a mild anemia. The patient's symptoms subsided rapidly after that. The temperature came down to normal and the patient made an uneventful recovery.

A diagnosis of fat embolism in this case was established by the presence of fever, respiratory symptoms, and a rash four days after a severe bone trauma. The patient was receiving no drugs that might cause a rash.

Case 2. W.D., a 41-year-old white male, was injured about 2 a.m., July 13, 1942, when he was struck across the right leg by a heavy steel plate. The limb was immobilized in a Thomas splint and the patient was transported to a hospital where X-ray examination revealed a simple transverse fracture of the upper third of the shaft of the right femur. Approximately two hours after the injury skeletal traction was instituted, under local anaesthesia, by insertion of a Steinman pin through the left tibia. There was nothing unusual about the patient's condition except, it was noted, that about 14 hours after the injury the patient was unusually apprehensive. About 18 hours after the injury the patient became irrational and incoherent; eight hours later he became stuporous.

Examination about 36 hours after the injury revealed the following: The patient was stuporous and restless, and the upper extremities were in constant motion. Temperature was 100.6 degrees Fahrenheit, pulse rate was 120 per minute, respiratory rate was 20 per minute. There was slight neck rigidity. The lungs revealed diffuse evidence of râles without evidence of consolidation. The blood pressure was 135 millimeters of mercury systolic, 70 diastolic. The skin revealed many fine distinct petechial hemorrhages over the chest, neck, and upper arms. There were a few scattered petechiae in the lower extremities and the conjunctivae. Cranial nerve function was intact as far as could be tested. The deep reflexes were hyperactive; the Babinski reflexes were positive. Spinal fluid examination at that time revealed: an initial pressure of 180 millimeters of water, the Queckenstedt test was negative, there were no cells present, the globulin was slightly increased, the Wassermann and gold curve were negative. The red blood cell count was 4.5 million cells per cubic millimeter with 84 percent hemoglobin. The white blood cell count was 19,700 cells per cubic millimeter with 91 percent neutrophils. The urine revealed free fat globules as demonstrated qualitatively. The blood culture was negative.

On July 16, 1942, the coma was deepening and the fever climbing. 300 cc. of 20 percent solution of desoxycholate was given intravenously without any appreciable effect. Sulfathiazole and general supportive stimulant measures had been instituted with the onset of the symptoms without any apparent change in the course of the disease. On July 17,
1942, the patient developed marked pulmonary edema and died.

Autopsy was performed July 18, 1942. On gross examination the brain surface was hyperemic, and the brain exhibited multiple petechial hemorrhages in sections. Both lungs were congested, and there was some degree of retroperitoneal hemorrhage with a hematoma involving the bladder wall.

Microscopic examination revealed fat globules present in the capillaries of the lungs, kidneys and brain. (See photomicrographs.)

Case 3. G.G., a 19-year-old white male, was injured on April 7, 1943, when he was struck by an automobile. He was immediately transported to the hospital where he was found to have a simple fracture of the right ischium. His general condition was good, there was no evidence of shock or of any complicating condition.

About twenty-eight hours after the injury the patient rather suddenly developed symptoms of dyspnea and cyanosis. The temperature rose from normal to 102 degrees, the pulse rate increased to 130 per minute, and the respiratory rate to 30 per minute. Physical examination of the lungs revealed no abnormalities, and a roentgenogram of the chest was also negative. A urine specimen voided one hour after the onset of the acute symptoms revealed the presence of a large amount of fat. A fine petechial rash was first noted about the chest five hours later. The patient was given plasma to combat the apparent circulatory collapse, and sulfadiazine therapy was instituted as an acute pneumonic process could not be entirely ruled out.

About six hours after the onset of the acute episode the temperature returned to normal and the patient seemed much improved. After twenty-four hours the patient’s condition appeared normal, the rash had faded, and fat was no longer present in the urine. An uneventful recovery was made.

Case 4. Miss D.L.C., a 21-year-old female, had a resection of sclerotic tibial fragments on June 17, 1943. Postoperative condition was normal until forty-eight hours after the surgery when she developed a sudden chill associated with mild shock and pain in the back of the chest. The temperature rose to 104 degrees and the pulse rate to 130 per minute. Dyspnea was moderate, but there were no other abnormal clinical chest findings. Roentgenogram of chest revealed no abnormalities. A presumptive diagnosis of acute fat embolism was made and this was corroborated by the first voided specimen which revealed the presence of a moderate amount of fat. Twenty-four hours after the onset of the acute episode the temperature was down to 100.4 degrees and the patient felt much better. On the fourth day the urine became free of fat and all the acute symptoms had subsided. There was no rash in this case. Serial electrocardiograms were interpreted by the Department of Medicine as showing typical changes of acute cor pulmonale. (See Figure 4.)

Summary and Conclusion
1. Four new cases of clinical fat embolism have been presented. Three of these patients recovered; one case terminated fatally.
2. In the two mildest cases the diagnosis was made by the clinical picture of purpura, lipuria, and pulmonary symptoms occurring after a free interval. The patients made excellent progress with expectant treatment.
3. In the fourth case symptoms were more severe, and the clinical picture resembled that of acute pulmonary embolism. There were typical electrocardiographic findings of acute cor pulmonale. The lipuria persisted for three days and disappeared with the relief of symptoms.
4. In the fatal case (case 2), the diagnosis was made with the onset of symptoms, but energetic treatment was to no avail. Cerebral, pulmonary, and renal fat emboli were demonstrated at necropsy.
5. A review of the literature reveals that the question of pathogenesis of fat embolism is by no means established.
the site of injury and migrate via the veins, is still the prevalent one.

6. A fairly typical clinical picture of fat embolism may be drawn. This comprises five phases.
   (a) The initial period of some degree of shock, attributable to the injury.
   (b) The free interval, which may last from a few hours to several days, usually three or four days. During this period the patient seems to be progressing normally.
   (c) Pulmonary symptoms develop consisting mainly of dyspnea and some cough with blood-tinged sputum. Symptoms may progress to pulmonary edema and cardiac failure.
   (d) Cerebral symptoms vary from early nervousness and excitability, to local or generalized convulsions and coma.
   (e) The terminal phase consists of increasing pulmonary edema and cardiac failure, or of increasing stupor, coma, hyperpyrexia and then death.

7. The importance of prophylaxis is stressed, as there are no specific therapeutic measures.

Photomicrographs by Dr. A.G. Borden

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Commentary by Jerry Schilz, MD

Doctors A. Bernard Gray and Nathan Meadoff’s article, published during World War II in 1943, begins by stating that there was “particular interest” in fat embolism with the rise of traumatic injuries from war causalities and expansion of industry. They summarized their knowledge of the etiology and pathogenesis of fat embolism and described the usual clinical presentation and treatment. Although we currently have a greater understanding of the pathophysiology of fat embolism, we are still lacking in understanding the pathogenesis as well as the differences between fat embolism syndrome (FES) and adult respiratory distress syndrome (ARDS). It was interesting to read their description of the “voluminous, confusing, and contradicting literature on the pathogenesis” of FES. Current literature has now clearly described the embolization of marrow products, as well as the inflammatory cascade resulting in alterations of pulmonary function. However, there is still controversy about whether the fat originates from the marrow (embolization theory) or from chylomicra in the blood (intravascular theory). The second theory holds that alteration of fats in the blood leads to formation of large fat droplets which then embolize to the lungs. This hypothesis might explain the occurrence of non-traumatic cases of FES. Persistent confusion is evidenced by the title of a good review article called, “Fat Embolism Syndrome, A Puzzling Phenomenon.” It is likely that FES is a vari-

“Although we currently have a greater understanding of the pathophysiology of fat embolism, we are still lacking in understanding the pathogenesis as well as the differences between fat embolism syndrome (FES) and adult respiratory distress syndrome (ARDS).”
The symptoms and signs described in the article are consistent with current descriptions and, although the petechiae are not present in every case, they are now considered diagnostic of FES. As stated, alcoholic patients have been considered more predisposed to FES, but a more recent review noted that patients with higher blood alcohol levels were less likely to develop FES. Laboratory tests have become more numerous and helpful since their original article, but the most important and useful test is still the arterial blood gas. Other test findings such as low platelet and antiplasmin levels as well as increased antithrombin III, fibrinogen, and plasminogen and complement (C3a & C5a) are predictive of ARDS.

The most helpful advances since the authors' original article have been in the areas of prophylaxis and treatment. They suggested several forms of prophylaxis such as the use of a "chisel" versus a "saw" and the use of a tourniquet. Present day success in prevention is largely due to orthopedic advances and the push for early rigid stabilization of long bone fractures. Once FES has developed, we still have "no specific treatment," but advanced supportive treatment (hydration and ventilatory support) has decreased mortality from 80-100% to a current 10-15%. However, mortality from ARDS is still 50%, and the best treatment is still prevention. Important goals are to treat shock and bleeding immediately and to infuse blood early if needed to prevent overhydration. At present, we see increased likelihood of survival in the face of increased severity of extremity injuries (eg, due to airbags in motor vehicle accidents). It is important to provide early rigid fixation of long bone fractures to decrease the incidence of ARDS. The "importance of prophylaxis is stressed," again, 50 years later.

References
Written Instruction and Compliance with Return Visits for Reading Mantoux (PPD) Skin Tests in a Large General Pediatric Practice

Background: Effectiveness of tuberculosis screening may be impaired by noncompliance with Mantoux test reading. We wished to determine whether a written instruction sheet improves compliance with return visits to have Mantoux skin tests read.

Methods: In Step 1 of a 2-step study, we distributed a written instruction sheet on randomly assigned days; in Step 2, we compared compliance with return visits before and after use of a written instruction sheet as routine practice.

Results: During Step 1, a 5% increase in compliance (n = 619, p = .10) was associated with use of the instruction sheet. In Step 2, a 7% increase was seen (n = 991, p = .015). When data from Steps 1 and 2 were pooled, the 5% improvement was statistically significant (p = .02).

Conclusion: Use of the written instruction sheet is associated with a small improvement, which may not be clinically relevant, in return visits for Mantoux test reading. Further research is needed to identify cost-effective methods to improve compliance with Mantoux test reading.

Introduction

The Mantoux (also known as PPD) skin test is the preferred test for detecting tuberculosis. Proper reading of the test requires skilled examination of the skin test site within a limited number of days after skin test placement. Readings taken by patients or by their parents are unreliable. Therefore, the value of the Mantoux test is limited by patients' failure to return for interpretation of the skin test result.

Compliance with return visits for Mantoux test reading has historically been problematic at our medical center, part of a large prepaid health maintenance organization serving an ethnically diverse, predominantly working-class population. Previous reports in the literature suggest that compliance with return visits for skin test reading is problematic in many settings, and compliance rates range from 34% in a poor urban population in Seattle, Washington, to 85% in a university-sponsored screening program.

Although written instruction may improve adherence to medical recommendations, Roberts et al in a university-sponsored screening drive, found no difference between patients given written and verbal instruction and verbal instruction only.

This study was designed to test whether providing a written instruction sheet improves compliance with instruction to return for Mantoux test reading in the setting of a large general pediatric practice.

Methods

As the first step in a 2-step procedure, all pediatric outpatients at our medical center who had a Mantoux skin test ordered by a pediatrician during the study periods were either given a preprinted instruction sheet (Appendix) and verbal instruction to return in two to three days to have the skin test read (intervention group) or were given the verbal instruction alone (control group). The intervention group (267 patients) received written instruction on randomly assigned weekdays; the control group (352 patients) received verbal instruction alone on other days.

Although a small portion of the study population was Hispanic, the instruction sheet was provided in English only. Parents' literacy level was not assessed. To reflect clinical practice, wording of the verbal instruction was not standardized. The verbal instruction was given by nursing staff administering the Mantoux test, and the written instruction sheet was given by clerks registering patients for the test. Nurses and clerks were not blinded as to intervention group assignment; physicians ordering the Mantoux tests were blinded as to group assignment.

Patients who returned within two to five days to have the Mantoux test read were defined as compliant. Patients who did not return within this period were defined as noncompliant. No attempt was made to contact families of noncompliant patients.

Compliance rates for control and intervention groups during Step 1 were higher than the clinic's historical baseline rate; therefore, after Step 1 concluded, we undertook Step 2 by collecting compliance data for another 499 consecutive patients given verbal instruction alone. This group had lower compliance than either the intervention or control groups during Step 1, so we gave the preprinted instruction sheet and verbal instructions to another 492 consecutive patients and determined compliance rates for both groups.

Data were analyzed via 1-tailed z-score to test for improved compliance in the intervention compared with the control groups. For data pooled from Steps 1 and 2, we used the chi-squared test to determine whether day of the week influenced compliance with Mantoux test reading. Statistical significance was accepted if p < .05. Patients aged >18 years who received a Mantoux test during the study period were deleted from the data analysis.

Patients receiving the preprinted instruction sheet were informed that it was being given as part of a research study. The study proto-
The Permanente Journal /Spring 1998/Volume 2 No. 2

Results

Mean (SD) age of the intervention group in Step 1 was 5.1 (4.4) years; mean (SD) age of the control group was 5.7 (4.7) years. Median age for both groups combined was 4 years.

Mean (SD) age of the control group in Step 2 was 6.9 (4.9) years; median age was 5.0 years. Mean (SD) age of the intervention group was 5.8 (5.4) years; median age was 4 years.

Of the 267 patients given written and verbal instruction in Step 1, 187 (70%) returned for skin test reading as did 230 (65%) of the 352 patients given verbal instruction only (p = .10).

During Step 2, 261 (52%) of the 499 patients given only verbal instruction returned for skin test reading as did 291 (59%) of the 492 patients given the preprinted instruction sheet and verbal instruction (p = .02).

Data pooled from Steps 1 and 2 showed no significant difference in compliance (p = .37) for the different days of the week.

Of 969 skin tests read in Steps 1 and 2 combined, six (.6%) were interpreted as positive. The size of the reaction was not recorded for one patient, was 13 mm for another patient, and was >15 mm (17-40 mm) for the remaining four patients.

When the written instruction sheet was given on random days (Step 1), improvement in compliance with Mantoux test reading was small (5%) and not statistically significant (p = .10). In contrast, during Step 2, when data were collected for the 499 patients in the control group and for the 492 patients in the intervention group, the improvement in compliance was statistically significant (p = .02) although small (7%).

Discussion

Step 2 included 991 subjects and therefore had greater power to detect a small improvement than Step 1, which included 619 subjects. If, to achieve greater power, we were to combine data from Steps 1 and 2, 478 (63%) of the 759 patients in the intervention group would have been found compliant vs 491 (58%) of the 851 patients in the control group (p = .02). This finding suggests that the preprinted instruction sheet increased compliance by 5% to 7%. This small improvement may not be clinically significant.

An unexpected finding was that compliance was higher for the control group during Step 1 (intervention given on random days) than for the control group after Step 1 concluded (but before the intervention portion of Step 2). The magnitude of this difference was greater than that attributed to the intervention. Possible explanations for this finding include a time effect (ie, different compliance rates at different times of the year) and the Hawthorne effect, which refers to the independent tendency of group productivity to increase because of social aspects of the research environment (attention, excitement, prestige).10 The enthusiasm generated by the study may have improved the quality and energy of verbal instruction given to patients by our staff.

Even with use of the preprinted instruction sheet, noncompliance with return visits for Mantoux skin test reading in a general pediatric practice remains high. This population had a low rate of tuberculin...
reactivity; however, diagnoses might be missed in populations having higher prevalence of tuberculosis infection. Improved, cost-effective, methods of increasing compliance rates are needed.

Cheng et al.\(^{11}\) in an urban children’s hospital, compared different methods to improve compliance with tuberculin skin test reading and found that the negative reinforcement of withholding school forms until the test was read increased adherence by 26%. Tanke et al.\(^{12}\) in a study at a public health clinic, found that an automated telephone reminder system (TeleMinder®) led to a small (5%) improvement in compliance with tuberculin test reading. In both of these studies, all subjects were given both written and verbal instructions. In Cheng’s study,\(^{11}\) a 13% improvement in compliance was observed between baseline and study periods without any other intervention. The Hawthorne effect observed in both our study and that of Cheng suggests that the energy, interest, enthusiasm, and commitment of the person giving the instruction can influence compliance rates.

These results suggest that improving compliance with tuberculin skin test reading will be challenging. The combination of written and verbal instructions may provide a small improvement. The work of Cheng\(^{11}\) suggests a large improvement in the rate of return visits for skin test reading can be achieved if there is an adverse consequence (withholding school forms) to noncompliance; however, this strategy does not apply in situations other than school-mandated screenings.


Acknowledgments: I am indebted to Lana Benson, who collected the data, and to Martha Ruiz, who distributed the written instructions. Tracy Liu, MD, MPH, and Steven Black, MD, reviewed the manuscript.

The Medical Editing Department, Kaiser Foundation Research Institute, provided editorial assistance.

References
11.Cheng TL, Ottolini MC, Baunhaff K, Brasseux C, Wolf MD, Scheidt PC. Strategies to increase adherence with

Shagging Flys

“I don’t want to play golf. When I hit the ball, I want someone else to go chase it.”
Rogers Hornsby, Cardinals Infielder (1915-26)

Speaking of Baseball

“It’s just throwing and catching and hitting and running. What’s simpler than that?”
Paul Richards, Orioles Manager (1955-61)
Satisfaction, Commitment, and Psychological Well-Being Among HMO Physicians

Objective: To identify the factors that predict professional satisfaction, organizational commitment, and burnout among HMO physicians.

Methods: Data came from mail surveys of Permanente physicians in the Northwest and Ohio Regions. The average response rate was 80% (N = 608).

Results: The single most important predictor for all three outcomes was a sense of control over the practice environment. Other significant predictors included perceived work demands, social support from colleagues, and satisfaction with resources. The relative importance of these predictors varied, depending on the outcome under consideration. All three outcomes were also related to physician age and specialty. Older physicians had higher levels of satisfaction and commitment and lower levels of burnout. Pediatricians were more satisfied and committed to the HMO and were less likely to experience burnout.

Conclusions: Physicians who perceive greater control over the practice environment, who perceive that their work demands are reasonable, and who have more support from colleagues have higher levels of satisfaction, commitment to the HMO, and psychological well-being. Interventions and administrative changes that give physicians more control over how they do their professional work and that enhance social supports are likely to improve both physician morale and performance.

Introduction

The rapid changes in medical practice over the last quarter century have stimulated considerable interest in measuring physicians' perceptions and attitudes about their work. Low levels of job satisfaction among physicians may affect doctor-patient relationships and may compromise quality of care. Dissatisfaction with professional work among physicians has also been associated with inappropriate prescribing patterns, lower levels of patient satisfaction, and decreased patient compliance with prescribed medications and follow-up appointments.

A recent study by researchers at the RAND Corporation found that physician job satisfaction is linked with patient actions that are critical to management of chronic diseases. The RAND researchers followed approximately 1,800 patients with diabetes, heart disease, high blood pressure, or depressive symptoms who visited 186 physicians practicing within HMOs, large multispecialty groups, and solo practices in three cities. They found that patients are more likely to follow their doctors' advice if their doctors have busy practices, are happy in their work, take time to answer questions, and conduct patient follow-up via phone or office visits.

Physician turnover is also greater in organizations with higher levels of physician dissatisfaction. High turnover can disrupt continuity of care and can increase costs. Finally, high levels of dissatisfaction decrease physicians' commitment to the practice setting and, if persistent, can lead to mental strain and burnout. Thus, reasonable levels of physician satisfaction are prerequisites for the stability and long-range success of HMOs.

The research literature suggests that variation in physicians' perceptions derive from two basic sources: 1) the stress inherent in the role of physicians, and 2) factors within a practice or work setting. Most research has dealt with one or the other of these sources, but no single study has analyzed their relative importance in accounting for differences in physicians' attitudes and perceptions.

The aims of this study were: 1) to determine whether uncertainty in patient care affects physician satisfaction, organizational commitment, and burnout; 2) to determine whether job characteristics of physicians affect satisfaction, commitment, and burnout; and 3) to identify the relative importance of uncertainty versus job characteristics in accounting for variation in these outcomes.

Methods

Data Source/Study Setting

The data for this study, conducted in 1991-1992, were obtained by mail surveys of physicians practicing in two Kaiser Permanente Regions: the Northwest and the Ohio Regions. The two regions serve over 600,000 members and provide integrated, comprehensive inpatient and outpatient care for an enrolled population. The surveys were sponsored and funded in part by Northwest Permanente, P.C. (NWP) and Ohio Permanente Medical Group (OPMG).

Study Subjects/Data Collection

The study group included all 526 physicians in NWP and OPMG. The results were analyzed separately for the two regions, and the latter are reported here. The survey instrument was a self-administered questionnaire that included both structured and open-ended questions. It was sent to each physician's home and took about two hours to complete. Each physi-
cian could receive up to three mail contacts requesting participation in the study. In addition, attempts were made to contact all nonrespondents by telephone after the third mailing. The average response rate for the two medical groups was 80%. Physician respondents in NWP and OPMG were similar in age, but NWP respondents were more likely to be male. NWP also had a higher proportion of family physicians and a smaller proportion of pediatricians. For additional information about the survey design and data collection procedures, see the article by Freeborn and Pope.19

Brief descriptions of the study variables are given in Table 1. All are derived from physicians’ responses to the questionnaire (self-report). More specific details on the measures and how they were constructed are provided in the Appendix.

Outcome Measures: Dependent Variables

“Physician satisfaction” was measured by a modified version of the measure developed by Lichtenstein.20 Three items were included in the summary measure: the physician’s satisfaction with his/her medical career; whether the physician would choose this setting again, given the choice; and whether the physician would recommend this practice setting to a physician colleague (non-KP).

“Organizational commitment”21 measures the relative strength of an individual’s identification with and involvement in a particular organization (eg, KP). Burnout was measured by the Tedium Index, a well established measure of “burnout.”22 It represents three aspects of tedium: physical exhaustion, emotional exhaustion, and mental exhaustion.

Independent Variables

Uncertainty

“Stress from Uncertainty (SUS)”9 measured physicians’ affective reactions to uncertainty in patient care (eg, uncertainty of diagnosis, not being sure what is best for the patient, etc.).

Job Characteristics

“Job demands” was measured by a single item that asked physicians, “In order to do a good job, is your total number of patient visits about right, too high, or too low for the number of hours you work?”

Table 1. Outcomes by physician demographic characteristics and by job demands

<table>
<thead>
<tr>
<th>Variable</th>
<th>Satisfaction</th>
<th>Organizational commitment</th>
<th>Burnout (Tedium index)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean n</td>
<td>Mean n</td>
<td>Mean n</td>
</tr>
<tr>
<td>Age (yr)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-36</td>
<td>3.5** 95</td>
<td>3.6** 95</td>
<td>2.3** 92</td>
</tr>
<tr>
<td>37-41</td>
<td>3.5 145</td>
<td>3.7 144</td>
<td>2.4 144</td>
</tr>
<tr>
<td>42-47</td>
<td>3.4 162</td>
<td>3.7 162</td>
<td>2.4 162</td>
</tr>
<tr>
<td>&gt;48</td>
<td>3.6 187</td>
<td>3.9 188</td>
<td>2.2 186</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3.5 466</td>
<td>3.7 466</td>
<td>2.3 464</td>
</tr>
<tr>
<td>Female</td>
<td>3.5 132</td>
<td>3.7 132</td>
<td>2.3 130</td>
</tr>
<tr>
<td>Specialty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General, internal medicine</td>
<td>3.4** 113</td>
<td>3.6* 114</td>
<td>2.5** 112</td>
</tr>
<tr>
<td>Family practice</td>
<td>3.5 63</td>
<td>3.8 63</td>
<td>2.3 64</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>3.7 70</td>
<td>3.9 70</td>
<td>2.2 70</td>
</tr>
<tr>
<td>Obstetrics-gynecology</td>
<td>3.6 43</td>
<td>3.6 44</td>
<td>2.4 42</td>
</tr>
<tr>
<td>Other</td>
<td>3.5 298</td>
<td>3.7 297</td>
<td>2.3 296</td>
</tr>
<tr>
<td>Job demands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Too high</td>
<td>3.3** 170</td>
<td>3.5** 170</td>
<td>2.6** 168</td>
</tr>
<tr>
<td>Too low, just right</td>
<td>3.6 352</td>
<td>3.8 353</td>
<td>2.2 352</td>
</tr>
</tbody>
</table>

* p≤0.05
** p≤0.01

“Patients are more likely to follow their doctors’ advice if their doctors have busy practices, are happy in their work, take time to answer questions, and conduct patient follow-up via phone or office visits.”
the analysis, this variable was collapsed into two categories (too high versus about right/too low).

"Control" was a summary measure based on four questionnaire items (ability to influence work environment, opportunity to participate in decision-making, the degree to which lack of autonomy contributes to feelings of stress, and satisfaction with control over schedule).

"Resources" was a modified version of the measure developed by Lichtenstein.20 It captures physicians’ satisfaction with availability and adequacy of various resources such as support staff and equipment.

"Social support" was a four-item summary measure of the quality of colleague relations (eg, emotional support and helpfulness among physician colleagues).

**Covariates: Other Variables That May Be Related to the Outcomes**

"Workload intensity" was based on two items from the survey: self-reported number of office visits per week, and number of hours per week seeing patients. These two variables were divided to give patient visits per hour.

"Caseload characteristics" were based on each physician’s estimate of the percentage of female patients in his/her caseload and the percentage of patients 65 years old and older in his/her caseload.

"Patient/physician relationship" was based on a series of items that ask physicians about the extent to which they believe patient-physician interactions are problematic or troublesome (a correlate of dissatisfaction in many studies of HMO physicians).2,5,18,19

Physician demographics included age, gender, specialty, time with HMO, and practice location. These were measured by individual survey items.

**Analysis**

The first step in the data analysis was to examine the association between each independent variable and each outcome measure (bivariate analysis). The statistical procedures used included ANOVA and Pearsonian correlations (Tables 1 and 2).

The second step consisted of a series of multivariate analyses (multiple regression) to determine significant predictors of the study outcomes after controlling for the effects of the other variables (covariates) (Tables 3-5). Key conceptual variables and factors that were significant at the p ≤ 0.05 level in the bivariate analyses were included in the multiple regression analyses.

**Results**

The three outcome measures were interrelated. Physician satisfaction and organizational commitment were highly correlated (r = 0.74; p ≤ 0.05), and both physician satisfaction (r = -0.49) and organizational commitment (r = -0.41) were negatively correlated

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**Table 2. Relationship among study variables (Pearsonian Correlation Coefficients)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Satis.</th>
<th>Commit.</th>
<th>Burnout</th>
<th>Age of phy (yr)</th>
<th>Yrs. HMO</th>
<th>SUS</th>
<th>Pt./phy rel</th>
<th>PVPH</th>
<th>% female pts</th>
<th>% pts &gt;65 yr</th>
<th>Demands</th>
<th>Control</th>
<th>Resources</th>
<th>Social support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician Satisfaction</td>
<td>0.74*</td>
<td>-0.49*</td>
<td>0.14*</td>
<td>0.07</td>
<td>-0.13*</td>
<td>-0.18*</td>
<td>-0.04</td>
<td>-0.14</td>
<td>-0.25*</td>
<td>0.50*</td>
<td>0.40*</td>
<td>0.40*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>-0.41*</td>
<td>0.16*</td>
<td>0.07</td>
<td>-0.07</td>
<td>0.10*</td>
<td>0.02</td>
<td>-0.10*</td>
<td>-0.10</td>
<td>-0.23*</td>
<td>0.51*</td>
<td>0.37*</td>
<td>0.33*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burnout (Tedium Index)</td>
<td>-0.19*</td>
<td>0.01</td>
<td>0.33*</td>
<td>0.26*</td>
<td>0.05</td>
<td>0.14*</td>
<td>0.12*</td>
<td>0.34*</td>
<td>-0.45*</td>
<td>-0.28*</td>
<td>-0.25</td>
<td></td>
<td></td>
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<tr>
<td>Age of physician (yr)</td>
<td>0.64*</td>
<td>-0.05</td>
<td>-0.15*</td>
<td>-0.01</td>
<td>-0.03</td>
<td>0.01</td>
<td>0.13*</td>
<td>0.14*</td>
<td>0.03</td>
<td>0.02</td>
<td></td>
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<tr>
<td>Years with HMO</td>
<td>0.01</td>
<td>-0.09*</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>-0.08</td>
<td>0.07</td>
<td>-0.02</td>
<td>0.06</td>
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<tr>
<td>Stress from uncertainty (SUS)</td>
<td>0.27*</td>
<td>-0.01</td>
<td>-0.01</td>
<td>0.05</td>
<td>0.13*</td>
<td>-0.10*</td>
<td>-0.08*</td>
<td>0.02</td>
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<tr>
<td>Pt./Phys. relationship</td>
<td>0.11*</td>
<td>0.15*</td>
<td>0.11*</td>
<td>0.23*</td>
<td>-0.24*</td>
<td>-0.14*</td>
<td>-0.14*</td>
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<tr>
<td>No. pt. visits per hour (PVPH)</td>
<td>0.01</td>
<td>-0.11*</td>
<td>0.07</td>
<td>0.03</td>
<td>0.04</td>
<td>-0.15*</td>
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<tr>
<td>% patients female</td>
<td>-0.01</td>
<td>0.13*</td>
<td>-0.10*</td>
<td>0.01</td>
<td>-0.08</td>
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<tr>
<td>% patients &gt;65</td>
<td>0.16*</td>
<td>-0.03</td>
<td>-0.06</td>
<td>0.04</td>
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<td></td>
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<tr>
<td>Job demands (perceived workload)</td>
<td>-0.32*</td>
<td>-0.17*</td>
<td>-0.11*</td>
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<tr>
<td>Perceived control</td>
<td>0.49*</td>
<td>0.36*</td>
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<tr>
<td>Resources</td>
<td>0.35*</td>
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<td>Social support</td>
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</tbody>
</table>

*p ≤ 0.05
with burnout (p≤0.05). That is to say, as physician satisfaction and organizational commitment increased, burnout decreased.

**Bivariate Analyses**

All three outcomes were associated with physician age and specialty (Table 1). Older physicians (>48 years of age) had higher mean satisfaction and commitment scores than younger physicians, and burnout scores were lower for younger (30-36 years of age) physicians and for older physicians (>48 years of age) (when compared with physicians in the two middle age categories). Pediatricians had higher mean satisfaction and commitment scores than physicians in other specialty categories. Compared with other specialty categories, general internal medicine had the lowest mean satisfaction score and the highest mean burnout score.

Stress from uncertainty was weakly correlated with physician satisfaction (r = -0.13; p≤0.05) and was unrelated to organizational commitment (Table 2). Stress from uncertainty was more highly correlated with burnout (Tedium Index) than with physician satisfaction or organizational commitment (r = 0.33; p≤0.05). Physicians with higher stress from uncertainty were more likely to experience burnout (Table 2).

Job characteristics were significantly related to all three outcomes (Tables 1 and 2). Physicians who felt their job demands were too high had significantly lower mean satisfaction and commitment scores and significantly higher burnout scores than physicians who felt their job demands were about right/too low (Table 1). Perceived control, resources, and social support were significantly and positively correlated with both physician satisfaction and organizational commitment (Table 2). These factors were also significantly related to burnout, but the coefficients were lower than those for satisfaction and commitment. In the case of burnout, the correlations were negative: as perceived control, resources, and social supports increased, burnout decreased.

In terms of the covariates, intensity of workload (patients seen per hour) did not significantly affect any of the outcomes. The patient-physician interaction variable was weakly correlated with the outcomes, and the findings were similar for the caseload variables (percent patients female, percentage patients 65 years of age and older) (Table 2).

**Multivariate Analyses**

Perceived control was the single most important predictor of physician satisfaction after other factors were taken into account. Other significant predictors included social support, stress from uncertainty, spe-

<table>
<thead>
<tr>
<th>Table 3. Predictors of satisfaction (stepwise regression)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Predictor variables</strong></td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Perceived control</td>
</tr>
<tr>
<td>Social support</td>
</tr>
<tr>
<td>General internal medicine+</td>
</tr>
<tr>
<td>Stress from uncertainty</td>
</tr>
<tr>
<td>Pediatrics+</td>
</tr>
<tr>
<td>Resources</td>
</tr>
<tr>
<td>Obstetrics-gynecology+</td>
</tr>
<tr>
<td>Job demands (perceived workload)</td>
</tr>
</tbody>
</table>

Note: Variables that did not enter the model include physician’s age, percent patients female, percentage patients >65 yr, patient/physician relationship, and family practice.

* p≤0.05
+ Reference group = other
cialty, and resources (Table 3). The model explained approximately 43% of the total variation in physician satisfaction ($R^2 = .432$). Perceived control, social support, specialty, and resources were significant predictors of commitment (Table 4), but the percentage of variation explained was smaller (35%; $R^2 = .354$).

Perceived control was the most important predictor of burnout, followed by stress from uncertainty and job demands (perceived workload) (Table 5). Other significant predictors were social support, physician age, and characteristics of the physicians’ caseloads (percentage of female patients, percentage of patients 65 years of age and older). The model accounted for 36% of the total variation in the burnout variable (Tedium Index) ($R^2 = .358$).

**Summary/Discussion**

Perceived control over the practice environment, support from colleagues, and satisfaction with availability of resources were associated with higher levels of physician satisfaction and organizational commitment. Stress from uncertainty in dealing with patients affected satisfaction adversely but was unrelated to level of organizational commitment. There were also differences in physician satisfaction and organizational commitment by specialty. Pediatricians were more satisfied and more committed than other specialists, a consistent finding in other studies of HMO physicians.16,19,23

Perceived control over the practice environment was also the single most important predictor of physician burnout. Stress from uncertainty in patient care, job demands, and social support also affected burnout levels among physicians. Physicians with less perceived control, greater stress from uncertainty, higher job demands, and fewer social supports were at greater risk for burnout. Other correlates of burnout included physician age and characteristics of a physician’s caseload. Higher percentages of female and older patients were associated with higher levels of physician burnout.

The problem with our study and with most of these studies is that they are cross-sectional. There is a strong need for prospective data and longitudinal studies on the effects of physician dissatisfaction, burnout, and other measures of physician psychological well-being. Better measures of physician satisfaction8,20 as well as more objective measures of workload and practice characteristics are also needed to clarify the real risk factors for practitioner dissatisfaction and burnout.24

Our study has many of these same problems. Another limitation is that it focused on only one form of HMO (the nonprofit group model) and was limited to two KP sites. In addition, many changes have occurred in these practice sites since the early 1990s, and the larger

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<tr>
<th>Table 4. Predictors of organizational commitment (stepwise regression)</th>
<th>Organizational commitment</th>
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<tr>
<td><strong>Predictor variables</strong></td>
<td>$R^2$</td>
</tr>
<tr>
<td>Perceived control</td>
<td>0.301</td>
</tr>
<tr>
<td>Social support</td>
<td>0.322</td>
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<tr>
<td>Pediatrics+</td>
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<tr>
<td>Resources</td>
<td>0.341</td>
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<tr>
<td>Age of physician</td>
<td>0.347</td>
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<tr>
<td>Family practice</td>
<td>0.351</td>
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<tr>
<td>Job demands (perceived workload)</td>
<td>0.354</td>
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Note: Variables that did not enter the model include percentage patients female, percentage patients >65 yr, stress from uncertainty, patient/physician relationship, internal medicine specialty, and obstetrics-gynecology specialty.

* $p \leq 0.04$
+ Reference group = other

"Perceived control over the practice environment was also the single most important predictor of physician burnout. Stress from uncertainty in patient care, job demands, and social support also affected burnout levels among physicians."
medical environment has also changed dramatically. Despite these limitations, our results confirm the growing evidence from a variety of occupations and settings that workers who perceive more control over their work are healthier, happier, more satisfied, and more productive. Physicians are no exception, as Wagner points out: 24 “Bureaucratic efforts to micromanage their (doctors) patient care, or control their staff or work setting need careful reexamination.”

Implications for Physician Behavior

Does it matter if physicians are dissatisfied, lacking in commitment, or burned out? What’s the quality of the evidence regarding the relation between physicians’ attitudes and perceptions and their actual behavior? Most studies have examined physician satisfaction and its impact on various physician outcomes. The evidence is fairly strong in terms of physician turnover. A consistent finding in the research literature is that organizations with higher levels of physician dissatisfaction also have higher physician turnover rates. This finding is important because of its implications for organizational effectiveness. As Lichtenstein 5 points out, “The task of retaining physicians is a crucial one, not only because the organization must maintain its own stability and predictability, but also because the organization must seek to maintain the stability of the doctor-patient relationship and the continuity of care provided by physicians to patients.”

As mentioned earlier, some studies also suggest that physician satisfaction can influence patient satisfaction, 13,23 which has consequences for membership retention in HMOs. 19 The evidence is weaker regarding the relation between physician satisfaction and quality of care, but a few studies have found that physician dissatisfaction can adversely affect quality. 1,4 The findings of the Medical Outcomes Study 4 suggest that patient compliance is affected by the attitudes of physicians and that breakdowns in compliance can have serious adverse effects, particularly for patients with chronic diseases.

Dissatisfied physicians may also have more costly practice styles. Several studies have found that dissatisfied physicians use more total outpatient procedures and make more referrals than physicians who are satisfied, even after adjusting for case-mix and other covariates. 26,27 Whether these differences affect outcomes is unclear, but greater resource use by physicians certainly increases the cost of care. Few studies, if any, have examined how level of commitment to an organization (e.g., KP) influences physician behavior, but because organizational commitment and physician satisfaction were so highly correlated in this study, one might expect that the effects would be

<table>
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<th>Table 5. Predictors of burnout (stepwise regression)</th>
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<tr>
<td><strong>Predictor variables</strong></td>
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<tr>
<td>Perceived control</td>
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<td>Stress from uncertainty</td>
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<td>Job demands (perceived workload)</td>
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<td>Social support</td>
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<td>Age of physician (yr)</td>
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<td>Percentage patients female</td>
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<td>Percentage patients &gt;65 yr</td>
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<td>Family practice+</td>
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Note: Variables that did not enter the model include patient-physician relationship, satisfaction with resources, internal medicine specialty, pediatrics specialty, and obstetrics-gynecology specialty.

*p ≤0.04
+ Reference group = other

"Dissatisfied physicians may also have more costly practice styles. Several studies have found that dissatisfied physicians use more total outpatient procedures and make more referrals than physicians who are satisfied, even after adjusting for case-mix."
similar to satisfaction. Well-designed empirical studies on the effects of physician burnout are also sparse, but the few existing studies suggest that burned-out physicians have more problems relating to patients. Their quality of care may also suffer.11,12,12

The tendency in today's competitive medical environment is to emphasize financial incentives and to increase scrutiny of medical decision-making in order to reduce costs and increase productivity. These mechanisms increase the tension in clinical decisions and can have unanticipated consequences with respect to physician morale and performance. As many scholars have pointed out, organizations do not succeed on the basis of rational incentives alone but by inducing suitable emotions—commitment, loyalty, satisfaction, and trust—in their participants. Internalized motivation is the most effective approach for enhancing performance of workers in any setting.11,12,12

Acknowledgments: I wish to thank and acknowledge the important contributions of Ralph Schmidt, PhD, and Harvey D. Kleist, MD, NWP Physician Emeritus. Drs. Schmidt and Kleist assisted in the design of the original surveys and played key roles in their implementation. Special thanks are also in order for Ron Potts, MD, Medical Director of the Oregon Permanente Medical Group (OPMG) at the time of the survey. His support and assistance were crucial for the success of the OPMG survey. I also recognize with thanks those Northwest and Ohio Permanente physicians who made this study possible by their participation in the surveys. Their investment of time and energy is greatly appreciated. Finally, I'd like to thank Vicky Burnham for her skilled research assistance and her editing expertise during manuscript preparation.

References:
27. Freeborn DK, Johnson RE, Mulkowy JP. Physicians' Use of Ambulatory Care Resources in a Prepaid Group Practice HMO. Final Report for grant no. 18-P-990319-02, HCFA, Portland, Oregon: Kaiser Permanente Medical Care Program, Health Services Research Center: 1984.

Appendix: Measures

Global Satisfaction

The global satisfaction measure was a modified version of the global satisfaction measure developed by Richard Lichtenstein.21 It was composed of three questionnaire items: Q.121. “In general, how satisfied are you with your career in medicine so far?” Q.125. “If a physician friend of yours told he/she was interested in taking a position similar to yours, what would you tell him/her?” Q.126. “If you could choose all over again, would you choose KP as a place to practice?” The values for each question were reversed so that a higher score represented higher global satisfaction. The new values for each of the questions were as follows: Q.121. “1=very dissatisfied; 2=dissatisfied; 3=satisfied; 4=very satisfied”; Q.125. “1=I would advise against it; 2=I would have doubts about recommending it; 3=I would have no trouble in recommending this position; 4=I would strongly recommend this position”; Q.126. “1=would definitely not choose KP; 2=would
probably not choose KP, 3=not sure, 4=would probably choose KP, 5=would definitely choose KP. The global satisfaction score was produced by summing the values of the individual items for each person and dividing by the number of items answered by the individual. If the number of missing responses was >1, the scale was not scored for that individual. Cronbach’s coefficient alpha for NWP+OPMG was 0.72.

Organizational Commitment

The organizational commitment score was a modified version of the Organizational Commitment Questionnaire (OCQ) developed by Porter (21). The eight items (Q119a to Q119h) were as follows: Q119a. “I am willing to put in a great deal of effort beyond that normally expected in order to help this organization to be successful”; Q119b. “I talk up this organization to my friends as a great organization to work for”; Q119c. “I find that my values and the organization’s values are very similar”; Q119d. “I am proud to tell others that I am part of this organization”; Q119e. “This organization really inspires the very best in me in the way of job performance”; Q119f. “I am extremely glad to be employed by this organization” (Q119b); Q119g. “I really care about the fate of this organization” (Q119b); Q119h. “For me this is the best of all possible organizations for which to work.” A five-point Likert scale was used and was reversed so that the higher score would indicate a higher commitment to the organization. The reversed scale was as follows: 1=strongly agree, 2=agree, 3=neutral, 4=disagree, and 5=strongly disagree. The organizational commitment score was produced by summing the scores of the individual items for each person and dividing by the number of items answered by the individual. Those individuals who did not answer any of the eight items were excluded (n=4). Only one other individual did not respond to all items (ie, responded to six of the eight). That score was divided by six. Cronbach’s coefficient alpha for the eight standardized items for NWP+OPMG was 0.88.

Burnout: Tedium Index


Physicians’ Reactions to Uncertainty

The Stress from Uncertainty measure is a modified version of the Stress from Uncertainty scale developed by Gerrity et al. A factor analysis and a correlational analysis were used to compare our results with those of Gerrity et al. The 13 items (Q.56a to Q.56m) were evaluated on a five-point scale: 1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree. The 13 items were included in the basic question, “Please indicate the extent to which you agree or disagree with the following statements.” Q.56a. “The uncertainty of patient care often troubles me,” Q.56b. “Not being sure of what is best for a patient is one of the most stressful parts of being a physician,” Q.56c. “I am tolerant of the uncertainties present in patient care,” Q.56d. “I find the uncertainty involved in patient care disconcerting,” Q.56e. “I usually feel anxious when I am not sure of a diagnosis,” Q.56f. “When I am uncertain of a diagnosis, I imagine all sorts of bad scenarios—patient dies, patient sues, etc.,” Q.56g. “I am frustrated when I do not know a patient’s diagnosis,” Q.56h. “I fear being held accountable for the limits of my knowledge,” Q.56i. “Uncertainty in patient care makes me uneasy,” Q.56j. “I worry about malpractice when I do not know a patient’s diagnosis,” Q.56k. “The vastness of the information physicians are expected to know overwhelms me,” Q.56l. “I frequently wish I had gone into a specialty or subspecialty that would minimize the uncertainties of patient care,” Q.56m. "I am quite comfortable with the uncertainty in patient care.” Eleven of the items were reversed to ensure that a greater score represented a greater stress from uncertainty. The Stress from Uncertainty score was produced by summing the 13 individual items for each person and multiplying this sum by (13 divided by (13 minus the number of missing responses)). If the number of missing responses was >3, the scale was not scored for that individual. Cronbach’s coefficient alpha for the 13 standardized items for NWP+OPMG was 0.88 (0.90 for Gerrity et al.), demonstrating excellent internal consistency for the scale items.

Perceived Control

This measure was composed of four questionnaire items: Q.5d. “How satisfied are you with the ability to...
Satisfaction with Resources

This measure was a modified version of the measure developed by Richard Lichtenstein.6 His measure was based on 13 questionnaire items whereas our measure used eight: Q.6b. “How satisfied are you with your department’s nursing team?” Q.6c. “How satisfied are you with the clerical staff in your medical office?” Q.6d. “How satisfied are you with the size of your medical office?” Q.6f. “How satisfied are you with the size of your medical office?”

Social Support: (Physician Relations)

This measure was composed of four items from one question: Q.7a. “How would you rate the quality of the working relationships among NWP/OPMG physicians?” Q.7b. “How would you rate the quality of the helpfulness among NWP/OPMG physicians?” Q.7c. “How would you rate the quality of the emotional support among NWP/OPMG physicians?” Q.7d. “How would you rate the quality overall of relations among NWP/OPMG physicians?” The values for each question were reversed so that a higher score represented higher perceived control (more satisfied with impacting work environment, more satisfied with participation in decision-making, less stress from autonomy, and more satisfied with control over work schedule). The new values for each of the questions were as follows: Q.5d. “1=very dissatisfied, 2=dissatisfied, 3=neutral, 4=satisfied, 5=very satisfied.” Q.5e. “1=very dissatisfied, 2=dissatisfied, 3=neutral, 4=satisfied, 5=very satisfied.” Q.20p. “1=very great deal of stress, 2=moderate stress, 3=some or not. A correlational analysis and a factor analysis were used to identify which were the most highly interrelated. (The two items excluded were Q.60g. “language, communication problems.”) The seven remaining items were as follows: Q.60a. “How large a problem is over-concern with minor symptoms, running to a doctor for every little thing in your practice?” Q.60b. “How large a problem is drug-seeking patients with addictive behavior in your practice?” Q.60c. “How large a problem is noncompliance with treatment recommendations in your practice?” Q.60d. “How large a problem is noncompliance with treatment recommendations in your practice?” Q.60e. “How large a problem is not following advice regarding diet, smoking, or other health practices in your practice?” Q.60f. “How large a problem is chronic dissatisfaction with treatment or care, i.e. demand unnecessary services or treatment, in your practice?” Q.60g. “How large a problem is chronic dissatisfaction with treatment or care, i.e. demand unnecessary services or treatment, in your practice?” Q.60h. “How large a problem is chronic dissatisfaction with treatment or care, i.e. demand unnecessary services or treatment, in your practice?” Q.60i. “How large a problem is chronic dissatisfaction with treatment or care, i.e. demand unnecessary services or treatment, in your practice?” Q.60j. “How large a problem is chronic dissatisfaction with treatment or care, i.e. demand unnecessary services or treatment, in your practice?” Q.60k. “How large a problem is chronic dissatisfaction with treatment or care, i.e. demand unnecessary services or treatment, in your practice?” Q.60l. “How large a problem is chronic dissatisfaction with treatment or care, i.e. demand unnecessary services or treatment, in your practice?”
Earning A Second Doughnut

I’ll never forget the moment I saved a doctor’s life.

He was—and still is—a doctor of optometry, not a medical doctor, but a human on God’s earth all the same. Sixty-four-year-old Ralph Peters entered the ER early one Tuesday morning with his wife at his side, his face ashen as he complained of severe chest pain. He didn’t know it then, but he was about to develop the fatal rhythm disturbance known as ventricular fibrillation.

It was around 5:30 am, and it was my usual Monday overnight shift, I was especially rosy this morning—I had slept until 4:30 am in the call room as it had been quiet and the other two doctors on duty didn’t need to call me until then. I had already downed a cup of coffee—a fresh brew that I had prepared myself. My teeth were freshly brushed and my mouth rinsed generously with cinnamon-flavored Viadent.

The major anxiety on my mind at the moment I saw Dr. Peters was that the department had become rather busy in the previous 15 to 30 minutes. The early morning hours of 4 to 8 am are known medically for a higher incidence of heart attacks, but, in addition, these hours are also known for an increased incidence of other chest pain. Patients take off their maroon shirts and place my “MK.” I entered the room, noticing that my pens were lined up neatly in my pocket and that there were no stains on my new white coat. The patient was taking off his maroon shirt and had sat down on the hospital cart.

“Hello, Mr. Peters, I'm Dr. Katz, the emergency physician on—”

“Doctor Peters,” emphasized his wife, who was hastily dressed for the preceding day they had just missed—often feigned as “a business trip” to explain away their absence. I quickly set out to obtain a history while Lynn placed cardiac monitor leads on Dr. Peters’ chest. His wife stood close by in this 8-by-10 foot treatment room; I was used to feeling claustrophobic, but I have always felt that a patient in an emergency department who so desires should be allowed at least one friend or family member present.

He told me as his wife stood by silently that he had developed the crushing chest pain 45 minutes earlier, during sexual intercourse (at which time I wondered if his wife’s lipstick was applied before, during, or after; and I silently congratulated this couple on being sexually active at 4:30 am!), that he had never had chest pain before, and that he and his wife were both CPR instructors. Thus, they knew this could be a heart attack. The chest pain was now still present but was mild compared with the peak around 30 minutes earlier. I ordered a nitroglycerin tablet, and, as it dissolved under his tongue, I looked into his eyes and realized he was frightened.

I had already determined from his history that he would be a “keeper”—even if this were stomach gas or a pulled muscle, new chest pain in a man over age 50 gets the so-called “full court press.”

“Paul,” I said to the other doctor in the department, “If you can see the rash in room 2, the UTI in 3, and start on the abdominal pain in 7, who looks stable, I’ll get to this chest pain.” Indeed, in ways more than metaphysical, in the lingua franca of emergency medicine, patients became and indeed were their diseases.

“My pleasure, Mark,” he smiled, his kindness sincere! He was a cardiology fellow who was moonlighting with us, and it always felt reassuring to have a cardiologist on hand when the vapors smelled of something serious about to happen.

I erased the “TBS” (“to be seen”) notation next to the name “Peters” which had been placed on the huge white traffic board and placed my “MK.” I entered the room, noticing that my pens were lined up neatly in my pocket and that there were no stains on my new white coat. The patient was taking off his maroon LaCoste shirt and had sat down on the hospital cart.

“Steve, I need you right now, please, to start an IV, stat, right here in 11. He's got multifocals with chest pain.” I was simultaneously gentle and firm.

Now, at that moment, many of my fellow emergency physicians would have declared war; albeit a tacit war. The offense would be to use terms so technical and grandiose as to leave the enemy tethered and begging for mercy in the form of, “Could you please explain that to me? I don’t understand.”

But as for me, I was feeling centered as the caffeine coursed through my blood and thus inquired: “Oh, what kind of doctor are you? This helps me to know how technically to explain things.”

“I’m an optometrist,” he smiled again, as I noted the scratch on my eyeglasses and how spotless his were. He appeared to be in less pain since the oxygen had been started and he had been placed at rest.

I quickly set out to obtain a history while Lynn placed cardiac monitor leads on Dr. Peters’ chest. His wife stood close by in this 8-by-10 foot treatment room; I was used to feeling claustrophobic, but I have always felt that a patient in an emergency department who so desires should be allowed at least one friend or family member present.

He told me as his wife stood by silently that he had developed the crushing chest pain 45 minutes earlier, during sexual intercourse (at which time I wondered if his wife’s lipstick was applied before, during, or after; and I silently congratulated this couple on being sexually active at 4:30 am!), that he had never had chest pain before, and that he and his wife were both CPR instructors. Thus, they knew this could be a heart attack. The chest pain was now still present but was mild compared with the peak around 30 minutes earlier. I ordered a nitroglycerin tablet, and, as it dissolved under his tongue, I looked into his eyes and realized he was frightened.

I had already determined from his history that he would be a “keeper”—even if this were stomach gas or a pulled muscle, new chest pain in a man over age 50 gets the so-called “full court press.”

“It’s irregular,” his wife nervously pointed out, and I observed, as I glanced at her now, much greater concern for her husband’s heartbeat than even for his professional title. I looked up, my index finger on Ralph’s radial pulse, and saw clear evidence of premature ventricular contractions.

We needed an IV line immediately in order to give a dose of lidocaine. I might have appeared calm to someone who didn’t know me well, but I also knew my right leg was shaking uncontrollably under the white coat. Lynn was occupied with the EKG, which was also key at this moment to help diagnose a possible heart attack.

I walked out of the room, and another nurse, Steve, stood nearby drawing up an antibiotic I had ordered for a man in the next room who had been diagnosed with strep throat.

“Steve, I need you right now, please, to start an IV, stat, right here in 11. He’s got multifocals with chest pain.” I was simultaneously gentle and firm.

He clearly heard me and, competent nurse that he was, placed the line within a single minute. As the line was taped in place, I saw multiple PVCs again on the monitor, so frequent now that I assumed Dr. Peters would be dizzy or having some symptoms therefrom.

With my hand on his pulse, my eyes looking over at the computer-read EKG that Lynn was pulling out of the machine that read, “Acute myocardial infarction,” I asked him, “Are you dizzy at all?”

“Nope,” he smiled, “and I feel real confident in you. What’s up?”

“Well, it appears you’re in the earliest stages of a heart attack,”

MARK KATZ, MD has been with the Southern California Permanente Medical Group since 1985, and practicing emergency medicine since 1978. He strongly considered a career in professional journalism before deciding on medical school. This story was written when Dr. Katz took a class entitled, “The Autobiographical Impulse: Shaping Your Life Into Art.”
I looked down at her husband, whose eyes were now opening as he put his hands almost reflexively to his chest, to the site where the current had entered.

"You're okay now, Dr. Peters. Your heart went into a faulty rhythm, but we've corrected it and have the situation well in hand."

"He's doing okay now," I said to Mrs. Peters. "Would you like to come in?" I offered. I realized as she stepped into the room that for the more than 500 patients I had taken care of in cardiac arrest over my 19 years as an emergency physician, all but a few were in arrest at the time I first came upon them. It was easy to objectify and depersonify someone with whom you never have had a conversation. But to see someone to whom you have been speaking suddenly "go out"—this causes the heart of the nonfibrillating onlooker to palpitate furiously!

As if to rescue me from my probably visible anxiety, Ralph began to speak, his words directed at me. "It was a dream. I saw you and everyone else in black and white, moving without words and in slow motion, almost like the blacklights we used to have. Then you all suddenly came to in color again and I heard voices—'he's back,' or something like that."

His wife took his hand, and, as she squeezed it, she said in such rapid succession, "I love you" to him, and "Thank you" to me, that the combination caused my eyes to engorge with tears. "You saved his life, Dr. Katz," she acknowledged.

"We actually had the entire staff here to act swiftly," I said. "It's our job, and we're glad you came in when you did."

I accompanied Ralph and his wife in the elevator to the intensive care unit, feeling as if I was bouncing on the same high-pressure oxygen that we had given him a few minutes earlier. I said "Good morning" to people I would have usually merely nodded to.

As my shift ended, I performed my usual Tuesday morning ritual of driving away from the Kaiser Permanente campus and stopping at Yum Yum on the next block for a chocolate-covered, old-fashioned doughnut.

As a counterboy in my Dad's luncheonette 35 years earlier, I used to wonder how people could eat the same thing every morning, but now, on the other side of the counter, I found a sense of security in the consistency of my request! I often thought about the calories, empty ones at that, contained in these beautifully shiny glazed confections which nevertheless afforded me some sense of tranquility which I desired, if not deserved, after my overnight shifts.

I also appreciated now that both countergirls knew my order as soon as they saw me enter. I gave Rosa a dollar tip this particular morning, then smiled and exchanged greetings as she all but bowed to me. After leaving the shop, I quickly finished the doughnut before even my first sip of coffee.

I stopped walking toward the car and felt a pang of desire—for another 450 calories—but today it didn't bother me. I turned around and retraced my steps into the shop and told a smiling Rosa, "I'll have another one, please!"
Complementary and Alternative Medicine Comes to Kaiser Permanente

This edition’s System Challenge puts an extremely important and yet highly controversial issue on the table for discussion. Few topics evoke such a diverse, emotional response among Permanente physicians and other providers than that of the application of alternative medicine. We all agree that we need to ask the question about the medical appropriateness of each modality. However, there are other questions. With several managed care organizations offering alternative therapies, is it a strategic question as to whether we need to redesign our benefit plans to remain competitive? As leaders in health care delivery, Permanente clinicians clearly need to get involved in the dialogue and strive to understand the value of these “new” modalities and integrate them into our practices when appropriate. As advocates for our members, proven quality must be our foremost concern before we attach our “Permanente” label of approval to any alternative modality. Studies are needed; debate and dialogue within the Permanente Community is needed. I believe that this System Challenge will encourage such a dialogue.

- Lee Jacobs, MD, Associate Editor

Introduction

Acupuncture, chiropractic, massage therapy, and herbal medicine: these are some of the forms of alternative medicine that are starting to make inroads into Kaiser Permanente (KP). Dissatisfaction with conventional medicine in treating some chronic conditions and a move toward wellness are driving both patient and provider to seek broader treatment modalities than are currently offered in allopathic, traditional medicine. Different regions of KP are independently creating alternative medicine offerings in response to member and provider demands.

Complementary and alternative medicine (CAM) first became recognized as a major player in health care delivery when David Eisenberg et al published their 1993 New England Journal of Medicine study. This landmark article demonstrated that one-third of his survey population used some form of CAM treatment, spending 13.8 billion dollars—mostly out of pocket—during the study year. This figure exceeded the total amount spent on inpatient hospitalizations for the same period. KP members demonstrate the same usage patterns discovered by Eisenberg et al: somewhere between 20 and 33% of members are either interested or are actively using some form of CAM therapy. This has been validated in three different internal studies over the past several years (Gordon in Northern California [unpublished material], Whitlock in the Northwest, and the Starr Member Satisfaction Study in Mid-Atlantic). The recently released KP Consumer Segmentation Report from National Communications, Marketing, and Sales Development found that about 20% of those surveyed (non-Kaiser Permanente members) would be interested in joining a health plan that covered alternative methods, suggesting that Kaiser Permanente members are no different than the general population in their interests and usage patterns. Regional differences exist as to which CAM modality is most popular.

Complementary and Alternative Medicine Defined

So, what is alternative medicine? The NIH Office of Alternative Medicine defines a broad range of healing philosophies, approaches, and therapies as those forms of medicine not traditionally taught in medical school. These modalities may be used alone, often referred to as alternative, or in combination with other alternative therapies or with traditional allopathic therapies, often referred to as complementary or integrative. CAM modalities generally include manual therapies (osteopathic, chiropractic, and therapeutic massage), acupuncture and acupressure, mind/body medicine (eg, meditation, guided imagery, stress reduction), biofeedback and hypnosis, nutritional therapies (supplements, diets), herbs, homeopathy, movement (yoga, tai chi), and self-help groups. For a more detailed description, see Marie Mulligan’s (Kaiser Permanente, Santa Rosa, CA.) excellent review beginning on page 35.

The Provider Perspective

Provider resistance is slowly changing as a growing body of scientific evidence becomes available. For example, in November 1997 an NIH consensus panel made recommendations on the use of acupuncture based on a review of articles which they determined merit scientific credibility. These included treatment for nausea and vomiting after chemotherapy, nausea due to pregnancy, and postoperative dental pain. Other conditions such as headaches and back pain were considered likely to be helped with acupuncture, but the data were insufficient for a full endorsement. Proponents suggested that the acupuncture process probably releases endogenous opioids, whereas skeptics felt results were solely due to the placebo effect. However, the NIH consensus statement added validity to acupuncture, making it more acceptable to some of those providers who had been previously hesitant.

Aside from many providers still being reluctant to use these modalities, many are unaware which therapies might offer benefit to patients. In some markets where new benefits include CAM modalities, educational seminars are often being offered to providers.

Lastly, providers may be unaware that their patients are seeking care in the CAM arena, because many patients do not tell them. In her 1997 study, Gordon found that only approximately 25% of providers asked their patients if they used some form of complementary and alternative medicine. She also noted that 20% of patients who used CAM modalities did not tell their pro-
provider. This lack of communication between patient and provider can easily create therapeutic dilemmas when patients are using a CAM modality of which their provider is unaware.

**The Patients Who Use CAM**

Traditional high-technology Western medicine excels in the treatment of acute illness and injury, whereas CAM's strong hand is in treating the following three populations of patients, who tend to be the highest utilizers of CAM:

- The chronically ill
- The chronic pain patient
- The patient seeking wellness/prevention

The dichotomy between CAM and traditional Western medicine is starting, however, to merge into a field currently coined Integrative Medicine. Here the best of both modalities are used together. As an example, low back pain patients use acupuncture or chiropractic care along with their NSAIDs. In another example, headache patients can use lower doses of their medications because these patients are trained in meditation.

**Kaiser Permanente Across the Country**

Table 1 is a partial listing of KP providers from different Regions who are active in research, education, and health care delivery. Many have chronic pain programs that act as a springboard in providing CAM services. Many Health Education Programs in different Regions also provide “wellness” classes in such fields as yoga, tai chi, and meditation.

**Recommendations**

After speaking with numerous providers within KP, and CAM providers outside the Program, I would make the following recommendations:

1. Internalize services where possible.
2. Provide an integrated format so providers of different types can evaluate patients as a team. The language barrier is much greater between an acupuncturist and an internist than between an orthopedic surgeon and an internist.
3. Include mental health/behavioral medicine and self-help group models to empower patients’ awareness of their ability to manage their own health.
4. Create an interregional task force/network for providers to create best practices in this newly emerging field (see sidebar at the conclusion of this article). Include on the task force interested health plan administrators who would strengthen our position in the marketplace and provide a basis for coordinated care.

We need to continue exploring methods of integrating the most valuable aspects of complementary and alternative medicine into our operations. A collaborative effort between the Medical Group and the Health Plan both nationally and locally will demonstrate Kaiser Permanente as taking a lead in change in the ever-evolving world of health care.

**Table 1. Permanente Resources**

<table>
<thead>
<tr>
<th>Name/Location</th>
<th>Program/Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geoff Gallinraith, MD</td>
<td>Created integrative clinic including local healing practices.</td>
</tr>
<tr>
<td>Harley Goldberg, DO</td>
<td>Newly appointed to coordinate services in Northern California.</td>
</tr>
<tr>
<td>Nancy Goil, SD</td>
<td>Development of physician and member surveys.</td>
</tr>
<tr>
<td>Tom Janisse, MD</td>
<td>Promoting CAM in NW and designed experimental education series for providers in NW.</td>
</tr>
<tr>
<td>David Judge, MD</td>
<td>Developing an integrative model in the Stockton area. Hopes to have retail outlet.</td>
</tr>
<tr>
<td>Bill MacCarberg, MD</td>
<td>Developed cognitive behavior program and developed a member education program on CAM.</td>
</tr>
<tr>
<td>Marie Mulligan, MD</td>
<td>Heads active clinic with acupuncture and wellness series. Write pieces of early proposals for CAM services in Northern CA.</td>
</tr>
<tr>
<td>Laura Patton, MD</td>
<td>Director of Network Services, including naturopathy, acupuncture, and massage therapy.</td>
</tr>
<tr>
<td>Joe Pepping, PharmD</td>
<td>Heads subcommittee which reviews literature to make recommendations on herbal products.</td>
</tr>
<tr>
<td>Lydia S. Segal, MD</td>
<td>Leading development of new department of CAM services, benefits, and education.</td>
</tr>
<tr>
<td>Mark Sozua, MD</td>
<td>Physician-acupuncturist, internal and external services, strong networking with other Regions. Active in education for providers/patients.</td>
</tr>
<tr>
<td>Robert Sarken, MD</td>
<td>Physician-acupuncturist who heads newly forming CAM department.</td>
</tr>
<tr>
<td>Bob Weissberg, MD</td>
<td>Leading the CAM initiative in CHP. Task force developing plan for benefits, services, and education.</td>
</tr>
<tr>
<td>Evelyn Whitcher, MD</td>
<td>Conducted survey demonstrating CAM utilization patterns.</td>
</tr>
</tbody>
</table>

See the Guide to Alternative Medical Practices and Alternative Medical Systems by Marie Mulligan, MD; Kaiser Permanente Medical Center, Santa Rosa, California on the next page.
Guide to Alternative Medical Practices and Alternative Medical Systems
By Marie Mulligan, MD; Kaiser Permanente Medical Center, Santa Rosa, California

Alternative Systems of Medical Practice

Acupuncture
Acupuncture involves stimulating specific anatomic points in the body for therapeutic purposes by using acupuncture needles, moxa, impulses of electromagnetic energy, friction, suction, or pressure. Acupuncture is used to regulate the flow of chi to restore health, and is part of the therapeutic armamentarium of traditional Chinese medicine.

Traditional Chinese Medicine
This is a complete medical system which has been practiced for over 23 centuries. There are 4 basic branches to Chinese medicine: herbalism, food cures, acupuncture, and manipulative therapies. Herbalism and food cures are part of the system of internal medicine. Acupuncture and manipulative therapies are included in the system of external medicine. Diagnosis involves observation, history taking, palpation of radial pulses, observation of the tongue, and palpation of sensitive body parts.

Ayurveda
This is India’s natural system of medicine which has been practiced for over 5,000 years. Ayurveda provides a complete, integrated approach to the treatment and prevention of illness by dealing with imbalance and stress in the individual’s consciousness, attending to diet and digestive issues, using breath and movement therapies including pranayama and yoga, and using numerous herbal and mineral medicines.

Homeopathic Medicine
Homeopathy is based on the work of Samuel Hahnemann, a German doctor who founded this healing system in the 18th century. Homeopathic substances are medicines that when used in large doses will produce symptoms in a healthy person that will cure these identical symptoms in a sick person. Additionally, homeopathic medicines are diluted to concentrations that are sometimes lower than avogadro’s number. Critics of homeopathy contend that such extreme dilutions are beyond the point at which any active molecules can be found in the medicine. However, homeopathic practitioners suggest that there may be energetic reasons why these remedies may be effective. Homeopathic medicine is practiced worldwide, especially in Europe, Asia, and Latin America.

Naturopathic Medicine
Naturopathic medicine is an American health care profession that is nearly 100 years old. It incorporates use of herbal or botanical medicine, homeopathy, and chiropractic. Naturopathic providers are in many ways the family practitioners or generalists of Western alternative medicine. Naturopaths attempt to assist the body’s innate healing properties, without the use of pharmaceutical medicines whenever possible.

Environmental Medicine
Environmental medicine is a very controversial alternate modality. It is an extension of conventional western medicine. Practitioners are MDs who believe that many common foods and chemicals trigger the onset of acute and chronic illness, even when the exposure is at low levels. They frequently work with diet, especially elimination diets, and use megavitamin therapy, including megadoses of vitamin C. They also use a variety of other nonconventional pharmaceutical and biological treatments, including chelation therapy.

Christian Science
People involved in Christian Science healing are usually members of the Christian Science Church. Prayer and attitudinal healing are the main focus in this system.

Anthroposophical Medicine
Anthroposophical medicine is an extension of conventional Western medicine, with its roots in the philosophy of Rudolph Steiner. Herbal medicine and homeopathy are also incorporated into this system.

Mind/Body Medicine

Meditation
Meditation is a practice for relaxing the body and mind that involves focusing the attention on different objects. Concentration practices can involve focusing on a sound, a repeated word or mantra, visual image, or body sensation. Mindfulness meditation involves attending to the sensations of breathing to cultivate concentration and calming of body and mind. Once some relaxation has occurred and some concentration has been developed, the person then directs their attention to whatever thought or emotion might arise with a nonjudgmental attitude. Various meditation techniques have been demonstrated to be useful in treating stress-related disorders.

Psychoeducation
Many areas are covered by psychoeducation, including couples communication classes and parenting classes. One of the most powerful areas includes cognitive therapy for treating mild to moderate depression. The person identifies negative automatic thoughts and retrain their mind to reinforce true and helpful thoughts. This technique has been demonstrated to be effective in treating mild to moderate depression and to reduce relapse rates.

Psychotherapy
There are many schools of psychotherapy. Each
addresses a person’s emotional and mental health, which in turn can affect physical wellbeing and capacity for self care. Conventional psychotherapy uses a variety of psychologic methods, including psychoanalysis, suggestion, persuasion, and education. All of these therapies can be undertaken either in a group or individual setting.

Yoga
Yoga has its origins in India. It is a 5,000-year-old practice that includes ethical precepts, dietary prescriptions, physical exercise, and breath work. Yogic meditation has been shown to reduce anxiety levels and to be helpful in treating stress related disorders.

Tai Chi, Chi Goin
Both of these modalities involve movement, breath work, and directing the attention. They arose out of the 4,000-year-old Chinese system of healing and, like yoga, have been found to be useful in the treatment of stress related disorders.

Imagery
Imagery has been popularized by the Simontons. It is a mental process using thought representing a sensory quality, which can be visual, aural, tactile, olfactory, proprioceptive, and kinesthetic. Imagery has been shown to successfully treat nausea and vomiting associated with chemotherapy and is also successful in treating stress related disorders.

Prayer and Mental Healing
There are several types of prayer. Healing can happen either in the presence of the person being healed, or from a distance. This can involve directed prayer requesting a specific outcome, or nondirected prayer requesting the best possible outcome. Some suggest that this second kind of prayer may be more effective in generating positive outcomes.

Dance, Art, Music, and Movement Therapy
There are many schools of dance, art, music and movement therapy. They are all a means for the patient to foster self awareness, reconcile emotional conflicts, and express unspoken or unconscious concerns about either emotional or physical problems.

Biofeedback
Biofeedback uses a variety of monitoring instruments to feedback to the patient physiologic information about which they are normally unaware. It is basically an educational device for patients to gain more control over their psychophysiologic responses to stress.

Hypnotherapy
Hypnotherapy includes the induction of trance states and the use of therapeutic suggestion. Increased relaxation, rapport, internal focus, and receptivity to ego-syntonic suggestions are hallmarks of therapeutic trance states. Hypnosis can be done with groups or individually. It has been shown to be helpful in treating stress-related disorders.

Manual Healing Methods

Chiropractic
Chiropractic is concerned with investigating the relationship between structure and function of the human body to restore and preserve health, with an emphasis primarily on the spine and nervous system. Manual procedures and interventions are used to the exclusion of surgical and chemotherapeutic procedures. Recent research suggests that chiropractic treatment can be useful in treating acute low back pain.

Osteopathic Manipulation
Of note is that the majority of osteopathic physicians are involved in primary care. They receive 2,000-3,000 hours of hands-on training in manipulative modalities as part of their education. Classically, osteopaths have focused more on soft tissue problems than chiropractors do.

Massage
There are numerous methods of massage therapy. Massage consists of a group of manual techniques to apply fixed or movable pressure to the body. Massage therapists are licensed in 19 states, including California.

Body Work
There are many modalities of body work. Feldenkrais, developed by Moishe Feldenkrais, focuses on sensory motor awareness and teaches patients to both hold their bodies in more healthful postures and to move in new and healthful ways. Somatics is an extension of Feldenkrais developed by Thomas Hanna. The Somatics Institute is located in Novato, California. Its goal is to move the person from amnesia of sensory motor input to an awareness of sensory motor input, which allows the person to have a greater choice in reducing the wear and tear on the body over time.

Rolling
Rolling was developed by Ida Rolf and involves deep body work. It works with fascial layers to bring about what is described as “structural integration.”

Rosen Body Work
Rosen body work was developed by Marian Rosen, a physical therapist. Her institute is located in Berkeley. The goal of this very gentle body work is to help the person be in touch with the authentic self. The person experiences emotional relief by contacting and releasing emotional contractions held in the body.

Touch for Health
Touch for Health is quite popular among nurses in this country. It can involve touching the person directly or holding the hands out a short distance from the body. It is used primarily for stress reduction.

Reflexology
Reflexology is a body work system that involves massage of the feet with the intention to affect not
only the feet, but other parts of the body. It has been shown to be helpful for stress-related disorders.

**Physical Therapy**

Physical therapy is an example of a modality which has moved into the mainstream. It involves a variety of methods, including hands-on therapy and the use of physical modalities, eg, ultrasound. It is often used to assist injured patients to regain function and to increase their comfort level.

**Pharmaceutical “Botanical Medicine”**

**Botanical and Herbal Treatments**

All cultures have a long history of folk medicine traditions. Currently in the West, there is a resurgence of interest in identifying the biologically active agents from botanical sources to treat a variety of conditions; for example, garlic oil for treatment of mild hypertension. The German FDA regulates the use of herbs, and the German Commission E monographs delineate the safety, efficacy, indications, and dosing of herbs. These monographs will be available in English in early 1996.

**Nutritional Dietary Therapies**

There are a variety of nutritional dietary therapies. The best known include: the very-low-fat diets, including Pritikin, McDougal, and Dean Ornish programs; supplements, including vitamins, plant extracts, and antioxidants. One of the most widely publicized supplement includes melatonin, currently available over the counter and used for jet lag, among other indications.

**Aromatherapy**

Aromatherapy is the use of aromatic oils for a variety of conditions and, most often for stress reduction. It is popular among many British nurses to help increase the comfort level of many patients.

**Chelation Therapy**

Chelation therapy is primarily used by physicians who practice environmental medicine. They use either parenteral or oral chelating agents to treat chronic degenerative conditions. Chelation therapy is shown to be safe; however, its efficacy is hotly disputed.

**Community-Based Practices**

**Native American Indian Healing**

Native American Indian healing is a community-based system that uses certain rituals and practices, including sweating and purging (usually done in a sweat lodge), use of herbal medicines, and certain shamanic practices.

**Latin American Healers (Curanderos)**

Curanderos use a system of folk medicine that includes a model for classifying food, drugs, activity, and illnesses, usually based on whether a condition is hot, cold, dry, or moist. Currently there are no formal effectiveness studies done on this system.

**Southeast Asian Folk Medicine**

An example of Southeast Asian folk medicine: In Cambodia there are folk healers called kru khmer who are highly respected members of an aristocratic class. They use coining, cupping, herb teas, sauna, and massage to facilitate healing. They are usually trained through apprenticeship. Almost without exception, these healers are older men.

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Care Management: The Next Level of Innovation for Kaiser Permanente

More than 50 years ago Kaiser Permanente (KP) pioneered the development of high-quality, cost-effective, integrated health care. To achieve better health for members, Sidney Garfield, MD, KP’s physician founder, advocated a population-based approach to care through early detection and management of disease. It was a concept that set the industry standard for decades to come. We now stand at a new threshold in clinical management—one that will leverage the talents of our medical groups and our vast clinical experience to the lasting benefit of our members. The next level of innovation is care (or disease) management. Care management is a comprehensive systems approach to medical care that combines the latest medical knowledge on the best clinical methods, population-based outcomes measurement and evaluation, and advanced practice tools.

A national entity that can synthesize knowledge on the best clinical approaches from within and outside KP, then work in concert with local Permanente medical groups to create, implement, and evaluate effective and efficient health programs, can be a powerful catalyst for quality improvement. This is the essential vision of the Care Management Institute (CMI). Understanding how to prevent the complications of chronic illnesses, development of a range of analytical and care management tools, and rapid dissemination and adoption of successful care approaches using the latest technologies and learning models will form the core of CMI’s work.

Our providers, customers, and members are increasingly aware of care management, as the basic concept is not new. However, with its history as an integrated care delivery system, its extensive clinical databases, its clinical management expertise, and its large membership, KP offers a unique setting in which to design, develop, and deploy integrated care approaches that fulfill the promise of care management.

For you, the individual physician working at KP today, CMI hopes to offer up-to-the-minute scientific knowledge and tools that support you in practicing the art of medicine. The critical challenge for you, as for a professional in any field, is one of judgment: How do you take this generalized body of knowledge and evaluate it in the context of your individual patient? The goal of disease management is not to achieve uniformity of practice; it is to achieve uniformity of superior outcomes.

This article will discuss the opportunities of care management for KP and will discuss the design and implementation plans of CMI. Although we view “care management” and “disease management” as synonymous, we will use the term “care management” because it encompasses more than just populations defined by diseases. For example, pregnant women or healthy people who have no disease but who are at risk of developing one might benefit from a care management program.

What Is Care Management?

Care management is coordinated health care for logical groupings of members and is intended to prospectively improve, maintain, or limit the degradation of their functional status.

The conditions most amenable to this approach are long-term diseases such as chronic disease (for example, diabetes), or acute illnesses such as upper respiratory infections. In addition to patients with these diseases, other distinct populations of patients such as pregnant women, frail elderly or NICU graduates are included under the logical groupings term. Prospective means that each member has a customized care plan that reflects the severity as well as the nature of the particular disease or condition. Prevention and health maintenance are pursued aggressively, functional status is monitored longitudinally, and deterioration is addressed early in the disease process.

By focusing on members who have common conditions and by synthesizing the best available clinical evidence, care management can lead to several desirable outcomes: healthier, more satisfied members; more motivated and prepared providers; and improved process efficiencies.

The conditions most amenable to this approach share a number of characteristics: high treatment costs, high prevalence, evidence-based treatments, unusual variation in practice, and care fragmentation in current practice. Asthma, diabetes, depression, and heart disease are some of the conditions for which CMI will be developing care management programs. Important elements in these care management programs will be:

- team care that optimizes the unique skills of different health care professionals
- timely and credible outcome measurement and feedback
- evidence-based treatment guidelines and protocols
- patient education and empowerment programs
- computer-aided decision-support tools

“Care management is coordinated health care for logical groupings of members intended to prospectively improve, maintain, or limit the degradation of their functional status.”

By Peter Juhn, MD
Neil Solomon, MD
Helen Pettay
How will Care Management Alter Kaiser Permanente?¹

Care management is the next step in the evolution of health care delivery. The following sections describe some of the changes care management will bring and their impact on members, providers, and the KP Program.

From the Perspective of Members

Under care management, the provider team will aggressively educate members about their condition so that they will better understand how to care for themselves and when to tap into the care management support system. Productive interactions with the care system and the resulting positive feedback will increase the likelihood that members will become more proactive in disease awareness and self-monitoring. When members feel empowered, connected to, and involved in the care process—and become healthier as a result—satisfaction will rise even as the number of interactions with KP goes down.

From the Perspective of Providers

A multidisciplinary team of providers with diverse areas of expertise will work together to address all aspects of members' care in a thorough and systematic manner. The nonphysician care coordinator will serve as the point of entry to other providers, a clearinghouse for educational materials, and a sounding board for both member and provider concerns. Decision-support tools and the latest science on diagnosis and treatment will be readily accessible to all providers. From the providers' point of view, the member-provider interaction will be optimally time-efficient because members will see the most appropriate provider in a given situation and will participate in adjunct educational initiatives.

From the Perspective of the Program

By immediately establishing a foothold in this emerging application of medicine and management, KP will be seen as an innovator. In the near future, care management is likely to be viewed as an imperative, rather than an option, by purchasers, health plans, and medical groups. We have little to lose, and much to gain, by aggressively rising to the challenge. We can help define the market for care management. With the successful design and implementation of care management programs, KP will ensure its continued leadership in managed care.

The Care Management Institute as an Organizing Principle²

To our members, their employers, and their communities, true value from health care means healthier and more productive lives. The Care Management Institute was created to deliver such value. CMI draws its strength from the unified efforts of Kaiser Foundation Health Plan and the Permanente Medical Groups. The vision of CMI is nationally consistent, evidence-based, cost-effective delivery of health care customized to the individual member.

CMI is one of several offspring resulting from the historic National Partnership Agreement between Health Plan and The Permanente Federation, with the latter representing the Permanente Medical Groups. CMI’s governance is shared between the parent organizations, with Health Plan funding the initiative and the Federation leading and managing it. CMI has a separate organizational identity and is truly a working collaboration between Health Plan and the Medical Groups. CMI’s physician staff are members of The Federation, and its nonphysician staff are Health Plan employees. CMI has its own Board of Directors, which is composed of senior leaders from both Health Plan and the Permanente Medical Groups.

Through the work of the Institute, Permanente physicians have the opportunity to shape the next generation of health care. CMI represents a consolidated internal approach to change, and can be a clear voice for KP to communicate this future to the rest of the health care community.

Success for the Institute ultimately will be measured by its positive impact on health outcomes, on process efficiency, and on community image. Although it will be important to produce and provide access to clinical improvement knowledge such as care management programs or successful practices, most critical to CMI’s success will be the rapid adoption and implementation of this knowledge by individual providers, leading to behavior change and performance improvement.

Implementation Approach

We have examined learning theories and their practical application within KP, because this continuous learning by providers will be the cornerstone of CMI’s imple-
mentation approach. Common individual, group, and organizational elements that create an environment for successful learning have been identified. Fostering supportive attitudes and active participation, promoting teamwork, creating a shared vision, and providing resources that work together to generate learning and change. CMI will use these and other innovative approaches to facilitate continuous learning among care providers, both as part of the specific implementation of CMI programs and generally within the Program.

Implementation Infrastructure

To achieve rapid adoption and sustained implementation of best clinical practices, we are developing an implementation infrastructure guided by several key principles: focused investment of resources, team-based professional learning, and outcome accountability. This development focuses on building three capabilities: an implementation network, provider learning teams, and a fund for implementation assistance.

First Capability: Implementation Network

The broadest component in the implementation infrastructure is a network of implementation professionals extending across all local service areas at KP. Individuals in this network actively promote and directly engage in the adoption and implementation of best clinical practices in each of their respective local areas. They are trained extensively by Institute and Program experts and learn from experiences of others in the network. They are the access and distribution arm of CMI.

Each qualifying local area hires two implementation professionals with funds supplied by CMI. These “implementation duos” are tightly integrated with the local area’s quality improvement functions and cognizant of the uniquely defining cultural and market characteristics of the locale. The implementation duos include a Physician Implementation Manager and an Implementation Coordinator.

The physician is chosen by the local medical group to lead the implementation of best practices in that local area, and is accountable to the local Medical Group leadership and to CMI. Extensive training and support is provided by CMI and the other members of the network (eg, initial intensive training followed by quarterly updates and monthly teleconferences or conference calls). The implementation coordinator is a project manager-level person hired by the local area to assist the Physician Implementation Manager.

Second Capability: Provider Learning Teams

As a means to promote the rapid cycling of incremental process improvements, CMI supports the development of provider learning teams in local areas. These teams are loosely modeled after the Practice Enhancement for Physicians (PEP) program in the Southern California Permanente Medical Group. Small groups of providers meet every two weeks for approximately two hours to identify issues, solve problems using analytical data, and to customize and implement successful practices.

Third Capability: Fund for Implementation Assistance

The Fund for Implementation Assistance (FIA) is a strategic investment fund with the purpose of catalyzing the implementation of care management programs for targeted patient populations. Funds are granted to local areas on a competitive basis to support implementation of care management programs that are likely to improve member health status and satisfaction, to more efficiently deliver care, and to actively leverage KP’s knowledge resources. More specifically, these funds support implementation of CMI programs for defined member groups in local areas.

Applied Learning Initiative

CMI sponsors the Applied Learning Initiative (ALI), a research and development program dedicated to discovering successful methods of rapid and sustainable behavior change through enhanced professional learning. The ALI effort focuses on innovative learning and practice change strategies (ie, beyond the scope of health systems management).
of the formal provider learning teams) such as "just-in-time tools," effective use of self-paced medical education programs, and academic detailing with peers. An advisory group will be established to guide these R&D efforts. A national knowledge repository of innovative strategies also will be a part of these efforts.

**CMI Content Development**

Content for CMI is developed using three general approaches. The choice of approach will be determined by the priorities established by the CMI Board of Directors and the presence of existing programs for priority clinical areas.

1. **Best Practices Support and Transfer**
   In cases where there are highly successful programs or successful clinical practices, CMI works with the developers to facilitate a program’s transfer and adoption at new sites. In these situations, CMI evaluates quality of the program, assesses potential problems, provides technical support during its transfer, and assists in modifying the program to fit recipient needs. Such programs might include the Bright Systems Pediatric Program from Northern California or the Hemodialysis Program from Southern California.

2. **Care Management Program Synthesis**
   In circumstances where multiple programs exist without one clearly superior program, or where piecemeal approaches are in place without a comprehensive program, CMI synthesizes the best aspects of the existing components into an integrated care management program. CMI convenes meetings of KP experts to evaluate existing programs and their component parts, supports the synthesis of components into the integrated approach, and customizes the program for local areas interested in its implementation. CMI also is responsible for supporting and refining the program over time. The current national KP Diabetes and Asthma Initiatives represent examples of this approach.

3. **Care Management Program Creation**
   When no programs exist for a given condition, CMI develops programs de novo, relying on the principles and processes used to create programs for other populations. The full development process requires guideline development, assessment of the cost-effectiveness of program alternatives, creation of a model of care, development of patient education/empowerment tools, creation of provider enhancement tools and training for their use, and evaluation mechanisms for the program.

   Creation of these components of the integrated program involves collaboration with existing teams within the Program. For example, the Southern California Guidelines Development Group, the Northern California Health Education Department, and the care management experience in the Northwest might all support parts of a new program.

   At any given time, a portfolio of programs relying on these different development methods is likely to be in progress. Development priorities are based on analysis of internal data, external literature, and expert interviews on market needs within KP. Conditions expected to show high return from care man-
agement include diabetes, asthma, heart disease, depression, stroke, and low back pain. In addition, life stages offering opportunities for integrated management include pregnancy, infancy, and aging.

The specific components and the complete care management programs are developed with input from existing KP successful practices, documented efficacy, and shared insights from experts in the field within and outside KP. When possible, this development follows an evidence-based approach, particularly in evaluating the available medical literature. We also plan to hold focus groups to solicit input from members for whom the programs are designed.

**Technology Tools**

The practice of medicine relies upon collection, analysis, and interpretation of information, resulting in informed decision-making. The digital electronic revolution has made it possible to transform medical information and observations into an electronic format. At the same time, advances in telecommunications have enhanced our ability to share information at distances with relative ease. CMI develops technologies to promote Programwide dissemination of knowledge and continual learning for clinicians.

**KP Exchange**

The Kaiser Permanente Clinical Practice Exchange (KP Exchange) is an online, web-based Internet site developed by the Institute to support KP clinicians and staff in the care of their members. As CMI develops, KP Exchange will play a significant role as a national tool for clinical information exchange. The website address is: http://www.kpexchange.org/.

As a virtual meeting place that revolutionizes Program communication, KP Exchange stands to fulfill several of CMI's goals:

- Improve physician and staff satisfaction and effectiveness
- Enhance continuity of care
- Promote the accountability of physicians and nonphysician managers for clinical quality
- Serve KP care providers in local markets by tailoring CMI products to meet their needs
- Incorporate feedback from local markets in future product development.

**Fostering Convergence of Knowledge with Clinical Information Systems**

As the Program builds a clinical information system (CIS), the Institute provides a context in which CIS becomes embedded into the design of the overall care delivery process. For example, the Institute plans to deliver CIS-embedded, data-driven algorithms; CIS-embedded decision support; CIS-embedded care management tools and processes; and, for members, CIS-enabled prompts for preventive and follow-up care, as well as linkages and interactions for member health information.

**Summary**

The vision of an integrated, population-based care management program that uses the best of science while supporting the individual physician’s art may sound as ludicrous today as prepaid group practice sounded 50 years ago. But by harnessing the talents of people, technology, and research in new ways, KP has the opportunity once again to transform the way health care is delivered in this country. CMI invites all of you to help in the challenge.

**CMI Products**

Many of CMI’s products are available on KP Exchange. For more information about specific studies, products, or consultative services, please telephone the Care Management Institute at (510) 271-6426. The following is a list of CMI products and services to date:

**Integrated Diabetes Care Manual**

Components include:

- Clinical Practice Guideline
- Protocols—Clinical pathways to assist with the implementation of guidelines
- Recommended model of care and stratification methodology
- Recommended care coordination program with implementation steps
- Group visit implementation steps
- Curriculum for patient education
- Tip sheets—one-page tear sheets for reinforcement of patient education practices
- Outcomes measures and technical specifications
- 1997 member survey
- 1997 outcomes report
- 1997 resource manual (snapshot of current local activities surrounding the care of adults with diabetes)
- Tools for implementation: lifestyle questionnaire, chart form, action plan, and patient wallet card.

**Integrated Asthma Care Manual**

Components include:

- Clinical practice guideline
- Protocols—Clinical pathways and behavior change methodologies to assist with the implementation of guidelines

“Kaiser Permanente has the opportunity once again to transform the way health care is delivered in this country.”
• Recommended model of care and stratification methodology
• Recommended care coordination program with implementation steps
• Curriculum for patient education (pediatric and adult)
• Outcomes measures and technical specifications
• 1998 member survey (adult)
• 1997 resource manual (snapshot of current local activities surrounding the care of patients with asthma or COPD)
• Tools for implementation (pediatric and adult versions available): asthma record (initial visit chart form), urgent visit asthma records, medication and severity assessment pocket card, action plans, asthma diaries, environmental assessment, key educational messages for providers

Special Studies
• Targeting Care Management: A study that prospectively identifies a subset of patients in an evolving acute state likely to be hospitalized
• HbA1C/Health Status Performance Measurement Project: A Study in Progress
• The Breast Cancer Surgery Study: Impact of Length of Stay on Medical Outcomes
• A Study on Hospital Discharge of Newborns Following Vaginal Birth in the Northern California Region
• Consultation on the design and analysis of the effectiveness of medical interventions
• Consultation on collection and analysis of data for disease registries, service utilizations, and outcomes measures.

References
1. This section adapted from “White Paper on Disease Management at Kaiser Permanente” by Neil Solomon, MD, October 1996.
2. This section adapted from “CMI Practice Plan” by Peter Juhn, MD, Jodi Cupp, Barry Linder, MD, Rachelle Mirkin, Neil Solomon, MD, and Valerie Tolou-Shams, November 1997.
A Word From the Medical Directors

KFHP and the PMGs: A History of Partnership

As we begin 1998, Kaiser Permanente has passed the three-quarter mark of arguably the most tumultuous decade in our 50-year history—on course for the 21st century—and very likely, more of the same. At some point after that notable passage, economists will reflect on the history of 20th century health care in transition. Business schools will develop “case histories” reflecting the decisions (and their consequences) of the participants in what, from our vantage point, appears to be a time of chaotic turbulence but which, in retrospect, will all appear to have been a predictable and logical transition. The business student of 2010 will see none of the insomnia or anxiety experienced by those of us charting the currents of marketplace turbulence—the relentless, dispassionate, and inevitable change described by Adam Smith more than 200 hundred years ago. In that academic context, there will be little of the deep sense of conflict that clinicians experienced as they tried to navigate the treacherous straits between humane, ethical care, medical legal pressures, and economic “reality.” One wonders if there will be a “patient perspective” anywhere in this exercise. It will be known as the period during which medical economics was turned upside down—or perhaps from another perspective—turned right side up. It will be noted that during a time frame beginning in the middle 1980s, the supply/demand equation began to shift in favor of the purchaser, who was not actually the consumer; in a time when consultants began to apply statistical concepts to a very intimate and personal science. Most of us will still be around then; the questions are: What will we be doing? What will health care look like? and—more important—How will Kaiser Permanente have fared during this transition?

It's interesting to reflect on the organization for which I've worked for nearly 20 years. I've read the history, and I've lived a small part of it. The question I've often asked myself is: “How did we become so successful?” (Though, at the moment, not all would share the notion of success.) We know that prophetic founders did not design this organization in one brilliant, sweeping act of creation. Rather, hardworking visionaries who made mistakes and were not afraid to regroup and try again forged Kaiser Permanente out of compromise and pragmatism—with just enough idealism to attract providers who could see a different future for medicine.

Why then are we still unique today? What evolved was an integrated, group practice—but that's not unique to Kaiser Permanente. The concept of prepayment is important but does not guarantee quality or success; in fact, it's a fairly standard approach to health insurance. There is, however, one attribute that ties them together into a package that has created the most successful, private health care delivery system in the world—the partnership.

partnership 1: the fact or state of being a partner (as in action or in the possession or enjoyment of something): participation ...
3: a relationship resembling a legal partnership and usually involving close cooperation between parties having specified and joint rights and responsibilities (as in a common enterprise ...)*

It’s difficult, but occasionally necessary, to revisit the roots of our structure and culture. In times of change, we’re obligated to reevaluate organizational tradition and dogma to assure ourselves, to the extent possible, that we are not blindly tied to anachronistic concepts that will eventually weaken the organization. As I survey the managed care landscape, now littered with the financial and socio-political debris of the relentless marketplace, I’m struck by the fact that those who have failed lacked nothing that we have except for the cooperative working relationship shared by Kaiser Foundation Health Plan and the Permanente Medical Groups. We all understand that “cooperative” is an overarching concept here. It isn’t always amiable, and it certainly isn’t always easy, but, we find ourselves honoring and rebuilding the partnership simply because like any other relationship built on principle, it exceeds the capacity of any other model we’ve seen to create a context of affordable, ethical, quality medicine.

It probably sounds naive to acknowledge at this point, but when I joined Kaiser Permanente in 1978, I, like many, had no idea that it was an organizational partnership. This admission is probably less one of ignorance than a tribute to William Dung and Ronald Wyatt and their commitment to nurture the working partnership in Hawaii. I now understand that it was not always easy nor intuitive, but I’ve also learned what experience must have taught them: however imperfect, it is better than the other options that have been tried by our colleagues and competitors over time.

At the time of my election as Medical Director in 1990, my first task was to review the Medical Service Agreement. There were no particular surprises; it was a legal rendering of the mutually exclusive and interdependent partnership that has existed at Kaiser Permanente since 1953. I’ve really not had occasion to refer to it since that time, although we
make minor modifications annually to suit the legal and contractual demands of regulatory watchdogs and a changing environment. The partnership has evolved—in my estimation—to a relationship. To be sure, it can be terminated, it can be modified substantially, and it can be filled with endless incentives and levers. No legal contract, however, can substitute for the mutual trust, respect, and support implied in a relationship—even when it seems strained to the breaking point by internal or external pressures.

**relationship:** 1: the state or character of being related or interrelated: a connection by way of relation 2: ... affinity 3: a state of affairs existing between those having relations or dealings; ...

In the 10 or so years since Mr. Smith’s marketplace sent the “change” message to medicine, Kaiser Permanente has tested every historical concept and tenet held by this organization since its inception. Not surprisingly, when turbulent times descend with their challenges to the status quo, partners often reflect on the relationship—wondering if their fidelity to a person, an organization, or a contractual tradition will be the seed of their ultimate destruction. Kaiser Permanente is no exception. I doubt that there is one manager or leader that hasn’t engaged in the “what if” discussion: “How would the Permanente Medical Groups fare on their own? How successful could Health Plan be without the weight of the Medical Groups?” Perhaps more to the point, who hasn’t considered the question of whether or not a stronger partner would have helped the other to avoid some of the chaos and pain of wrenching change. Such conversations are inevitable when a partnership is in the breech, but it is important to remember why partnerships exist in the first place. It can be summed up in one word—synergy.

**synergy:** working together ... combined action or operation ... cooperative action of discrete agencies ... such that the total effect is greater than the sums of two or more effects taken independently.*

Partnerships form when the task at hand is too large for individuals or even small groups to carry out successfully. (Actually, the best partnerships become teams, but more on that another time.) Virtually anyone who objectively assesses this organization understands that we have developed an interdependent expertise that would leave either partner significantly diminished in the event of a rupture of the relationship.

We can take one of two views then. On the one hand, Kaiser Foundation Health Plan and the Permanente Medical Groups have become irrevocably linked and lack the flexibility to adapt readily to change—remember, the survivors in Mr. Smith’s marketplace are not necessarily the smart or the strong, but, above all, they must be able to adapt to change. In this view, the significant market transformation we are now experiencing will disadvantage Kaiser Permanente, and ultimately we will not survive. In this type of scenario, the partnership has evolved into an inescapable pact of mutual destruction. Alternatively, the balanced and mutually supportive nature of our relationship is a nonreplicable strength which, when exercised by competent, responsible partners who are committed to common values and goals, will be the source of our success.

How does this case study end? The outcome is not a given; perception and desire can and will become reality in this case. At the risk of sounding simplistic, the decision rests in our hands. We can choose success—but do we have the motivation and focus to do so?

First we need to reassess the reason for our existence. In a nutshell, I believe that Kaiser Foundation Health Plan with its not-for-profit status and the Permanente Medical Groups with their salaried approach to reimbursement have created the most balanced, rational, and ethical model for health care delivery in the country and, arguably, in the world.

Second, our idealistic approach to the partnership has to be linked to a commitment to excellence in the three basic areas that have become the mantra for all health care systems: Quality of Care—without which, who cares if we survive? Service—the member's view of quality. And finally, Efficiency and Productivity—if we cannot compete, the first two are academic. Failing any of these three imperatives, we become a historical footnote.

Third, we are compelled to recognize the strength of the partnership model. It simply makes more sense than anything else does to accomplish the goals defined above. This is a choice. It is easy to become so distracted by the short-term success of our competitors or the complications of managing the relationship that an organization (like an individual) can be panicked into poor decisions or—perhaps worse—no decisions at all.

Finally, we need to recommit ourselves to the principles that created the partnership in the first place—bringing our very best to the table. The goal is not to create a relationship based on legal principle. It is rather to have our partners awake every morning thankful that they have the exclusive and committed services of the Permanente Medical Groups, the best
team of physicians anywhere. If this seems to stop short of assigning a similar accountability to Health Plan, there is a reason. First, commitment to quality and principle begin at home; one has control over one's own actions and no other's. Second, I believe that our colleagues in Health Plan share these values; it is certainly the case in Hawaii.

If we dedicate ourselves to these tenets, Kaiser Permanente will establish itself as the preeminent health care system in the 21st century. To be successful, we will need to find the solutions to difficult economic questions without destroying idealism. It will require, in turn, the kind of idealism that brought us to medicine in the first place. Finally, it requires a commitment to excellence that will test our ability to demonstrate intrinsic professional values. Parenthetically, my own view is that this is best accomplished without need of extrinsic incentives that inevitably distract us from the goals at hand—it is an issue of character that will not lend itself well to financial manipulation. If all of this sounds like we are being called to step up with the vision, dedication and pragmatism of our predecessors, it should—success will require nothing less. We can and shall accomplish our goals—and it will be great reading for future business students and physicians alike.

*Webster’s Third New International Dictionary
Touching the Customer by Understanding Employees:
Preliminary Linkage Research Findings from
Four Regions of Kaiser Permanente

Abstract
This study used data from four Kaiser Permanente Regions to examine the relations between employee opinions, customer opinions, and business performance. The preliminary questions we asked regarded whether facilities in which employees expressed more favorable work attitudes were also facilities which 1) had more satisfied members; 2) had better financial performance; 3) had more members; and 4) served more patients.

Generally speaking, employee opinions were strongly and positively related to customer (member) opinions. More specifically:

- Customer satisfaction is most related to employee opinions of doctors, organizational flexibility, and training for customer service.
- Employee perceptions of doctors are very strongly related to customer perceptions.
- Customer ability to see their provider is the customer’s window into the operational effectiveness of that location.
- Service training is also strongly related to customer service perceptions in general, even the perceptions specifically about the physicians.

Unfortunately, clear links were not found between either employee or customer opinions and business performance (e.g., financial measures). We continue to examine these relationships, and others, in an attempt to further our understanding of these complex issues. We hope to report these results in future issues of The Permanente Journal.

Note: These early findings represent a first step toward understanding the relationships between what employees think and how Kaiser Permanente performs. Future submissions to The Permanente Journal will report additional findings, including specific examination of the relation between employee opinions and the STAR Care Index as well as a companion article that provides the practical implications of this work, written by senior Human Resources executives within Kaiser Permanente.

Background
Project Origin
This project has grown out of more general work conducted by Kaiser Permanente’s Employee Survey Resource Network. The ESRN’s mission 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 project described in this document, chartered by Jim Williams and defined by Fran Sincere (the ESRN spon-
sor), has a goal of defining the role of employee surveys and customer and other business measures.

The ESRN consists of Kaiser Permanente staff, either from or representing all Divisions, as well as external representation from a survey research consulting firm. The members include Lee Jacobs, Sherilyn Kam, Deborah Kesselring, Deborah Konitsney, Julie Kwan, Debra Lowry, Fran Sincere, Melanie Young, and Scott Brooks.

Purpose of Investigation
Kaiser Permanente recently established the administration and use of employee surveys within Divisions as a part of Business Fundamentals. This positioning underscores the value of listening and learning from the employee population. Along with this value is the commonly held belief, often explicitly stated, that listening and responding to employees will impact the treatment of customers, and bottom-line performance.

Some research within Kaiser Permanente has suggested a link, although not a strong one, between customer satisfaction and enrollment terminations. The current research is designed to bring the employee perspective into consideration, to evaluate the relationships between employee, customer, and business performance measures. This type of examination is called linkage research.

Clearly, Kaiser Permanente is facing new definitions of competitiveness and service delivery. These issues have created a demand within the Human Resources staff and line management of the organization for understanding what linkage research is and what it can offer. The charter for this linkage project is as a pilot to prompt the additional data collection efforts required for a program-wide study. The results presented here are based on data from four Regions.

Other Research
The number of studies addressing linkage research is growing. Since Schneider’s original research in a bank setting, authors have increasingly supported the general notion that employee opinions are empirically related to customer, financial, or other operational measures. Wiley summarized the most common findings in a Linkage Research Model (see next page). Employee perceptions of certain leadership practices (customer orientation, quality focus, training, and involvement), along with adequate information/job knowledge, teamwork, satisfaction, and retention, are most often related to customer and business performance measures.
Linkage research is often exploratory. That is, there are general expectations and common findings, yet these studies often include a complicated array of employee opinion and other variables. Explicit hypotheses, based in psychological dynamics and not just past findings, are less common. Studies that have simplified the variables involved in order to form clear hypotheses have generally focused on the broad, summary attitudes of job satisfaction or general morale (eg, Ryan et al.3).

The goals of this study were most generally to explore the relationships of employee opinions, customer opinions, and business performance that are specific to Kaiser Permanente. In general, we expected the results to focus on which employee opinions were most related to customer opinions—and on the “Leadership Practices” in the Linkage Research Model.

Methods
Sample
Four Kaiser Permanente Regions were selected for this study depending on the availability of data on employee attitudes, customer satisfaction, financial performance, and productivity. In the years representing the data collection period (1995 and 1996), these four Regions (Colorado, Hawaii, North Carolina, and Southern California) represented over three million members (approximately 41% of the Kaiser Permanente Program membership) in 12 medical centers and 133 medical offices. For this study, employee opinion ratings from nonpatient care locations (eg, Regional offices, administrative offices) were excluded from the analyses. This was done because there were no (external) customer satisfaction ratings associated with these locations that could be linked with employee opinions.

The initial plan was to measure everything (customer satisfaction, productivity, financial performance, employee attitudes) at the facility (eg, hospital or clinic) level. However, some data were not available at that level. As a result, the unit of analysis varies among the Regions. In three Regions, the unit of analysis is the medical center or medical office (a relatively finer level). In one Region, however, the unit of analysis is an “MSA”—a cluster of medical centers and related medical offices (a relatively broader level). Though not directly comparable, we decided to take advantage of all the information available, resulting in 42 data points (36 medical centers/offices + 6 MSAs).

Measures
The data for this study came from a variety of different sources. We used two subjective measures (customer satisfaction and employee opinions) and several objective measures (eg, financial performance). Each is described briefly below.

Customer Satisfaction Survey
A random sample of currently enrolled members (customers) is selected to participate in a telephone survey interview each month. The survey, Satisfaction Tracking and Reporting (STAR), consists of several questions that are asked in every Region of the Program and that assess customer satisfaction with the Health Plan (eg, dues, coverage), care providers (eg, interest and attention paid by the doctor, knowledge and ability of the doctor), auxiliary and ancillary services (eg, x-ray), and system issues (eg, time spent waiting in the examination room, ability to get an appointment when needed). In addition, each Region has the option of adding custom questions designed to collect information on issues of specific interest to that Region (eg, the introduction of a health handbook, use of the Internet). Each Region determines the number of interviews to be conducted for the Region for each quarter. An external vendor conducts the interviews in order to protect respondent anonymity and to standardize the survey administration.

For the time period covered in this study, Region A conducted 2,088 interviews, Region B conducted 1,238 interviews, Region C conducted 3,097 interviews, and Region D conducted 13,545 interviews.
Of the customer survey questions, we chose to look initially at only seven, focusing on the items most appropriate from a rational perspective. In particular, we focused on the items that asked respondents to rate their satisfaction with the following aspects of their Kaiser Permanente experience:

1. Overall opinion of Kaiser Permanente;
2. Knowledge and ability of the doctors;
3. Personal interest and attention given by the doctors;
4. Courteous and helpfulness of the nonmedical people, such as the receptionists and office workers;
5. Ability to see a physician or other health care provider when needed;
6. Doctors' ability to correctly identify and treat medical problems;
7. The way medical professionals work together to coordinate care.

These items relate to the respondents' quality of care and quality of service, which are directly under the control of the organization's employees on a day-to-day basis. We did not initially focus on items that asked respondents to rate their satisfaction with coverage, benefits, premiums, and like items, as these were considered to be larger system issues that are not under the direct control of the employees most likely to have direct contact with our customers. For example, a nurse in a clinic has a more direct effect on a member's perception of the care received than on the member's perception that medical coverage is adequate. All items in the current analyses were rated on a scale from 1 to 10, where 1 represented "extremely dissatisfied" and 10 represented "extremely satisfied."

Employee Opinion Survey

Each of the four Regions in this study conducted an Employee Opinion Survey (EOS) consisting of 52 "core" items. These items, which were asked in all participating Regions, covered the following 12 categories:

1. Teamwork;
2. Resources;
3. Innovation;
4. Influence over Work;
5. Reward and Recognition;
6. Communication;
7. Leadership;
8. Your Immediate Supervisor;
9. Development;
10. Performance Appraisals;
11. Quality of the Care, Service, or Product your Department Delivers and
12. Overall Ratings.

Each Region could choose to add optional items or to include Region-specific items on their surveys. However, for this study, only the core items were included in the analyses. EOS items were rated on a variety of five-point scales (eg, "Agree strongly" to "Disagree strongly" and "A great deal" to "none"). All of the EOS scales included a middle, or neutral point. The response rates of the Regions in the study were 41%, 63%, 75%, and 90%.

Financial Performance

Financial performance was defined by three measures. The first measure was net fixed assets per year-end member. These assets include building, land, and equipment. The second measure was percentage increase in total expense PMPM (per member per month). The third measure was PMPM cost. These measures were chosen because they are representative and recognizable within the Kaiser Permanente Program and because they are important from a business perspective.

Productivity

Productivity was measured by the number of doctor office visits (DOVs) per 1000 members. Defining productivity in the health care industry is difficult at best because it is fundamentally different than in a manufacturing setting, where you can objectively count the number of widgets (or computers or hair dryers) produced. The DOV per 1000 members measure was chosen on the basis of discussions with organization staff well versed in operational issues. We acknowledge that this measure is not the best measure of productivity. However, more traditional measures of productivity, such as revenue per employee or DOVs per employee are not standard measures within the Program and were not available at the time of this research.

Other Indicators of Organizational Performance

In addition, we included two measures of organizational performance that are not strictly financial or productivity measures. The first measure was number of year-end members, a simple count of the number of members associated with a given patient care location (ie, the number of members who go to a specific location for most of their care). The second measure was the percentage of members at the facility who are tagged to a primary care provider (PCP). When a health plan member has one provider who provides most of the care for that member, the member is considered "tagged" or "assigned" to that provider. This is in contrast to an untagged member, who sees different doctors depending on who is available. Tagging members to a PCP is generally considered desirable because of greater continuity of care and the establishment of a personal relationship with a specific health care provider.

Taken as a group, we viewed these measures as a good starting point for the examination of potential relationships between employee opinions and the organizational success.
Analyses

Previous research has shown that the size of the unit (eg, bank branch or medical facility) and its geographic location moderate the relation between employee opinions and organizational performance indices. That is, the relation between employee opinions and organizational performance differs depending on size of the bank branch on the basis of its geographic location, or both.

Based upon these findings and the accepted methods, our primary focus was on the partial correlations controlling for unit size and region (ie, the correlations taking into account size and region of the unit). As of the initial findings, we do not have an exact count for unit size. Instead, we used a surrogate measure—the number of employee survey respondents for that unit. To control for location, we used dummy-coded variables to represent the Regions.

In future analyses, we expect to incorporate other variables into our analyses (eg, type of facility, type
The partial correlations of employee opinions with customer opinions controlling for unit size and Region (continued).

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* p<.05; ** p<.01.

of customers) and to determine whether they affect the observed relation.

**Employee-Customer Results**

The partial correlations between the employee opinion scales and customer opinions are presented in the table on pages 50 and 51. The scales are in bold face type. Items within the scales are listed only if they are significantly correlated with at least one customer item.

**Observations/Interpretations**

**Overall**

1. Employee opinions correlated strongly and positively with customer opinions. This finding is important because these relationships were documented despite the inherent messiness of comparing different Regions with different survey practices. This finding further suggests that the underlying relationships may be strong.

2. A number of key relations are indicated that suggest a rich opportunity for exploration. The following points focus on only the more general relations.

3. In general, employee perceptions of the leadership practices indicated by the Linkage Research Model (customer emphasis, quality focus, involvement, and training) all showed some relations to customer opinions. This finding adds a degree of reassurance that the findings here are consistent with
past research. Of course, Kaiser Permanente-specific issues are highlighted as well.

**General Patterns**

4. Overall customer satisfaction is related to employee opinions of doctors (respect/support from, quality), organizational flexibility, and training for customer service.

5. Of all the employee survey topics, employee perceptions of doctors (respect/support from, quality) are the most strongly related to customer perceptions. This finding suggests that employees and the members have the same opinions of the doctors.

6. The customer opinion most related to employee workplace perceptions is the customer's ability to see a doctor when needed. Customers' ability to see their provider may be their window into the operational effectiveness of that location. If a unit is generally running smoothly according to the employees, perhaps customers are more able to see their doctor in a timely manner. The specific employee perceptions related to this ability to see a doctor are:
   - Employee perceptions of doctor support/quality.
   - Influence over work.
   - Performance feedback/recognitions.
   - Satisfaction with supervisor (perhaps overlapping with feedback).
   - Knowledge of what's going on.
   - Agreement with KP goals.
   - Being valued for diversity.
   - Training in general, and
   - Cost reduction improvements.

This customer opinion may be generally related to workplace organization/management/communication. We are planning to examine this dynamic in more depth.

7. Service training is also strongly related to customer service perceptions in general, even the perceptions specifically about the physicians. This finding is intriguing: Future investigation may show that a service orientation by nonmedical staff (developed through training) may enhance the image of the physicians in the minds of customers.

8. The commitment item did not correlate with any customer or business performance variable, even at $p < .10$.

**Employee Opinions—Health Plan Membership Results**

When we looked at the relation of employee opinions and health plan membership (ie, number of members affiliated with a specific location), we initially found generally negative relations. Although none of these relations were statistically significant, it was distressing nonetheless that more positive employee opinions were associated with fewer members. (Although one can imagine the larger the membership, the larger the workload!) Also distressing was that there was no relation between these variables, even after we controlled for facility size and geographic location.

So we looked instead at the percentage change in membership from the previous year, and the picture changed dramatically. Controlling for facility size and geographic location, we found that larger increases in membership were more likely to be found in facilities in which employees knew more about the mission/vision of Kaiser Permanente ($r = .37, p < .05$) than in facilities in which employees knew less about the mission/vision. In addition, larger membership increases were more likely to be found in facilities in which employees agreed more strongly that:

- their work unit was flexible and open to change ($r = .35, p < .05$);
- they understood what was expected of them in their work ($r = .40, p < .05$);
- their immediate supervisor was fair in making decisions ($r = .40, p < .05$), listened to their ideas or concerns ($r = .34, p < .05$), communicated information they needed to do their jobs well ($r = .38, p < .05$), and valued the diversity they brought to the work unit ($r = .41, p < .05$);
- their performance evaluations told them their strengths and where they could improve ($r = .34, p < .05$).

Taken as a whole, these results suggest that management communication, openness, and fairness go hand-in-hand with membership growth.

However, the picture was less clear when we looked at the correlation between membership changes and teamwork, especially with respect to teamwork with physicians. Two employee opinion survey items were on the topic of teamwork with physicians, and both of them were negatively correlated with membership changes. Larger membership increases tended to be found in facilities where employees tended to disagree that they are treated with respect by the physicians in their work and that physicians in their work unit support them in providing quality service to their customers. On the surface, this finding implies that poorer relationships between employees and physicians would be associated with larger membership increases.

This relation seems counterintuitive and is therefore particularly intriguing. Perhaps the larger the membership increase, the higher the physicians' workload, resulting in poorer relationships with coworkers. As a cautionary note, a speculation such as...
Employee Opinions-Business Performance (Financial, Productivity) Results

Financial Performance

In general, financial performance was not related to employee opinions, with three exceptions. First, better financial performance was related to stronger employee agreement that the organization does a good job of letting them know what is going on \((r = .33, p < .05)\). Second, better financial performance was related to stronger employee agreement that they trust the information they get from organizational leaders \((r = .43, p < .01)\). Both of these correlations suggest that improved communication between the organization and its employees is associated with better financial performance. The final item that was significantly correlated with financial performance was "I personally agree with most of this organization’s goals" \((r = .33, p < .05)\).

Taken as a whole, these results suggest that open communication and identification with company goals are related to better financial performance. As a cautionary note, it may also be the case that business success leads to feeling better about leadership credibility, organizational communication, and agreement with organizational goals as opposed to the opposite. There have been cases in other organizations where employees read about their company’s great financial performance in the newspaper and consequently reevaluate their own organizational views. This finding needs to be explored.

Productivity

None of the employee survey items correlated significantly with productivity measures. In a way, this finding was not surprising. We mentioned earlier that the notion of productivity in a service industry is difficult to grasp. But we went ahead with a "nothing-ventured, nothing-gained" mindset. It is not difficult to imagine that more patients can be seen if more staff, equipment, and supplies exist.

We believe that additional data may be needed to clarify the nature of the relation (i.e., if there really is one) between specific employee opinions and productivity. Patient acuity may be a factor that moderates this relation. To wit, it may be that sicker patients require more time be spent with them, and fewer discrete office visits can be logged. Patient acuity is a factor we have not yet considered statistically, partly because (to our knowledge) the organization does not have a standard way of measuring it. But it remains a potential avenue to explore and is definitely something to keep in mind.

Customer Opinions-Business Performance Results

We did not find any significant relation between customer satisfaction and business performance (financial, productivity, membership). Previous research has shown or posited a link between customer satisfaction and financial success\(^1\) (e.g., Wiley, 1996). Yet we did not find this to be the case in our study. The lack of findings, although disappointing, is still worthwhile to present for three reasons. First, people are interested in the bottom line and how to improve it. Second, the study illustrated how linkages with the bottom line should not be automatically assumed. Should such relations truly exist, they are likely to be complicated. Third, the study provided information upon which future research can build. For example, such future research may need to be more sensitive to changes in business performance and other measures over time (Rogelberg & Creamer, 1994).

A Note on the Business Performance Results

We are undertaking additional analyses to further understand the linkages between employee and customer opinions and business results. To uncover strong relations right from the start would have been preferable. However, some study limitations may explain this lack of initial findings.

The 42 facilities included in this study were not directly comparable. Some indication exists that this lack of comparability would affect the business results more than the others. Employee experiences are fairly comparable, even across different industries (e.g., everyone can address whether their supervisor is fair). Customer issues may be less universal, but courtesy, attentiveness, treatment, and overall satisfaction may be common issues within health care, regardless of the specific type of facility. Costs, however, may be different.

Some of the facilities included here provide only outpatient care, and some provide a combination of inpatient and outpatient care. Some facilities provide mostly primary care (e.g., Pediatrics, Internal Medicine, General Practice, Family Practice), and some provide mostly specialty care (e.g., Cardiology, Allergy, Gastroenterology). The costs associated with these different facility characteristics may vary greatly. Within a given Region, a facility that provides both inpatient and outpatient care may have a PMPM cost of more than $50 whereas a clinic that provides only outpatient care may have a PMPM...
Despite some of the limitations described above, we found strong relationships between employee and customer opinions.

Overall

We are encouraged and excited by these results. Despite some of the limitations described, we found strong relations between employee and customer opinions. We clearly need further investigation to understand some of the more perplexing findings. We also are currently limited by the correlational analyses, which inform us that relationships exist but not what causes what. Even if we don’t know what causes what, the employee issues significantly related to the important aspects of customer satisfaction should be pursued. The chance of being able to use employee opinions to drive customer satisfaction even higher is worth a lot of attention. The possibility that directly improving customer opinions will enhance an employee’s quality of worklife (eg, pride in the company) is also worth pursuing.

This type of research, even if tentative, gives us better information than we previously had. The implications are many and complex. For example, because employees and members think alike when it comes to opinions about doctors, efforts to improve service should potentially focus on the employee-physician relationships. In addition, because perception of service training is related to a wide variety of customer outcomes (including opinions about the doctors), efforts to improve employee skills and comfort in service interactions may have a marked impact on the entire customer experience.

Before we go too far, we need to hold some conversations to calibrate what information is useful and where we should spend our efforts. It is our hope that this article prompts discussion among organization members at all levels. We look forward to presenting more results, and the aforementioned companion piece, in a future issue of the Journal.

Acknowledgments

We would like to acknowledge the following individuals for their hard work and diligence in obtaining the necessary data for the analyses, and for enduring our many questions with patience and grace: Jim Hart, Tim McGinley, Kate Shigetani, and Karen Stevens. We would also like to acknowledge the following individuals for their support and assistance in helping to make this study a reality: Lee Jacobs, MD, Fran Sincere, MSIR, Jim Williams, Employee Survey Resource Network. Finally, we would like to thank both Bob Jako, PhD, and an anonymous reviewer for comments on a previous version of this paper.

References


Based upon research conducted in the Colorado, Hawaii, North Carolina, and Southern California Regions (data collected before the conversion to Divisions).
A Strategy for a Permanente/Academic Partnership in a Small Medical Group

Although Permanente has had a long history of Graduate Medical Education (GME) involvement in the California Medical Groups, establishment of significant GME programs in the newer and smaller Permanente Medical Groups has not been a major focus. In our less established Divisions, which have been struggling for survival, there is no money earmarked for GME or research. Further, the size of our Medical Groups does not afford the flexibility to allocate clinical staffing time for education except in a token manner. The dilemma is to satisfy the demands of an academic program for relevant content, supervision, and teaching while maintaining productivity and member satisfaction within the constraints of limited resources.

Over the past three years, the New York branch of the Northeast Permanente Medical Group (NPMG) has established a partnership with New York Medical College which has solved these problems for our Medical Group. In this article, we will outline the approach that has been successful for us. We believe that some of the underlying principles of our approach would be transferable in some form to other Permanente groups working in similar environments and probably to other multispecialty Medical Groups.

The five elements which we found critical to our efforts will be discussed in this article. They are:

- Seed grant
- Educational champion
- Senior management support
- Interested academic partner
- A scheduling solution that maintains productivity

As our initial strategy, our Medical Group and New York Medical College jointly applied for and obtained a small grant from the Macy Foundation which served as seed money to fund our planning and development efforts. A small part of this funding came to the Medical Group to support devoting 10% of our Medical Education Director's time to concentrate on these initial activities. Lesser amounts of time from other staff members, necessary for parts of the curriculum development process, were absorbed by the Medical Group or came out of individual personal time. However, it was necessary to have one Permanente member freed to devote concentrated time to this effort, and the grant made this possible.

This grant money made it possible for us to enable the second critical component of our success: an “educational champion” for graduate education. As in many projects, the persistence and enthusiasm of a champion who was given the time to focus on establishing this program was a major factor in its success.

Even prior to the grant, the desire of our champion to be involved in teaching sparked the initial relationship with our academic partner, and the champion was the originator of the idea to pursue a GME program.

The third component was senior management support. A senior management physician was a member of the core developmental team. This individual's involvement ensured that the operational and management concerns of the Medical Group were identified, and addressed as the program was being designed and implemented rather than allowed to become an issue at a later stage. The management physician was also important in moving the program through the necessary approval process of the Medical Group and the Health Plan. Being in a senior management role, this physician was able to shepherd the program through the approval process, facilitating the necessary political and administrative hurdles.

The fourth critical factor was the existence of an interested and supportive academic partner. Based on prior working relationships and previous exposure to Kaiser Permanente (KP) through earlier medical school teaching relationships, our New York Medical College partners had a positive view of KP. Coupled with their interest in promoting primary care and developing sites for ambulatory training, there was a strong interest in working with KP as a training site which would prepare residents for their future in managed care. KP was viewed as an attractive training site, and the physicians of the Permanente Medical Group were viewed as positive role models for the practice of managed care. The New York Medical College staff were therefore sincerely interested in working with us as partners. They understood the practical operational issues which had to be addressed and were open and flexible in working with us to develop solutions to these issues. They supported the principles of managed care in our context and were agreeable to structuring the educational curriculum around this focus rather than around clinical care. This allowed us to organize the educational goals of the rotation around managed care principles and competencies such as coordination of care, quality and resource management, practice guidelines, evidence-based medicine, and population management (see course description, next page).

The fifth component, which was mandatory for NPMG, was a creative but simple solution to scheduling teaching time while maintaining office productivity. Without this solution, the program would not have been practical for KP except as a limited short-term pilot. We structured the schedule so that residents and the preceptor Permanente physicians were each scheduled to see two patients per hour. This maintained a productivity level of four patients per hour, allowed residents a slower pace to see patients,
and gave the Permanente physicians adequate time between their own patients to see the residents' patients and have time for instruction. This approach has proved to be workable since it satisfies the needs of all parties.

This managed care rotation has now been in operation for over two years. We have had more than 30 second- and third-year primary care residents participate. Feedback from the residents and the preceptors has been very positive. As a reflection of growing support from our academic partner, one of the participating primary care residency programs has switched our rotation from an elective to a mandatory selection. Overall, we feel the program has been successful in accomplishing our joint goals, although, because of our size, the scale remains small.

As the focus of GME appropriately shifts more toward ambulatory care and the managed care approach, there will be increasing demand for training in ambulatory care sites such as ours. Both to support our own future recruiting needs and, more importantly, to fulfill our social benefit mission, the Permanente Medical Groups will need to expand our involvement in GME outside California. Eventually, GME funding mechanisms will be required to reflect this shift in the setting and approach to medical education with direct funding (from HCFA or other sources) to ambulatory training sites. Until that funding shift becomes reality, we will need to be flexible and creative to be able to fulfill this vital part of our social mission.

The following text was originally published in the Council on Graduate Medical Education Resource Paper, “Preparing Learners for Practice in a Managed Care Environment, September 1997.

Kaiser Permanente, Northeast Region and New York Medical College

In order to help physicians acquire the knowledge, skills and attitudes necessary to work in managed care settings, New York Medical College and Kaiser Permanente, Westchester have joined together to develop a curriculum geared towards Internal Medicine and Pediatrics residents. The training program includes a month-long rotation for second or third year residents at a group-model HMO as well as a lecture series which spans all three years of training and includes interested faculty. The program was piloted in 1995-96 and will be fully implemented in 1996-97. The curriculum focuses on "managed care principles and competencies" with educational goals in the following areas:

- Managed Care Fundamentals—Overview and population-based medicine.
- Systems within Managed Care—Quality management, resource utilization, continuity of care, coordination of physician responsibilities, referral and consultation, hospital care, performance evaluation mechanisms.
- Interpersonal Skills—Patient-physician relationship, team work.
- Diagnosis and Treatment—Common outpatient conditions and practice guidelines, prevention and health maintenance, patient education, telephone medicine, ambulatory care procedures.
- Professional Issues—Ethical considerations and career decisions.
- Personal Learning Goal—To be determined by each resident in collaboration with a faculty preceptor.

The managed care rotation in primary care provides residents with a variety of educational experiences including primary care and specialty patient-care sessions, production of a quality management project, attendance at organizational meetings, patient-education and telephone advice line sessions. These activities permit residents to observe and experience firsthand the principles of managed care such as coordination of patient care, quality management, resource management, referral mechanisms, and patient relations.

The leaders from New York Medical College and Kaiser Permanente engaged in this collaboration to provide what they view as a much needed educational program that will stimulate learning for all involved, including the staff and patients at the HMO as well as the faculty in the Residency Training Program. They are also interested in the development of more informed attitudes about managed care. The program provides residents with an additional ambulatory training site in a large private practice environment with a large established population.

Potential benefits for Kaiser Permanente include an increase in productivity, access to useful quality management projects conducted by the residents, and enhanced opportunities for physician recruitment for the HMO.
**50 Years of Medical Education**

**Program History.** Given the philosophy that the opportunity for continued professional growth was necessary, Southern California Kaiser Permanente, during its formative years, 1945 to 1957, granted its physicians up to 2 half-days/week for educational activities (medical meetings, organized rounds at various hospitals, teaching and research). Physicians were encouraged to use this time and many actively participate in the teaching programs of neighboring universities.

In 1957, these educational half-days were changed and 1 half-day was allocated to education, while the other was time off. Physicians were encouraged to combine the half-day off with their educational time to maintain their teaching commitments.

As Southern California Kaiser Permanente grew, it became apparent that “in-house” departmental programs needed to be developed. Conferences now meet for a designated half-day/week and include case presentations and discussions, in-depth review of selected topics, radiology conferences, specialty specific pathology conferences including clinical pathological conferences (CPCs) and, more recently, videoconferencing and teleconferencing. Category 1 CME credit is given for attendance at these activities. Last year Southern California Kaiser Permanente offered over 5000 hours of Category 1 CMA accredited program hours of quality medical education to its physicians.

In addition to these half-day “in-house” programs the need to have extended educational programs was recognized. (One- and two-day symposia in major specialties were instituted, circa 1955). Today, speakers at these symposia are both academicians and our own physicians. This has grown to the point where we now sponsor yearly symposia in approximately 35 different areas, on such topics as women’s health and doctor-patient communication.

An important part of Southern California Kaiser Permanente’s educational program has been the intern, resident and fellow training programs. Since the formation of an OB-GYN residency program in 1995, Kaiser Permanente’s graduate medical education program has grown in Southern California to include approximately 300 trainees in residency and fellowship programs. These programs include five separate family medicine residency programs. Kaiser Permanente believes that the residency and fellowship programs stimulate the attending staff, help attract high-quality physicians to the medical care program, improve patient care and contribute our share to the community by helping to train the next generation of physicians.

Other aspects of the educational program include providing clerkships for 400 to 500 medical students/year. A school for training nurse practitioners began in 1972, and provides an opportunity to train nurse specialists in a number of primary care disciplines.

**Structure and Budget.** There are currently about 3000 physicians of the Southern California Permanente Medical Group serving 2,600,000 Kaiser Health Plan members in 12 different medical centers and numerous medical offices. Each of the medical centers has a Director of Medical Education (DME) who is responsible for the overall quality of programs and for maintaining California Medical Association CME accreditation. The directors meet periodically to share innovative ideas, discuss important issues and participate in faculty development.

**Future Challenges.** The future for Kaiser Permanente’s educational program holds many challenges including the incorporation of new technology, developing programs suited to individual needs and, in a time of increasing concern about cost-effective medical care, measuring the value of this extensive commitment to education. This “value” may be measured by improved quality of care, coordination with the quality management program, and alignment with organization goals.

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Effectiveness of Influenza Immunization Postcard Reminders Among Seniors Vaccinated the Previous Year

Introduction
Each Fall since 1993, the Kaiser Permanente Northeast Division (KPNE) has launched a comprehensive awareness campaign to promote influenza vaccination among senior members who are at high risk for complications of influenza. Approximately six percent of the Division’s membership is aged 65 years or older (N = 32,875 as of November 1997). The campaign is targeted to members and practitioners, and includes a postcard reminder, informational articles in member, staff, and practitioner newsletters, promotional posters, educational brochures, and patient lists for practitioner follow-up to ensure vaccination. The production and postage costs for the postcard reminder represent 85% of the annual outreach campaign expenses.

The annual random telephone survey assesses the vaccination coverage level among KPNE members aged 65 years and older, and identifies barriers to and predictors of vaccination for this population. Bi-variate and logistic regression analyses of the results have consistently confirmed that the single most important predictor of one’s likelihood of receiving vaccination is a positive history of receiving vaccination the previous year (P<0.001).

This study examines the independent effectiveness of the postcard reminder intervention among KPNE members aged 65 years or older. The specific hypotheses investigated are the dominant role of habit in predicting vaccination, and the relative unimportance of the postcard reminder. Research of this nature allows us to identify programs with little or no impact and to reallocate resources from these programs to other programs which are beneficial.

Methods
The study population consisted of 5,278 KPNE members aged 65 years or older who had been vaccinated against influenza the previous year (Fall 1996) according to administrative data (Table 1). The entire study population received the standard member education materials, and all practitioners received the same support information. Half of the study population (n = 2,631) were randomly selected to receive the postcard intervention in addition to the standard member education materials. The two study groups were followed for three months (October-December 1997), and vaccination coverage levels were assessed each month.

Table 1. Descriptive statistics of the two postcard study populations and the comparison group of members without evidence of vaccination in 1996.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Vaccinated in 1996 (N=5,278)</th>
<th>Not vaccinated in 1996 (N=5,422)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Postcard (N=2,631)</td>
<td>No postcard (N=2,647)</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>73.37</td>
<td>73.49</td>
</tr>
<tr>
<td>Range</td>
<td>65-97</td>
<td>65-96</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>±6.163</td>
<td>±6.122</td>
</tr>
<tr>
<td>Gender (%, n)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>43.7% 1,150</td>
<td>44.6% 1,180</td>
</tr>
<tr>
<td>Region (%, n)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>5.3% 139</td>
<td>5.4% 142</td>
</tr>
<tr>
<td>New York</td>
<td>86.4% 2,274</td>
<td>86.7% 2,295</td>
</tr>
<tr>
<td>Vermont</td>
<td>8.0% 211</td>
<td>7.7% 203</td>
</tr>
<tr>
<td>Other</td>
<td>0.3% 7</td>
<td>0.3% 7</td>
</tr>
</tbody>
</table>
Any statistically significant difference in vaccination coverage rates was evaluated with the normal approximation to a binomial test for differences in two proportions at a conservative significance level ($\alpha = 0.1$). The relative risk (RR) was estimated to measure the association between history of vaccination in 1996 and likelihood of receiving vaccination in 1997. The chi-square test for measuring association was calculated to evaluate the degree of association between history of vaccination and likelihood of vaccination. Confidence intervals were computed for all statistics at a significance level of $\alpha = 0.05$. An analysis of the financial implications of the proposed strategy was conducted for KPNE and was extrapolated to all Kaiser Permanente Divisions nationally.

**Results**

The vaccination proportions among the intervention and control groups were statistically indistinguishable (78.6% and 77.2% respectively, Fig. 1, $P>0.1$). The large sample size allowed for greater than 99% power to detect a clinically meaningful 5% difference in vaccination coverage between the two study groups, were one to exist. In addition, all members were vaccinated at approximately the same pace in 1997 regardless of vaccination history and postcard intervention status, with more than 75% of all vaccinations administered by October 31, 1997 (Fig. 2). Finally, those with evidence of vaccination in 1996 were more than twice as likely to receive vaccination in 1997 than those without history of vaccination (77.9% and 32.0% respectively, RR = 2.43, Fig. 3, $P<0.001$).

**Conclusions**

The postcard reminder intervention did not affect the likelihood of vaccination among those who had been immunized the previous year. This finding substantiates the hypothesis that habit is the defining predictor of the probability of vaccination. Emphasis should be placed on intensive outreach to individuals at highest risk for not receiving vaccination. Those at highest risk are those who did not receive vaccination the previous year and those who have not been vaccinated by the end of October. Strategically directing the postcards to those who were not vaccinated the previous year will reduce costs by 20% and will allow reallocation of resources to more intensive outreach among those not vaccinated by the end of October.

This study demonstrates the defining role of habit in predicting the likelihood of vaccination among seniors. Those who seek vaccination do so routinely, and those who do not are just as habitual in their abstention, with very little migration between these two behavior patterns. Recognizing the importance of the first flu shot in establishing a habit of vaccination, further research will be conducted to identify predictors of first-time immunization as well as predictors of repeated abstention from immunization. These findings will catalyze a focused effort to recruit and retain those who have never been vaccinated. In addition, such a study will likely inform other preventive health programs such as mammography and colorectal cancer screening.

For the complete manuscript of this article, please contact Allison Clayton, MPH, at One CHP Plaza, Latham, NY 12110.
Group Health Cooperative of Puget Sound—A Short History

We have selected for this issue a short history of Group Health by Don Glickstein, previously published in "GHC Clinical Forum," and a critique written by Dr. Abraham Bergman of a historical work on 50 years of Group Health by Walt Crowley (beginning on page 62). He proudly signed the preface with his Health card #15330.

We feel the two pieces will help to better appreciate the ambience and culture of our Groups North and South of the Columbia. As Don Glickstein tells it in the last paragraph of his paper, two physician brothers, one working at Group Health and the other at Northwest Permanente, "when my brother and I compare notes, it is like putting on a comfortable shoe.

Arguably driven by economic circumstances, the marriage of GHC and Northwest Permanente is not a rhapsodic affair; perhaps it has elements of convenience. It is mainly a mature decision based on our many commonalities. It can be said that most of us do recognize that "we are family," prenuptial agreements notwithstanding. We trust this union will help the couple "fight the savage war between us and for-profit health corporations for market share."

If you would like to know more about Group Health, order the "To Serve the Greatest Number" history of GHC for $2 as long as the supply lasts. (See gray box below on page 63.)

- Ek Ursin, MD, Associate Editor

World War II was ending, and with relatively few employers offering health coverage, severe illness or injury could wipe out workers' savings.

A coalition of Seattle-area consumers, union members, business people, and Grange members explored alternatives to the existing fee-for-service health care system. In 1945—the same year Kaiser Permanente opened to the community—the coalition incorporated as Group Health Cooperative of Puget Sound.

The consumer-governed, nonprofit organization faced two challenges: finding people willing to invest in $100 memberships for a health care plan that existed only on paper; and finding physicians willing to work on salary to provide prepaid care.

Hard work and persuasion sold the memberships.

Hard negotiations with the 16 physicians of Seattle's Medical Security Clinic resulted in the original medical staff. Medical Security owned a 55-bed hospital on Seattle's Capitol Hill. The Cooperative agreed to buy the hospital and to contract with the physicians for patient care.


Today, managed health care is mainstream; in the postwar years, integrating health care delivery with prepayment for services was radical. As with KP, Group Health met with resistance from the medical establishment, which viewed it as a competitive threat. Cooperative physicians were barred from medical societies, the staffs of other hospitals, postgraduate education classes, and specialty certification. Group Health patients were denied admission to other hospitals.

In 1949, Group Health filed a lawsuit charging the King County Medical Society with restraint of trade. Two years later, the Washington State Supreme Court ruled unanimously that the society had violated state antimonopoly laws. Medical societies were now barred from discriminating against physicians in prepaid group practices.

In those early years, KP and Group Health (which have different service areas in the Northwest) encouraged each other. At one point, KP even gave the Cooperative marketing leads for potential customers.

The Cooperative's most explosive growth occurred in the 15-year period from 1969 to 1984, when enrollment nearly tripled from 122,000 to more than 332,000. The growth was so intense that in 1973, Group Health put a year-long freeze on accepting new members.

With expansion to Tacoma and Olympia in the 1970s and to Eastern and Central Washington and Idaho in the 1980s (through its Group Health Northwest affiliate), Group Health evolved from a Seattle-centered organization into one with regional interests. To serve consumers in distant areas, it augmented its staff-model HMO with a primary-care network, using selected community physicians.

A cost-based revolution came to the health care industry in the 1980s. Where once the Cooperative had no managed-care competitors in its service area, by mid-decade it had nearly two dozen. Group Health lost significant numbers of enrollees to competitors whose premiums often failed to reflect the real costs of health care or who were more interested in managing costs than managing care in an integrated way. To meet the challenge, Group Health changed its pricing structure, overhauled marketing programs, and began developing systems that allowed it to respond more quickly to the needs of employer groups and enrollees.

Like KP, Group Health has been a pioneer. Its Center for Health Studies opened in 1983, but the Cooperative has long been an active participant in research. Its semi-

By Don Glickstein

“As with KP, Cooperative physicians were barred from medical societies, the staffs of other hospitals, postgraduate education classes, and specialty certification. Group Health patients were denied admission to other hospitals.”

DON Glickstein is director of issues management in Kaiser/Group Health's Communications & Community Relations Department. Before working in this divisional position, he served Group Health Cooperative for 11 years in a number of communications roles. He has been a voting member of the Cooperative since 1984.
nal role in the Rand Corp.'s Health Insurance Experiment in the mid-1970s established for policymakers the clinical quality and cost-effectiveness of staff-model HMOs. The Center for Health Studies and KP’s Center for Health Research have a history of collaboration.

The Cooperative also has been a national leader in developing clinical guidelines and in using evidence-based and population-based medicine. Like KP, Group Health has been praised by impartial reviewers for its clinical quality.

As a cooperative, Group Health is governed by an 11-person Board of Trustees of volunteer consumer members elected by their peers. Consumers have been integrally involved—including votes in advisory referenda—in forming broad policies related to transplant issues, abortion services, mental health, and care of senior adults.

In 1997, consumer-members voted by an 80-20% margin to approve an affiliation between Group Health and KP. The affiliation—unique in the Kaiser Permanente family—creates a joint nonprofit company, Kaiser/Group Health, to oversee and coordinate Group Health and Kaiser Permanente Northwest. They make up the Northwest Division. Each of the local organizations retains its own governance system and is responsible for activities such as quality assurance and health care delivery.

The promise of the affiliation extends beyond greater economies of scale and marketing opportunities. From research collaboration to national reciprocity to the newly renamed Group Health/Kaiser Permanente Community Foundation, the organizations are working with each other to improve patient care and service.

One senior leader described Kaiser Permanente and the Cooperative as “identical twins separated at birth.” And, indeed, staff have often migrated between the two. For example, Kaiser Permanente leaders Bruce Perry, in the Southeast Division, and Bob Pfotenhauer, in the Central East Division, are Group Health alumni, as is Mary Durham, Director of the Center for Health Research and Vice President for Research at Kaiser/Group Health.

There are even family connections. Robert S. Thompson, is Director of Group Health’s Department of Preventive Care. His brother, John J. Thompson, is Director of Laboratories at Kaiser Permanente Northwest.

“When my brother and I compare notes,” said Robert, “it’s like putting on a comfortable shoe. I consider the two organizations to be sister organizations. Kaiser Permanente has a social mission that’s very close to Group Health’s.”

Emotional State—Body State

“As we shift our emotional states, we shift our basic body chemistry. If we shift from a less healthy emotion to a healthier emotion, we shift our body chemistry in the direction of health.”

O. Carl Simonton, M.D.
Co-author of Healing Journey
In the 50 years since its founding, Group Health Cooperative of Puget Sound evolved from a tiny bank of outcast physicians and consumer zealots to the largest consumer-governed health care organization in the United States. The founders pioneered the concept of prepaid managed care that now, for better or worse, prevails throughout the land. Seattle writer Walt Crowley, with access to a wealth of written records, meeting minutes, and oral histories, covers each of those 50 years in painstaking fashion in To Serve the Greatest Number, written under Group Health auspices (read paid-for), and published by University of Washington Press. How far Group Health has come is illustrated by a description of the private party in the Columbia Tower Club in 1993 celebrating the “engagement” of Group Health and Virginia Mason. Had the Tower Club existed in 1947, the renegade founders of Group Health would not have been invited, they would not have attended. They were a rough and ready lot, more comfortable with a lunch bucket than with a cocktail glass.

I have a special perspective on those early days, when I was a youngster. I recall meetings in our living room, where articulate advocates tried to persuade my parents and other Progressives to get in on the ground floor of this revolutionary movement. My parents joined, more for ideological than pragmatic reasons and soon faced a dilemma. I came down with a generalized skin infection, which, in an era when antibiotics were not yet readily available, was serious business. The concept of consumer-owned medical care was attractive, but my parents had no idea whether the physicians were competent. The Group Health physicians were vilified by their colleagues and were denied membership in the King County Medical Society. Fortunately my parents took the plunge and took me to Group Health’s first pediatrician, William A. (Sandy) MacColl. He not only capably managed my illness, but through his qualities as a model clinician, humanist, and social activist inspired me to seek a career in medicine.

I love the descriptions of MacColl in Crowley’s book. In 1952, when conflicts between the Coop Board and the medical staff threatened to scuttle the fledgling organization, MacColl was drafted to serve as Executive Director. He hated the job and could not wait to return to his pediatric practice. When he did in 1955, it was at the small Northgate satellite clinic. As the Group Health grew, his influence waned. Though revered as a founding icon, MacColl’s idealistic views were considered anachronistic for a large organization tiptoeing along the financial bottom line.

Crowley does a fine job describing the constant struggle to meld the socialist views of the founders with financial realities. For example, they felt that all medical specialists should be paid the same; the marketplace quickly dictated otherwise. Group Health’s whole history has been one of compromise in order to stay alive. By quoting from the minutes of the often-tumultuous annual meetings, the author nicely reflects the emotional debates over basic policy issues such as requiring copayments for drugs, coverage of subscribers for preexisting conditions, the utility of annual physical examinations, and whether to provide coverage for heart transplants. Not surprisingly, abortion was the issue generating the most heat. A small but active group of members was always trying to involve Group Health in broader issues such as nuclear disarmament and environmental pollution.

The book’s greatest shortcoming is a lack of critical analysis, the hallmark of any scholarly history. That is not Crowley’s fault; he was obviously commissioned to produce a feel-good document to celebrate Group Health’s golden anniversary. Who can afford to write or publish scholarly histories? Hence a profusion of details and names are offered that brings satisfaction only to insiders. Puffery abounds. The current CEO, Phil Nudelman, is treated with
reverence. For instance, we are told several times that he played a prominent role in drawing up President Clinton's 1993 health care reform proposal and was a guest of the President when the plan was unveiled. Sounds like the Titanic captain's bon voyage party. Nary a word appears about the loss of morale and the harshness involved in the firing of many Group Health employees in recent years in the name of "downsizing." In contrast, the expenditure of $400,000 to provide medical care for athletes participating in the 1990 Goodwill Games is "judged a small price for advancing international peace, and garnering national publicity." Mention is made of Group Health's public service activities in the Central District and provision of uncompensated care for indigent patients in the '60s and '70s. My own recollection is of how little Group Health performed in these spheres compared to other private hospitals, such as Providence.

None of these reservations detract from the significant contributions of Group Health, both regionally and nationally. Patient involvement in medical decision-making, the creative use of nurses, the development of family practice specialists, and a computerized patient information system including pharmacy, are but some innovations now generally accepted. From the beginning, the standards of medical practice at Group Health have been higher than in the rest of the community because physicians who were both idealistic and capable tended to be attracted to Group Health's banner, and organization-wide standards of practice were established and continually reassessed by examination of scientific evidence. A term now in current vogue, "evidence-based medicine" was practiced at Group Health before it had a name.

What are the chances that Group Health will live another 50 years? Crowley wisely offers no predictions. Being the pioneer of managed care bestows no special privileges in the savage war between health corporations who fight for "market share" by using glittery names and obnoxious radio commercials. The dilemma for Group Health is the extent to which the cost cutting deemed necessary to attract corporate benefit managers (what individual subscribers think matters little) will erode the quality of medical care provided. Walt Crowley's history should prompt us all to root for them.


Copies of "To Serve the Greatest Number" are available while supplies last. If you would like to receive a copy please send your request along with a check for $2.00 (to cover shipping) to The Permanente Journal, 500 NE Multnomah St., Suite 100, Portland, Oregon 97232.

What's the Essence?

"In the factory, we manufacture perfume. In the store, we sell hope."

Charles Revson, Revlon Cosmetics
OPMG’s New Head Seeks “Will” to Secure KP-Ohio Future

Ronald L. Copeland, MD, FACS assumed leadership of the Ohio Permanente Medical Group (OPMG) on January 13 of this year. Dr. Copeland is determined to build upon the organization’s current strengths in order to secure its continued viability. His aggressive strategy calls for reorganization of OPMG as well as for restructuring the delivery system. According to Dr. Copeland, the upcoming year will challenge the organization’s “will.” However, he is determined to lead the Medical Group into a professionally superior and financially sound new century.

Diversity and Opportunity

As the first African-American medical director in the history of Kaiser Permanente, Dr. Copeland is a key player in the organization’s commitment to embrace diversity. While businesses and governments nationwide are reexamining affirmative action policies, Dr. Copeland says the ideal approach would be a new system that “creates opportunities based on talent, character, and performance, while eliminating barriers to success for women and minorities.” He is a member of the Kaiser Permanente National Diversity Council, which authored the “Strategic Plan for Diversity.” The Council spells out the bottom-line benefits and competitive advantages to be gained from diversity management. In order to be effective, Dr. Copeland advises that diversity management must pervade every level of the organization, even reaching senior management.

Current Challenges

Although the current model is responsible for making OPMG a leader in the area, Dr. Copeland warns, “In order to ensure our success in the future, we can not continue to operate in the same manner as we have for 30 years.” He prescribes a commitment toward active integration between the Health Plan and the Medical Group in the upcoming year. In addition, he is challenging the Medical Group to rise to the occasion and demonstrate true ownership of the delivery system. He is committed to maintaining the Health Plan’s nonprofit status, an interest aligned with the social purpose of the organization.

Currently, HMO’s are challenged with questions of ethics and interference with the traditionally inviolable patient-doctor relationship. Dr. Copeland wants to improve pervading public misconceptions about managed care by emphasizing and demonstrating that OPMG physicians’ primary commitment is to quality of care, not to cutting costs. Furthermore, Dr. Copeland notes the current nature of the health care industry sometimes sets up a nearly impermeable relationship between the patient, insurers/health plans, and employers to the exclusion of practitioners. He feels that publicly advancing the Medical Group’s meaningful contributions may be one significant way in which to gain entry into that relationship.

Kaiser Permanente’s size—about 29% of the managed care market in Northeast Ohio—makes it the largest in the region, next to Medical Mutual of Ohio (formerly Blue Cross-Blue Shield of Ohio).
Dr. Copeland feels that Kaiser Permanente's size is a significant asset in an environment in which health care organizations will have to be part of an extensive network.

Prescription for Turnaround

By working in partnership with Health Plan leadership, Dr. Copeland's two-part strategy calls for reorganization of OPMG and restructuring the health care delivery model, including facility-level modifications to reduce fixed costs and rapidly return the group to financial viability.

Another prospective goal of the partnership is to challenge the fee-for-service predominance in the local market through creation of a new value proposition focusing on quality.

One illustration of this would be integration of information technology into the care experience at levels that are palpable for physicians and patients. Information technology is clearly part of our future and has the potential to add significant value in the areas of quality care, patient education, and outcome-based performance.

The Year Ahead

Dr. Copeland joined OPMG in 1988, and his position as an insider may serve as one of his greatest assets. He says the past 30 years have been less than maximally progressive because of the Medical Group's tendency to look inward for solutions. His extended tenure in the organization sustains his belief that in 1998 and beyond, some solutions may lie outside the organization, and OPMG must have the courage to pursue them.

Like the physicians he will be overseeing, he sees the challenges that lie ahead as a glass half full. He asserts, "There is a solution in Ohio. In 1998, we need to find it, frame it, and execute it. As far as I am concerned, failure is not an option."
As a media relations consultant for the Southwest Division—the Division targeted by regulators, legislators, medical associations, and the media in 1997—I deserved a holiday. So the day after Christmas, I slipped into the sweet escape of a movie theater to enjoy the latest film starring Jack Nicholson, As Good As It Gets. By now, you’ve probably seen it, and know what happens.

Helen Hunt’s character, the mother of a boy with severe asthma and allergies, is sitting with her own mother at the kitchen table in their small Brooklyn apartment. Jack Nicholson’s character, a curmudgeonly admirer of the boy’s mother, has sent over a doctor to make a house call on the family. The doctor, a soft and gentle soul, tells them he is going to make sure the boy will get the care and testing he’s been denied. “Those [blankety-blank-blank] HMOs,” Hunt’s character declares, to which the doctor responds, “Actually, I think that’s the technical term for them.”

You can imagine the response. Laughter and tears all around while the audience bursts into applause—the strongest reaction during the entire movie. I peer through the dark at an older woman sitting next to me, her head bobbing up and down in agreement with dozens of other viewers. Sinking down to the sticky floor and using gum under my seat, I feel alone and exposed, the butt of the joke.

In this era of HMO enmity, we all know to expect and prepare for the worst. But it’s the little moments that still catch me off guard.

While flying to Oakland for a conference last fall, a kind-faced woman in country club casual wear and brassy hair struck up a conversation with me which rapidly veered into dangerous territory when she asked, “Whom do you work for?” I should have lied. “Oh, that’s interesting,” she coyly replied. “You see, I belong to a women’s political group in the Bay Area that’s trying to get your play Secrets out of our Catholic schools.”

Never mind that Kaiser Permanente has a moral obligation to provide health care and lifesaving information to saints and sinners alike; in these anti-HMO days, facts never stand in the way of the truth. I nearly cried. Even As Good As It Gets nearly stumbles into understanding when Helen Hunt’s character, after vilifying HMOs, suddenly asks, “How will I pay for it?” How, indeed? Most of us don’t have curmudgeonly benefactors to buy our health care on the open market, visit by visit, test by test. That luxury never existed, but now it paradoxically springs to life in the fake nostalgia of popular culture, where only “popular” ideas survive market testing.

We know better. HMOs would never prefer multiple, unnecessary trips to an emergency room when a little preventive medicine can make asthma a manageable disease, thus dramatically improving the quality of life. We know that we can learn from our past experience, from our years of taking care of patients, and can develop better systems to provide health care. If only people believed us. As Good As It Gets illustrates so clearly a fundamental conviction: Systems do not take care of people; people take care of people. Despite our best efforts to explain health care teams, preventive health care, and health education, the consumer still believes that health care equals doctor: nothing added, nothing subtracted.

Enter Permanente physicians. Use those hard-earned credentials outside the examination room to help educate the public about Kaiser Permanente’s commitment to quality health care. Join your local medical association to meet your non-Permanente peers. Get involved with your governmental affairs department’s efforts to make “house calls” on politicians and help them write better laws—or to preserve the ones we have already. Let your Division’s communications staff share the good news from your practice. Volun-
teer for media training and the chance to speak to the public about quality health care. Your credibility is the message; your voice will be heard.

Every era has its villain: hospitals that overcharge, drug companies and their tyranny of product and price, the medical establishment's lax oversight of bad-apple doctors, and the profession's code of silence. Now, unfortunately, it's our turn—and critics lurk everywhere. Sometimes it's not so easy to stand up and be counted.

Strolling through my neighborhood the other day I ran into a man walking a mean-looking Dober-
man. The man and I seemed familiar to each other but couldn't place the connection. Then he asked, "Don't you work for an HMO?" The dog strained against its leash, snarling at me. I quickly checked my clothes for Kaiser Permanente logos and contemplated my reply.

*Kaiser Permanente's national award-winning educational theater program, Secrets, is a live theater production for high school students, focusing on HIV prevention.
Kaiser Permanente Cares for Kids

Sharing the dais with Kaiser Permanente (KP) CEO, David Lawrence, MD, and other Kaiser Permanente nurses and physicians, including Oliver Goldsmith, MD, Medical Director, The Southern California Permanente Medical Group; and Sharon Levine, MD, Associate Executive Director, The Permanente Medical Group; was our nation’s CEO, William Jefferson Clinton. The President offered support and accolades as KP announced a plan to ensure access to medical care for 1.7 million uninsured children in California. Acknowledging his Administration’s failure to pass a health care reform bill and referring to the ongoing debate among federal and state lawmakers over how to best address the issue of health care coverage in the United States, Clinton praised KP for taking on such a tremendous challenge:

"Too many children all across America, too many children here in California, some children in this crowd today don’t have health insurance. We are here today because Kaiser Permanente is going to make a major change in that for you in California. We want to congratulate them, but even more important, we ought to be here to resolve to do better and not to rest until every child in America has an appropriate health insurance policy and adequate health care when they need it … “

What Is the Origin of Kaiser Permanente Cares for Kids?

The context for Kaiser Permanente Cares for Kids is our long-standing commitment to community service. As a nonprofit, tax-exempt organization, KP’s mission is to improve the health of our communities. Over the past 50 years, we have accomplished this goal through grants, partnerships with schools, our award-winning Educational Theatre Program, Residency and Graduate Medical Education Programs, and participation in federal and state programs such as Medicare and Medi-Cal, California’s version of Medicaid.

These efforts, along with many other programs, comprise a contribution of $300+ million annually to communities throughout California. In 1996, the Board of Kaiser Foundation Hospitals and Health Plan adopted a policy of investing in our communities across the nation to focus a significant portion of our community service efforts on the needs of children and the uninsured, and also on research. These priority areas were chosen in large part because of KP’s experience and expertise in serving children and the uninsured as well as our unique capabilities and resources in research.

What is Kaiser Permanente Cares for Kids?

The overarching goal of Kaiser Permanente Cares for Kids is to ensure universal coverage for all of California’s 1.7 million uninsured children within five years. The centerpiece of this initiative is KP’s commitment of $100 million to provide coverage for uninsured children. Components of this multi-pronged initiative are as follows:

• Subsidize health care coverage for up to 50,000 children annually;
• Collaborate with schools to identify uninsured children and enroll them in the Kaiser Permanente Cares for Kids Child-Subsidy Plan or any public/private program for which they are eligible;
• Partner with the Health Insurance Plan of California (HIPC) to provide subsidized coverage to uninsured children from working families;
• Establish two demonstration projects to explore models of collaboration between schools and KP to enhance health service delivery for children;
• Work with the state legislature to expand health coverage for children;
• Participate in a statewide coalition to identify and advocate solutions for uninsured children not addressed by other strategies;
• Evaluate the effectiveness of the subsidized coverage program and demonstration project components.

Even with all of KP’s resources, we will not be able to resolve the problem of uninsured children alone. So we are collaborating with other groups and individuals to build solutions for all uninsured children.

Funding and Resources

KP has a social and financial responsibility to serve the community. Each year, we spend 3% of our total revenue nationally on direct community benefit. The $100 million to be allocated through the Kaiser Permanente Cares for Kids initiative is part of these funds.
and represents less than $5 per member each year. Funding will be provided to our medical facilities to serve the new pediatric members enrolled through the subsidized coverage components of the initiative. Like membership growth from our commercial plans, these children will be included in overall membership forecasts for each service area, and revenue allocations will be based upon anticipated membership.

Benefits of Initiative
Providing coverage for uninsured children will enhance their ability to lead productive lives. Studies have shown that children who have access to health care services are more likely to perform better in school, and to miss fewer days of class. The community benefits as well. Employees are more productive because of less time away from work to care for their sick children who have otherwise preventable illnesses. Establishing universal coverage for children will reduce society’s costs of care through increased access to preventive care and diminished reliance upon more expensive emergency and urgent care resources.

KP’s image is enhanced when the organization is identified as the leader of an improved future for children’s health. Our $100 million commitment, the largest of any single private health plan to date, distinguishes us from our for-profit competitors and supports the existence of our nonprofit, tax-exempt status. The initiative has bolstered the morale of physicians and employees, many of whom came to work here initially because of the value they place on KP’s commitment to the community.

Finally, children receiving subsidized coverage will “grow up” with KP. As they become adults, many of them will enter the workforce and be able to afford individual coverage or have access to employer-sponsored coverage. Their satisfaction with coverage through this initiative will lead them to choose Kaiser Permanente as their plan for life.

What Are the Details?
Subsidized Children’s Health Coverage
The Child Health Plan, which is pending regulatory approval, is open to eligible children under 19 years of age who live within the California Division service area and are enrolled in participating public schools. In addition, to help families coordinate coverage for their children, we will enroll siblings of children who sign up for our plan. Families will pay a sliding scale premium, based on income, for each child. The children will receive a comprehensive benefit package including inpatient and outpatient services, prescription drugs, and vision care.

The Kaiser Permanente Cares for Kids Child Health Plan is designed to complement and not compete with other health insurance programs available in the state. To that end, we will enroll children who are:
- in families with incomes above 200% and not more than 275% of the Federal Poverty Level (FPL) or, roughly, $27,000 - $37,000 annually for a family of three;
- not eligible for public programs;
- not eligible for coverage paid in any part by an employer;
- currently uninsured and uninsured for at least three months prior to application to the plan.

We plan to conduct outreach in late spring and provide coverage to children in September 1998. The plan is a pilot and ends on December 31, 2002. Through the initiative, KP will also subsidize dependent coverage in the Health Insurance Plan of California (HIPC). HIPC is a state-sponsored purchasing cooperative for businesses with two to 50 employees, designed to provide a wider range of health plan options at more affordable prices than are otherwise available to small group purchasers. To participate in HIPC, employers must contribute at least 50% of the cost of their employees’ coverage; however, no contribution is required toward dependent coverage.

We intend to work with the Managed Risk Medical Insurance Board (MRMIB), the state agency that runs HIPC, to launch a plan in May 1999 to enable low-moderate income HIPC enrollees to obtain coverage for their children through a combination of direct subsidies, employer sponsorship, and family cost-sharing.
sharing. To leverage our financial commitment, we will encourage other health plans participating in HIPC to commit funds to a subsidy pool.

School Demonstration Projects

A multi-step, competitive process for selection of the two projects commenced in early March. These projects will run for two years. Like the Child Health Plan and HIPC components, the challenges and successes of the demonstration projects will be evaluated. In contrast to the subsidized coverage components, the demonstration projects will focus on delivery of health care services rather than on access to health insurance coverage.

Legislative Strategy

Our legislative strategy is to develop and support state proposals to expand access to coverage. KP was the only health plan to testify in support of the new Healthy Families Program, which resulted from passage of the federal Children’s Health Initiative and enabling state legislation signed by Governor Wilson on October 2, 1997. We also provided data on benefits and cost of coverage for children to legislators and the administration. California Department of Health Services Director Kim Belshé lauded KP’s efforts on behalf of uninsured children during a panel appearance before Kaiser Family Foundation media fellows, including such renowned journalists as Joanne Silburner. She acknowledged that KP was a catalyst for the state’s rapid development of Healthy Families.

Coalition

The goal of the Coalition is to bring together representatives from business, government, employers, advocacy groups, trade associations, organized labor, academia, as well as other health plans and providers, to develop solutions for uninsured children not covered by Medi-Cal, Healthy Families, KP’s initiative, CaliforniaKids, or other public or private programs.

KP staff, along with the other Coalition cosponsors—The 100% Campaign, The California Small Business Association, and UCLA’s Center for Health Policy Research—started meeting last October to develop a framework. After months of planning, the Coalition cohosted a Kick-Off Session on January 12th. Representatives from the American Academy of Pediatrics, Blue Cross-Blue Shield, California Children’s Hospital Association, the California Wellness Foundation, California Department of Health Services, Institute for Health Futures, Los Angeles Unified School District, the Pacific Business Group on Health and about 25 other distinguished organizations spent several hours sharing ideas and brainstorming about possible approaches to universal coverage for children.

Based on ideas generated at the Kick-Off Session, the Coalition will move forward through the creation of three advisory committees: two will examine voluntary and legislative options; the third will support the other two, determining the data required to pursue an idea as a potential coverage option. The Coalition cosponsors are inviting those who attended on January 12th as well as others to participate. The committees will present their plans and completed implementation steps at a working conference in early June or late July, another milestone in the work of the Coalition.

Research and Evaluation

Not only do we intend to provide coverage for children, but we also wish to design demonstration projects that are sustainable and replicable. Our goal is to share the lessons learned so that other plans, government and community-based organizations may develop other programs accordingly. We are working with TPMG Division of Research staff, Department of Clinical Analysis staff, outside evaluators, and major California foundations to develop an evaluation proposal for the Child Health Plan.

How Will Others Be Involved in Kaiser Permanente Cares for Kids?

The initiative has been designed so delivery of health care services is through KP’s facilities and providers, due in part to the research and evaluation component. Nevertheless, many opportunities exist for public health professionals and community-based...
organizations to partner with KP, including efforts to identify eligible children, as well as to help families understand the importance of obtaining coverage. In addition, our outreach strategy will be conducted in concert with state processes to enroll children in Healthy Families and Medi-Cal. We will not only inform families about the availability of our coverage but will also refer children not eligible for our plan to the other sources of coverage.

Many physicians and employees have contacted our project team to express interest in participating in the initiative. We have been working with the Chiefs of Pediatrics (both TPMG and SCPMG) on benefits and other design issues. Public Affairs representatives throughout California have been involved in the design of our partnership with public schools. Other opportunities include participation in a speakers' bureau, assistance in outreach and enrollment efforts, and joining in legislative efforts.

We are confident that Kaiser Permanente Cares for Kids will achieve its goal of universal coverage for children in California. If you would like to become involved or need more information, please contact Linda Kotis at 510-987-2589.

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On holding the baseball hit by Bobby Thompson into the left field seats to win the 1951 pennant when the Giants beat the Dodgers.

"You have to know the feel of a baseball in your hand, going back a while, connecting many things, before you can understand why a man would sit in a chair at four in the morning holding such an object, clutching it—how it fits the palm so reassuringly, the corked center making it buoyant in the hand, and the rough spots on an old ball, the marked skin, how an idle thumb likes to worry the scuffed horsehide. You squeeze a baseball. You kind of juice it or milk it. The resistance of the packed material makes you want to press harder. There's an equilibrium, an agreeable animal tension between the hard leather object and the sort of clawed hand, veins stretching with the effort. And the feel of raised seams across the fingertips, cloth contours like road bumps under the knuckle joints - how the whorled cotton can be seen as a magnified thumbprint, a blowup of the convoluted ridges on the pad of your thumb. The ball was a deep sepia, veneered with dirt and turf and generational sweat - it was old, bunched up, it was bashed and tobacco-juiced and stained by natural processes and by the lives behind it, weather-spattered and characterized as a seafront house. And it was smudged green near the Spalding trademark, it was still wearing a small green bruise where it had struck a pillar according to the history that came with it—flaked paint from a bolted column in the left-field stands embedded in the surface of the ball."

The State of Managed Care in the Union

On January 27, 1998, President Clinton, like a dog climbing out of a lake, shook off a brewing White House scandal and delivered a much-vaunted oration on the State of the Union. His popularity shot up during the next several days, an outcome presaged by the 104 interruptions of his speech by an enthusiastic audience. The loudest cheers followed his statement about managed care plans: “These plans save money, and they can improve care. But medical decisions ought to be made by medical doctors, not insurance company accountants.” Those who have seen the Jack Nicholson/Helen Hunt movie As Good as It Gets will remember the spontaneous audience response to similarly disparaging remarks about managed care. What does this mean for us?

In urging that Congress enact a “Consumer Bill of Rights,” the President followed the recommendation of his Advisory Commission on Consumer Protection and Quality in the Health Care Industry. Phil Nudelman (President of Kaiser/Group Health) and his fellow commissioners delivered to President Clinton in November several recommendations that will be the basis of the President’s legislative agenda during the 1998 session. Not surprisingly, they read as if from the September 1997 Kaiser Permanente, Group Health, HIP, AARP, Families USA script of Principles on Consumer Protection. And they sound like our Permanente Practice.

First, Doctors make medical decisions. How novel! After 53 years, we’ve caught their attention. Sadly, in much of the world of “managed care,” physician decision-making is second-guessed by condescending bureaucrats. The negative response to this practice affirms our organization’s very different approach.

Second, “You have the right to keep your medical options.” Three years ago, all Permanente Medical Groups clarified to all our group and contract physicians that we expect full and open communication between physicians and their patients. This policy has existed since day one of the Program, but only recently because of a suspicion that “gag” policies are pervasive in all HMOs, has it been necessary to affirmatively state our values. Again, right on the money!

Third, “You have the right to choose the doctor you want for the care you need.” In the context of managed care, the President did not intend that all physicians in the universe are available but that all within the boundaries of the health plan/medical group should be available. Certainly we ascribe to that principle for patient access to qualified primary care physicians, and many specialties welcome direct access for specific problems.

Fourth, “You have the right to emergency room care, wherever and whenever you need it.” Last year, we worked with the American College of Emergency Physicians to craft the Cardin Bill, enunciating the prudent lay person definition of what constitutes an emergency and the importance of coordination of care after stabilization in the ER. Much of this language was adopted and was applied to Medicare and Medicaid in the Balanced Budget Act of 1997. What remains is to apply the same principles to commercially insured persons. We’re eager to see this happen.

Fifth, “You have the right to keep your medical records confidential.” This is a basic premise, that we have honored for the life of our Program. New legislation is likely this session, pushed by eager privacy advocates who would have patients carry their own records with them to assure that there is never any leak. This practice would present challenges. Fortunately, the Administration’s remarks to Congress last year do not reflect this extreme approach. We will try to find a reasonable compromise.

Finally, “Traditional care or managed care—every American deserves quality care.” Bravo, Mr. President! We are committed to quality of care in every part of our Program. Sadly, traditional care has fallen behind managed care in demonstrating quality through such tools as National Committee for Quality Assurance (NCQA) accreditation and Health Plan Employer Data and Information Sheet (HEDIS) reporting. Just possibly, the President envisions holding fee-for-service accountable for quality. We support that.

Mention by the President of the need to find a way to help uninsured individuals between the ages of 55 and 65 years—and who are thus not yet eligible for Medicare—is laudable. The details of his proposal are not available, and Kaiser Permanente has taken no position yet on this notion. But we certainly are behind the idea of expanding health insurance coverage.

Wrapping up his remarks on health, the President focused on our need to help parents protect their children from “the gravest health threat that they face: an epidemic of teen smoking, spread by multimillion-dollar marketing campaigns.” In calling for dramatic hikes in the price of cigarettes over the next ten years and restrictions on tobacco marketing, the President is squarely aligning his administration with public health advocates. We espouse the same principles.

In summary, President Clinton captured much of our values and Permanente Practice principles in his agenda. This Congressional session will be a short, pre-election one, ending in early October, and there may be distractions along the way. It is reassuring that our messages calling for legally enforceable national standards for consumer protection are now embraced by the President and by his administration. ✤
**Washington, D.C. Update On Health Care**

By Tom Janisse, MD

**Clinicians**

I have just returned from the American Association of Health Plans, 1998 Annual Legislative Conference in Washington, D.C. As NWP’s liaison to HP, government relations is one of my areas of responsibility.

Washington analysts, health care experts and senators see through complexity in health care issues and find common ground. Through simple images and stories they communicate to individuals and groups the personal and professional effect of these issues. Consumers have concerns about managed care based on confusion and a feeling that quality and choice was taken away from them to cut costs for profit. People may not recognize the advantages of Kaiser Permanente unless we clarify our value and tell a better story. To share what I learned I would like to relate three stories I heard, and offer some suggestions.

**TV News**

Anne Richards, former Texas governor told a story about crime perception that has distinct parallel for us in HMOs. She said, “When I became governor I was determined to reduce crime, and did that every year I was in office. But do you think people felt any safer? No. Because every night on the news they saw a crime on TV. And if it wasn’t in Dallas, then it was in Houston, and if not there, then in Thailand. The media reported what was sensational and not what was representative. So every person watching the news saw a crime that day and Texas didn’t seem one bit safer. Your circumstance in health care is the same. Media-related anecdote creates the perception that there are big problems with HMOs, when this is not the reality. You must create positive perceptions of your industry to offset this.”

**As Good As It Gets**

Everyone is citing this recent movie as an example of the public perception of the problems with HMOs.

One scene in the movie universally drew groans from the audience. The scene involves a young single mother of an asthmatic child who is a waitress in a small diner. She takes a shot at the HMO care her child is receiving because she’s often rushing him to the ER with an asthma attack.

The good part about why I am relating this is that Abigail Trafford of The Washington Post wrote a very positive article about HMOs entitled, “Is Movie Slop at HMOs A Cheap Shot?” In it she says, “Audiences love the scene. Who has anything good to say about managed care these days?” The irony is that some HMOs have been pioneers in putting together comprehensive asthma programs that help children control their symptoms and reduce the need for emergency hospitalization. In theory, HMOs with an emphasis on prevention may be the kind of health plan most likely to offer a range of medical and social services that can effectively ‘manage’ a chronic illness. Kaiser Permanente, a well-established network of HMOs, is one example. In New York they launched a special program that focused on early diagnosis, proper monitoring, aggressive treatment of symptoms, and home care. The Kaiser plan distributed devices called peak flow meters that enabled parents to test their child’s breathing, recognize a problem before it occurs and administer treatment.

The second point she made addressed the improved access to health care for working people through HMOs. “This is how John M. Eisenberg, head of the federal Agency for Health Care Policy and Research views the scene. ‘Wow! A single mother who works in a diner has health insurance. That’s fabulous.’ According to an agency survey, only 56% of 4.2 million unmarried women who work in establishments with fewer than 10 workers have some form of employment-related insurance.”

**What Can I Do To Enhance Public Perception?**

When you as a clinician interact with a person seeking your medical services, you have a powerful opportunity to positively influence public perception. If that person has a good encounter; when they sit at home watching the news and see a bad HMO story they will have a counterpoint “real life” experience to offset this anecdotal TV incident—probably occurring in some other state.

Secondarily, you can actively create a favorable public image of KP by sounding your voice through print or appearing on TV, or better, through a speaking appearance at a community event or helping out at a local function. Doctors and health care providers are strong forces for affecting public perception.

**Our Oregon Senators**

When I visited the Washington offices of Senators Ron Wyden and Gordon Smith, their personal policy staff both remarked that they don’t hear any problems with KP or Oregon HMOs from their constituents. That is a good sign that people are satisfied. This is supported by recent national studies that show that 76% of people surveyed are very satisfied with their HMO vs. 23% of people satisfied with their fee for service insurance plan.

I had a personal experience observing the mastery of a legislator reading actual public sentiment rather than perception. When I attended the hearings last year of the CRNA Bill, one woman senator cut through the rhetoric. After listening to many ano-
esthesiologists testify as to how their presence in the O.R. was the standard for anesthesia care, and that every Oregonian deserved that care, and quality was compromised if they weren’t present, a momentary pause occurred. The senator queried the group, “You know doctor, I’m confused about something, and I’m sure you can help me out. I get calls all the time about the pot holes in the street. It seems like not a day goes by that I don’t get a call about a pot hole. But you know what? I can’t remember getting one call about a CRNA quality problem. And, given what you all say, I just can’t figure that out. Can you help me on this?”

Well, there was no forthcoming answer. Public expression through calls and letters is an important measure of public reality, and that reality at the state and federal level is one of people satisfied with managed care and KP. It is equally important to remember that many government employees and officials are KP members, and if they leave your office with a positive encounter you have altered public perception in a large way. You couldn’t have done better speaking to them at a legislative hearing.

Keep Doing A Good Job

It has become clearer to me that what each of us do to communicate and relate better with the people we see in primary practice or specialty consultation has a large and important impact on people’s perception of KP. This will help to see us through this anti-managed care backlash, as we attend to creating superior medical care for our members, gradually outdistancing other HMOs and HPs and distinguishing ourselves. 

"Watercolor House" by Stephen Bachhuber, MD
California Managed Health Care Improvement Task Force

Have you seen the film, As Good As It Gets, with Jack Nicholson and Helen Hunt? There is one scene in which a physician blasts HMOs. Even screenwriters apparently realize that HMO-bashing has extraordinary audience appeal.

This phenomenon is not lost on the Legislature, which has its bill-producing machinery in high gear. In 1996, in response to public outcry, legislation was enacted which called for the establishment of an ad hoc task force that would study the impact of managed health care in California. The task force, sometimes referred to as the “Richter Commission,” after the author of the legislation, commenced work in mid-1997, and published its findings and recommendations in January 1998.

The task force consisted of 30 members, 20 of whom were appointed by Governor Wilson. The Senate and Assembly appointed five each. Membership consisted of broad representation of many interest groups, including providers, consumers, labor, business and health insurance carriers. Kaiser Permanente was represented by Steve Zatkin, Senior Vice President, Government Relations, Program Offices. Alain Enthoven, PhD, a respected economist from Stanford University, chaired the task force.

In a relatively short period of time, the task force convened and held a number of public meetings in various parts of the state. Testimony was taken from interested parties, and written comments were received from many interest groups.

The charge of the task force, in addition to studying the impact of managed health care in California, included consideration of appropriate placement and scope of regulatory oversight of HMOs and other forms of managed care in this state. Currently, managed health care plans (Knox-Keene plans) are regulated by the Department of Corporations (DOC). A number of legislators and others have questioned whether regulation by the DOC, given its other demands and interests, is appropriate given the dramatic growth and market penetration of HMOs in this state.

Key Recommendations of the Task Force

The task force report includes in excess of 100 recommendations—too many to describe in this article. Key recommendations include:

• A new state entity for regulation of managed health care should be created to regulate health care service plans which are currently regulated by the DOC, and to phase in the regulation of other entities over time. Medical groups and other provider entities that bear significant risk should be directly regulated by the new state entity for solvency and quality. The new state entity should be either a board or an individual, appointed by the governor, and confirmed by the Senate.
• The new state entity should have several guiding principles, including overseeing one periodic solvency audit and one quality audit, upon the request of a provider group.
• Purchasers should offer choices of plans when possible.
• The California Public Employees Retirement System should conduct projects to risk-adjust premiums in California, preferably with the University of California, and the Pacific Group on Health.
• The Major Risk Medical Insurance Board should be directed to develop and modify as appropriate, every two years, a set of five standard reference coverage contracts for all product types in the small and individual markets. Standard outlines and definitions for “evidence of coverage” should be developed.
• State data collection should transition from one that is based in statute, to a regulatory approach. The state should set broad data guidelines, but give the state entity for regulation of managed care the authority to approve data elements.
• Consistent, mandatory, complaint-process standards should be developed with stakeholders and adopted for all health care service plans, including application to provider groups, non-urgent and urgent timing requirements, and periods of limitation.
• Health plan disclosure should be improved to include the scope and general methods of incentives paid to provider groups and practitioners, as well as specific methods paid or received upon request. The state should prohibit capitation of individual practitioners for a substantial portion of the cost of referrals for that practitioner’s patients.
• Health plans, medical groups, and IPAs should be required to provide continuity of care with providers for chronically ill, acutely ill and pregnant patients when they involuntarily change plans, or when...
a provider is terminated for other than cause, through the course of treatment, up to a maximum of 90 days or safe transfer.

• Health plans should be required to allow extended, prolonged or permanent referrals to specialists for enrollees with life-threatening, degenerative or disabling conditions that require specialized care, while maintaining coordination of services.

• Health plans should develop alternatives to prior authorization/concurrent review, based on statistically valid patterns of care and outcomes, or professional consensus. Providers with an exemplary practice profile should care for patients with automatic plan approval for a defined scope of practice.

• The new state entity for regulation of managed health care should convene a clinical expert panel to determine best clinical practices and standards of care, as well as when and how to reclassify therapies from "experimental" to "proven" treatments.

• Purchasers should encourage plans to work toward credentialing and certifying medical groups and providers based on their knowledge, sensitivity, skills and cultural competence to serve vulnerable populations.

• Women should be allowed direct access to their health care providers, including reproductive health services, in a manner that permits and encourages coordination of services.

• Leaders of California’s academic medical centers should work together to develop an authoritative projection of physician personnel (and other health professionals) needs, and a plan for adjusting education programs to meet them.

What will happen now?
As you would expect, legislators are hurrying to introduce bills that will address specific recommendations adopted by the task force. It is reasonable to expect that most if not all of the recommendations of the task force will be included in one bill or another in 1998. This does not mean, however, that Governor Wilson will look favorably on all of these bills. As a matter of fact, the governor has indicated that he will consider some of the recommendations, and not others.

From a political standpoint (and this may be the real story this year), it should be remembered that 1998 is an election year and managed care is a hot political “interest zone.” Political strategists are advising candidates of both parties to include health care in their campaigns this year. HMOs are “fair game,” and the issues, real and imagined, will receive considerable attention as we approach the June and November elections.

In 1998, expect the Legislature to send scores of anti-managed care bills to the governor. He will veto many, but he cannot be expected to veto all of them, particularly in an election year.

Out for a Bite
“If you pick up a starving dog and make him prosperous, he will not bite you. This is the principal difference between a dog and a man.”

Mark Twain
Final Choices presents an excellent discussion of the options and difficulties which face patients who choose to exercise their right to die with dignity and peace of mind in an age when medical technology is advancing rapidly, state laws are confused, and multiple dilemmas face physicians caring for terminally ill patients. Death, and the planning for it, are issues people generally avoid. In this book the author effectively uses nontechnical language to discuss this subject and related matters. He discusses the problems caused by the tension between technology and human desire, individual freedom of choice, and the control of one’s own death.

The ultimate goal of the book is to allow an individual patient to make informed decisions pertaining to his or her own death. I read and have reviewed the book in this context, having metastatic cancer of the prostate but being completely symptom-free under treatment and feeling well. The book is well documented with extensive references, a glossary, case studies, sample forms, and tables of states’ policies on right-to-die issues. The author discusses living wills, proxies, and power of attorney. He reviews the hospice movement and the concept of dying in one’s own home, as was once the norm. He also discusses in detail the dilemma facing medical professionals who are faced with balancing patient welfare, ethics, state laws, and liability.

This book will be useful to three groups of people: professionals, concerned readers, and individuals facing death. Doctors, nurses, psychologists, or members of the clergy will find this book an excellent resource. Thoughtful citizens will find it a thought provoking instrument and may therefore be encouraged to plan for their own future. I personally found the book useful and I would recommend it to patients as “a wise precaution” as soon as a mortal illness is diagnosed.

Roger E. Rinaldi
Mr. Rinaldi is a civil engineer who, as a result of routine PSA testing while feeling perfectly well in October 1996, unexpectedly was diagnosed at age 64 with metastatic anaplastic cancer of the prostate. He has responded dramatically to hormone therapy: his PSA has dropped from 121 to 0.1 and he remains well. While visiting San Diego, his thoughtful approach to dealing with family responsibilities and his own mortality was captured in the 24-minute videotape “I Never Died Before.” This videotape will be of practical use to physicians who may wish to give copies to patients with fatal illnesses or who are drawing up advance directives. Sample copies may be obtained by making out a check for $5 made payable to SCPMG, and mailing it to Vincent J. Felitti, MD; SCPMG Department of Preventive Medicine; 7060 Clairemont Mesa Boulevard; San Diego, CA 92111. Bulk purchases can be arranged. Also helpful is the Internet site, located at www.agingwithdignity.org.

Other books received, by Permanente authors:

Optics, Refraction, and Contact Lenses, EH Thall, MD; KM Miller, MD; Perry Rosenthal, MD; Robert J. Schecter, MD; RF Steinert, MD; TL Beardsley, MD. American Academy of Ophthalmology, San Francisco, 1997. ISBN 1-56055-077-5. Dr. Schecter is an ophthalmologist with SCPMG.


If you are a Permanente author with a recently published book, please have your publisher send a reviewer’s copy of your book to The Permanente Journal.
The Lighter Side of Medicine

Before four issues of the Journal

After four issues of the Journal
Permanente Abstracts

The Impact of Increasing Patient Prescription Drug Cost Sharing on Therapeutic Classes of Drugs Received and on the Health Status of Elderly HMO Members


Objective: To assess the impact of increased prescription drug copayments on the therapeutic classes of drugs received and health status of the elderly.

Hypotheses Tested: Increased prescription drug copayments will reduce the relative exposure to, annual days use of, and prescription drug costs for drugs used in self-limiting conditions but will not affect drugs used in progressive chronic conditions and will not reduce health status.

Study Design: Each year over a three-year period, one or the other of two well-insured Medicare risk groups in an HMO setting had their copayments per dispensing increased. Sample sizes ranged from 6,704 to 7,962.

Data Sources/Data Collection: Automated administrative data systems of the HMO were used to determine HMO eligibility, prescription drug utilization, and health status.

Analysis Design: Analysis of variance or covariance was employed to measure change in dependent variables.

Findings: Relative exposure, annual days of use, and prescription drug costs for drugs used in self-limiting conditions and in progressive chronic conditions were not affected in a consistent manner across years by increases in prescription drug copayment. Health status may have been adversely affected. Larger increases in copayments appeared to generate more changes.

Conclusions: Small changes in copayments did not appear to substantially affect outcomes. Large changes in copayments need further examination.

Key Words: drug copayment, drug costs, drug utilization, health status

One Health Maintenance Organization’s Experience: Obstetric Costs Depend More on Staffing Patterns Than on Mode of Delivery


Objective: To examine whether the mode of obstetric delivery is related to resource costs, case mix, maternal length of stay, or neonatal morbidity.

Data Sources/Data Collection: Patients (27,289) who delivered babies at nine hospitals within one health maintenance organization in 1989 were the source of data. Case-mix adjustment and outcome measures (maternal length of stay and neonatal morbidity) were computed from discharge abstract indicators, whereas cost data (direct professional hours) came from departmental financial reports. Costs and outcomes were adjusted by regression analysis for differences in case mix and then compared by correlation analysis.

Results: Neither adjusted nor unadjusted cesarean-section rates and obstetric cost per case were significantly correlated over the range of observed cesarean-section rates. Aggregate cesarean-section rates and outcome indicators were also statistically unrelated.

Conclusions: Cesarean-section rate variation across hospitals was unrelated to the observed variation in obstetric costs, which were closely related to variations in staffing and less closely to differences in patient case mix and scale.

Analysis of the Costs of NSAID-Associated Gastropathy: Experience in a US Health Maintenance Organization


Background: Clinicians recognize nonsteroidal anti-inflammatory drugs (NSAIDs) as valuable first-line agents in the treatment of rheumatic disorders and as dangerous irritants to the gastrointestinal tract. This has led to questions about the economic impact of NSAID-induced gastropathy in populations.

Objective: To estimate the 1992 costs of NSAID-associated gastropathy episodes, and calculate an iatrogenic cost factor for NSAID-associated gastropathy among elderly members of a health maintenance organization (HMO), the Northwest Region of Kaiser Permanente.

Study Design: Using data retrieved from automated databases and from medical records, NSAID and antulcer drug costs were calculated, and estimates were made of the incidence rates of inpatient and outpatient NSAID-associated gastropathies, the services provided to treat them, and the cost of those services.

Results: Kaiser Permanente Northwest spent $US0.35 for each $US1.00 spent on NSAID therapy for the elderly, an iatrogenic cost factor of 1.35. The estimated average treatment per NSAID-associated gastropathy episode was $US2171. The average outpatient pharmacy cost per elderly NSAID user was $US80, and estimated average NSAID-associated treatment cost per elderly user was $US43.

Conclusions: Although the findings were specific to the HMO because of the databases used, the methodology employed, and the drug formulary influence on NSAID selection, they show that a substantial amount of resources were used to treat NSAID-induced gastropathies in the elderly, underscoring the risk of prescribing NSAIDs and reinforcing the need for their prudent use in elderly patients.
The Importance of Sputum Cytology in the Diagnosis of Lung Cancer: A Cost-Effectiveness Analysis
Objective: To assess the potential health and cost effects of initial testing with sputum cytology to diagnose lung cancer.
Design: Cost-effectiveness analysis.
Data Sources: Surveillance Epidemiology and End Results (SEER) program; cost data from Northern California Kaiser Permanente Hospitals, Stanford University, and University of Iowa; National Center for Health Statistics; and a MEDLINE search.
Interventions: The use of sputum cytologies preceding other tests (ie, fine-needle aspiration, bronchoscopy, thoracoscopy) in patients with suspected lung cancer.
Main Outcome Measures: Mortality associated with testing and initial surgical treatment (eg, thoracoscopy to remove a local-stage, centrally located cancer), cost of testing and initial treatment, life expectancy, lifetime cost of medical care, and cost-effectiveness.
Results: In central lesions, sputum cytology as the first test was the dominant strategy because it both lowers medical-care costs ($2,516 per patient) and lowers the mortality risk (19 deaths in 100,000 patients) of the evaluation without adversely affecting long-term survival. In peripheral lesions, sputum cytology costs less than $25,000 per year of life saved if the pretest probability of cancer exceeds 50%. The estimated annual savings of adopting sputum cytology as the first test for diagnosing lung cancer in the United States is at least $30 million.
Conclusions: Experience in regional centers indicates that sputum cytologic testing is infrequently ordered before implementing invasive diagnostic techniques, even in patients with central lung masses. The study findings suggest that sputum cytology as the first test in suspected lung cancer is likely to be cost-saving without adversely affecting patient outcomes.

MMR2 Immunization at 4 to 5 Years and 10 to 12 Years of Age: A Comparison of Adverse Clinical Events after Immunization in the Vaccine Safety Datalink Project
Background: The Advisory Committee on Immunization Practices recommends a second dose of measles, mumps, and rubella vaccine (MMR2) at 4 to 5 years of age, whereas the American Academy of Pediatrics suggests MMR2 immunization at age 11 to 12 years of age. Because there is little information on whether the rate of adverse reactions to MMR2 immunization varies among these two age groups, we took advantage of differing immunization policies at two large HMOs to compare the frequency of clinical events after and possibly related to, MMR2 immunization.
Methods: Information was collected on clinical events plausibly associated to MMR immunization (seizures, pyrexia, malaise/fatigue, nervous/musculoskeletal symptoms, rash, edema, induration/ecchymoses, lymphadenopathy, thrombocytopenia, aseptic meningitis, and joint pain) in two cohorts. At three facilities at Northern California Kaiser (Oakland, CA), 8514 children received MMR2 immunization at 4 to 6 years of age; at Group Health Cooperative (Seattle, WA) 18,036 children received MMR2 immunization at 10 to 12 years of age. To account for age-related differences in health care use within each HMO, clinical events in a 3-day period after immunization were compared with events in a 30-day period before vaccination.
Results: Children 10 to 12 years of age were 50% more likely to have a clinical event after MMR2 immunization than in the period before immunization (odds ratio, 1.45; 95% confidence interval: 1.00, 2.10). Children 4 to 6 years of age were less likely to have a visit for an event after immunization compared with events in a 3-day period after immunization were compared with events in a 30-day period before vaccination.
Conclusions: These results suggest that the risk for clinical events after MMR2 immunization is greater in the 10- to 12-year-old age group than in the 4- to 5-year-old age group.

Breast Cancer Survival and Treatment in Health Maintenance Organizations and Fee-for-Service Settings
Background: Enrollment in health maintenance organizations (HMOs) has increased rapidly during the past 10 years, reflecting a growing emphasis on health care cost containment. To determine whether there is a difference in the treatment and outcome for female patients with breast cancer enrolled in HMOs versus a fee-for-service setting, we compared the 10-year survival and initial treatment of patients with breast cancer enrolled in both types of plans.
Methods: With the use of tumor registries covering the greater San Francisco-Oakland and Seattle-Puget Sound areas, respectively, we obtained
information on treatment and outcome for 13,358 female patients with breast cancer, aged 65 years and older, diagnosed between 1985 and 1992. We linked registry information with Medicare data and with data from the two large HMOs included in the study. We compared the survival and treatment differences between HMO and fee-for-service care after adjusting for tumor stage, comorbidity, and sociodemographic characteristics.

**Results:** In San Francisco-Oakland, the 10-year adjusted risk ratio for breast cancer deaths among HMO patients compared with fee-for-service patients was 0.71 (95% confidence interval, 0.59, 0.87) and was comparable for all deaths. In Seattle-Puget Sound, the risk ratio for breast cancer deaths was 1.01 (95% confidence interval: 0.77, 1.33) but somewhat lower for all deaths. Women enrolled in HMOs were more likely to receive breast conserving surgery than women in fee-for-service settings (odds ratio, 1.55 in San Francisco-Oakland; 3.39 in Seattle). HMO enrollees undergoing breast-conserving surgery were also more likely to receive adjuvant radiotherapy (San Francisco-Oakland odds ratio, 2.49; Seattle odds ratio, 4.62).

**Conclusions:** Long-term survival outcomes in the two prepaid group practice HMOs in this study were at least equal to, and possibly better than, outcomes in the fee-for-service system. In addition, the use of recommended therapy for early-stage breast cancer was more frequent in the two HMOs.

"Vase of Flowers" by Stephen Bachhuber, MD
Letters to the Editor

To the Editor.—I continue to greatly enjoy The Permanente Journal. May I suggest that you change Dr. Garfield’s name from Kaiser Physician to Permanente Physician. As far as I know, there are only a small handful of physicians who work for Kaiser (I happen to be one who works for Health Plan half-time). The vast majority of us work for the various Permanente Medical Groups, not Kaiser. Since Dr. Garfield founded The Permanente Medical Group, I doubt that he would consider himself to be a Kaiser physician.

Bruce Locke, MD
Surgeon
The Permanente Medical Group

In Reply.—Truthfully, I had already heard from several people here in North Carolina from the very beginning that “Kaiser Physician” is a distinct no-no. I kind of left it at that because I got a kick out of everyone correcting me. Certainly, it has to be agreed that everybody calls us “those Kaiser doctors,” and behind closed doors, that is what we even call ourselves. But, alas, it is not politically correct and must be remedied (in a future issue). I think we can change it and that will make things right. Perhaps it will even make good fodder for a future cartoon. Please note, however, that Stan Garfield is not related to Sidney, and if anyone asks, no connection was intended. The fact that the names are similar may well be mere coincidence.

Joseph Oleniacz, MD
Pediatrician and creator of the comic strip
“Dr. Garfield, Kaiser Physician” (See page 78)
The Carolina Permanente Medical Group

In Reply.—I just read the enthusiastic letters in the recent issue (Winter 1998) of The Permanente Journal. I found it interesting that none were from exclusively clinical providers. I am not sure I share their appreciation for the content of the Journal and its relevance to patient care.

In these days of multimillion-dollar losses, I feel that Kaiser has to reconsider expenditures on this type of project, that seem mostly to reinforce our own positive image of ourselves without significantly adding to problem-solving strategies or patient care.

David Kaufman, MD
Family Practice
Northeast Permanente Medical Group

In Reply.—Thank you for your thoughtful comments. These letters you read from Health Plan managers across the Program were an attempt to recognize that The Permanente Journal also has value for our partners in Kaiser Permanente. The recent letters have been overwhelmingly congratulatory, so we published what we received. In the letters in this issue, you will see that some people are speaking out in different ways, like yourself.

We appreciate all comments and will publish them, as we seek to have a dialogue about anything that clinicians and their partners see as important to our ultimate goal of serving our members better.

How the Program spends our members’ money is always critically important, and all must evaluate that every time we make a decision requiring an expen-
To the Editor.—Sachs and Smith1 describe the successful accomplishment of ambulatory shoulder surgery, which is difficult because the surgery is usually painful. They correctly recognize that high doses of narcotics to treat the pain cause side effects (including nausea and urinary retention) that delay discharge. I believe the key to their success is the use of local anesthetic in the wound so that narcotics for pain control are minimized. They also lessen the need for narcotics by using ketorolac, one of many nonsteroidal anti-inflammatory drugs with morphine-sparing properties but the only one available in injectable form.

They misunderstand the kinetics of the induction drugs, thiopental and propofol, and attribute too much credit to induction with propofol. Both propofol and thiopental are redistributed within minutes from blood to other tissues. As a result, the wake-up after an induction dose of either drug is equally quick.2 Both are metabolized by hepatic conjugation with renal elimination, so the terminal half-life of both drugs is many hours.


Kenneth D. Larsen, MD
Anesthesiologist
Northwest Permanente

In Reply.—We believe that the choice of propofol for ambulatory surgery is based on sound pharmacokinetic and pharmacodynamic research. Dr. Larsen is correct that the redistribution phase for propofol and thiopental are roughly equivalent. That is, plasma levels of both drugs decline rapidly as each drug is redistributed from highly perfused tissues, such as the brain, into less well-perfused tissues, such as muscle and fat. Thus, as Dr. Larsen pointed out, “the wake up from either drug is equally quick.” Subsequently, however, the metabolic clearance of propofol occurs approximately ten times faster than that of thiopental. This explains the common observation that thiopental patients wake up feeling hung over, whereas propofol patients exhibit clearer sensorium and more rapid psychomotor recovery.

The Permanente Journal has received other feedback on this Systems Challenge. Although the panel
discussions gave very low ratings to direct specialist-primary care physician feedback following referral, apparently some redesign models still incorporate this strategy, as many believe it is in fact worthwhile. Time will tell what the effectiveness will be as you roll out your primary care design. Let The Permanente Journal readers know what you learn.

Appropriate referrals and enhancing the relationship between primary care physicians and specialists will continue to be a major challenge for Permanente Groups, and for that reason dialogues such as that in our Systems Challenge will be extremely valuable.

In my opinion, and in the opinion of several of the panelists, the “real time” sharing of information between the referring provider and the consultant by use of the telephone (eg, the Urophone in the Northwest) was probably the most valuable learning during the roundtable discussions. Especially noteworthy was the reported high satisfaction that the primary care providers have with the process.

Lee Jacobs, MD
Associate Editor, Health Systems Management

To the Editor.—I thoroughly enjoyed the article, “Cultural Competence in Health Care: Another Aspect of Kaiser Permanente’s Commitment to Quality,” published in Vol 2, No. 1 of The Permanente Journal.

I want to congratulate Jean Gilbert on her effort in bringing awareness to Kaiser Permanente physicians across the country about this very important aspect of our medical practice. I wholeheartedly agree with Dr. Gilbert that delivering culturally competent care is simply delivering quality care—to which our organization has always been committed—and is not stereotyping, nor is it giving special treatment to special groups.

In our San Francisco facility, we have now established Adult Primary Care Chinese and Hispanic modules. We believe that by interpreting different groups’ health-related beliefs and cultural values, we physicians are giving better care. We just need to continue to spread the word.

Towie Fong, MD
Chief of the Bilingual Chinese Module
The Permanente Medical Group

To the Editor.—Swenson and Acton’s article, “Building and Delivering the Kaiser Permanente Promise” (2(1):33-36), seems to me to be trying to fit a service model of brand identity to a product model of business. Differences in marketing and delivery flow from this obvious distinction.

The basic problem of branding, or of any marketing of a service, is how you can differentiate your service from someone else’s and how the loss of customers, or their perceived dissatisfaction, may be related to a loss of Kaiser’s distinction.

People stay in Kaiser because they view the entire organization as one dedicated to their care. The providers only treat Kaiser patients, the hospital only treats Kaiser patients, and the clinics only see Kaiser patients. A loss of any one of these elements places Kaiser in the pack with the rest of the country’s HMOs.

And if you’re like all the other HMO’s, why should anyone view your offered services as unique?

Stephen C. Acosta, MD
Emergency Medicine
Northwest Permanente

Extending Life

“If you only had a week to live, where would you go? Detroit—because it would seem like a year.”
Source unknown
Announcements

Eighth National Emergency Medicine Conference
This conference, sponsored by Kaiser Permanente, is being held August 2-7, 1998 at the Hapuna Beach Prince Hotel, Kona Coast, Hawaii. A nationally-known faculty along with Kaiser Permanente emergency physicians will present current topics critical to the practice of emergency medicine. Join us at the number one beach in the world on Hawaii’s Big Island. Contact Carrie Deis at 1-800-255-0412 for more information and a brochure.

Managed Care in Occupational Health Practical Approaches to Managing Today’s Job-Related Injuries and Illnesses
The American College of Occupational and Environmental Medicine (ACOEM) offers a new in-depth, 2-day course for physicians and other occupational health care professionals. It is conducted by a nationally recognized team of occupational health experts who are proficient in all facets and models of managed occupational medicine. An intensive orientation, the course exposes licensed physicians and other health care specialists to a variety of managed care models. ACOEM has customized the course to meet varying levels of expertise and interest. Special breakout sessions on day 1 are designed exclusively for physicians and allied health professionals, including nurses, health care administrators, and others involved in health care.

The course, which is being held October 16-17, 1998 in Phoenix, offers two opportunities for CME credits. ACOEM is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education for physicians. ACOEM designates this continuing medical education activity for 15 credit hours in Category 1 of the Physician’s Recognition Award of the American Medical Association. ACOEM also designated 15 hours of prescribed hours from the American Academy of Family Physicians.

For more information, call toll free 1-888-634-7465.

Second Annual Interregional Urology Symposium
Monterey, California will be the site for this symposium, to be held December 4-6, 1998. Everyone is welcome to attend. For more information, contact Yolanda Dorsey at 626-564-3024.

Second Interregional Educational Symposium for Nurse Practitioners, Physician Assistants, Certified Nurse Midwives, and Certified Registered Nurse Anesthetists
This conference will be held August 20-22, 1998 at the Hyatt Newporter in Newport Beach, California. Brochures will be mailed this spring.

For more information, contact Wendy Friedman at 626-564-3075.

Editing Help with Your Manuscripts
Even before you submit your manuscript to The Permanente Journal for publication consideration, you can obtain help with its preparation. The Medical Editing Department, which is part of the Kaiser Foundation Research Institute in Oakland, is a resource available to many researchers throughout the Program. The department’s professional editors can help you organize your paper, edit your text, verify references, and prepare tables and graphics for publication. Call Medical Editing at 510-987-3573 for information relating to the cost of editorial services for your manuscript.

KP Clinical Practice Exchange
http://www.kpexchange.org
KP Clinical Practice Exchange is a secure Internet-based environment for health care professional access to clinical resources, communications, and information within Kaiser Permanente. Search for the latest findings from colleagues, discuss research efforts and share common interests, locate colleagues around the corner or across the state, and contribute to the diversity and value of the Exchange with your documents.
Contact Rachelle.Mirkin@kp.org for further information.
Kaiser Permanente Clinical Best Practices in Otolaryngology Symposium

In conjunction with the Pacific Coast Oto-Ophthalmological Society (PCOOS), Kaiser Permanente is sponsoring a Clinical Best Practices in Otolaryngology Symposium. This symposium will be held on June 24, 1998, the final day of the 82nd Annual Meeting of PCOOS, at the Kauai Marriott Resort and Beach Club in Lihue, Hawaii, June 20-24, 1998. For meeting information, contact Mireya Jones, Society Manager, at 626-564-8114 or fax 626-564-9722.

The purpose of the Best Practices in Otolaryngology Symposium is to provide the audience with information which will help them evaluate and manage their patients in the most efficient, cost-effective manner with the best possible outcomes. Presentations should demonstrate creative, innovative, successful ways to evaluate and/or manage patients who present with either common or complex otolaryngologic/head and neck surgery problems.

For Best Practices Symposium information, contact:
Raymond L. Hilsinger, Jr., MD
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International Sports Medicine Symposium

Kaiser Permanente NW Division in cooperation with the Nike World Master Games will be hosting this program, to be held August 7-8, 1998 at the Portland Marriott Hotel in downtown Portland, Oregon.

At this symposium a faculty of national and international experts will address the challenges of exercise and nutrition in the aging athlete and the management and treatment of sports-related injuries common to all athletes. Distinguished faculty and keynote speakers include fitness pioneer Jack LaLanne, often called the “Godfather of Fitness,” and Kenneth H. Cooper, MD, world-renowned leader of the fitness movement also known as “The father of aerobics.”

This symposium is being held just prior to and in cooperation with the NIKE World Masters Games, which runs August 9-22, 1998 in Portland. The World Masters Games are a quadrennial international event that embody the original ideals of the Olympic movement. The games are the largest participatory multisport competition in the world, bringing together 25,000 men and women aged 30 years and above from over 100 countries for the simple joy of competing with their peers.

For additional information or a registration brochure, please fax your name, address, and phone number to 503-813-2348. To view the symposium schedule of events, check The Permanente Journal Web site at http://www.kpnw.org/~permjournal/permjournal.html in the Announcements section of the Spring issue.

Send Us Your Announcements

The Permanente Journal is interested in your announcements. Topics may include upcoming multidivisional or Programwide meetings, conferences, or other events of interest to Permanente physicians. These events typically should be sponsored by the Permanente Medical Groups or Kaiser Permanente.

The Journal is also interested in publishing details of new services available to PMG physicians in more than one medical group (a new web page for Permanente pediatricians, for example) and major achievements by Permanente physicians or Permanente Medical Groups. These may include national awards, major grants, leadership appointments, NCQA accreditation, and other significant accomplishments.

Deadline for inclusion of your announcements in our next issue, which will be published in August, 1998, is June 15. Items should be short and include a phone number for the key contact. The staff of The Permanente Journal reserves the right to determine which announcements will be published.

Send your announcements to Merry Parker, Managing Editor, 500 NE Multnomah St, Ste 100, Portland, OR 97232.

Correction

In “The Presidential Commission and Health Care Reform” by Donald Parsons, MD (The Permanente Journal 1998 Winter;2(1):37-8) the bill number of Norwood’s Patient Access to Responsible Care Act was incorrectly stated as HR 1457. It should have been HR 1415/S.644. We regret any inconvenience this may have caused.
Instructions for Authors

Send all manuscripts to:
Merry Parker, Managing Editor
The Permanente Journal
500 NE Multnomah St, Suite 100
Portland, OR 97232
(503) 813-2659

Editorial Policies

Manuscripts are received with the understanding that they have not been published or submitted for publication in whole or in part elsewhere, except for a scientific abstract, unless otherwise specified. Manuscripts will be reviewed by the Editor, Associate Editors, members of the Review Board, and appropriate specialists internally and externally as deemed necessary. Acceptance of a paper for publication is based on the relevance, quality of work described, clarity of the presentation, and especially applicability to daily clinical practice. If the article is accepted for publication, editorial revision may be made to aid clarity and understanding without altering the meaning. (See Proofreading.)

Articles, editorials, letters to the editor, and other text material in the Journal represent the opinion of the authors and do not necessarily reflect the opinion of Kaiser Permanente.

Authors submitting a manuscript do so with the understanding that if it is accepted for publication, copyright of the article, including the right to reproduce the article in all forms and media, shall be assigned exclusively to the publisher. The publisher will grant any reasonable request by the author for permission to reproduce any of his/her contribution to the Journal.

Types of Papers

There is no length requirement, although concise, readable, and practical articles are preferred. Emphasize information that clinicians can use in their practice, that gives them regional and national perspective, and that integrates “Permanente Medicine” into the largest scope of health care delivery.

Notes About Specific Sections

• Clinical Contributions
  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. (word count range is 725-5000)

• Health Systems Management
  Articles from a “systems” perspective, recognizing that medicine is practiced in the larger context of health care, including ambulatory care delivery, hospital strategy, program expansion and network development and is supported by information technology and the Internet. Growth in this system occurs through the leadership, education, and development of clinicians. (word count range is 725-3000)

• External Affairs
  Nonclinical articles on external issues related to the practice and perception of Permanente medicine. These may include articles by customers and consumer groups, as well as internally generated articles on health policy, the media, the marketplace, and our social mission. (word count range is 725-3000)

• Medical Legal Update
  Articles educating clinicians about medical legal issues, including risk management, claims review, loss prevention, and ethical issues. Improved clinician communication with patients, families, and the health care team is the goal. (word count range is 725-1400)

• Soul of the Healer
  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. (word count range is 725-2200)

• A Moment in Time
  A look back at milestones in the history of the Permanente Medical Groups. (word count range is 700-740)

• Abstracts
  Abstracts from articles published in other journals, preferentially featuring the works 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.

• The Lighter Side of Permanente Medicine
  Jokes, stories, and humorous encounters tied to the practice of Permanente medicine, managed care, or health care in general.

Manuscript Preparation and Processing

A 3 1/2” disk containing the article and one complete paper copy of the manuscript must be submitted, along with a photograph of the author(s) labeled with name and a 2-3 sentence author profile. (Please, no photos smaller than 2x3 or larger than 5x7.) If more than four authors, submit the authors’ profiles only—no photographs.

The Permanente Journal /Spring1998/Volume 2 No. 2
Manuscripts must be typewritten in a word-processing program (identify program and platform used), double-spaced, with margins of at least 1 inch. All parts of the manuscript must be included in a single file on the disk, and the disk file must match the printout. Tables and illustrations are typeset from hard copy and need not be included on the disk. The 3 1/2” disk must be labeled with the first author’s name, an abbreviated article title, the file name, the disk format (eg Microsoft Word 6.0).

The first page of the manuscript should contain the following information: 1) title of paper; 2) authors’ names; 3) name(s) of Kaiser Permanente Division and medical office in which work was done; 4) name and address of author to whom communications regarding the manuscript should be directed; 5) telephone and fax number of the communicating author.

The second page of a Clinical Article is to contain an Abstract of 250 words or less with a conclusion. Non-clinical Articles need only include a brief summary preceding the article. Also list key words and terms, in alphabetical order, under which you believe the text in numeric order. The reference list at the end of the article must also be in numeric order (do not list references in alphabetical order). The list should be double-spaced, under the heading REFERENCES. Abbreviations for title of medical periodicals should conform to those used in the latest edition of Index Medicus.

Examples.

3. Golomb HM, Vardiman J, Sweet DL Jr et al. Hairy cell leuke-

Preventing Illustrations and Tables

Illustrations and tables are desirable, and highly encouraged, to expand the value of the article. Tables and illustrations must be cited in order in the text using Arabic numerals. Submit one complete set in glossy prints or high-quality laser prints. Do not staple, clip, or write heavily on the back. Paste a label on the back of each illustration indicating its number in order of appearance, author’s name, and the top edge of the picture. Legends for illustrations should be typewritten, double-spaced, on a separate sheet, and included at the end of the manuscript. A legend must accompany each illustration.

Figures, especially charts, graphs, and line drawings, are generally reduced in size for publication. To maintain legibility, all numbers, letters, and symbols should be large enough originally so that when reduced they will remain at least 2 mm high. Each table should be typed on a separate sheet and appropriately numbered. Abbreviations used in the table should be defined in the legend to the table; legends should be typed on the same sheets as the tables. Any figure, table, or long portions of text that have been previously published must be accompanied by a letter of permission to reprint, signed by the publisher, at the time of submission. It is the responsibility of the author to obtain such permission.

Legal and Ethical Considerations

Avoid use of patient’s names, initials, and health record numbers. A patient must not be recognizable in photographs or case descriptions unless written consent of the subject has been obtained.

References

References must be numbered with Arabic numerals and cited in the text in numeric order. The reference list at the end of the article must also be in numeric order (do not list references in alphabetical order). The list should be double-spaced, under the heading REFERENCES. Abbreviations for title of medical periodicals should conform to those used in the latest edition of Index Medicus.

Examples.

Journal article, one to four authors

4. O’Malley JE, Eisenberg L. The hyperkinetic syndrome. Semin Psychiatry (in press) (Note: A copy of the manuscript must be included.)

Editing Assistance

You can obtain help with preparing your manuscript from the Medical Editing Department, which is a resource available to many researchers throughout the Program. The department’s professional editors can help you organize your paper, edit your text, and verify references before publication in The Permanente Journal. Call Medical Editing at 510-987-3573 for further information.

Proofreading

Contributors are provided with galley proofs and are asked to proofread them for typesetting errors. Important changes in data are allowed, but authors are requested to not make excessive alterations. Galley proofs should be returned within 48 hours.

Checklist for Authors

- 3.5” disk labeled with author name, article title, file name, word count, disk format, and word-processing software used.
- Cover letter
- One copy of manuscript
- Title page
- Author profile (2-3 sentences)
- Author photo (no smaller than 2x3, no larger than 5x7)
- Structured Abstract (limit: 250 words): include key words
- References (double-spaced on a separate sheet)
- Illustrations, properly labeled (one original set)
- Figure legends (double-spaced)
- Tables (provide a brief title)
- Permission to reproduce previously published material, photographic consent