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The Permanente Journal is always interested in considering artwork by Kaiser Permanente clinicians and employees. If you would like to submit art for consideration for the cover or interior of The Permanente Journal, please use the following guidelines:
Send us a high-quality color photograph of your art no smaller than 4x5 and no larger than 8x10. For cover art submission, portrait orientation is preferred. Please include a cover letter explaining Kaiser Permanente association, art background, medium and a brief statement about the artwork (description, inspiration, etc). Electronic and e-mail submissions are accepted, 600 dpi resolution is required.
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“In contrast to the defensiveness of some organizations, Permanente physicians responded positively to the Institute of Medicine report …”

Jay Crosson, MD; commentary on page 3.

In response to the Institute of Medicine’s 1999 report “To Err Is Human: Building a Safer Health System,” this special issue of The Permanente Journal presents an excellent compilation of articles on patient safety and medical errors.

I encourage all Permanente physicians and associate providers to read Dr Crosson’s commentary in this issue, “Patient Safety and the Group Practice Advantage.” This is one of the best overviews of the organizational strength of the Kaiser Permanente model I have read in my time with Permanente. His comments underscore the tremendous advantage that our integrated group practice model has in insuring the delivery of high-quality health care to our patients. I hope you will not only read it but also circulate it to your colleagues, and then send it on to your legislators.

In March 2001, the Institute of Medicine published a follow-up report, “Crossing the Quality Chasm,” which called for definitive action to improve the American health care system. This report concludes that a new health care system should be: 1) Safe 2) Effective 3) Patient-centered 4) Timely 5) Efficient 6) Equitable.

As all members of the Permanente family know, these are not new ideas; they have been fundamental principles of KP since its inception! As is true for many other aspects of medical care, when considering how best to decrease medical errors and improve patient safety, KP sets the standard of excellence. Proof again that our integrated, physician-led model provides the best solution as this country seeks answers to the ailments of the US health care system.

As a side comment: In addition to the effort KP as an organization has made in proactively confronting this issue of patient safety, I would like to acknowledge the work of Dr David Lawrence. In the past few years, he has made significant contributions to the national dialogue and championed improvements in patient safety and medical errors well in advance of last year’s Institute of Medicine’s report. Good work Dr Lawrence!

In summary, I agree with Dr Crosson—all of us in the Kaiser Permanente family should take great pride in what this organization has done and plans to do in the area of patient safety. As the nation struggles with the dilemma of how to provide quality care in a complex environment, they don’t have to look very far for a solution. We have the answer.

References
Patient Safety and the Group Practice Advantage

The Institute of Medicine’s 1999 report on medical errors and patient safety, *To Err Is Human,* has had—and will continue to have—many salutary impacts on the quality of American health care, including the care provided by Kaiser Permanente (KP). Our organization has responded with impressive speed, enthusiasm, and resources to strengthen our existing patient safety systems and to develop new procedures and protocols where needed—many of which are discussed in this special issue of *The Permanente Journal.* But to my mind, one of the most welcome outcomes of the report is the recognition it has brought to the quality and safety advantages inherent in highly organized, integrated systems of care, such as KP, Group Health Cooperative, and a few other health care providers.

In fact, the report states that the key cause of medical error is the “decentralized and fragmented nature of the health care delivery system”—a pointing finger that may partly explain the defensive posture with which some physician organizations greeted the report. In effect, the report suggested that the way three quarters of American physicians are organized—in solo or small group practices connected to other parts of the delivery system only loosely, if at all—causes thousands of preventable medical errors.

**Benefits of Our Integrated Health Care Delivery System**

In contrast to the defensiveness of some physician organizations, however, Permanente physicians responded positively to the Institute of Medicine report because it urged us to do what we at KP have been doing for more than half a century: work together to improve the quality and safety of the care we provide to patients.

The systemic approach to care delivery called for by the Institute of Medicine already exists in an integrated system like Kaiser Permanente, where the most fundamental building block supporting patient safety and quality is each KP Region’s Permanente Medical Group itself. The inherent advantages of prepaid, multispecialty group practice may sometimes be invisible to those who have never practiced in the more traditional, “cottage industry” health care environment. The Institute of Medicine report therefore came as a welcome reminder of a few elementary truths. Among the most important of these truths are three facts of modern health care:

- The increasing complexity and specialization of medicine has dramatically undermined the ability of any individual provider to keep abreast of all vital information, skills, and technology. Who, for instance, can read more than a few of the estimated 1500 medical articles per day currently appearing in some 4000 health-related journals? The answer is that no one needs to if everyone is practicing in a physician-led, team-based environment of close, proactive cooperation and consultation with hundreds of colleagues representing dozens of specialties and subspecialties, each supported where appropriate by evidence-based, best practice guidelines developed by their own colleagues. Such an environment and style of practice may be rare in much of the world, but it is the norm among the Permanente Medical Groups.

- Patient safety also depends on the ability of clinicians to hold themselves accountable to high standards of quality (and improvement in quality), clinician competency, continuity of care, and adherence to an explicit strategy for ensuring patient safety. But such accountability presupposes a group practice ethic that promotes shared responsibility for care of individual patients as well as of entire patient populations. Such an ethic comes naturally to self-managed, prepaid medical groups; but where can the incentives or structures for effective peer review and accountability be found outside such an environment? In the KP system, group accountability for quality and safety exists at both the medical group level and at the Permanente Federation level, where it takes the form of a rigorous quality review process conducted by the interregional Medical Directors Quality Committee.

- Many of the greatest possible gains in patient safety and quality depend on the ability to invest in, deploy, and effectively use care management protocols and sophisticated new clini-
Information technologies, such as the electronic medical record. The Institute of Medicine’s March 2001 report, “Crossing the Quality Chasm,” emphasizes this point by devoting an entire chapter to the urgent need for bringing American medicine into the Digital Age.

But the Institute of Medicine’s report fails to address the question of how the vast majority of America’s physicians, working as they are in isolation or in loose aggregations, can be expected to finance such long-term quality improvements. Nor does the report ask the tougher question of how a disaggregated collection of clinicians and organizations, many with competing incentives, is supposed to utilize a single information system that depends on aligned incentives, sharing, and cooperation? Our own experience with care management and with clinical information systems demonstrates the great difficulties—and cost—of effectively deploying such sophisticated and important tools, even among the most integrated group practices in the country. I can only imagine the obstacles outside the group practice environment!

We already have the most potent tool in the patient safety medical bag: the prepaid group practice ethic of accountability for both quality of care and patient safety.

Accountability: An Ethic of Group Practice

In fact, it is daunting to imagine how almost any of the patient-related programs that Kaiser Permanente routinely depends upon can be effectively used outside an integrated health care delivery system based on group practice medicine. Programs such as KP Northern California’s ADEP (Adverse Drug Events Prevention) or KP Southern California’s patient identification and surgical site marking techniques (and so many others) all require extensive cooperation and sharing of information, and they all benefit from the ethic of group accountability that is at the heart of group practice.

Conclusion

Permanente physicians can and should take great pride in the accomplishments we have already achieved in the area of patient safety throughout our program. Certainly much remains to be done, and the work remains a top priority at every level of the organization—from departments and facilities up to each KP Region’s Permanente Medical Group and on to the Permanente Federation itself. Some of the more important changes will depend on legal or regulatory actions, including establishment of an effective, confidential, voluntary reporting system, as well as sensible tort reform.

But as we go about the work, let us occasionally remind ourselves that we already have the most potent tool in the patient safety medical bag: the prepaid group practice ethic of accountability for both quality of care and patient safety.

References


Built-in Quality Control

In group practice, there is built-in quality control in the careful choice of doctors, and in the sharing of patients and knowledge. In addition, in our group, each service has a chief of service and a nucleus of senior doctors who work with other clinicians and share their patients’ medical problems.


This “Moment in History” quote collected by Steve Gilford, KP Historian
From Northern California: Assessing costs and cost effectiveness of pneumococcal disease and vaccination within Kaiser Permanente

OBJECTIVE: To review studies of the costs of pneumococcal disease and the cost effectiveness of pneumococcal conjugate vaccination conducted in association with the Kaiser Permanente Pneumococcal conjugate Efficacy Trial.

RESULTS: For each birth cohort of 3.8 million infants, routine pneumococcal conjugate vaccination program for healthy infants would prevent more than 12,000 (78% of potential) meningitis and bacteremia cases, 53,000 (69%) of potential pneumonia cases, and one million (8% of potential) otitis media episodes. Before accounting for vaccine costs, the vaccination program would reduce the costs of pneumococcal disease by $342 million in medical and $415 million in work-loss and other costs. Vaccination of healthy infants would result in net savings for society if the vaccine cost less than $46 per dose, and net savings for the health care payer if the vaccine cost less than $18 per dose.

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From Colorado: Assisted reproductive interventions and multiple birth(1)

OBJECTIVE: To investigate the contributions of ovulation-inducing drugs and assisted reproductive technologies to multiple birth.

METHODS: This historic prospective study was conducted in a cohort of 13,151 women who delivered after 20 weeks’ gestation between October 1996 and December 1999. The study setting was a Colorado health maintenance organization. Cases were women who were pregnant as a result of exposure to treatment with either assisted reproductive technologies or ovulation induction in the absence of assisted reproductive technologies. The main outcome measure was multiple birth.

RESULTS: There was a significant association between assisted conception and multiple birth. Compared with women with naturally conceived pregnancies, there was a 25-fold likelihood (95% confidence interval 18, 35, p < .001) of multiple birth among women exposed to any of those treatments. In the total cohort the proportion of multiple births attributable to those treatments was 3%. After adjusting for the use of assisted conception and other covariates, we found no association between advanced maternal age and multiple birth.

CONCLUSION: In this cohort, assisted reproductive interventions were strongly associated with multiple birth. Although a higher proportion of older women sought assisted reproductive technologies, we did not find an independent relationship between advanced maternal age and multiple birth. The increasing number of multiple births attributable to assisted conception raises public health concerns regarding multiple gestation-related maternal and infant morbidities. Reprinted with permission from the American College of Obstetricians and Gynecologists (Obstetrics and Gynecology, 2001, Vol 97, No 2, 195-200). http://www.elsevier.com/locate/obstgyn
http://www.sciencedirect.com

From Northern California: Ultrasound availability in the evaluation of ectopic pregnancy in the ED: comparison of quality and cost-effectiveness with different approaches

The liberal use of ultrasonography has been advocated in patients with first trimester cramping or bleeding to avoid misdiagnosis of ectopic pregnancy in the emergency department (ED). The cost-effectiveness of different approaches to ultrasound availability has not been previously reported. In this study, we investigated measures of quality and cost-effectiveness in detecting ectopic pregnancy in the ED over a six-year period, divided into three approximately equal epochs with three distinct approaches to ultrasound availability. The study retrospectively identified 120 cases of ectopic pregnancy seen in the ED over six years. There was significant improvement in the percentage of patients with ectopic pregnancy who were documented to have absence of intrauterine pregnancy (IUP) at the first visit from 76% during Epoch 1, when there was limited availability of ultrasound through medical imaging (MI Sono), to 88% in Epoch 2, when MI Sono was readily available, to 96% in Epoch 3, when both MI Sono and ultrasound by emergency physicians (ED Sono) were readily available (p = .02). The estimated

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number of MI Sonos ordered by emergency physicians in patients at risk for ectopic pregnancy increased from 5.2 per ectopic pregnancy in Epoch 1 to 11.8 per ectopic pregnancy in Epoch 2, and declined to 5.5 per ectopic pregnancy in Epoch 3, when 19.9 ED Sonos per ectopic pregnancy were also done. The cost of ED Sonos in Epoch 3 was more than offset by savings from avoiding calling in ultrasound technicians after regular medical imaging department hours. The specificity of ED Sonography in ruling an intrauterine pregnancy was 100% (95% CI 98.3 to 100%), but analysis of secondary quality indicators reflecting times from first ED visit to treatment in Epoch 3 raised the possibility that an adnexal mass or signs of tubal rupture may have been missed on some ED Sonos. We conclude that increased availability of ultrasonography leads to improved quality in the detection of ectopic pregnancy in the ED, but at the expense of a disproportionate increase in the number of ultrasound studies done per ectopic pregnancy detected. Our study suggests that the most cost-effective strategy is for emergency physicians to screen all patients with first trimester cramping and bleeding with ED Sonos, and to obtain MI Sonos at the time of the initial ED visit in all cases in which the ED Sonograph is indeterminate or shows no IUP.

**DESIGN AND OUTCOME MEASURES:** Women in whom breast cancer was diagnosed at program sites (n = 111) and a random sample of women whose breast cancer was diagnosed at non-program sites (n = 277) were surveyed by mail to ascertain their level of satisfaction with various aspects of their medical care. The response rates were 74% and 81%, respectively.

**RESULTS:** 75% of women at program sites used the information resources, and 60% requested a patient mentor. Demographic characteristics and satisfaction with non-breast cancer care were almost identical among program and non-program site respondents. For overall breast cancer care, 71% of program site respondents but only 56% of non-program site respondents were very satisfied. More than half of program site respondents rated presurgery care, provision of information, and support received as excellent, versus about 40% of non-program site respondents. Program site respondents were consistently more likely to rate the amount of reassurance and support provided by physicians and nurses as excellent and were less likely to want a second opinion (35% vs 51%).

**CONCLUSIONS:** The support and information program appears to have had a positive impact on satisfaction with breast cancer care.

**From the Northwest:**

**Long-term weight loss and changes in blood pressure: results of the Trials of Hypertension Prevention, phase II**


**BACKGROUND:** Weight loss appears to be an effective method for primary prevention of hypertension. However, the long-term effects of weight loss on blood pressure have not been extensively studied.

**OBJECTIVE:** To present detailed results from the weight loss arm of Trials of Hypertension Prevention (TOHP) II.

**DESIGN:** Multicenter, randomized clinical trial testing the efficacy of lifestyle interventions for reducing blood pressure over three to four years. Participants in TOHP II were randomly assigned to one of four groups. This report focuses only on participants assigned to the weight loss (n = 595) and usual care control (n = 596) groups.

**PATIENTS:** Men and women 30 to 54 years of age who had nonmedicated diastolic blood pressure of 85 to 89 mm Hg and systolic blood pressure less than 140 mm Hg.
and were 110% to 165% of their ideal body weight at baseline.

**INTERVENTION:** The weight loss intervention included a three-year program of group meetings and individual counseling focused on dietary change, physical activity, and social support.

**MEASUREMENTS:** Weight and blood pressure data were collected every six months by staff who were blinded to treatment assignment.

**RESULTS:**

- Mean weight change from baseline in the intervention group was -4.4 kg at six months, -2.0 kg at 18 months, and -0.2 kg at 36 months. Mean weight change in the control group at the same time points was 0.1, 0.7, and 1.8 kg. Blood pressure was significantly lower in the intervention group than in the control group at 6, 18, and 36 months.
- The risk ratio for hypertension in the intervention group was 0.58 (95% CI, 0.36 to 0.94) at six months, 0.78 (CI, 0.62 to 1.00) at 18 months, and 0.81 (CI, 0.70 to 0.95) at 36 months. In subgroup analyses, intervention participants who lost at least 4.5 kg at six months and maintained this weight reduction for the next 30 months had the greatest reduction in blood pressure and a relative risk for hypertension of 0.35 (CI, 0.20 to 0.59).
- **CONCLUSIONS:** Clinically significant long-term reductions in blood pressure and reduced risk for hypertension can be achieved with even modest weight loss.

**From the Northwest:**

**Health care costs associated with escalation of drug treatment in type 2 diabetes mellitus**


The cost of different intensities of therapy in HMO patients with type 2 diabetes mellitus was studied. Health care utilization data from 1995 were obtained for 12,200 registrants from the Kaiser Permanente Northwest Diabetes Registry who had type 2 diabetes mellitus. The data were used to determine costs associated with the escalation of antidiabetic therapies in persons with type 2 diabetes mellitus. The total annual costs (in 1993 dollars) associated with no drug therapy, a sulfonylurea only, metformin, a sulfonylurea plus insulin, and insulin alone were $4400, $4187, $4838, $8856, and $7365, respectively. Per patient total costs were higher for patients who had received antidiabetic therapy in 1995 or previously than for those who had not ($5303 versus $4365) and for patients who had received insulin therapy than for those who had not ($7379 versus $4117).

Macrovascular complications accounted for 62-89% of the cost associated with inpatient treatment of diabetes-related complications. The total cost of treating patients with type 2 diabetes mellitus at an HMO increased as antidiabetic therapies escalated. Originally published in Am J Health Syst Pharm 2001 Jan 15;58(2):151-7. Copyright R2116 American Society of Health-System Pharmacists, Inc. All rights reserved. Reprinted with permission.

**From Northern California:**

**Association of outpatient alcohol and drug treatment with health care utilization and cost: revisiting the offset hypothesis**


**OBJECTIVE:** This study examines the hypothesis that treatment reduces medical utilization and costs of patients with substance use problems.

**METHOD:** Adult patients (n = 1011; 67% men) entering the outpatient chemical dependency recovery program at Sacramento Kaiser Permanente over a two-year period were recruited into the study. Medical utilization and costs were examined for 18 months prior and 18 months after intake. To account for overall changes in utilization and cost, an age, gender and length-of-enrollment matched nonpatient control group (n = 4925) was selected from health-plan members living in the same service area. Multivariate analyses controlling for age and gender were conducted using generalized estimating equation methods, allowing for correlation between repeated measures and nonnormal distributions of the outcome variable.

**RESULTS:**

- The treatment cohort was less likely to be hospitalized (odds ratio [OR] = 0.59; p < .01) and there was a trend for having spent fewer days (rate ratio [RR] = 0.77; p < .10) in the hospital in the posttreatment period compared to pretreatment period. These patients were also less likely to visit the emergency room (ER) (OR = 0.64; p < .01) and had fewer ER visits (RR = 0.81; p < .01) following treatment. Inpatient, ER and total medical costs declined by 35%, 39% and 26%, respectively (p < .01). Reductions in cost were greater for the treatment cohort when compared with the matched sample (p < .05). Among women, there were significant reductions (p < .05) in inpatient, ER and total costs for the study cohort when compared with the matched sample; among men, the reductions in inpatient and ER cost (but not total cost) were significantly larger (p < .05) for the study cohort when compared with the matched sample. For the treatment cohort, the change in medical cost was not significantly different by gender. Changes in cost were significantly different across the various age groups (p < .05) for the study cohort and the matched sample. Among those in the group aged 40-49 years, the decline in cost for study cohort was significantly larger (p < .05) than for the matched sample.

**CONCLUSIONS:** For patients with substance use disorders entering treatment, there was a substantial decline in inappropriate utilization and cost (hospital and ER) in the posttreatment period. The disaggregated pattern of posttreatment decline in utilization and cost is suggestive of long-term reductions that warrant a longer follow-up.


**From Ohio:**

**Improved cholesterol management in coronary heart disease patients enrolled in an HMO**


The purpose of the study was to describe the effect of physician reminders on the measurement of low-density lipoprotein
From Northern California:
Do surrogate decision makers provide accurate consent for intensive care research?
Coppolino M, Ackerson L. Chest 2001 Feb;119(2):603-12

CONTEXT: ICU patients are often rendered incapable of making decisions as a result of their illness. The accuracy with which patients’ surrogates consent to research on their behalf is not known.

OBJECTIVE: To determine if surrogate decision makers provide accurate consent for intensive care research.

DESIGN: Cross-sectional, paired, face-to-face interviews.

SETTING: A large, managed-care, cardiac surgery service.

PATIENTS AND PARTICIPANTS: One hundred elective cardiac surgery patients and their self-appointed surrogates were enrolled.

INTERVENTION: Patients agreed or declined to provide informed consent to two hypothetical research trials. One trial represented minimal risk to those enrolled; the other trial represented greater-than-minimal risk. Surrogates attempted to predict the patients’ responses.

MAIN OUTCOME MEASURES: The accuracy of surrogate consent was analyzed in a fashion analogous to the evaluation of a diagnostic test. Predictors of accuracy were evaluated using multiple logistic regression.

RESULTS: Overall surrogate positive predictive value for the low-risk study was 84.0% and for the high-risk study was 79.7% (p = 0.72, McNemar test). Predictors of accurate consent were not consistent across the two studies.

CONCLUSIONS: Surrogate decision makers for critical-care research resulted in false-positive consent rates of 16 to 20.3%. Further assessment and evaluation of the practice of surrogate consent for intensive care research is, therefore, recommended.

From the Northwest:
Satisfaction, commitment, and psychological well-being among HMO physicians


OBJECTIVE: To identify the factors that predict professional satisfaction, organizational commitment, and burnout among physicians working for health maintenance organizations (HMOs).

METHODS AND PARTICIPANTS: Data came from mail surveys of Kaiser 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 burn out.

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.

Quality Assurance (QA) in anesthesia can be defined as a focus on patient safety: Patient safety is a fundamental objective of anesthesia care because anesthesia by itself has no therapeutic value. The mainstay of anesthesia-related quality assurance has been peer review of adverse outcomes, but peer review alone is inadequate to assure high-quality care or patient safety.

Peer review’s limitations are multiple. First, the process is triggered only by adverse outcome; “near miss” events—events identical to adverse outcomes except that the patient is not harmed—are ignored by peer review. Peer review may examine only a narrow range of the department's activities, and examination depends on which charts are selected for review. Traditional peer review is directed only at detecting clinician error and fails to assess the competency of the system that supports the clinician. This peer review is unfair because it magnifies the errors of clinicians who assume the care of high-risk and problem-prone patients. The peer review process finds it necessary to assign blame and presumes that error is the fault of the clinician.

To enhance patient safety, QA processes must be based on new assumptions:

• Assume that the delivery of anesthesia care has inherent risks and that errors will occur at a statistically predictable rate.
• Discard the notion that every error is the fault of the clinician, and instead assume that nearly all errors are ultimately the result of system problems.
• Believe that any attempt to blame individuals is unnecessary.

Creation of a Program for Effectively Reporting Critical Incidents

Given three premises—that the quality of care may be improved by reducing the occurrence of critical incidents; that the traditional peer review process has inherent limitations; and that patient safety must be continuously improved—the Kaiser Permanente (KP) Northwest Region established, in 1999, a program for reporting critical incidents. We saw several advantages to implementing such a program:

• opportunity to identify and address system problems overlooked by isolated case review;
• opportunity to analyze “near miss” events to reveal potential problems before harm occurs;
• opportunity to identify clinically significant trends or clusters of incidents in an individual clinician’s practice or the department’s practice. Such clusters may indicate system problems.

Features of the KP Northwest Reporting Program

Aware that reporting anesthesia-related critical incidents has been used successfully in conjunction with continuous quality improvement and with the clinical audit function, we incorporated our own program into our QA program and thus protected the reporting system from legal discovery (required by peer review statutes). The system of reporting critical incidents covers about 100 items ranging from the clinically trivial (eg, delay) to the clinically significant (eg, death) and provides an opportunity to manually add items not on the checklist. Our system functions as a universal reporting system—anyone may report any problem by submitting a form—and uses paper checklists available at every anesthesia location and at the postanesthesia care unit. The forms are completed by the clinician only when an incident occurs. They are collected regularly and are entered into a database by the department secretary. Incidents may be flagged for immediate peer review. Only the departmental QA representatives and clinical chief have full access to the database reports.

Because the quality of information yielded by the database is directly related to the quantity of incidents recorded, we make reporting easy; indeed, ease of use appears to be the greatest factor in increasing reporting, and critical incidents are reported more frequently at locations where paper forms are always within reach of the anesthetist. We are now testing the use of handheld computers to capture relative value units (RVUs) and billing data. In conjunction with this effort, we are exploring ways to make reporting critical incidents a part of the process of recording RVUs and thus eliminate paper from the operating suite.

The system relies on self-reporting. However, because there is abundant research that shows that self-reporting fails to detect a...
sizable number of incidents unless a strong incentive exists for individuals to report themselves, our department uses three incentives to encourage self-reporting:

- **Exemption from quality determination, a rating of the provider's performance related to an incident.** When a critical incident is reported through the reporting program, the quality determination procedure will be used only if death or major injury has occurred.

- **Useful feedback to individual clinicians and to the department.** Analysis of departmental trends is regularly reported via e-mail to every department member. Individual feedback is not yet available, but the database is being revised to allow each clinician to compare his or her own standing with a departmental mean for the most frequently reported incidents. The knowledge that you are a statistical outlier can be a powerful incentive to examine and change practice.

- **Follow-up identification of program nonparticipants.** Because critical incidents are inherent in the practice of anesthesia, all clinicians can be expected to encounter such incidents in their practices. Therefore, as the database is revised, we will use it to identify clinicians who have not submitted a minimal number of reports. Clinicians who have not filed reports will be identified as “nonparticipating” on evaluations.

**Program-Related Results and Observations**

Our department has for the most part complied with a nonpunitive system of self-reporting. Our growing database has made trends easier to identify, but obtaining useful information from the database involves more than punching keys to generate reports. The database will yield lists of patients, clinicians, dates, locations, and medical chart numbers for each incident or incident class. The QA representative or assistant will then review each chart according to a template of questions developed by the QA representative to more sharply focus the chart review and to shorten the time required by this process to as little as five minutes per chart. Use of this self-reporting technique has revealed two important trends in the past year:

- From January through December of 2000, 13 instances of prolonged neuromuscular blockade were reported. Charts for 10 of the 13 affected patients were available for review. Of these ten patients with prolonged neuromuscular blockade reported, three received only succinylcholine or mivacurium; prolonged blockade in these patients appeared to result from pseudocholinesterase deficiency. One patient received succinylcholine and rapacuronium, and six patients received rocuronium.

We identified a problem with our department’s use of Zemuron® (rocuronium bromide; Organon, West Orange, NJ) and with potential misinterpretation of the drug package information. In some instances, the drug was inappropriately chosen. The drug is considered an intermediate- to long-acting relaxant and is thus inappropriate for use in brief surgical procedures. In other instances, the dose of rocuronium was not reduced to account for the effect of succinylcholine or inhalational anesthetic, effects that potentiate activity of the relaxant.

Most important of all, department members, possibly misinterpreting drug package information, were unaware of the highly variable duration of action of rocuronium. This variability is a problem with potential misinterpretation of the drug package information. I reviewed the manufacturer’s data on clinical duration and found that it clearly stated in tabular format that the median duration of effectiveness for a dose of .6 mg/kg (the most common dose given for intubation) is 31 minutes with a 25- to 75-percentile range of 15 to 85 minutes. Not generally being noted by most of the anesthesia staff, however, was that this means for only 50% of patients receiving an intubating dose of rocuronium will the duration of action fall within 15 and 85 minutes. This supporting information was sent by e-mail to all department members for clarification; the decision to alter their practice remains theirs. I will repeat this review next year to determine whether use of rocuronium still accounts for 60% of prolonged neuromuscular blockade.

Because effective airway management is a main principle of anesthesia practice, we searched for trends in the incidence of laryngospasm, hypoxemia, and pulmonary edema. Of seven instances of pulmonary edema reported in 2000, five medical charts obtained for review showed that two instances resulted from multiorgan failure, and three instances resulted from postextubation laryngospasm and obstruction. We noted four instances of postobstructive pulmonary edema in 1999.

Results of chart review suggested that otorhinologic procedures...
carry high risk and that postobstructive pulmonary edema occurs most frequently in healthy young patients with airway irritation due to smoking or upper respiratory infection. I believe that postobstructive pulmonary edema can be avoided by using excellent technique and by properly timing extubation. We will continue to follow this trend with a goal of consistently preventing postobstructive pulmonary edema.

Enhanced Use of Data and Other Systemic Refinements

Another use of the database proved productive, this time in an effort to reduce the incidence of severe pain among surgical patients and, by extension, to improve overall quality of pain relief. In coordination with the perioperative nursing staff, the anesthesia department reviewed charts to track monthly incidence of a single condition, severe pain, through most of 2000. We discovered that a mean of ten reports of severe pain was recorded each month from March 2000 through August 2000. We observed that the number of reports filed during this six-month period followed an upward trend even though the department was concurrently discussing use of narcotic loading, axial narcotic agents, regional anesthesia, nonnarcotic analgesic drug alternatives, and a “multimodal” approach to pain control and was forming an anesthesia plan that incorporates postoperative pain control.

In response to this observation, we asked patients how their pain treatment might be improved. Results of a detailed patient survey, conducted in July 2000, showed that patients want better preoperative education about how much pain to expect and how this pain can be treated. The survey results also suggested that local anesthesia administered by the surgeon may be insufficient, particularly among outpatients. After this information was sent to all our surgeons and their nursing staff in late August 2000, data review clearly showed a decline in incidence of severe pain: A mean of 4.5 incidents per month was reported from September 2000 through December 2000. Although incidence of severe pain declined, incidence rates for nausea and hypoventilation remained constant. We learned that excellent pain control requires attention to every detail as well as good clinical coordination among nurses, anesthesiologists, and surgeons.

Conclusions

Patient safety has been improved by use of information obtained from our self-report database of anesthesia-related critical incidents. Our use of muscle relaxants, our techniques of airway management, and our treatment of pain have been altered by knowing our department’s overall performance in these areas. The database is most useful in coordination with review of all the charts related to a single incident. Moreover, it also enables us to periodically gauge quality of care by tracking a frequently occurring medical situation or condition. The system works for several reasons: it contains incentives to use it, it is nonpunitive, and it provides useful information. Automated data collection can be expected to expand the database and improve its utility, and improvements made to provide feedback to individual clinicians can be expected to greatly affect their practices. In addition, our program of reporting anesthesia-related critical incidents has enabled the process of peer review to more effectively advance patient safety.

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We discovered that a mean of ten reports of severe pain was recorded each month...
To Be Or Not To Be ... Some Musings About Physician-Assisted Suicide

“T”hey shoot horses, don’t they?"

That aphorism expresses the feelings of many who advocate physician-assisted suicide, another term for requested active euthanasia. Indeed, many people express their frustration about this subject by stating that we often seem to treat our terminally ill pets more humanely than we treat our terminally ill family members and other loved ones. Unlike our pets, though, many of our terminally ill specifically request that their lives be ended—and this request generates a multitude of ethical dilemmas, some of which are explored here.

Framing the Issue: Two scenarios from life and literature

The famed psychoanalyst Sigmund Freud himself was unafraid to die and was receptive to euthanasia. This attitude is shown by an account of Freud’s death, excerpted here from an article published in the Archives of Internal Medicine.

According to Schur’s first-person account of Freud’s final hours, he grasped his physician’s hand and said, “My dear Schur, you certainly remember our first talk. You promised me then not to for-sake me when my time comes. Now it’s nothing but torture and makes no sense any more.” Schur indicated that he had not forgotten his earlier promise. Freud “sighed with relief, held my hand for a moment longer, and said ‘I thank you,’ and after a moment of hesitation he added: ‘Tell Anna [Freud’s daughter] about this.’ All this was said without a trace of emotionality or self-pity, and with full consciousness of reality.”

I informed Anna of our conversation, as Freud had asked. When he was again in agony, I gave him a hypodermic of two centigrams of morphine. He soon felt relief and fell into a peaceful sleep. The expression of pain and suffering was gone. I repeated this dose after about twelve hours. Freud was obviously so close to the end of his reserves that he lapsed into a coma and did not wake up again.

... Freud’s professional interest in death as a spiritual human event was deep; the prospect of his own mortality was surely the object of extensive reflection, following the diagnosis of cancer and the much earlier (probably incorrect) diagnosis of heart disease. Ironically, in what seems almost like a modern fear of anticipated criticism from this act of what some might consider voluntary active euthanasia, publication of Schur’s account was delayed until following his own death.1:1522a

Freud’s choice of what would now be termed voluntary active euthanasia is relevant to the ongoing, heated debate over physician-assisted suicide. Exerting control over his life and death—as well as honesty in medical decisions—had a growing importance to Freud in the last decades of his life, and this importance mirrored changes that were already occurring in our society’s views of contemporary medical care. Just as Freud chose to live as long as the he considered life personally meaningful and to die at the hand of his trusted physician, Max Schur, an increasing number of terminally ill patients today are demanding that their physician assist them toward a quick, controlled, and reconciled death.

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Even in the most predictable of circumstances, death is mostly a complicated and unpredictable event. Unless we take our own life, no matter how carefully we describe and document our wishes for terminal care, we cannot prevent circumstances in which a stranger or ill-informed relative will make decisions that conflict with our intentions. Planned deaths will always constitute a small minority of the dying encountered in medical practice, but for individuals like Freud who insist on writing their own life’s script, a controlled and reconciled death is of grave importance.1:1524b

I have often wondered why anyone would purposefully choose death—oblivion, the unknown—instead of choosing life. If the choice is motivated by physical pain or by emotional suffering such as clinical depression, then these entities should be directly addressed. But perhaps some people are truly motivated by some existential angst; perhaps they believe in a “far, far better world” that they will go to when they die. This belief in an afterlife, belief in a more perfect world—belief that one must suffer in this life in exchange for an everlasting life of ecstasy after death—is so real to some people that for these people, savoring a moment of life in their bodies now is “[like] paying for an everlasting life in the coin of life to come.”2:120 For example, many passages in Toni Morrison’s novel, Beloved,2 present a message of death in life and of life in death. Speaking of another character in the novel, Paul D says, “I hope she didn’t die hard.” Sethe replies, “... Soft as cream. Being alive was the hard part.”2:7

MARK M COHEN, MD, is a recently retired physician of TPMG. During more than 29 years with TPMG, he participated as an ophthalmic surgeon, chief of service, and student of human interaction. Since his retirement two years ago, he has completed a Masters Degree in Liberal Studies (MALS) at Saint Mary’s College in Moraga, California. E-mail: MarkM Cohen@aol.com.
Other passages in the novel touch on these feelings about death:

… it embarrassed them and made them sad; that secretly they longed to die—to be quit of it—that sleep was more precious to them than any waking day.2,17

Singing love songs to Mr Death, they smashed his head. More than the rest, they killed the flirt whom folks called Life for leading them on. Making them think the next sunrise would be worth it; that another stroke of time would do it at last. Only when she was dead would they be safe.2,20

Also pertinent to this subject is a question: Where does assisted suicide end and active euthanasia begin? In the same novel, Beloved, Sethe thinks:

… if I hadn't killed her she would have died and that is something I could not bear to happen to her.2,20

[She goes on to maintain that] … what she had done was right because it came from true love.2,251

Choosing to end life: Individual and societal views

What kind of person most typically seeks to have his or her life ended by a physician?

Mark S Goulston, MD, a psychiatrist in Santa Monica, California, relates a story3 about a 64-year-old man who had become housebound from end-stage Parkinson's disease and who had asked a "well-known" suicidologist to "be put out of his [the patient's] misery." The patient was reduced to asking for this help because "He was unable to get out of bed to retrieve his stockpile of pills or his handgun."3 Earlier, the man had been a successful professional football coach and until the previous two years out of eight, he had been able to continue working as a sports coach while hiding his symptoms from his players and children; he said he did not want to be pitied. Even though the man had exhausted most benefits of the anti-Parkinsonism drugs, his neurolologist believed the patient was years away from reaching end-stage disease. Dr Goulston introduced himself to the patient and informed him that he had come at the request of both the previous doctor and the patient's wife. The patient responded: "They probably want you to talk me out of doing away with myself. They think I'm depressed. I'm not. I'm just realistic. How do you think you'd feel, if you were hostage to this disease? … Each day lasts forever, and I don't know how much longer I can hold on."3

Various kinds of psychiatric therapy (personal, medical, and family therapy) could not dissuade the patient from choosing to end his life.3 A final treatment option for the patient—electroconvulsive therapy (ECT)—was presented to the family and was reluctantly accepted. Inpatient ECT was given, and the patient had a striking remission not only of his previously denied depression but also of many Parkinsonism symptoms. Thereafter, the patient received one maintenance treatment of ECT per month. At publication of the article, the patient and his family expressed the feeling that life is worthwhile after all.3

Any discussion regarding "physician-assisted suicide" must consider not only the personal sanctity of human life but also the value society bestows on it.

Any discussion regarding "physician-assisted suicide" must consider not only the personal sanctity of human life but also the value society bestows on it. The ancients did not seem to view life as such a desirable thing that it should be protracted at any cost: Socrates himself took hemlock rather than stop teaching the youth of Athens. Aristotles proclaimed that "Doubtless the noblest kind [of death] … is death in battle, for in battle a man is faced by the greatest and most noble of dangers. … Properly speaking, therefore, we might define as courageous a man who fearlessly faces a noble death and any situations that bring a sudden death."4,71 Yet Aristotle goes on to say, "… to seek death as an escape from poverty, love, or some other painful experience is to be a coward rather than a man of courage."4,71-2

Given this statement, one would think Aristotle disapproved of suicide. The Epicureans taught that death was not a bad thing and was not to be feared. Epicurus taught that this fear must be banished to make "the mortality of life enjoyable."5,197 and paradoxically said:

And often, on the account of the fear of death, such a hatred of life and of seeing the light seizes human beings that, in their state of agony, they commit suicide, forgetting that it is this fear that is the source of their anguish.5,197

The Stoics practiced desensitization of the emotions, believing that "… one could still appropriately be motivated to avoid death and other dispreferred indifferents. If they come, one will not mind, but one can sensibly avoid them."5,399 Nonetheless, the Stoics actually praised suicide as a noble and heroic action in situations where it is considered necessary. Seneca expressed the strongest approval of suicide: "... by the courage and dignity of his own death he [ie, Seneca] punished the emperor [Nero], cheating him of the pleasure of watching his own suffering and humiliation."5,437

The Judeo-Christian ethic expresses a clear position about suicide in any form. That ethic holds that our bodies are not ours to take but instead are merely loaned to us by our Creator. We are admonished to treat our bodies as sacred. As stated in Corinthians,

Shun immorality. Every other sin a person commits is outside the body, but the immoral person sins against his own body. Do you not know that your body is a temple of the Holy Spirit within you, which you have from God? You are not your own; you were bought with a price. So glorify God in your body.6

The philosopher Immanuel Kant believed strongly that each person has a duty to preserve his or her life. In addition to affirming that "… suicide is not inadmissible and abominable
because God has forbidden it; God has forbidden it because it is abominable in that it degrades man’s inner worth below that of the animal creation.”7 Kant asserted that the moral act is not to preserve one’s life when one has the immediate inclination to do so; the moral act is instead to preserve life, especially when one years for death.

… when adversity and hopeless sorrow have completely taken away the relish for life; if the unfortunate one, strong in mind, indignant at his fate rather than despondent or dejected, longs for death and yet preserves his life without loving it. [If he does this] not from inclination or fear but from duty, then his maxim has a moral worth.8,10

In the debate on physician-assisted suicide, the Utilitarian method of John Stuart Mill could be used to argue either pro or con on the principle that a person must do the right thing to produce the greater good. In this context, “right” actions are those that produce more happiness than unhappiness. Actions are to be judged as “right” or “wrong” solely by virtue of their consequences: “right” actions are defined simply as those that have the best consequences, and nothing else matters.

Moreover, in Utilitarianism, “happiness” means intended pleasure and the absence of pain; unhappiness means pain and the absence of pleasure. A case could be made using the assertion that people who are in pain and unhappy at the end of their lives should have their lives shortened to relieve this pain and suffering and to decrease the resultant monetary costs to society. This scenario attempts to represent a “win-win” situation. Another case could be made using the assertion that “the right thing” would be to use any means necessary (short of death) to relieve pain and suffering and to both renew and reaffirm each patient’s importance to himself or herself and to society. The book Utilitarianism contains only one reference to death or dying:

To those who have neither public nor private affections, the excitements of life are much curtailed, and in any case dwindle in value as the time approaches when all selfish interests must be terminated by death: while those who leave after them objects of personal affection, and especially those who have also cultivated a fellow-feeling with the collective interests of mankind, retain as lively an interest in life on the eve of death as in the vigor of youth and health. Next to selfishness, the principal cause which makes life unsatisfactory is want of mental cultivation.9,20

Other notable views of mortality

Acclaimed writer James Baldwin, in his essay “Stranger in the Village,”10 elegantly expressed the value and worth of any life and even the sanctity of that final human condition we call death:

There is often something beautiful, there is always something awful, in the spectacle of a person who has lost one of his faculties, a faculty he never questioned until it was gone, and who struggles to recover it. Yet people remain people, on crutches or indeed on deathbeds …10,11,18

Even though screen actor Christopher Reeve suddenly became quadriplegic after a fall from a horse,13 he did not lose all sense of self. Although unable to perform even the most mundane activities as he did before, he holds on to life; in fact, he directs films, delivers speeches, and has become a great philanthropist and advocate in the area of disabilities—all the while maintaining a visibly pronounced presence of self.

Jean-Dominique Bauby was the 43-year-old editor of a popular French magazine when he suddenly experienced nearly total body paralysis (brain stem stroke) and could communicate with others only by the blink of one eyelid—yet he preserved not only a sense of self but also a sense of hope.12 Written while he was in this stricken state, Bauby’s memoir (published posthumously) is a testament to his love of life—a love he retained even though his body was left with much pain and little usefulness.13 An excerpt, written shortly before his death, attests to his love of life:

Finally we reach the farthest point of our journey, the very end of the promenade. I have not insisted on coming all this way just to gaze at the flawless seascape. I have come to gorge on the aromas emanating from the modest shack by the path leading away from the beach. Claude and Brice bring me to a halt downwind. My nostrils quiver with pleasure as they inhale a robust odor—intoxicating to me but one most mortals cannot abide. “Oohl!” says a disgusted voice behind me. “What a stench!”

But I never tire of the smell of french fries.12,18

Most people hope for a “good death” however they may define it.

When faced with mortality, we all react in different ways. Most people hope for a “good death” however they may define it. Some spiritual traditions emphasize the importance of conscious preparation for death as a way to show respect for and acceptance of life’s final adventure. Contact with death often gives us an opportunity to become more aware of spiritual realities. In “The Art of Living,” Thich Nhat-Hanh encourages us to savor or taste the moment, to be in it, to experience it to the fullest extent possible:

If we think of the future—of what we want to realize—or if we think of the past—our many regrets—we will lose our steps, and that would be a pity…

… Looking at a tangerine in this way [that is, with the practice of mindfulness], you will see that everything in the cosmos is in it—sunshine, rain, clouds, trees, leaves, everything …

This is an exercise in the art of living. Everything we do can be like this.13,21

Death is not the opposite of life—it is the opposite of birth.
With this concept in mind, realizing that dying is just another—albeit the final—stage of life, why would we choose to shorten it? Why not savor and learn from it what we can? If life itself has any meaning, then does its end have any less meaning? Death is as much a stage in life as birth; death is not the opposite of life—it is the opposite of birth. And like birth, death may be associated with pain, loss of control, and loss of personal dignity. Yet, we celebrate birth—why should a natural death be treated differently? Why not celebrate the dignity of life instead of “death with dignity”? Rabbi Yaakov Menken reminds us:

This fundamental truth applies to every human life, and at every moment. What we might perceive as the “quality” of life pales before the radiance inherent in the very existence of that life, regardless of illness or disability. (personal communication, October 7, 1999).

Dilemmas for physicians, legislators, and interest groups

Freud himself once said that any true ethical choice involves agony. For the physician, a conflict exists between the urge and the mandate to relieve pain and suffering and the centuries-old taboo against medical killing, a taboo understood by many to be a fundamental of medical ethics. This taboo is the force that prevents physicians from administering lethal injections, even in those US states that allow capital punishment. This taboo is specifically proscribed in the Hippocratic Oath, where it stands as a fervent promise of professional self-restraint: “I will neither give a deadly drug to anybody if asked for it, nor will I make a suggestion to this effect … In purity and holiness I will guard my life and my art.”14 This pledge clearly proscribes the practice of euthanasia and even the assistance or encouragement of a willing patient to commit suicide. The oath has also been reaffirmed in the professional codes of modern medical societies; the American Medical Association’s code of Medical Ethics, for example, explicitly precludes physician-assisted suicide, on the grounds that it is “fundamentally incompatible with the physician’s role as healer, and would make it difficult or impossible to control, and would pose serious societal risks.”15

On the other hand, the Hippocratic Oath and modern medical ethics understand well the limits of our medical art: To prolong the natural process of dying is inappropriate when death is unavoidable. Sometimes a fine line may exist between letting someone die and actively causing his or her death. Some decisions can be made only by the physician in consultation with both the patient and specifically permitted members of the patient’s family. Accordingly, to protect our desires and wishes, it is incumbent on all of us to compose living wills and advance directives. Forms to assist in composing these documents are available from most state medical societies and from the states they represent.

I believe that to legislate physician-assisted suicide may soon take us down that “slippery slope” from physician-assisted suicide to active euthanasia. One need only view the manner and extent to which economic incentives have recently affected our medical care system. Abuses committed by some HMOs are in the news almost daily. If physician-assisted suicide laws were enacted, would not these incentives soon convince others that they could avoid huge economic costs (or perhaps achieve financial gain) if a demise were to occur earlier rather than later, especially where an inheritance will be at stake? For example, my son-in-law’s father was diagnosed as having terminal liver cancer and was given about a year to arrange his affairs in preparation for imminent death. Five years later, his main complaints are short-term memory loss and a different, real kind of difficult loss: his license to drive. The Hemlock Society, major proponents of the “Death with Dignity” movement, issued a press release favoring involuntary euthanasia of incompetent people. Dated December 3, 1997, the press release stated that courts should grant families permission to kill “when it is necessary to hasten the death of … a demented parent, a suffering, severely disabled spouse or a child.”17 And this statement is not an aberration: On July 27,

Patients fear possible loss of love; they fear abandonment and “want to do the right thing” so that they avoid becoming a burden either to their families or to society.
1998, the Hemlock Society released another press release calling for legalization of assisted suicide for people with “incurable” conditions.17 Later that year (on October 15), the World Federation of Right-to-Die Societies issued the “Zurich Declaration,”18 which stated that “…all competent adults suffering severe and enduring distress [should be eligible] to receive medical help to die…”18 Enacting either of these proposals into law would in effect create a right to receive assisted death on demand.

Oregon is currently the only US state that mandates availability of physician-assisted suicide. Twenty-seven reported legal assisted suicides occurred in 1999—up from the number (15 cases) reported in 1998 and nearly twice the number reported in the first year after the law was enacted.19 But as the report itself admits, “underreporting cannot be assessed, and noncompliance is difficult to assess …”19,60 The primary reasons listed for justification remain consistent with those reported in 1998: fear of losing autonomy and inability to engage in enjoyable activities.19 Only seven of the patients whose lives were terminated had feared receiving inadequate pain control, and none of the patients had killed themselves because of uncontrollable pain19—the supposed reason for originally legalizing assisted suicide.

Perhaps even more interesting is the observation that more than half of these patients chose death to avoid becoming a burden to their families. “Thus, rather than being an act of ‘last resort’ when proper treatment doesn’t work, as the law was sold to Oregon voters, assisted suicide is becoming an alternative to proper treatment.”20 Eighteen of the patients went to two or more physicians before finding a doctor willing to administer lethal drugs. In these instances, the patient-physician relationship was reportedly as short as two weeks. One patient, who had cancer and dementia, was found incapable of understanding the implications of her request. Her daughter pressured her mother’s health maintenance organization (HMO), which located another psychologist, who, while professing reservations, approved the assisted suicide.20

For another patient, who suffered from amyotrophic lateral sclerosis (Lou Gehrig’s disease), the poison was delivered via Federal Express. However, the patient was unable to swallow the pills, and his brother-in-law was forced to come to the patient’s aid. Because of this event, a deputy attorney general wrote an opinion letter stating that Oregon might have the means to provide “reasonable accommodation” under the Americans With Disabilities Act. If the law becomes modified to allow active assistance in administering lethal drugs, we will have crossed the line from assisted suicide to voluntary euthanasia.20

Organizations such as the Hemlock Society have stated that the threat of progressing to unauthorized euthanasia is highly exaggerated and amounts to “scare-mongering,” but early reports from Holland arouse my apprehension. The following is taken from a report by Kass and Lund22 in the December 1996 issue of the magazine, *Commentary*:

> Although assisted suicide and voluntary euthanasia by physicians are technically still against the law there, their practice has been tolerated, even encouraged, for nearly twenty years, under guidelines established by the medical profession. And although the guidelines insist that choosing death must be informed and voluntary, a 1989 survey of 300 physicians disclosed that over 40% had performed non-voluntary euthanasia and over 10% had done so five times or more. Another survey, this one commissioned by the Dutch government, provides even more alarming data: in 1990, besides the 2300 cases of voluntary euthanasia and 400 cases of physician-assisted suicide per year, there were over 1000 cases of active non-voluntary euthanasia performed without the patient’s knowledge or consent, including roughly 140 cases (14%) in which the patients were mentally totally competent. (Comparable rates of non-voluntary euthanasia for the United States would be roughly 20,000 cases per year.) In addition, there were 8100 cases of morphine overdose with the intent to terminate life, of which 68% (5508 cases) took place without patient knowledge or consent.

And why are Dutch physicians performing non-voluntary euthanasia? “Low quality of life,” “relatives’ inability to cope,” and “no prospect of improvement” were reasons physicians gave for killing patients without request; pain or suffering was mentioned by only 30%. Is there any reason to believe that Dutch physicians are less committed than their American counterparts to the equal dignity of every life under their care?22,23,24

On February 26, 1999, California State Assembly Member Dion Aroner introduced Assembly Bill 1592, also known as the “Death with Dignity Act” (legislation similar to the abovementioned Oregon law).25 Even though this bill died on February 3, 2000, and currently remains in the inactive file, we can expect similar legislation to be introduced in the future.

> **Whenever I spend time with a dying person I have, in fact, found a living person.**

**Some suggestions on how to proceed**

Patch Adams, MD, best expresses my feeling about the best way—not only for physicians but for all of us—to approach death and those who are dying:

> Whenever I spend time with a dying person I have, in fact, found a living person.
old girl who had a huge bony tumor of the face with one eye floating out in the mass. Most people found it difficult to be with her because of her appearance. Her pain was not in her dying but in the loneliness of being a person others could not bear to see. She and I played, joked, and enjoyed her life away. This is when I made a commitment to enjoy the profoundly ill and act normal around them.243

Dr Adams’ contention is that “Dying is that process [which occurs] a few minutes before death when the brain is deprived of oxygen; everything else is living.”24 He would advocate a natural death, at home if possible; an intimate death experience planned by the family together could act as a form of cement, perhaps gluing back the family structure which is experiencing a major breakdown in contemporary society.244

In the face of ever-escalating economic, legal, and technologically driven pressures, it is becoming increasingly more difficult for the medical profession to uphold its own ethical standards and for individual physicians to maintain their moral balance. Nowhere is this more important than in caring for those who are dying. As physicians and as a society, we must be both willing and able to provide adequate comfort and care for all our dying patients. As Kass & Lund22 point out, we should be trying:

“… to reverse the dehumanization of the last stages of life, instead of giving dehumanization its final triumph by welcoming the desperate goodbye-to-all-that contained in one final plea for poison… Should we cave in, should we choose to become technical dispensers of death, we will not only be abandoning our loved ones and our duty to care for them; we will also exacerbate the worst tendencies of modern life, embracing technicism and so-called humaneness where humanity and encouragement are both required and sorely lacking.”22-24

At least to me, the moral, ethical, compassionate solution to pain and sickness entails improved caring, not sanctioned killing.

References
Anatomy Lab

His name was Luther, at least, that is what we called him. We chose him because he was slender and lay next to an open window.

Why did he donate himself to our awkward probing, the sophomoric pranks? Or didn't he know? His body was our textbook.

Was he a loner, or did he have family? Did he work with his bands, or languish in prison or asylum? Was he loved? What were his longings? We never even knew how he died.

As in slumber he lay, object of our novice trespass, and with dignity bore his defacement. Forgive us, dear father, reform your unenlightened sons and daughters.

Hear us now, famous warrior, with those lifeless ears, with sightless eyes, see us in the miasma of our mid-life careers.

We know now your sacrifice cannot be repaid. Your formaldehyde-soaked fingers will forever linger in our minds, as we administer your teachings to the dying and the damned.

How well you taught your children, in the anatomy lab of memory.

Robert Hippen, MD
January 25, 2001
There have been 427 appendectomies performed in this hospital since August 1942. Fifty-one perforated appendixes were encountered. There have been no deaths in the combined series. The different pathological forms and other data of acute appendicitis with perforation, which we have encountered, are outlined in the charts below accompanied by a discussion of each type.

In the following charts, statistics have been compiled concerning the length of illness prior to hospital entry, the number of days sulfonamides were given postoperatively, sulfonamide levels maintained postoperatively, the complications and the number of days in the hospital. In addition, indications are made as to whether sulfonamides were placed in the wound and whether the wound was drained. The same routine was carried out in all the patients with regards to sulfonamide therapy except for a few minor variations. Ten grams of sulfathiazole were placed within the abdomen in the form of an emulsion. Five grams of sulfathiazole were placed in the form of an emulsion in the separate layers of the wound. Wangensteen naso-gastric suction was used in most cases postoperatively for one to three days and during this time 2 1/2 gr of sulfadiazine were given intravenously three times a day accompanied with 500 cubic centimeters of 1/6 M sodium lactate solution to maintain an alkaline urine. After the removal of the stomach suction, 2 gr of sulfadiazine were given four times each day with liberal amounts of soda. The patients were usually kept on this regime until afebrile. An effort was made to maintain a blood sulfadiazine level between 10 and 15 mg per hundred cubic centimeters in those patients who were quite ill. It is difficult to maintain high levels unless large amounts are given. The weight of the patient, the fluid intake and output and the time of blood collection for sulfonamide level determinations, are all factors to be considered when one is analyzing blood levels. The blood levels indicated in the charts were obtained on different postoperative days. We routinely obtained the first level some time within the first 24 hours after surgery and subsequent levels every three or four days. A small rubber drain was inserted down to the peritoneum in most cases and this was removed in one to three days.

Commentary
By John T Igo, MD, FACS

In 1944, The Permanente Foundation Medical Bulletin published a review by RB Henley, MD, and NL Haugen, MD, about the then-young Oakland and Richmond Permanente Foundation Hospitals' experience with complicated appendicitis. I am delighted to have this opportunity to offer my commentary on the article because Norman Haugen was on the teaching staff of the Kaiser Permanente (KP) Oakland Medical Center when I arrived there as a junior surgical resident in 1960. Dr Haugen remained on the staff until his retirement in the mid-1970s. He was for decades a tireless and generous mentor to young men and women working in the General Surgery Program, and, to this day, he remains my good friend and neighbor. After being influential in KP's early teaching program in surgery, Dr Henley returned to fee-for-service practice in post-WWII Oakland.

Appendicitis: Historical Evolution of its Diagnosis and Treatment

Since the Middle Ages, physicians have recognized a clinical entity associated with severe inflammation of the cecal region. Termed “typhlitis” or “paratyphlitis” (from the Greek typhlos, meaning “blind” and referring to the anatomy of the first part of the cecum), the disease was for hundreds of years considered fatal. In 1886, Professor Reginald Fitz at Harvard Medical School gave the first clear, logical description of the clinical and pathologic features of the disease by using the term appendicitis. In 1889, New York surgeon Charles McBurney advocated prompt diagnosis and early appendectomy—recommendations that led the medical profession toward modern treatment of the disease. Subsequently, surgical results in patients with an acutely inflamed, nonperforated appendix were satisfactory, but rates of postoperative morbidity and mortality were high among patients for whom delayed diagnosis led to a perforated appendix with peritonitis.

Commentary continued on page 24.
In the majority of patients, peritoneal cultures were obtained and all were positive. In some instances, cultures were not obtained by the operating surgeon or they were not reported from the laboratory.

The 14 patients in Table 1 had had symptoms of appendicitis for one to four days prior to hospital entry except in one individual who had been ill for ten days with a very atypical history. In all of these, a generalized peritonitis was found as indicated by large amounts of turbid fluid with a distinct odor and in some instances, fluid which was almost milky in color. The appendiceal perforation was open and no form of real localization had taken place.

Wound infections developed in three of the patients who had sulfathiazole placed in wounds, and these did not require surgical drainage in the operating room except in one instance. One out of the two patients without sulfathiazole in their wounds developed a low-grade wound infection and the other did not. Six out of 13 patients developed various complications but none of these were serious except in patients EA and ET. None of these complications required further surgical draining except ET. Several of these patients remained in the hospital for a surprisingly short time. The average number of postoperative days in the hospital was 18.5.

In those patients outlined in Table 2, a perforated appendix was found which was fairly well walled off by the omentum or adjacent mesentery but with a definite abscess formation of some size and with evidence of a local surrounding peritonitis. Fourteen such cases are tabulated here and in general, these patients were not as ill as in Group 1. Sulfathiazole was placed in the wound of 11 of these patients and a low-grade wound infection developed in one. No wound infections occurred in three patients not receiving sulfathiazole locally. A total of three complications took place and these were minimal. The average number of postoperative hospital days equaled 9.7.

In those fourteen patients outlined in Table 3, perforation of the appendix had taken place only shortly before removal or during removal of a very gangrenous appendix. This type of pathology caused only local soiling around the regions of the cecum, but the total number of complications was greater here than in Groups 1 and 2. In 12 patients, sulfathiazole was applied locally and two developed wound infections. Neither of the other two cases without local sulfathiazole developed wound infections. Complications occurred in 11 patients, but many of these were minimal in character. In two patients, further complications occurred.

### Table 1. Acute appendicitis with perforation with generalized peritonitis without abscess formation or any form of localization

<table>
<thead>
<tr>
<th>Patient</th>
<th>Days ill</th>
<th>Days on Sulf</th>
<th>Sulf in wounds</th>
<th>Wound drained</th>
<th>Sulf blood levels (mgs %)</th>
<th>Complications</th>
<th>Days in hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS</td>
<td>2</td>
<td>8</td>
<td>No</td>
<td>No</td>
<td>18.0-7.0</td>
<td>Spontaneous wound drainage one week</td>
<td>19</td>
</tr>
<tr>
<td>JK</td>
<td>2</td>
<td>4</td>
<td>Yes</td>
<td>Yes</td>
<td>8.5-18.7</td>
<td>Pneumonia</td>
<td>13</td>
</tr>
<tr>
<td>EA</td>
<td>10</td>
<td>11</td>
<td>Yes</td>
<td>Yes</td>
<td>9.8-9.1</td>
<td>Pelvic and intra-abdominal masses, both subsiding, Hypoproteinemia. Wound drained seven weeks</td>
<td>36</td>
</tr>
<tr>
<td>EC</td>
<td>1</td>
<td>12</td>
<td>Yes</td>
<td>Yes</td>
<td>7.9-10.0</td>
<td>Subcutaneous wound abscess drained</td>
<td>20</td>
</tr>
<tr>
<td>JD</td>
<td>4</td>
<td>7</td>
<td>Yes</td>
<td>Yes</td>
<td>15.7</td>
<td>None</td>
<td>7</td>
</tr>
<tr>
<td>HG</td>
<td>1</td>
<td>12</td>
<td>Yes</td>
<td>No</td>
<td>8.3-10.0</td>
<td>Pelvic mass subsided</td>
<td>23</td>
</tr>
<tr>
<td>MM</td>
<td>18 hrs</td>
<td>14</td>
<td>No</td>
<td>Yes</td>
<td>18.7-5.3-9.2</td>
<td>None</td>
<td>22</td>
</tr>
<tr>
<td>OR</td>
<td>2</td>
<td>3</td>
<td>Yes</td>
<td>Yes</td>
<td>12.1-19.8-10.4</td>
<td>None</td>
<td>9</td>
</tr>
<tr>
<td>TS</td>
<td>3</td>
<td>6</td>
<td>Yes</td>
<td>Yes</td>
<td>5.3-6.3</td>
<td>None</td>
<td>9</td>
</tr>
<tr>
<td>JS</td>
<td>2</td>
<td>9</td>
<td>Yes</td>
<td>Yes</td>
<td>10.5</td>
<td>None</td>
<td>16</td>
</tr>
<tr>
<td>DS</td>
<td>2</td>
<td>14</td>
<td>Yes</td>
<td>Yes</td>
<td>11.4-9.5-11.9</td>
<td>None</td>
<td>16</td>
</tr>
<tr>
<td>GS</td>
<td>2</td>
<td>9</td>
<td>Yes</td>
<td>Yes</td>
<td>17.8</td>
<td>None</td>
<td>9</td>
</tr>
<tr>
<td>ET</td>
<td>1</td>
<td>20</td>
<td>Yes</td>
<td>No</td>
<td>8.7-9.9-8.6-10.2-10.3</td>
<td>Deep wound infection. Pelvic abscess. Pneumonia</td>
<td>60</td>
</tr>
<tr>
<td>DT</td>
<td>1</td>
<td>20</td>
<td>No</td>
<td>Yes</td>
<td>No report</td>
<td>None</td>
<td>7</td>
</tr>
</tbody>
</table>

Several of these patients remained in the hospital for a surprisingly short time. The average number of postoperative days in the hospital was **18.5**.
### Table 2. Acute appendicitis with perforation with abscess formation and with local peritonitis only

<table>
<thead>
<tr>
<th>Patient</th>
<th>Days ill</th>
<th>Days on Sulfa</th>
<th>Sulfa in wounds</th>
<th>Wound drained</th>
<th>Sulfa blood levels (mgs %)</th>
<th>Complications</th>
<th>Days in hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>JL</td>
<td>1.5</td>
<td>11</td>
<td>Yes</td>
<td>No</td>
<td>7.2</td>
<td>Ileus</td>
<td>16</td>
</tr>
<tr>
<td>FE</td>
<td>3</td>
<td>4</td>
<td>Yes</td>
<td>Yes</td>
<td>Non-reported</td>
<td>None</td>
<td>8</td>
</tr>
<tr>
<td>LR</td>
<td>2</td>
<td>None</td>
<td>None</td>
<td>Yes</td>
<td>Non-reported</td>
<td>None</td>
<td>7</td>
</tr>
<tr>
<td>GT</td>
<td>3</td>
<td>8</td>
<td>Yes</td>
<td>No</td>
<td>8.7-9.9</td>
<td>Subcutaneous wound drainage</td>
<td>14</td>
</tr>
<tr>
<td>CK</td>
<td>3</td>
<td>10</td>
<td>Yes</td>
<td>Yes</td>
<td>3.7</td>
<td>None</td>
<td>7</td>
</tr>
<tr>
<td>AH</td>
<td>1</td>
<td>17</td>
<td>Yes</td>
<td>Yes</td>
<td>3.1-3.5</td>
<td>None</td>
<td>19</td>
</tr>
<tr>
<td>WH</td>
<td>2</td>
<td>4</td>
<td>No</td>
<td>No</td>
<td>Non-reported</td>
<td>None</td>
<td>6</td>
</tr>
<tr>
<td>RK</td>
<td>4</td>
<td>1</td>
<td>Yes</td>
<td>Yes</td>
<td>Non-reported</td>
<td>None</td>
<td>12</td>
</tr>
<tr>
<td>OM</td>
<td>2</td>
<td>6</td>
<td>Yes</td>
<td>No</td>
<td>2.7-14</td>
<td>None</td>
<td>7</td>
</tr>
<tr>
<td>JP</td>
<td>3</td>
<td>6</td>
<td>Yes</td>
<td>No</td>
<td>5.4-14.1</td>
<td>None</td>
<td>7</td>
</tr>
<tr>
<td>UR</td>
<td>1</td>
<td>7</td>
<td>Yes</td>
<td>Yes</td>
<td>12.8</td>
<td>Subcutaneous hematoma</td>
<td>7</td>
</tr>
<tr>
<td>KS</td>
<td>3</td>
<td>5</td>
<td>Yes</td>
<td>Yes</td>
<td>3.5</td>
<td>None</td>
<td>10</td>
</tr>
<tr>
<td>RW</td>
<td>4</td>
<td>9</td>
<td>No</td>
<td>Yes</td>
<td>9.2</td>
<td>None</td>
<td>7</td>
</tr>
<tr>
<td>WR</td>
<td>2</td>
<td>10</td>
<td>Yes</td>
<td>Yes</td>
<td>7.1</td>
<td>None</td>
<td>10</td>
</tr>
</tbody>
</table>

### Table 3. Acute appendicitis with perforation which occurred during or shortly before removal

<table>
<thead>
<tr>
<th>Patient</th>
<th>Days ill</th>
<th>Days on Sulfa</th>
<th>Sulfa in wounds</th>
<th>Wound drained</th>
<th>Sulfa blood levels (mgs %)</th>
<th>Complications</th>
<th>Days in hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>NJ</td>
<td>1</td>
<td>1</td>
<td>Yes</td>
<td>Yes</td>
<td>8.3</td>
<td>Pelvic cellulitis</td>
<td>14</td>
</tr>
<tr>
<td>IR</td>
<td>1.5</td>
<td>16</td>
<td>No</td>
<td>No</td>
<td>24.9-6.5-5.0-14.0</td>
<td>Pelvic abscess with post-colpotomy</td>
<td>46</td>
</tr>
<tr>
<td>CD</td>
<td>3</td>
<td>4</td>
<td>No</td>
<td>No</td>
<td>2.2-4.5</td>
<td>Peritonitis. Bowel obstruction</td>
<td>8</td>
</tr>
<tr>
<td>LF</td>
<td>3</td>
<td>8</td>
<td>Yes</td>
<td>Yes</td>
<td>11.8</td>
<td>None</td>
<td>8</td>
</tr>
<tr>
<td>DH</td>
<td>1</td>
<td>4</td>
<td>Yes</td>
<td>No</td>
<td>9.5-3.0</td>
<td>Subcutaneous wound infection</td>
<td>20</td>
</tr>
<tr>
<td>VJ</td>
<td>1</td>
<td>None</td>
<td>Yes</td>
<td>Yes</td>
<td>4.2</td>
<td>None</td>
<td>6</td>
</tr>
<tr>
<td>WK</td>
<td>1</td>
<td>9</td>
<td>Yes</td>
<td>Yes</td>
<td>8.7-9.0</td>
<td>Wound induration</td>
<td>11</td>
</tr>
<tr>
<td>EL</td>
<td>1</td>
<td>10</td>
<td>Yes</td>
<td>Yes</td>
<td>13.4</td>
<td>Pelvic abscess which drained spontaneously</td>
<td>13</td>
</tr>
<tr>
<td>EM</td>
<td>1</td>
<td>10</td>
<td>Yes</td>
<td>No</td>
<td>3.8-6.6-8.0-7.9</td>
<td>Deep retro cecal abscess which required drainage</td>
<td>21</td>
</tr>
<tr>
<td>OM</td>
<td>1</td>
<td>None</td>
<td>Yes</td>
<td>No</td>
<td>No report</td>
<td>Subcutaneous hematoma</td>
<td>8</td>
</tr>
<tr>
<td>LN</td>
<td>2</td>
<td>10</td>
<td>Yes</td>
<td>No</td>
<td>6.8</td>
<td>Subcutaneous wound infection</td>
<td>12</td>
</tr>
<tr>
<td>MG</td>
<td>2</td>
<td>5</td>
<td>None</td>
<td>Yes</td>
<td>8.2</td>
<td>Subcutaneous hematoma</td>
<td>11</td>
</tr>
<tr>
<td>WM</td>
<td>1</td>
<td>None</td>
<td>Yes</td>
<td>No</td>
<td>No report</td>
<td>None</td>
<td>5</td>
</tr>
<tr>
<td>MC</td>
<td>1</td>
<td>11</td>
<td>Yes</td>
<td>Yes</td>
<td>6.1</td>
<td>Wound induration</td>
<td>9</td>
</tr>
</tbody>
</table>

### Table 4. Acute appendicitis with perforation with abscess formation and with generalized peritonitis

<table>
<thead>
<tr>
<th>Patient</th>
<th>Days ill</th>
<th>Days on Sulfa</th>
<th>Sulfa in wounds</th>
<th>Wound drained</th>
<th>Sulfa blood levels (mgs %)</th>
<th>Complications</th>
<th>Days in hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC</td>
<td>11</td>
<td>23</td>
<td>Yes</td>
<td>No</td>
<td>7.4-10.3-14.2</td>
<td>Subcutaneous wound infection</td>
<td>28</td>
</tr>
<tr>
<td>EB</td>
<td>2</td>
<td>6</td>
<td>Yes</td>
<td>No</td>
<td>10.7-7.3</td>
<td>Wound induration. Pelvic cellulitis subsided</td>
<td>21</td>
</tr>
<tr>
<td>RG</td>
<td>2</td>
<td>16</td>
<td>Yes</td>
<td>Yes</td>
<td>4.7-9.8</td>
<td>Pelvic cellulitis subsided</td>
<td>32</td>
</tr>
</tbody>
</table>
surgery was required. In one with a perforated pelvic appendix, a posterior colpotomy was necessary after the development of a pelvic abscess. In the other with a retro-cecal perforated appendix, drainage of a large retro-cecal abscess was carried out nine days later. The average number of postoperative days in this group was 13.2.

In those three patients outlined in Table 4, a perforated appendix with a localized abscess had occurred, but in addition, there were signs of generalized peritonitis. Sulfathiazole was placed in all three wounds. A subcutaneous wound infection occurred in one. Another wound became indurated. The third wound healed without difficulty. Complications occurred in all three cases but none of these required surgical intervention. The average number of postoperative hospital days was 27.

The four patients outlined in Table 5 had palpable masses in the right lower quadrant without generalized findings. They were treated conservatively. Two of the patients developed a pelvic cellulitis which subsided spontaneously. All but one returned a short time later for interval appendectomies.

There was only one patient in our series with a history of several days of illness and he entered with findings of a generalized peritonitis without any form of localization. This data is outlined in Table 6. He was quite toxic and was treated conservatively. A pelvic cellulitis was the only complication and this subsided. He was discharged 37 days after entry. An interval appendectomy was performed four months later.

The patient in Table 7 was the only one in the series operated on immediately but did not have an appendectomy. He entered the operating room after a three-day history of abdominal complaints. A well-localized mass was found in the right lower quadrant with evidence of recent perforation. This was not disturbed and the appendix was not removed. He developed a pelvic abscess which drained spontaneously through the rectum and later a subphrenic exploration was carried out for a cellulitis but no abscess collection was found. This patient remained in the hospital for 60 days and returned two months later for interval appendectomy.

The charts labeled 8 and 9 contain the types and numbers of complications and the incidence of wound infections with and without local sulfonamides and with and without drainage. These statistics indicate that the incidence of wound infections is greater in wounds that are not drained as compared to those that are. Wound infections were more frequent in those cases with local sulfathiazole implantation as compared with those without although the latter group of cases is very small. The incidence of wound infections was considerably greater when local sulfathiazole was used without wound drainage as compared to local sulfathiazole implantation with wound drainage.

The majority of complications outlined in Table 9 were minimal. Two wound infections and a pelvic abscess were drained in surgery. Subphrenic exploration was carried out in one patient. There were 22 patients in the series who recovered without any complications.

**Discussion**

The mortality in the surgical treatment of perforated appendicitis has been lowered in the past few years by the judicious use of the Ochsner regime. Statistics vary but most reports in the literature quote mortality percentages ranging from 10 to 14 with this regime. These figures are a great improvement over former mortality rates found prior to the use of the Ochsner treatment. Guerry, in his discussion of a paper by Coller and Potter, quotes two deaths occurring in a group of 135 cases of gangrenous, ruptured appendixes with diffuse peritonitis or a mor-

<table>
<thead>
<tr>
<th>Patient</th>
<th>Days ill</th>
<th>Days on Sulfonamide</th>
<th>Sulfonamide Blood Levels (mgs %)</th>
<th>Days in Hospital</th>
<th>Complications</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>WE</td>
<td>7</td>
<td>4</td>
<td>10.4</td>
<td>9</td>
<td>None</td>
<td>Returned eight weeks later for interval appendectomy</td>
</tr>
<tr>
<td>PG</td>
<td>3</td>
<td>5</td>
<td>7.1-6.9</td>
<td>12</td>
<td>Pelvic cellulitis</td>
<td>Returned two months later for removal of acute appendix</td>
</tr>
<tr>
<td>CS</td>
<td>14</td>
<td>5</td>
<td>No report</td>
<td>8</td>
<td>None</td>
<td>Returned six weeks later for removal of retro cecal appendix with small abscess</td>
</tr>
<tr>
<td>WW</td>
<td>4</td>
<td>2</td>
<td>14.0</td>
<td>6 signed release</td>
<td>Pelvic cellulitis</td>
<td>Returned to work in four weeks. Hasn't returned for appendectomy.</td>
</tr>
</tbody>
</table>
### Table 6. Acute appendicitis with perforation with a generalized peritonitis without a local mass; non-operated

<table>
<thead>
<tr>
<th>Patient</th>
<th>Days ill</th>
<th>Days on Sulfa</th>
<th>Sulfa blood levels (mgs %)</th>
<th>Days in hospital</th>
<th>Complications</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>6</td>
<td>22</td>
<td>8.2-35.5 16.0-14.3</td>
<td>37</td>
<td>Pelvic cellulitis</td>
<td>Interval appendectomy four months later</td>
</tr>
</tbody>
</table>

### Table 7. Acute appendicitis with perforation with exploration and non-removal of the appendix

<table>
<thead>
<tr>
<th>Patient</th>
<th>Days ill</th>
<th>Days on Sulfa</th>
<th>Sulfa blood levels (mgs %)</th>
<th>Days in hospital</th>
<th>Complications</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>EO</td>
<td>3</td>
<td>30</td>
<td>9.3-14.7-4.3</td>
<td>60</td>
<td>Pelvic abscess drained spontaneously  Right subphrenic exploration</td>
<td>Returned two months later for interval appendectomy</td>
</tr>
</tbody>
</table>

### Table 8. Relationship between incidence of wound infections and management of operative wound

<table>
<thead>
<tr>
<th></th>
<th>Number of cases</th>
<th>Incidence of wound infections number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfathiazole implantation with wound drainage</td>
<td>22</td>
<td>3 (13.6)</td>
</tr>
<tr>
<td>Sulfathiazole implantation without drainage</td>
<td>15</td>
<td>7 (46.6)</td>
</tr>
<tr>
<td>Wound drainage without sulfathiazole implantations</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Wound closed without sulfathiazole implantation</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Cases with local sulfathiazole implantation</td>
<td>37</td>
<td>9 (24.3)</td>
</tr>
<tr>
<td>Cases without local sulfathiazole implantation</td>
<td>8</td>
<td>1 (12.5)</td>
</tr>
<tr>
<td>Cases with wound drainage</td>
<td>27</td>
<td>3 (24.3)</td>
</tr>
<tr>
<td>Cases without wound drainage</td>
<td>18</td>
<td>7 (30.8)</td>
</tr>
</tbody>
</table>

The sulfonamides are a valuable adjunct to be utilized in the surgical management of perforated appendicitis.

Sulfathiazole will remain within the peritoneal cavity several days since its absorption is quite slow. Large doses of sulfadiazine can be given orally or parenterally and the incidence of untoward effects is very low. There were no complications in our series and only occasionally did red blood cells appear in the urine. The precipitation of crystals was prevented by adequate alkalinization and increased fluid intake.

There is considerable variation in the blood sulfadiazine concentration levels even when patients are receiving the same amounts of the drug and these are probably largely due to the weight of the patient, the fluid intake and output and the time at which the technician obtains the blood sample. The amounts of the drug given by us, however, usually maintained a level of 6 to 10 mg per hundred cubic centimeters.
The liberal use of sulfonamides has enabled us to operate early on several cases who might otherwise have been treated conservatively for the time being, with the Ochsner regime. Sulfonamides will probably increase the early operability of perforated appendixes.

A McBurney incision was used routinely and patients were allowed to become ambulatory as soon as they became afebrile. Cotton was used routinely as the suture material and only one persistent sinus was found in the series. Many retro-cecal and pelvic appendixes are mechanically difficult to remove. In these, we divided the base first, inverting the stump after phenolization and then pushed the cecum back within the peritoneal cavity. Small tapes were then placed to give a good view of the appendix, the cut end of the appendix being held like a handle with two previously placed Kelly hemostats. The appendix was then removed in a retrograde manner.

Four additional cases can be added to our series at this date of publication. This makes a total of 55 perforated appendixes. One of these four patients was a three-year-old girl and she made an uneventful recovery except for a low-grade wound infection. No complications occurred in the other three cases. The amount of sulfonamides were increased in these three cases in an effort to maintain a blood level of 15 to 20 mg. Fifteen grams of sulfathiazole were placed intraperitoneally and 5 gr in the wound; 2 1/2 gr of sulfadiazine were given three to four times daily intravenously after surgery and when the Wangensteen suction was removed 3 gr were given four times daily instead of twice. We believe that higher blood level concentrations will decrease the incidence of complications which we have found.

**Conclusion**

1. No deaths occurred in 55 cases of perforated appendicitis.
2. Immediate operation with removal of the appendix was carried out in all but five cases. Interval appendectomy was carried out later in these.
3. Intraperitoneal sulfathiazole, parenteral and oral sulfadiazine are valuable adjuncts used in the surgical treatment of perforated appendicitis.
4. Sulfonamide therapy used intensively will probably increase the early operability of late perforated appendicitis.
5. An operative mechanical maneuver is described which facilitates the removal of difficult appendixes situated in a retro-cecal or pelvic position.

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**Table 9. Types of complications**

<table>
<thead>
<tr>
<th>Complications</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wound infections</td>
<td>10</td>
</tr>
<tr>
<td>Pelvic cellulitis</td>
<td>4</td>
</tr>
<tr>
<td>Pelvic abscess</td>
<td>3</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>2</td>
</tr>
<tr>
<td>Intra-abdominal abscess</td>
<td>1</td>
</tr>
<tr>
<td>Ileus (paralytic)</td>
<td>1</td>
</tr>
<tr>
<td>Subcutaneous hematoma</td>
<td>3</td>
</tr>
<tr>
<td>Partial bowel obstruction</td>
<td>1</td>
</tr>
<tr>
<td>Wound induration</td>
<td>3</td>
</tr>
<tr>
<td>Subphrenic inflammation</td>
<td>1</td>
</tr>
</tbody>
</table>

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**Commentary**

(continued from page 19)

Ochsner⁴ and others concluded that for patients initially seen late in the course of the disease, conservative treatment was sometimes safer. "Conservative treatment" in this context meant bedrest, fluids administered parenterally, and nothing given orally—along with close observation of patients with prolonged symptoms, a mass in the right lower quadrant, and not more than minimal peritonitis.⁴ For these patients, surgery might impair the barriers built by the body to contain and neutralize infection and might introduce risk of serious wound infection.⁴ If clinical improvement was seen, the patient was sent home after the mass became smaller and inflammatory signs diminished.⁴ Recurrence was frequent, and interval appendectomy at about six weeks after discharge was therefore advised.⁴

Two types of cases remained unsolved: 1) patients with a mass and spreading peritonitis and 2) patients who have obvious perforation and generalized peritonitis and for whom surgery (with its attendant risk of

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**Bibliography**

1. Coller FA, Potter EB. The treatment of peritonitis associated with appendicitis, JAMA Dec 8 1934, 103:1753.
2. Guerry: Discussion of 1.

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Commentary continued on page 25.
morbidity) is the only treatment option. Endless debate raged about types of drainage, best choice of irrigation fluids, the question of whether irrigation of the peritoneal cavity dilutes or spreads infection, and safe ways to clean the contaminated abdominal wound. Development of antibiotic agents offered a way to treat complicated appendicitis and promised to make these questions unnecessary and to reduce morbidity and mortality from complicated appendicitis to a rate closer to that of nonperforated appendicitis. The article by Drs Henley and Haugen was an early attempt to understand the benefits of the new drugs.

Five of the 51 patients described in the article were treated by the conservative Ochsner method with addition of sulfa drugs. Results were good: No mortality occurred, and mean length of hospitalization was 14 days (one patient remained hospitalized for 37 days, but this data point was the sole outlier). Four patients returned for interval appendectomy before recurrence, and one patient was unavailable for follow-up.

The other patients described by Drs Henley and Haugen were treated with surgery when the diagnosis was made. The infection was treated by a sulfathiazole emulsion placed both in the abdominal cavity and in the layers of the wound. Sulfadiazine was given postoperatively, first intravenously and then by mouth. One patient received no sulfonamide, and three patients received sulfonamide only locally to the wound. The 46 patients in the series had 21 septic complications (at a total septic complications rate of about 50%) and a mean postoperative hospital stay of 15 days. This finding should be compared with those that were usual in the preantibiotic era: a 75% rate of wound infection in addition to intraabdominal and chest infections when peritonitis or a gangrenous appendix was found at operation. To the surgeons’ and to sulfonamide’s credit, no mortality occurred in the patients in the series. Sulfonamide administered at this dosage would thus seem helpful—but not a complete success—in eliminating morbidity from sepsis. Recognizing this likelihood, the authors reported that subsequent cases were being treated to raise levels of the drug in the blood. The technique used by the authors for retrograde removal of the retrocecal appendix is described near the end of the article and is still being used regularly to good effect at the KP Oakland Medical Center.

Commentary

(continued from page 24)

Modern Developments

Many antibiotic schedules have been explored in the 57 years that have ensued since publication of the article by Drs Henley and Haugen, and clinicians have had considerable success in reducing sepsis in patients with complicated appendicitis. Current practice usually includes a regimen of multiple antibiotics begun preoperatively and directed at aerobic and anaerobic bacteria. Use of the drugs is discontinued after several doses if the disease is found to be uncomplicated; if the peritoneum is soiled, the drug regimen is continued as long as clinically appropriate. Adequate preoperative levels of antibiotic agents in the blood help protect against wound infection and development of peritonitis. Secondary closure of the wound on the second or third postoperative day may prevent infection.

With use of modern antibiotic agents, sepsis nonetheless develops in 5% to 20% of patients with complicated appendicitis. Modern antibiotic regimens have thus reduced—but have not eliminated—the high cost of treating mixed bacterial infections in the abdominal cavity and surgical wound. In England and Wales during the preantibiotic era, 3000 deaths from appendicitis were reported each year; by 1985, the mortality rate was reduced to 147 deaths per year and is now less than 1%. Modern abdominal imaging and nuclear medicine have led to immeasurably improved treatment of complications of appendicitis, but diagnosis of early appendicitis has not been improved since 1944 despite advances in abdominal imaging and laboratory techniques. Diagnosis still depends on a carefully assembled medical history, skilled physical examination, and routine laboratory testing. Even when a highly capable physician has made the diagnosis, a normal appendix is found in about 15% of operations. Laparoscopic surgery is well accepted as the primary operation and is especially beneficial when a normal appendix is found and the rest of the abdomen must be searched to establish the postoperative diagnosis.

Commentary continued on page 26.
Commentary
(continued from page 25)

Future Management of Appendicitis

What might be the next step to improve the treatment of appendicitis? Early diagnosis and prompt surgery as taught by McBurney still seems the answer, because removal of the inflamed appendix before it evolves to gangrene or rupture yields both a permanent cure and a low complication rate. Most series report a 15% to 20% rate of gangrene or perforation, and my own clinical experience has shown that about a third of patients we treat for complicated appendicitis endure appendicitis, not seeking help until perforation occurs. They seem not to believe that they are truly ill until rupture convinces them. Another third have perforation that seems to occur simultaneously with onset of illness; for these patients, the earliest possible operation is already late. (The remaining patients are examined early in the course of the illness but do not receive the diagnosis at that time.)

We can hope that breakthroughs in laboratory or imaging techniques will simplify diagnosis of appendicitis. Patient and physician education as to the early signs and symptoms of the disease will certainly allow earlier diagnosis. Progress may well be made in treatment of appendicitis-related infection, but the grim complications of the disease will always be with us.

References


Suggested Reading


After completing his training at the Oakland Kaiser Permanente Medical Center, John T Igo, MD, FACS, joined its surgical staff. He moved to the new Martinez Medical Center as its first Chief of Surgery, remaining to become Physician-in-Chief. He is now enjoying retirement. E-mail: johnigo@earthlink.net.
The case and commentary are reprinted from Ethics Rounds, 9(4), 2000. KFHP Inc. and TPMG, Inc.

There are two basic approaches to the study of medical errors. One involves the search for individual culpability and assignation of personal blame; the other, a “systems approach,” focuses on the interdependence of all members in the chain of health care delivery, and seeks organizational solutions to prevent or mitigate errors. “Systems errors” might include: problems with characteristics of job designs (eg, workload, time to execute a job, practical support to enable job performance, etc), the technical execution and accessibility of diagnostic tests or medical therapies; and, the performance of all personnel involved in the coordinated delivery of care. The recent landmark report on medical errors by the Institute of Medicine1 characterized the vast majority of medical mistakes as system—rather than individual—errors.

A systems approach to error analysis may be supplanting the traditional “personal approach” model. Still, the experience of most clinicians caring directly for patients who suffer a systems mistake will remain profoundly personal.

In the ethics case below, we read about a systems error. We also read about a doctor and his patient who will have to find some way to reconcile the human and ethical dimensions of the mistake within the context of their particular and private relationship.

Case: A Malignant Error in Retrospect

Ms Gordon is a 50-year-old woman who is concerned about a vague irregularity she feels within her right breast. She voices the issue to her physician, Dr Halpern, during her yearly examination. Dr Halpern palpates the area, shares the patient’s concern, orders a mammogram, and refers Ms Gordon to the breast clinic. The mammogram is read as normal, and the breast specialist, a surgeon, diagnoses the irregularity as benign.

One year later, during the next annual appointment, Dr Halpern palpates an irregularity in Ms Gordon’s breast. Without the clinic chart, neither Ms Gordon nor Dr Halpern can recall if the area of concern matches that of the prior year. A mammogram and a referral to the breast clinic are ordered. Within three weeks, Ms Gordon is diagnosed with metastatic breast cancer emanating from a radiographically conspicuous right breast primary tumor. Weeks later, having completed her chemotherapy, Ms Gordon attends an appointment with Dr Halpern to discuss her reactive depression. Perusing the chart before entering the exam room, Dr Halpern discovers that Ms Gordon had worried about the same location in her right breast one year before its identification as the primary site of her metastatic disease. He phones a radiologist who is familiar with the case; she informs him that there existed clear evidence of the cancer on the mammogram performed the prior year.

Tracking systems, quality improvement programs, and malpractice litigation provide avenues of redress for errors such as this. They also interpose distance between those who contribute to the error and those affected by it, diluting the emotionality that close proximity is liable to generate. But Dr Halpern cannot hide in that distance; he and Ms Gordon cannot escape the pain that will be created by mutual acknowledgment of the error. Moreover, they will have to engage each other to repair the fundamental trust underlying the physician-patient relationship that the error is liable to rupture. While the error is not Dr Halpern’s—it rests on the colleagues upon whose expertise he must rely—it will certainly affect his relationship with Ms Gordon. And even if diagnosis one year earlier would have made no prognostic difference, the consistent public health message advocating early detection and regular screening is certain to leave Ms Gordon feeling that real harm eventuated from the delay.

Whose responsibility is it to bring the error to light? Many individuals appear to have had an opportunity to identify the error. Dr Halpern phones a radiologist who is already aware of the error. We might wonder whether the surgeon who diagnosed the malignancy had an inkling that a diagnostic opportunity had been missed when he or she reviewed the patient’s previous record. Finally, we might ask if Ms...
Inequality inherent in the physician-patient relationship sets up a differential in the interpersonal relationship of power that risks a malignant imbalance if strained by deceit.

... whether to lie, equivocate, be silent, or tell the truth in any given situation is often a hard decision.

Gordon has some obligation to advocate for herself and inquire as to whether an error has occurred.

So what should Dr Halpern do? We readily agree that he should tell Ms Gordon about the error if she inquires whether an error occurred, for we seem to be unwilling to advocate that he lie in the face of a direct inquiry. But suppose she does not inquire, and why is her initiation of the inquiry necessary? Let’s assume that the error unequivocally constitutes a missed diagnosis. Is there any obligation to tell her if she doesn’t ask? And isn’t it possible that knowledge of the error might further jeopardize her well-being, especially in light of her reactive depression? Furthermore, we might explore how Dr Halpern would be affected if the error were successfully kept from Ms Gordon. How would his knowledge of the deception influence his future relations with her?

In her seminal book Lying, Sissela Bok writes, “... whether to lie, equivocate, be silent, or tell the truth in any given situation is often a hard decision. Hard because duplicity can take so many forms, be present to such different degrees, and have such different purposes and results.” She surveys various justifications for altering or omitting truthfulness with patients—for their own good or protection—from the perspectives of the patient and the physician. The deceiver’s rationalizations for his or her deceit become increasingly suspect as less altruistic motivations or justifications are recognized: maintaining the paternalistic stance of power over another, the desire to avoid confrontation, and the work of initiating systems changes.

Bok posits that paternalistic deception is defensible only if the deceived consents or implies a willingness to be deceived—an exceedingly rare situation. Conceivably, would Ms Gordon agree that it is not in her best interests to know of the error? Furthermore, Bok asserts that paternalistic deception not only lacks justification, it also poses potential and significant risks for both parties. The deceived party is exposed to multiple risks of exploitation, including disruption of the relationship with the deceiver since the deceived is liable to become resentful, disappointed, and suspicious. The perpetrator of the deceit is at risk of moral degeneration as more lies and considerable energy are required to sustain the deception. Degradation of the individual’s character may follow as boundaries are transgressed and lies are seen to provide easy, short-term resolutions of painful situations.

The pre-existing inequality inherent in the physician-patient relationship sets up a differential in the interpersonal relationship of power that risks a malignant imbalance if strained by deceit. According to Brody, the goal is to exercise the ethical use of power by the physician on the patient’s behalf. To illustrate his point, he uses Fried’s description of the four obligations of the physician to the patient: fidelity; humanity; autonomy; and, lucidity. The description also provides a proper refutation of paternalistic deception: “Fidelity requires that the physician always use [his] power on the patient’s behalf and not to [her] detriment. Humanity requires that the physician always take into account the relative powerlessness of the sick patient while still preserving a human-to-human relationship. Autonomy requires that the physician be prepared always to share power with the patient. Lucidity requires that the physician be accountable for how [he] has used [his] power.” Although Dr Halpern did not commit the error affecting Ms Gordon’s care, he does owe a duty to her to see that she is made aware of the error and supported through the process of disclosure and understanding. To fail to do so risks erosion of the trusting relationship necessary to provide care for her current and future medical needs. It also risks Dr Halpern’s ability to maintain a caring and supportive professional relationship with all of his patients because of the corrosive effects of deceit. Trust is a mutual covenant, a fragile but enduring promise between individuals.

Trust in the medical relationship explains why patients will expose their nakedness, allow their flesh to be cut, and ingest poisons, all in the hopes of preserving or restoring health on the physician’s advice. Patients not only expect to be told the truth by the physician but also to be protected from harm. When the latter is not possible, the former is required.

References
Introduction

Have you caught the patient safety wave yet? Have you wondered how and why it’s different than what we currently do at Kaiser Permanente (KP) and how it will affect your practice? And given the huge problems outlined in government reports and recent news, how will our leadership approach this challenge? Senior leaders at KP have received the “call to action”; this article describes some of the efforts that have been launched and how they will enhance the medical care we deliver.

To begin, our members receive excellent clinical care. The achievements of our clinicians and staff have been recognized by a bevy of blue ribbon awards, favorable mention in national news media, exemplary practice awards from national organizations, and designation of “excellent” by accreditation committees. This recognition shows the way we organize for quality and the standard-setting Health Plan Employer Data and Information Set (HEDIS) and Care Management Institute (CMI) outcomes study results that our members experience. And yet, recent Institute of Medicine (IOM) reports1,2 decry the quality of American medicine by pointing to discoordination in delivery systems and frequent errors that the public can’t understand. Does KP have such a problem?

The answer is yes. Although we are better integrated because of our group model, our system is nonetheless a highly interactive, complex world, where teams of people must work together and rely on each other. What patient safety brings to us is a deeper understanding of the factors that can result in errors that no one in the system wanted. We have structures in place for examining errors in our system: significant event reporting, risk management, and peer review, for example. However, the focus on patient safety has given us an opportunity to rethink our concept of what is an acceptable level of error—a level formerly validated by use of concepts (eg, “iatrogenic” and “nosocomial”) that represent errors as an inevitable and acceptable level of complication.

Dramatic improvements made in public safety and in the aviation and aerospace industries have resulted from many practices that can be exported and adapted to the health care environment. Doctors, like pilots, operate in a complex environment. In medicine as in aviation, outcomes are influenced by organizational, cultural, environmental, group, and individual dynamics. Despite legal and cultural barriers, KP believes in the possibility of using the aviation industry’s methods to collect essential data and to train health care practitioners to focus on enhancing system safety and teamwork. These proactive approaches will go a long way to ensure the safety and protection of our patients. Although not entirely new to us, patient safety—embODYING a clear understanding of the critical role of teams and the related human dynamics—provides a new paradigm for KP clinical practice.

KP’s Strategy and Approach

We believe that KP must be a leader in patient safety to fulfill our mission. The obvious benefits include improving the health of our members and the communities we serve, recruiting and retaining quality physicians and staff, meeting purchaser and regulatory expectations and requirements, and creating a

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Pacific Business Group on Health Blue Ribbon (Excellent) Winners

The Pacific Business Group on Health (PBGH), an independent, nonprofit organization that monitors the quality of care provided in California, awards Blue Ribbons annually to one HMO and to a small number of medical groups and hospitals that have shown leadership in delivering high-quality, affordable health care to patients.

- **2001** – HMO: Kaiser Foundation Health Plan
  - Medical Group: The Permanente Medical Group, Southern California Permanente Medical Group
- **2000** – Medical Group: Southern California Permanente Medical Group
- **1999** – Medical Group: The Permanente Medical Group, Southern California Permanente Medical Group
- **1998** – HMO: Kaiser Foundation Health Plan

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JED WEISSBERG, MD, (bottom, left) has been a member of TPMG since fellowship in 1984 and continues to practice Gastroenterology at the Fremont Medical Center. His administrative role involves promulgating Permanente Medicine and coordinating the Quality improvement work between the Regions of KP. E-mail: jed.weissberg@kp.org.

PATRICIA SIEGEL, MS, (bottom, right) is the Senior Vice President of Quality, Member and Regulatory Services for the California Division and leads the National Program’s Care and Service Quality department. She has been actively involved in establishing the Patient Safety Strategic Plan at both the National and California levels and co-sponsors the pilot Human Factors Training program with The Permanente Federation. E-mail: patricia.b.siegel@kp.org.

By Leslie Francis, MBA, MHA
Jed Weissberg, MD
Patricia B Siegel, MS
competitive advantage that we can sustain over the long term. As shown in this article, we have in fact already begun the work.

The unique structure of our organization allows us to respond to developments in health care with a thoughtful, integrated approach. Since release of the 1999 IOM report, we have implemented many important programs to improve and maintain patient safety:
- Leadership commitment
- Responsible reporting
- Education and training
- Communicating errors to patients and their families
- Adverse Drug Event Error Prevention Program
- Purchaser Initiatives

Leadership Commitment
We live in a culture that manages error by looking for people to blame; that silences admission of errors; and that focuses on the “sharp end” (i.e., the clinician) instead of working to improve the systems we’ve created. We must foster responsible reporting and focus on the “blunt end” (i.e., the system) to build more error-proof systems (Figure 1). Our organization faces the challenge of permanently changing our culture to embrace the new paradigm.

In March 2000, KP leadership and labor leaders across the KP Program met to discuss issues, challenges, opportunities, and strategies for KP to become a leader in patient safety. The meeting had two main objectives: 1) to create a common set of agreements regarding drivers of, challenges within, and scope of patient safety programs throughout KP (Figures 2 and 3); and 2) to develop a framework for national and regional KP patient safety initiatives.

In August 2000, KP Quality Directors agreed to integrate patient safety into our eight internal review standards. Specific language related to patient safety and error reduction was added to each standard. This work was aligned with National Committee for Quality Assurance patient safety standards as well as with patient safety standards adopted by the Joint Commission on Accreditation of Healthcare Organizations.

In December 2000, KP drafted a patient safety plan whose purpose is to integrate patient safety into our eight internal review standards. Specific language related to patient safety and error reduction was added to each standard. This work was aligned with National Committee for Quality Assurance patient safety standards as well as with patient safety standards adopted by the Joint Commission on Accreditation of Healthcare Organizations.

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Improved Reporting Needed to Promote Learning, Not Blame

In response to the need for error-reporting systems—a need emphasized in the IOM report—the Kaiser Institute of Health Policy began to focus resources on the issue of reporting as a way to improve patient safety. In partnership with the NASA Aviation Safety Reporting System, the National Quality Forum, and The Peter F Drucker Archive and Institute, the Kaiser Institute of Health Policy sponsored two roundtable discussions in 2000. From these collaborative forums, a list of critical actions was proposed: 1) Seek legal protections from Congress for voluntary safety improvement reporting systems; 2) Expand testing of the Veterans Administration prototype system for voluntary patient safety reporting; 3) Seek federal authorization and funding to test a prototype for a national voluntary reporting system; and 4) Initiate evaluation of established reporting systems.

The National Labor-Management Partnership recommended development of a responsible reporting system and related processes. (See related article on page 73.) The principle underlying this recommendation is that responsible reporting requires an organizationwide understanding that most errors are attributable to systems, not to individuals. As a result, the organization’s primary response to errors should be to learn from them, not to assign blame or impose discipline. We will work with our labor partners to support the structure and staffing required to operationalize these recommendations for responsible reporting. Integrating the recommendations into our everyday operations will help us gain an even deeper understanding of our work processes and how well these processes protect patients from harm. In addition, we are applying methods (learned from the aviation industry) to develop attitudinal surveys for evaluating the “blamefree environment.” Physicians, nurses, and other unit staff members will be asked such questions as,

- How do you rate teamwork and cooperation in your unit?
- Are mistakes freely discussed?
- Can unit assistants express disagreement with attending physicians?

The answers to these questions will be used to educate our organization and to provide opportunities for development to our clinicians and staff.

Education and Training

An education and training program for KP’s executive leadership was developed to assist them in cre-
Human Factors in Medicine

Making mistakes is part of being human. How many days have you gone through without making at least one mistake in your private or professional life? Have you ever driven into a service station and released the hood instead of releasing the gas cap? How about a Saturday morning when you were on the way to the grocery store but took the turnoff that led to your workplace? Although most mistakes are easily corrected and generally cause no harm, mistakes in the health care industry are not always that way.

Recognizing that humans make mistakes, high-risk industries other than the health care industry have gone to great lengths to develop systems that take human factors into consideration. For example, the aviation industry recognized that 70% of aircraft accidents involved human error. Subsequently, by implementing training programs related to human factors, the aviation industry’s safety record has improved dramatically during the past 20 years.

Human factors training—called “crew resource management” in the aviation industry—addresses human performance limiters (such as fatigue and stress) and discusses the nature of human error. This training provides various countermeasures against error—leadership, briefings, monitoring and crosschecking, decision making, and review of plans. Various training methodologies (such as role play, simulation, and case study) are used to allow crews to practice error management in nonjeopardy situations and to receive timely, specific feedback on their collective performance.

Communicating Errors to Patients and Families

The Garfield Memorial Fund is working with Terry Stein, MD, and Richard Frankel, PhD, to support studies and to review information that will guide us toward meeting patients’ needs for communication about errors. In addition, leadership is engaging with Operations in KP Programwide conversations to develop and gain support for a statement of principle on our responsibility as medical professionals to inform patients and their families when harm occurs from medical errors.

Adverse Drug Event Prevention Program

Through the Garfield Memorial Fund, KP leadership sponsored an evaluation project to review our medication systems and to recommend changes in operations. This work led to a series of initiatives aimed at preventing inpatient and ambulatory adverse drug events. Four of these initiatives are:

1. “Smart Orders”: examines medication errors resulting from physician order transcription and identifies five key opportunities to improve patient safety and to reduce medical errors.
2. High-alert medications: identifies medications or classes of medications that carry a high risk of causing injury or fatality if misused.

3. Look-alike/Sound-alike (LASA) drugs: reduces risk associated with these numerous drugs. A workgroup is identifying six to ten medications that have similarly spelled names or similar packaging. The workgroup will implement interventions to minimize errors related to those similarities.

4. Standardization of intravenous medications: we have standardized concentration of intravenous medications used in adult nursing units in 80% of KP hospitals. We expect the standardization process to be completed in 2001.

Role of Purchasers in Promoting Patient Safety

A group of Fortune 500 companies and other large purchasers of health care services founded the “Leapfrog Group,”7 a consortium committed to setting a common set of purchasing principles to advance patient safety. To become part of the Leapfrog Group, health care purchasers must commit to the group’s purchasing strategies and must form partnerships to implement the group’s specific patient safety initiatives. Three initial “leaps” to improve patient safety have been selected:

- computerized physician order entry,
- evidence-based hospital referral, and
- ICU physician staffing.

KP is moving quickly to address these areas in conversation with large employers and business coalitions and to determine the effectiveness of focusing in these areas to improve the health of our members. We have also worked closely with the Leapfrog Group to convince them of the importance of using a system of outpatient electronic medical records as the next great “leap” in patient safety.

Conclusion

Clearly, patient safety represents a challenge for KP and for the entire health care industry. Whenever a goal requires systemic change—whether in workflow design, automation, procedures, training, accountability, organizational culture, or patient communication—the path forward can appear daunting. The recent IOM report Crossing the Quality Chasm2 calls for the health care industry to achieve goals in safety, patient-centered focus, effectiveness, efficiency, timeliness, and equitable health that will require cooperation, integration, and stakeholder focus and alignment currently existing in few places other than in our unique KP care delivery system. We have the framework and alignment needed to meet safety challenges, and our clinical information systems will give us unparalleled opportunity to improve care. More than any other health care organization, our partnerships with clinical, management, and labor groups demonstrate the reliably high quality of care that we provide and that is the cornerstone of our strategy. Please celebrate with us the exciting work detailed in the accompanying articles in this Permanente Journal. ❖

References
Addressing Patient Safety in an Ambulatory Care Setting: The KP Georgia Region’s Experience

Introduction

The 1999 Institute of Medicine (IOM) study, To Err is Human,1 and its March 2001 follow-up report, Crossing the Quality Chasm: A New Health System for the 21st Century,2 have heightened public awareness (and alarm) about errors in medical practice. These publications contained three main recommendations for all health care organizations in the United States:

• identify and learn from medical errors (omission or commission);
• create safety systems (change health care design) inside our organizations through implementation of safe practices at the health care delivery level; and
• transform the health care system to be evidence-based, patient-centered, and systems-oriented, initially by focusing on the top 15 to 25 most common chronic conditions.1,2

Much of the 1999 IOM report centered on processes that surround medication errors. The National Committee for Quality Assurance (NCQA)—the accrediting body for managed care organizations (MCOs)—has suggested that two main themes underlie the need for MCOs to improve patient safety: medication-related clinical errors and level of both continuity and coordination of care. These two areas are also a major focus of the Kaiser Permanente (KP) Medical Care Program, which serves more than eight million members nationally. As part of its Quality Improvement (QI) Plan, each KP Region was charged with developing a Patient Safety Plan for 2001-2003. Each KP Region has a different model of care delivery. In KP Georgia, the Medical Group focuses on delivery of primary care and on selected core specialty services in full-service ambulatory centers. Non-Permanente physicians provide an important part of specialty care in the KP Georgia Region, which relies on two adult and one pediatric hospital in Atlanta to provide most inpatient care. KP Georgia’s approach shows how a KP Region that focuses on ambulatory care has addressed the public’s concern about patient safety in a meaningful, demonstrable, and measurable way.

Defining Patient Safety

An essential starting point for any group addressing an issue is to assure that everyone understands how the most critical concepts of the issue are defined. This common understanding is particularly necessary to change the focus of an organizational culture. Group members must “speak the same language” if their dialogue is to be successful. The IOM defines safety as “freedom from accidental injury.”1,2 In a broader sense, the concept of patient safety obligates us to provide care in an environment that minimizes the number and seriousness of medical errors. Patient safety has three main requirements:

• a systematic approach to care delivery;
• reliable reporting of actual or potential medical errors and adverse outcomes; and
• the ability to implement or modify processes so as to reduce risk of medical errors.

The IOM further defines error as “the failure of a planned action to be completed as intended (ie, error of execution) or the use of a wrong plan to achieve an aim (ie, error of planning).”1,2 Most of us think of medical error as deviation from an established standard of care. This definition includes but is not limited to:

• errors in decision making or that result from lack of general medical knowledge (eg, medication dosages) or lack of medical skill;
• errors that result from lack of knowledge about patient-specific information (eg, allergies); and
• errors that result from lack of communication regarding medical orders or procedures.

Medical errors rarely result solely from the action of an individual; instead, they usually occur in the context of faulty processes, faulty systems, or both. Bad outcomes are typically the result of a series of medical errors.

Patient Safety at KP Georgia

To address the issues raised in the IOM report, the KP Georgia Region’s strategy has been to integrate patient safety into a solid foundation of quality improvement. This approach has led to a redesigned approach to three overlapping areas: quality of care, risk management, and peer review. We in the KP Georgia Region have developed explicit policy to guide our efforts, we have modified the structure of the QI Program to support change, and we have implemented some new key processes to accelerate change. This change includes several essential elements:

• establishing a multidisciplinary Patient Safety Task Force;
• promoting an organizational culture that enhances patient safety;
• developing structures designed to identify and address systemwide issues that affect patient safety;
• changing the process of peer review at the clinical department level; and
• engaging hospital partners in addressing issues of risk management, quality of care, and patient safety.

Most medical errors come to our attention only after an adverse outcome has occurred and been identified. The IOM defines an adverse event as “an injury caused...
by medical management rather than by the underlying disease or condition of the patient.\textsuperscript{1,29} But not all medical errors result in adverse outcomes. Many thousands of medical decisions and actions are made daily in any hospital or clinic, and with each decision or action come many opportunities for mistakes. Some errors are both detected and corrected, allowing the patient—if lucky enough and resilient enough—to avoid a bad outcome. This situation probably represents most medical errors. One category of medical error, the “near miss,” is defined as deviation from an established standard of care such that, if not prevented or corrected, is likely to result in clinically significant harm to one or more current or future patients.

The Patient Safety Task Force

Although much attention has focused on administration of medication, the scope of medical errors includes all aspects of medical decision making and care delivery. A zero-defects health care environment is beyond human ability, but we nonetheless must provide systems and processes that minimize the likelihood of error in patient care. To separate patient safety initiatives from efforts to improve the overall quality of care is all but impossible: Elimination of medical error is an essential part of any attempt to optimize positive outcomes for patients. Thus, in the KP Georgia Region, we have made patient safety one of our three organizational QI priorities for 2000 and 2001 while making every effort to integrate patient safety into our existing system of quality improvement. Instead of constructing parallel structures, we achieve this integration by modifying that system when necessary.

Even before this special priority was established, the KP Georgia Region already had a successful multidisciplinary Continuity and Coordination of Care Committee actively working to realize many important QI opportunities. The focus of that committee was threefold:

- to improve bonding of members with their primary care practitioner (PCP);
- to improve the flow of information from specialists, hospitals, nursing homes, and home health agencies to the PCP; and
- to improve communication to affiliated network PCPs.

Despite the existence and good work of this committee, however, we needed a group that could focus on medication errors and on other general issues of patient safety.

In response to this need, the KP Georgia senior leadership chartered a multidisciplinary group, The Patient Safety Task Force (Table 1) that reports to our core quality committee, the Quality Forum. The Patient Safety Task Force consists of senior leadership from both The Southeast Permanente Medical Group (TSPMG) and the Kaiser Foundation Health Plan (KFHP)

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<th>Table 1. Members of the KP Georgia Region Patient Safety Task Force</th>
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<td><strong>Member</strong></td>
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<td>Yancy Phillips, MD</td>
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<td>Thomas Judd, MS, PE, CCE, CPHQ</td>
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<td>JD Adams</td>
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<td>Susan Tischler, RN, MS</td>
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and is cochaired by the Associate Medical Director (with oversight of quality programs) and the Director of QI Programs. The KP Georgia Region’s most senior pharmacy and nursing professional leaders are key participants in the task force, which also includes:

- a liaison from the Continuity and Coordination of Care Committee;
- the chief of environmental health and safety;
- the risk management director;
- a representative of affiliated care (network operations); and
- the medical group’s physician legislative liaison.

As its first action, the task force set out to identify existing systems and processes within the KP Georgia Region that were already effectively promoting patient safety. Cataloging our strengths enabled us to identify opportunities for improvement. We analyzed these strengths and opportunities by grouping them into three areas:

**Practitioner performance.** Key strengths among our practitioners were 1) decision support, enabled by accessing our data warehouse for patient-specific information before each visit, 2) use of the Population Care Registry for population management and for individual care initiatives, 3) local development and publishing of clinical practice guidelines, and 4) deployment of hospitalist teams at our core adult hospitals.

**Nursing standards and competencies.** Our strengths in nursing practice included 1) KP Georgia Regionwide standardization of procedures and competency evaluations, 2) a series of semiannual internal site surveys, and 3) KP Georgia Regionwide processes of peer review and quality improvement.

**Pharmacy system practices.** Our main pharmacy-related strengths were 1) strong physician-pharmacist linkage through our Pharmacy and Therapeutics Committee, 2) internal monitoring of dispensing irregularities, 3) the success of our outpatient anticoagulation service, and 4) the centralized pharmacy database connecting our ten medical centers and containing records for 93% of all member prescriptions. The opportunities we identified form the basis of our future work plans. Our near-term patient safety initiatives will focus on improved use of conscious sedation in our ambulatory centers, processes of medication storage and administration, legibility of physician orders, and interaction with core contracted hospitals.

**Creating a Culture of Patient Safety**

A popular axiom is that “culture eats strategy for lunch.” In other words, no major change can be effective unless it is supported by the organizational culture. Moreover, the organization’s leaders must act as catalysts for this change. In the KP Georgia Region, both the President of KFHP and the Medical Director have taken a strong stand on patient safety. Their joint policy statement outlines the challenge to the entire KP organization:

Patient safety is an integral component of Kaiser Permanente’s mission to provide high-quality health care. Our members and the general public equate patient safety with quality. Consequently, all Health Plan and Medical Group employees and our contracted affiliates have a responsibility to promote and improve patient safety. A focus on patient safety should guide groups and individuals in all aspects of health care delivery and should be the cornerstone of our quality improvement and risk mitigation initiatives. We will integrate patient safety into the fabric of our organization. Our commitment includes:

- Fostering a strong organizational focus on patient safety, embracing error reduction as a shared core value;
- Creating an environment that encourages responsible reporting of near misses and errors and that looks first to fix systems and not to assign blame;
- Establishing priorities that direct resources to the implementation of patient safety performance improvement strategies;
- Identifying, sharing, and implementing best practices from other parts of the organization and other industries;
- Encouraging members to be aware of their role in maintaining a safe environment;
- Partnering with our core hospitals to promote patient safety in the inpatient setting;
- Providing regular patient safety and error prevention training and education for individuals and groups; and
- Implementing relevant and meaningful monitoring and reporting of indicators and outcomes that will guide continuous improvement (C Kenny and BC Perry, MD, personal communication, December 22, 2000).2

The KP organizational culture includes our health plan members; they too have a role in patient safety. We encourage our members to be active participants in all aspects of their health care—including patient safety. Safety-related information is available on the KP Georgia Web site, and we also include regular features on patient safety in our prevention-oriented member publication, Partners in Health, which is mailed to members. The Fall 2000 issue of that publication described 20 tips for preventing medical errors; these tips are available also on the Web site of the Agency for Healthcare Research and Quality.3

**The Patient Care Assessment Committee (PCAC)**

To better integrate the overlapping areas of quality improvement, risk management, and peer review, we established a new systems-integrating structure, the Patient Care Assessment Committee (PCAC). The PCAC’s role is to assure use of a systems approach for analyzing medical errors. The PCAC disseminates learnings from such events and assists in instituting the changes necessary to prevent future errors. The PCAC and its parent structure, the Quality Forum, are the critical organizational elements in the KP Georgia Region’s commitment to fostering an environment that promotes patient safety.
By both its charter and its membership, the PCAC is a medical review committee formed to evaluate and improve the quality of health care provided by TSPMG and KFHP employees and contractors. The PCAC assists in determining whether health care rendered to KFHP members was professionally indicated and was delivered in compliance with applicable standards of care. In addition, in its capacity as part of the peer review process, the PCAC gathers and reviews information relating to the care and treatment of patients; this function is undertaken to evaluate and improve the quality and efficiency of health care rendered and to reduce rates of morbidity and mortality. Accordingly, the PCAC is afforded the confidentiality protections provided by Georgia law to peer review and medical review committees.

The PCAC is chaired by the TSPMG Associate Medical Director for Clinical Affairs with the Chief of Risk Management serving as vice-chair. Other physician members include the Chief Operating Officer, the chiefs of major clinical departments (medicine, surgery, pediatrics, behavioral health, obstetrics and gynecology, and after-hours clinics) as well as the Chief Medical Officer for affiliated care. Nonphysician members of the PCAC include key leadership from KFHP of Georgia: the Vice President for Operations, the Manager of Health Care Operations for Regional Clinical Services (chief of nursing services), and the Director of Risk Management. The TSPMG Supervisor of Peer Review Services and the Assistant Director of Quality provide essential support. The Chair may invite to any meeting any ad hoc members who are involved in issues that relate to quality of care or risk management. Guests are subject to the same confidentiality requirements that guide regular members.

The PCAC meets monthly. With one exception, the physician members are also members of the Credentials Committee, which meets at a different time during the month. This schedule brings together key physician leaders about every two weeks and provides a timely forum in which to address time-sensitive issues relating to quality of care.

The principal source of information relating to quality of care originates from departmental quality-of-care and peer review activities. Figure 1 outlines processes of evaluation and information flow relating to quality of care within the KP Georgia Region. The PCAC evaluates all cases in which a departmental peer review committee has issued a finding of clinically significant event. The PCAC works through the KP Georgia Region’s quality integrating body (Quality Forum) to address major systems issues affecting patient safety (double dotted-line arrow). If PCAC concludes that case meets definition of Significant Event, PCAC reports this conclusion through KP Georgia Region leadership to KP National Program Office (double dashed-line arrows).

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**Figure 1.** Flowchart illustrates processes (shown by arrows) through which Quality of Care concern is communicated and addressed in the KP Georgia Region. Initial notification of concern about quality of care (single solid-line arrow) can come from almost anywhere in the organization: from individual health care practitioners, other staff, or Health Plan members; through official channels from a risk management department or as a result of departmental review; or from the standing Incident Review Team. Peer Review Coordinator receives concern and is responsible for shepherding it through confidential peer review process (single dotted-line arrow). Departmental quality committees determine whether standard of care has been met. If a clinically significant breach of standard has occurred, departmental chief informs Patient Care Assessment Committee (PCAC) about actions taken regarding individual practitioner and identifies systems issues that may have contributed to error (single solid-line arrow). Notification of adverse actions taken against practitioner is forwarded to the Credentials Committee (double solid-line arrow). PCAC works through the KP Georgia Region’s quality integrating body (Quality Forum) to address major systems issues affecting patient safety (double dotted-line arrow). If PCAC concludes that case meets definition of Significant Event, PCAC reports this conclusion through KP Georgia Region leadership to KP National Program Office (double dashed-line arrows).
The department chief presents a brief summary of circumstances, findings, and departmental actions taken with regard to the individual practitioner involved. The chief is then asked to address any generalizable issues of education or training, any process, and any structural issues in our delivery system that may have contributed to the error or bad outcome. Members of the committee advise the department chief on these issues and processes from the perspective of TSPMG and KFHP. In addition, reports of findings are sent to the PCAC from departmental peer review committees concerning all cases of interest to the KFHP Risk Management Department, regardless of whether departmental review has concluded that the standard of care was met.

The PCAC also plays a key role in evaluating and reporting Significant Events identified in the KP Georgia Region. In our revised quality structure (Figure 2), the PCAC advises the KP Georgia Regional leadership as to whether a case meets the definition of Significant Event as defined by the KP National Program Office and must therefore be reported. The PCAC also helps formulate and approves any root cause analysis for Level One Significant Events.

Chiefs of clinical departments are encouraged to bring to the PCAC any issues relating to quality of care. These issues may include (but are not limited to) discussion of specific health care practitioners, approaches to evaluation and correction of practitioner clinical performance, peer review policy, patient safety, and mitigation of risk. A chief who believes that a practitioner's action warrants corrective action may institute summary removal of the practitioner from clinical practice or use the PCAC to assure appropriate evaluation of all relevant factors. If an individual practitioner is discussed by name at a meeting of the PCAC, all nonphysician members of the committee are excused to assure confidentiality of the peer review process.

The PCAC's central role in patient safety is to identify errors or systems failures that may put future patients at risk to have adverse clinical outcomes. The current PCAC leadership may act directly on these errors or systems failures or may instead ask the Quality Forum to rank them appropriately among priorities for overall organizational quality improvement.

**The Role of Peer Review**

For years, the peer review system has operated under the premise that after a bad clinical outcome, the physician (the “captain of the ship”) should be blamed for the event. The concept that the “ship” itself—the medical systems supporting the physician—should be evaluated for its contribution to the outcome has been embraced only reluctantly. This pattern of blaming individual practitioners is understandable given several factors: intolerance of error, a theme that permeates medical training from medical school through residency; a tendency to view the physician as an autonomous decision maker; the closed, physiciancentric nature of the peer review system; and a lack of trust and common purpose—a deficiency that often separates hospital or insurance plan administrations (systems own-
ers) from the medical staff. This pattern of blaming individual practitioners often results in:

- a fragmented approach to identifying the structures and processes responsible for suboptimal clinical outcomes;
- assignment of blame to persons who may be poorly equipped to institute change in systems over which they have little or no power; and
- perpetuation of an adversarial peer review system avoided by practitioners instead of embraced by them as a tool to initiate systematic improvement.

KP Georgia has taken a new approach to peer review. Along with evaluating individual practitioners’ performance, the new direction focuses attention on the support systems that may have contributed to an identified medical error. The approach requires departmental peer review committees to recognize structural or procedural issues that may have contributed to suboptimal clinical outcomes. Going one step further, the approach asks the group to identify changes to those structures and processes—or suggest new ones—to reduce the risk of such errors occurring in the future. The new approach to peer review is not intended to deflect responsibility from individuals; instead, the purpose is to evaluate medical errors in the context in which they occurred and to determine whether changes in the system of care can reduce the risk of future errors and poor clinical outcomes.

The next step in the QI process is for peer review committees to establish a dialogue with the owner(s) of the support systems where opportunities for constructive change have been identified. When suggested system changes are straightforward and require few or no additional resources, then improvements can be adopted rapidly and without controversy—but life is usually not that simple. Thus, the PCAC is charged with identifying and clarifying quality-related issues that affect more than one clinical department. Because the PCAC is composed of physicians and administrators from many disciplines, the committee can evaluate issues from different perspectives and can make determinations about relative costs and benefits, cross-functional impacts of proposed changes, and feasibility of proposals. The PCAC can also direct resources to high-priority issues and can remove barriers to change.

Our recent experience with a medical error illustrates how the system can work. A patient seen in a medical office for nonspecific complaints received a complete blood count (CBC) whose results showed extensive abnormality. Among the many abnormally high and abnormally low values reflected in the lengthy printout was included a critically low platelet count that the reviewing physician did not notice. Customary peer review of this event would have ended by blaming the attending practitioner for this missed laboratory value. Application of the new peer review procedure did acknowledge individual responsibility, but members of the PCAC also saw several opportunities for improving the CBC report to minimize the risk of similar oversights happening in the future. Suggestions included changing the order in which CBC results are displayed: Platelets are now listed above all the derived RBC indices and white blood cell differential. In addition, the KP Regional Laboratory’s Director changed the clinical laboratory’s reporting systems so that all critical values are printed in bold font and are displayed on the computer in highlighted text. These simple, low-cost changes affirmed the benefit of asking, “How can we make it more difficult for this mistake to happen next time?”

Coordination with Hospital Partners

In late 2000, the quality and risk management leadership of the KP Georgia Region began meeting regularly with their organizational counterparts in our core hospitals to review our comparable quality and risk structures and to strengthen communication regarding sentinel events (significant events), peer review, and patient safety.

We discussed our need for continued, timely notification of clinically significant adverse events that occur at these hospitals and that affect our practitioners or Health Plan Members. We identified and defined likely events of mutual interest, such as anything that could be considered a potentially compensable event, a sentinel event as defined by the Joint Commission on Accreditation of Health Care Organizations (JCAHO), or an event that results in unexpected mortality or major morbidity. We agreed that, whenever care provided at their hospital might be an issue, we would apprise our hospital partners of clinically significant events that we investigate. We asked to participate in their root cause analyses of JCAHO-defined sentinel events or other quality concerns involving our members or practitioners when this participation is mutually agreeable.

We also discussed how we wished to continue the positive relationships we had with our hospital partners through our TSPMG practitioners and how we would continue to support our physicians’ participation in our hospital partners’ key medical staff committees. In addition, we discussed our expectation for regular contact between the risk management departments of our two organizations regarding specific adverse events and that we would like semiannual meetings of QI and risk management leaders to ensure that we share concerns and activities of mutual interest.

We invited our hospital partners to join us in looking for opportunities to collaborate on activities relating to patient safety and quality improvement and to keep our dialogue open—a way to meet the needs of both entities. For example, we shared a model policy on verification and identification of operative procedure and site and side as a means of developing mutual understanding and practices for this important safety issue. We are working to ensure that similar administrative procedures are in place in all hospital areas where high-risk medical procedures are done, and we have encouraged the hospitals to complement their current occurrence-reporting system with a program of direct observation.

We have also begun a dialogue with these key hospital partners around the Leapfrog Group’s initiatives on patient safety: com-
puterized physician order entry, evidence-based hospital referral, and physician staffing in the intensive care unit (ICU). Our three core hospitals are among the highest-volume centers in Atlanta, and the KP Georgia Region currently meets the intent of evidence-based hospital referral. However, as is true across the country, the other two initiatives are more easily suggested than realized. Implementation of computerized physician order entry represents a substantial cost to hospitals and perhaps an even greater cultural change for the medical staff. Our hospital-based practitioners are likely to be “early adopters” of this system of order entry, and we are working with hospital leadership to identify methods of mutual support for using the electronic medical record. The KP Georgia Region is several years away from deploying the KP Computer Information System (CIS), but linkage between hospital and outpatient electronic records is highly desired.

The Leapfrog Group’s initiative concerning the role of intensivists in managing critically ill patients envisions closed ICUs. This system is in place in our pediatric contracted hospital but is not feasible in the adult facilities. Outside the academic medical centers, few physicians have the requisite extra training in critical care medicine to implement such a system. At present, many practitioners believe that critical care medicine is within the scope of many surgical and medical specialties. We believe that the KP Georgia Region has met much of the intent of this initiative through use of dedicated hospitalist teams in our adult hospitals. The teams are in-house seven days per week, and 24-hour coverage is provided by contracted hospitalists. To better meet the needs of critically ill patients, we are pursuing Fundamental Critical Care Support (FCCS) certification for our hospital-based physicians. Having a core clinical group focus on care of patients in the hospital and in the ICU is an important way to reduce variability of practice and to ensure timely response to emergencies—two underlying tenets of the Leapfrog Group’s ICU initiative.

Summary

The KP Georgia Region has used the momentum and energy generated by the current national focus on patient safety to restructure our approach to three overlapping areas: quality improvement, peer review, and risk management. Efforts to change the organizational culture will require more time than has been required to change committee mandates, but we have taken the first steps in this worthwhile effort.

References


Jazz

Jazz is the way America will look when it gets itself together.
Wynton Marsalis, Jazz performer and composer, winner of the 1997 Pulitzer Prize for music, quoted in the documentary “Jazz,” by Ken Burns
“Raindrops on Red Poinsettia”
by Roland Tcheng, MD

More of Dr Tcheng’s artwork can be seen on the cover and on page 70.
A Collaborative Program for Assessing Outpatient Medication Safety: The KP Mid-Atlantic Region’s Experience

By Ray Palasik, RPh, MBA; Katherine A Dunn, RN, MSM
Lizabeth Taghavi, BS; Susan Tischler, RN, MSN
Catherine Dischner, RN, MSN, CEN, CAN
and Curtis LaFisca, BS

Introduction
Through the concerted efforts of its Pharmacy Quality, Risk Management, and National Environmental, Health and Safety/Patient Safety Departments, the Kaiser Permanente (KP) Mid-Atlantic States Region developed and piloted a program for assessing safety of outpatient medications delivery systems. The program is unique to KP in that it addresses, on a national scale, issues of medication safety in the outpatient setting. To identify issues relating to medication use, the program uses a systematic approach and an implementation process that educates and trains staff, leverages known and observed practices across KP’s outpatient medical centers, and provides a mechanism for periodically measuring improvement of processes and systems.

The assessment program was designed to achieve the following main goals:

- identify existing processes and systems susceptible to medication errors in the outpatient medical centers;
- increase the use of successful practices in KP’s outpatient setting by compiling known and observed successful practices and then leveraging that information across the program;
- involve outpatient medical centers in the process both for their education and to involve them more fully (create a “sense of ownership”) in patient and medication safety; and
- through development of self-assessment tools, enable KP Regions to periodically monitor processes and systems that will result in safer medication use practices.

Background and Approach
In early 2001, the KP Mid-Atlantic States Region’s Pharmacy Quality Department, Risk Management Department, and Quality Department partnered with the National Environmental, Health and Safety/Patient Safety Department (NEH&S/PS) to develop and pilot a program whose purpose is clearly stated by the program’s name: the Outpatient Medication Safety Assessment Program. Insight and assistance with developing the assessment program were provided by the KP California Division: Tools developed for conducting baseline safety assessment were adapted from inpatient medication safety assessments completed in California under the auspices of the Garfield Memorial Fund. These tools also incorporated successful practices described in the health care literature as well as information gathered from other KP programs and initiatives.

The assessment program is offered regionally and is voluntary. Through an on-the-job training process, participants gain familiarity with the assessment tools, share practices, and promote consistency across the assessment program. The host region invites a pharmacist/nurse team from the next scheduled region to observe, participate in, and learn the assessment process. These guests then partner with dedicated national environmental health and safety/patient safety professionals to conduct the assessment process at a select number of representative medical centers in their KP Region.

Within three weeks after the assessment is completed, the KP Region is provided a report to use for identifying high-priority opportunities and developing a plan to address those opportunities. Periodic status reports are provided to the KP Region’s Quality Committee to demonstrate progress against open issues. After completion of all baseline assessments in participating KP Regions, observed successful practices—a compilation of successful practices, both from within and outside KP—as well as systems safety principles known to reduce risk will be consolidated and shared with these regions. Standardized self-assessment tools incorporating successful practices and systems safety principles—as well as training and educational materials—will also be provided to assist the regional outpatient centers with monitoring and maintaining the effectiveness of safe medication practices and systems.

Scope of Assessment Program
The assessment program includes five major components: baseline assessment; compilation of successful practices; enhanced development of self-assessment tools; dissemination of materials for education and training; and periodic follow-up assessment.

Baseline Assessment
Tools are developed and packaged for use in conducting baseline assessments of the components of outpatient medication safety at KP medical centers: prescribing, dispensing, preparation, storage, administration, monitoring, and documentation processes. Assessment at each medical center is generally conducted over a two-day period and includes review in the phar...
macy, medical records area, ambulatory surgery clinic (if applicable), primary care and specialty unit examination rooms, medication storage areas, and medication preparation areas. Staff and management interviews are also conducted, and although the results of these interviews are shared with the medical centers, anonymity is maintained to assure open communication.

Baseline assessment uses six tools:

- **The Pharmacy Inspection Tool** is designed to identify current practices and systems relating to the pharmacy work environment (e.g., medication preparation, handling, storage and dispensing practices) and to assess, via observation, interaction between pharmacists and patients in the pharmacy.

- **The Prescriber Practices Tool** is designed to address issues relating to written medication orders (e.g., legibility); incomplete or missing information about dose and its frequency as well as route of administration; use of qualifying terms (e.g., “as needed”); use of overly general terms (e.g., “as directed”) instead of giving complete, specific instructions; use of Latin abbreviations instead of English (e.g., using “QD” or “qd” instead of “daily”) to describe frequency of administration; and proper use of leading and trailing zeros.

- **The Nursing/Pharmacy Staff Questionnaire** solicits anonymous feedback about the staff’s perceptions of medication errors and medication safety practices within their work environment. Questions pertain to common types of medication errors; recent medication errors; acceptance of (or hesitation to accept) reporting errors; occurrence of errors with drugs frequently reported in medication errors; and what changes in workplace systems could reduce the number of medication errors.

- **The Management Staff Questionnaire** focuses on accountability for medication errors and reporting as well as accountability for system failures. Questions focus on implementation of systems for addressing reported errors or near misses; methods of responding to errors; current medication error data; regional performance goals or metrics; types of reported errors and near misses; patient involvement in medication safety processes and follow-up care.

- **The Unit Assessment and Specialty Area/Cart Assessment Tool** is designed to evaluate the clinical units’ equipment and medication storage areas for cleanliness, arrangement, organization, inventory, and environmental factors that may affect the medication safety process. Through observation, interviews, and inventory analyses, this evaluation process considers availability of current drug reference material on the nursing units; status of medications (labeling, dated, expired, location); and use and maintenance of equipment used in preparing and administering medications.

- **The Medical Record Review Tool** is designed to evaluate the format, content, clarity, and legibility of medication orders written on a patient’s medical record. This evaluation considers accuracy of the medication order transcription process, quality of documentation regarding medications administered in the departments, and system components that may increase the risk of medication errors.

### Compilation of Successful Practices

In addition to identified principles of systems safety, the program compiles relevant, achievable, successful practices that have been reported in the medical literature1-3 and observed in KP’s outpatient medical centers. As the program evolves and matures, compilations of successful practices will continue to grow and be disseminated across KP Regions in alignment with KP’s Patient Safety Knowledge Management Strategy to continuously improve medication safety.

### Enhanced Development of Self-Assessment Tools

After baseline assessment is completed, each outpatient medical center is given the opportunity to further use the knowledge gathered from the assessments (e.g., identified successful practices and systems safety principles) via use of the self-assessment tools. These enhanced tools provide information to assist the outpatient centers to periodically monitor and measure their performance around safe medication practices. As later self-assessments are conducted, awareness of medication errors continually grows and enables measurement of improvement in both system and process safety.

### Dissemination of Materials for Education and Training

The Outpatient Medication Safety Assessment Program both highlights and reinforces the training and educational materials created and used throughout KP—including the “Smart Medication Order” training conducted in the KP California Division—and shares these materials with the KP Regions.
Periodic Follow-up Assessment

Periodically, NEH&S/PS visits KP Regions to help them assess and improve the medication safety processes and systems implemented after completion of baseline assessment. This follow-up process supports KP Regions by supplying resources to objectively assess medication practices and systems, share successful practices, and highlight innovations in medication safety.

Assessment Outcomes

Deliverables Due in 2001

Short-term deliverables include development and packaging of baseline assessment tools and known successful practices that outpatient medical centers can implement to improve medication processes and systems. On-the-job training will be provided to a nurse manager and to a pharmacy manager. Each participating medical center will receive a written report of baseline assessment findings with recommendations for implementing relevant, achievable, successful practices and systems safety principles. The participating KP Region will receive a report of compiled recommendations and successful practices obtained from the baseline assessments. Training and education materials will be shared.

Deliverables Due in 2002

A compendium of observed successful practices, successful practices from the literature, and systems safety principles will be consolidated and shared after baseline assessments are completed in all participating KP Regions. Additional materials for training and education will be shared as they are identified. To periodically monitor implementation of safe medication practices and systems in all KP Regions, the standardized self-assessment tool will be delivered and made available. With regional interest and voluntary commitment to participate, a mechanism for centralized data collection could enable KP to gather national statistics on safe medication practices and to measure improvement in these practices and systems in the outpatient setting.

Deliverables Due in 2003 and Beyond

NEH&S/PS will be available to conduct periodic third-party assessment of medication safety and will provide continued information on successful practices and systems safety principles. Tailored training programs and system solutions will continue to be identified and developed by NEH&S/PS in partnership with pharmacy, quality, and risk management departments. As appropriate, NEH&S/PS will facilitate collection and tracking of national data on safe medication practices.

Conclusion

As this article went to press, two of four baseline assessment have been conducted in the KP Mid-Atlantic States Region, and the KP Mid-Atlantic States Regional Management, Medical Center Administrators, Department Managers, and staff have overwhelmingly embraced the program. After completion of baseline assessments at two additional centers in the KP Mid-Atlantic States Region, the program will be implemented in the KP Ohio and KP Georgia Regions. Our goal is to implement the program in five KP Regions outside California by the end of 2001.

Identified methods to reduce or eliminate errors where adverse outcomes are possible but not documented.

Acknowledgments

Doug Bonacum, MBA, CSP, Director of Kaiser Permanente’s National Environmental, Health & Safety/Patient Safety Department facilitated collaboration between the Outpatient Medication Assessment Program and the KP California Division Medication Safety Assessment Program; he also reviewed the article. Donald Kaplan, PharmD, co-manages the KP California Division Medication Safety Assessment Program and provided tools we used in the development of our program. We also thank the many peer reviewers of the program materials.

References

Carol Nelson is a medical technologist in the Central Support Laboratory in the Denver area. She is very involved in the Denver art community and enjoys creating in watercolors, oils, acrylics, and collage. More of her artwork can be viewed on her Web site: http://nav.to/nelsonart and on page 53.
Culture, Systems, and Human Factors—
Two Tales of Patient Safety: 
The KP Colorado Region’s Experience

By Michael Leonard, MD
Carol Anne Tarrant, RN, MS, JD

Abstract
An estimated 80% of medical errors are system-derived. Given the complexity of medical care, engineering systems for safety are crucial and must be adapted to an ever-changing environment of risk. Meaningful improvement in patient safety must address not only the systems in which we deliver care but also the culture of medicine. This culture is critically important because it affects our expectations of performance as well as our attitudes about medical error, which is a predictable and inevitable outcome of complicated systems operated by humans. We describe our efforts and our progress in two patient safety projects conducted in the Kaiser Permanente (KP) Colorado Region: the cardiac treadmill project and the perioperative beta blockade project. We believe that major improvement in both areas will be achieved through 1) application of human factors training that takes into account cultural issues, and 2) evolution and application of safer systems for delivering care.

On a daily basis, highly trained people working alone or in teams deal with complex systems, uncertainty, and risk.

Medical care is extremely complicated. On a daily basis, highly trained people working alone or in teams deal with complex systems, uncertainty, and risk. High-reliability industries, such as the aviation industry, have benefited greatly from implementing human factors training to improve safety and teamwork, especially given that human error causes 70% of all commercial aviation accidents. An important study reported that 80% of anesthesia-related mishaps are the result of human error.

Many accidents (medical and otherwise) have resulted from poor communication among team members. A classic example is the 1978 crash of a United Airlines DC-8 airliner in Portland, Oregon: While the plane circled the airport, its crew focusing their attention on a minor malfunction of the landing gear, the plane ran out of fuel! The very senior captain was technically expert, but he was also hierarchical and autocratic; consequently, the two junior crewmembers, aware they were dangerously low on fuel, felt too intimidated to question the captain’s management of the situation. They attempted to convey their concern only obliquely, and the captain became aware of the problem only after the first of four engines flamed out. Eleven people died in the ensuing crash. Ironically, the landing gear was fully operational.

One Industry’s Response to Human Error
That a highly trained flight crew would run a perfectly good aircraft out of fuel and cause it to crash was a huge wake-up call for the commercial aviation industry. A concerted process of examining human factors was launched; and for the past 20 years, crew resource management (CRM) has focused on effective communication, teamwork, minimizing hierarchy, and management of error. Operating on the premise that people make mistakes, the aviation industry and other high-reliability environments engineer their systems to buffer, trap, and mitigate error. Factors including stress, fatigue, and multitasking increase the likelihood of human error. As a result, the systems are engineered to provide protection and to emphasize open communication within teams, identification of potential problems, and a collective style of managing these problems. In medical practice, at least 80% of medical mistakes are system-derived.

The Treadmill Unit: 
A Study in Improving Group Processes
Knowing that we were interested in applying the human factors approach to clinical care, staff in one of our outpatient units—the cardiac treadmill unit—asked us to work with them. The unit consists of three expert nurses and a pool of ten supervising internists who evaluate about 6500 patients annually, many of whom are at clini-
cally significant risk for cardiac events. Our initial assessment of the unit’s work processes was gleaned from direct observation of the unit team and from talking with team members. The assessment process revealed the following situations:

- A major opportunity existed for improving the way nurses and supervising physicians worked together as a team. The nurses, who are quite expert, perceived wide variation in attitude, behavior, and clinical skill among the supervisory physicians who rotated through the unit.
- Conflict was created between nurses and physicians when they disagreed on test results. The nurses—and occasionally, the physicians—would go upstairs to the cardiology department to have their particular opinion affirmed. Conflict resolution was not consistently successful.
- Members of the unit could not agree on what constituted a positive test result of treadmill testing. Some subjectivity is inherent in this type of testing, but the clinicians had made no effort to find agreement among themselves.
- Treadmill rooms contained both suboptimal equipment and a suboptimal physical layout. Two rooms were on the south side of the building, whereas the nuclear treadmill room was on the north side, in the middle of the radiology department. Communication between the treadmill rooms required improvement.
- Patient referral criteria were inconsistent, and patient information was incomplete. This situation resulted in about 500 same-day cancellations per year. In addition, lack of standardized referral criteria had resulted in treadmill testing being prescribed for low-risk patients (in whom this testing is useless) and in potentially dangerous examination (ie, the treadmill test) being administered to high-risk cardiac patients who needed cardiac catheterization.

The treadmill unit scheduled a half-day group meeting to address these issues. In the interim, we gave a presentation on patient safety and on the aviation industry’s experience. Much of the session centered on the critical need for clinicians in high-risk environments to communicate well and to function as a team. We focused the discussion on common goals—a desirable achievement—for the treadmill unit. By depersonalizing the conversation, the main issue was no longer that of who was right and who was wrong. Instead, the group was able to concentrate on perceived barriers to delivering optimal levels of care. Discussion was productive and led to progress being made in several areas:

- The equipment rooms were relocated to be adjacent, a new defibrillator with external pacing capability was acquired, and new treadmill monitors were installed.
- A physician with both extensive treadmill experience and keen interest agreed to assume leadership of the unit. This physician reviewed recent medical literature pertinent to the unit’s activities, and the group agreed to use four criteria for interpreting a positive result of treadmill testing instead of a single marker (ie, ST analysis only).

For their quick reference, the group agreed to maintain lists of these four markers on the walls of the treadmill rooms.
- The nurses and physicians in the treadmill unit filled out the University of Texas Medical Attitudes Questionnaire (MAQ), a tool used by many medical environments to assess attitudes about teamwork, hierarchy, communication, and error. This baseline measurement will show areas requiring improvement. Repeat surveys will be used periodically to gauge the group’s progress.
- The group agreed to develop referral criteria for treadmill testing as well as related education for physicians who refer patients for treadmill testing. The group agreed that standardized criteria would increase safety for patients and for clinicians while improving utilization of treadmill testing as a clinical resource. The group also agreed on their intent in standardizing the criteria: to refer the right patient to the right place to receive the right test.
- Reports sent to the referring physicians were standardized to facilitate better care and to reduce variation in clinical information transmitted from the treadmill unit.
- Briefing sessions were implemented so that the group could minimize the discomfort and sense of risk they felt at not knowing what potential problems they would face throughout the day. They agreed to have a morning briefing so they could approach the day’s schedule as a team.
The group agreed to use checklists so that the information required by the team for every patient (e.g., laboratory test results, recent results of electrocardiographic testing, medical history) would be complete before the patient was sent for treadmill testing. Unit team members also agreed that the wall of every treadmill room would display a list of absolute and relative contraindications to starting and continuing a treadmill test.

- The group agreed to disagree, i.e., they decided to work on creating mechanisms for openly discussing disagreement about test results. This open approach is far healthier than privately seeking another opinion.

- The group agreed on the importance of being team players acting in patients' best interest. The group began work to better define expectations of each member of the unit as well as how to address unacceptable behavior.

In addition, the group agreed to gauge their progress by using several outcome measures:

- changes in the University of Texas MAQ over time;
- results of patient satisfaction surveys;
- rates of satisfaction among referring physicians, guidelines for these physicians, and standardized reporting;
- outcome criteria for treadmill tests;
- rates of canceling appointments for treadmill testing;
- stratification of patients seen in the treadmill unit to assess whether those with too little or great cardiac risk are being triaged appropriately for other types of clinical care;
- tracking absolute number of “near-miss” events and debriefing the treadmill unit team on their perception of their response to these events.

Discussion
Application of Human Factors to the Treadmill Unit

We have described the application of human factors training to a complex medical environment that requires teamwork and involves risk. Framing the discussion nonjudgmentally in a way that focuses on desired outcomes and common goals was highly productive. Depersonalizing the conversation removed the issue of who would be judged to be right or wrong. Taking a systems perspective enabled team members to identify several major barriers to providing optimal care: flawed physical layout of facilities, the need for upgraded equipment, lack of agreement on how to work as a team and resolve conflict, lack of important clinical patient information, and lack of a formal process for the supervising physician and the nurses to discuss potential problems with patients in advance of the problems occurring. Many of the problems in this clinical unit stemmed from informal evolution of behavior and practices over the years, i.e., the “we’ve always done it this way” approach. Having a constructive mechanism for taking a fresh look and approaching perceived problems from a systems perspective has started us on a highly constructive path.

Another Application of Human Factors Information: Perioperative Use of Beta Blockers

Cardiac complications are the single greatest source of morbidity and mortality in patients who have noncardiac surgery. Surgery is associated with major complications: increase in circulating catecholamines, development of hypercoagulable state, and a 30-40% postoperative increase in resting heart rate. Medical literature indicates that perioperative treatment with beta blockers offers a major protective effect for at-risk patients.8,10 In 1996, several KP Colorado clinical departments (internal medicine, cardiology, and anesthesia) collaboratively adopted the American Heart Association/American College of Cardiology Consensus Guidelines for Perioperative Evaluation.11 This collaborative effort was a response to extensive variation in preoperative assessment of cardiac risk across the KP Colorado Region. The criteria were successfully adopted and, we believe, provided better care. In addition, a system was initiated for our hospitalists to provide follow-up for surgical patients who have clinically significant preoperative morbidity, i.e., American Society of Anesthesiologists (ASA) physical status classification three or greater.12

Last year, we were concerned to hear our intensivists report that many patients were having perioperative myocardial infarction. Most of these patients with clinically significant cardiac risk factors were not being treated with beta blockade perioperatively. We have thus begun a program to identify and treat susceptible patients so that they receive maximal cardiac protection perioperatively.

In 1988, a report by Stone et al8 indicated that a single dose of beta blocker reduced from 28% to 3% the incidence of transient, ischemic electrocardiographic changes associated with anesthesia induction.
and emergence. In 1996, Mangano et al. showed a protective effect of treating surgical patients with atenolol; the effect lasted as long as two years. The 1999 Poldermans et al study of vascular surgery patients with known coronary artery disease provides the strongest evidence of benefit to date. Patients who had vascular surgery and positive results of dobutamine stress testing were treated with beta blockers for a week before surgery and for one to two weeks postoperatively. The authors reported an astounding 90% reduction in number of perioperative cardiac events.

The KP Colorado Region has now implemented a program to ensure that patients with cardiac disease are screened and that they are treated with beta blockade perioperatively. We have begun screening patients preoperatively by using a checklist of indications and contraindications for beta blockade. Therapy is begun by the anesthesiologist intraoperatively and is continued postoperatively in the recovery area and hospital floor through use of standardized order sheets. Concomitantly, we are setting up a system for screening patients in the surgical clinic when patients are scheduled for surgery; this procedure will allow a regimen of beta blockers to be started a week before surgery.

A dedicated electronic beeper is rotated among project members so that surgeons, nurses, physician assistants, and patients can call if they have questions. This program is being applied in both the main operating suite and in the ambulatory surgery clinics. We believe that this intervention will greatly reduce the number of adverse cardiac events among surgical patients. The key is systematic application of techniques that have been shown to provide better and safer care for our patients—and that make it easy to do the right thing. We are therefore happy to share our algorithms and standing order sheets with any clinician who requests them.

Acknowledgments

We would very much like to thank the following people in the Kaiser Permanente Colorado Region for their participation and support in the patient safety improvement process: Michael Chase, MD, Chief of Internal Medicine; David Gilmore, MD, Director of Advanced Cardiac Life Support Training; Thomas Stetzner, MD, and William Kinnard, MD, intensivists; and, most of all, the dedicated members of the Cardiac Treadmill Center, where Daniel Wright, MD, and Scott Smith, MD, leaders of the Treadmill Group, helped develop and implement the project. Robert I. Helmreich, PhD, William R Taggart, and J Bryan Sexton, PhD Grad., of the University of Texas Human Factors Research Project formed a collaborative partnership with Kaiser Permanente nationally in this research and provided the questionnaire.

References

Do Practitioners in The Southeast Permanente Medical Group Value Participation in Clinician-Patient Communication Programs?

Introduction
For the past three years, the Continuing Medical Education (CME) Department of The Southeast Permanente Medical Group, Inc (TSPMG) has had two major goals: 1) to assist practitioners in enhancing patient communication skills; and 2) to provide stress reduction skills for practitioners. Since there are situations that can make the clinician-patient encounter stressful (and because any less-than-excellent patient satisfaction creates stress), we believe that our clinician-patient communication programs are the foundation for both of our CME goals.

This article gives an overview of what we have learned after offering to our physicians and associates practitioners 13 clinician-patient communication programs, three five-day intensive communication skills programs, and more than 50 direct observation sessions during a two-year period. We describe our experience along with participants’ opinions of the value of TSPMG’s CME Clinician-Patient Communication Programs. As mentioned below, these programs were adapted from programs from the Permanente Medical Groups in Colorado, the Northwest, and Northern California.

CME Program Description
Basic Clinician-Patient Communication Workshop
Our basic introduction to the communication skills program is the four-hour (1/2-day) TSPMG Clinician-Patient Communication Workshop customized for TSPMG from a program developed jointly by Bayer Healthcare Institute and Terry Stein, MD, from The Permanente Medical Group (TPMG) in Northern California. We have found that many practitioners are skeptical about communication programs that claim to fix any problems, so we begin by reinforcing the validity of the program through personal testimony of the clinical faculty, and through published studies on the subject.1,3 We then move forward to address the 4-E Model of communication—Engaging the patient, Empathizing with the patient, Educating the patient, and Enlisting the patient—in which we discuss how to blend this new model with the existing (find-it-and-fix-it) model of care.

Although participants are not charged a fee for attending, they must use their CME time to do so. This program has been very successful for all practitioners regardless of their preprogram patient satisfaction survey results. Preliminary analysis of our data suggests that after this workshop, practitioners who initially scored low showed a substantial increase in patient satisfaction scores. Practitioners who receive high patient satisfaction scores before participating also showed an increase, although not as great.

What feedback do Permanente physicians and associate practitioners give us regarding the value of this experience? First of all, practitioners report comfort in knowing three things: 1) that they are not the only ones who experience frustration and communication gaps and that this situation is not unique to them; 2) that tools exist for helping clinicians to bridge communication gaps; and 3) that communication skills can be learned.

Direct Observation Program
A communications training initiative that complements our TSPMG Clinician-Patient Communication Workshop is the TSPMG Direct Observation program, modeled after successful programs in the Northwest and Colorado Permanente Medical Groups. Although it is open to all TSPMG practitioners on a voluntary self-referral basis, we prefer that practitioners first attend the communication workshop. We believe that direct observation is a perfect next step to reinforce the new communication tools introduced to practitioners in the communication workshop. Experience has taught us that observing practitioners before they attend the communication workshop puts them at a disadvantage.

Practitioners who wish to be directly observed first submit a request to the program. A trained observer then conducts an initial observation program, modeled directly on observation programs.

Typical practitioner comments after attending CPC programs:
• A real learning experience
• Fun and interactive
• Live patient simulations are great
• I have learned how to better manage my frustration
• I feel better about my patients
• I feel better about my job
• Why didn’t they teach this ten years ago?

By Sandra Gauthier, PHR
one-on-one session with the practitioner. This session is designed to explain the observation process, to seek information about any areas of discomfort the practitioner has in interactions with patients, and to gain commitment from the practitioner to work toward improvement. For a half day after the session, the practitioner is observed interacting with patients during actual visits in the medical office. Directly after this observation process is completed, the observer collates the notes taken during the session, identifies the clinician’s strengths and any areas requiring improvement, and recommends a plan for achieving this improvement. Within the next seven days, the observer gives feedback to the clinician. Typically, the observer identifies two or three skills areas and negotiates with the clinician to work on these areas. Feedback may include such statements as “I have observed that you have very little eye contact with your patients” or “At times, your patients’ facial expressions seem to indicate that they do not understand.” At the conclusion of this meeting, practitioners are given the option of scheduling future coaching sessions to further refine their communication skills.

The TSPMG Direct Observation Program has been received extremely well by our Permanente practitioners. Our observers are trained and experienced in helping practitioners to feel comfortable applying what they have learned. Before participating in this program, many practitioners are unaware of the impact that their everyday communication habits—good as well as bad—may have on their relationship with patients. Participants have expressed surprise at how much their enhanced skills can improve interactions with patients during a visit, patients’ satisfaction and adherence to instruction, and participants’ own professional satisfaction. We have received comments such as “I never thought about negotiating an agenda with the patient,” or “I didn’t realize the importance of engaging the patient in the treatment plan.”

**Intensive Communication Skills Training**

Our third level of training is the five-day TSPMG Communication Skills Intensive, also developed jointly by Bayer Healthcare Institute and Terry Stein, MD, of TPMG. This voluntary program was designed in the KP Georgia Region for all practitioners regardless of their patient satisfaction scores. We believe that this training presents an excellent opportunity for practitioners to see themselves in a whole different light. As feedback, practitioners have told us, “This experience was an experience of a lifetime,” and “I didn’t know that about myself,” and “I now feel that I can handle anything.”

We have had wonderful success with this program. Many practitioners improve their patient satisfaction scores, and all participants report that they gained a great deal by participating. Feedback from practitioners frequently includes the recommendation that all TSPMG practitioners be required to attend the training!

**Summary**

Do practitioners actually alter their communication style after participating in this communication training? Most tell us that they have, that they listen to patients more attentively, that they plan for difficult situations, that they ask more open-ended questions, and that they are more empathetic. Not surprisingly, we are seeing substantial subsequent improvement in these practitioners’ patient satisfaction scores.

Just as important as improving the care-related experience, participants relate that they feel better equipped to deal with the most challenging communication issues and that this result makes them feel better about their jobs.

For TSPMG in the KP Georgia Region—and probably for all the Permanente Medical Groups—these clinician-patient communication CME programs have been highly effective in improving patient satisfaction and practitioner skills.
essential components of our organization’s effort to improve both patient and provider satisfaction. The Permanente Medical Groups will continue to learn, will continue to develop exciting new clinician-patient communication programs, and will continue to set high standards for delivering high-quality, patient-centered care. ❖

Acknowledgments
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References

Don’t Turn Your Head
This single sentence conveys an essential ingredient of mindfulness practice. The words simply ask us to be present. Looking deeply into whatever is before us, looking closely at that which we’d rather not. Nothing more.
Saki F Santorelli, EdD, Director of the Stress Reduction Clinic at UMass Memorial Medical Center and Director of Clinical and Educational Services in the Center for Mindfulness in Medicine
“High Country September”
oil painting
by Carol Nelson

More of Carol Nelson’s artwork can be seen on page 45.
Abstract

Background
The combination of three techniques—peer discussion groups, peer lectures, and data feedback—was tested in a pilot program to maximize economy and quality of patient care as indicated by quantifiable measures.

Methods
In an office staffed by 15 adult primary care physicians in a group-model health maintenance organization (HMO), we implemented an ongoing peer-discussion process designed to increase use of recommended tests and to decrease use of tests not meeting criteria set by national authorities. Two similar offices served as controls. All groups were exposed to similar lectures and guidelines designed to increase use of recommended laboratory tests; only the study group was exposed to the intervention designed to reduce use of nonrecommended tests.

Results
Study and control groups showed similar increases in use of recommended tests. The study group had five consecutive monthly declines in overall number of diagnostic imaging procedures (-30%), laboratory tests (-35%), and incoming telephone calls requesting test results (-34%) (p < 0.000001). These reduced rates represented an annualized savings of >$400,000. In contrast, both control groups ordered more laboratory tests (13% and 19% increases) and received more calls (23% and 29% increases).

Conclusions
Peer discussion sessions and presentation of follow-up data can increase the use of recommended laboratory tests while reducing both the number of unnecessary tests and incoming telephone calls as well as health care costs.

Introduction
Lectures and medical literature have been the primary methods used for physician education. Their efficacy has been questioned because they have not precluded substantial variation in practice patterns or suboptimal outcomes of testing and treatment. For this reason, new methods have been developed to enhance physician learning, change physician behavior, and improve treatment outcome. Although guidelines were expected to change behavior by alerting physicians to recommendations of a panel of experts, results have varied. The use of feedback of data to change behavior has also often been disappointing.

Other approaches have included financial rewards, imposition of penalties, and systemic changes which force adoption of particular behavior. Examples include linking income to performance; requiring that all referrals to specialists be approved by a consultant; restricting the number of drugs included in the formulary; and use of order forms which exclude certain tests. These approaches are frequently met with resistance.

Therefore, we set up a pilot program to improve patient care based on the success achieved by others in changing physician behavior through use of peer-based discussions, lectures, and data feedback. Evidence has shown that the magnitude and longevity of change is enhanced by simultaneous use of several methods of behavioral change instead of initiating changes one at a time.

Methods
Study Scope and Participants
Fifteen physicians practicing in a freestanding adult primary care office of a group-model health maintenance organization (HMO) participated in a pilot program for enhancing the quality of patient care. Of these physicians, ten were Board-certified or Board-eligible in family practice, and five were Board-certified or Board-eligible in internal medicine. Two similar nearby 10-physician medical offices of the same group did not participate in the educational intervention and served as controls. Patient populations were similar in age and sex distribution, but ethnic distribution and mean education levels varied. Average panel sizes at the con-

Peer Discussion in a Family Practice

By Roger A Forsyth, MD
Sudarmo Winarko, MD

ROGER A FORSYTH, MD, is a retired family practitioner from SCPMG, Pasadena. From 1981-2000, he served as Physician-in-Charge. He currently is clinical professor of family practice at the University of Southern California. E-mail: raforsuth@yahoo.com.

SUDARMO WINARKO, MD, is an internist who has been practicing primary care at Pasadena MOB since 1981. He previously served as the Quality Management coordinator for FP at LA Medical Center. Currently, he is the Physician-in-Charge and physician leader for the PEP at the Pasadena MOB as well as the Primary Care Service Line Director for the LA Medical Center. E-mail: sudarmo.x.winarko@IREmail.
trol offices (1400 patients) were smaller than at the study office (1750 patients).

Peer discussion process, topics, and analysis

The first step was to choose a physician to act as facilitator. Meetings were held for two hours twice monthly. The facilitator first asked each member of the group, in turn, to suggest a topic for discussion. Once the group ranked the topics, the top-ranked topic was chosen for peer discussion. One member of the group volunteered to research the subject and present it. Then each participant was given an opportunity to provide input on the topic. Where resistance to standard approaches was found, peer discussion allowed the group to find compromises which could increase compliance.

Correlation coefficients were calculated to help participants discard untenable justifications for avoiding adherence to accepted methods of care.

Acceptance was encouraged also by providing follow-up data for five months. The feedback was confidential but was accompanied by the blinded results for the group. By comparing individual data with group data, we hoped to encourage physicians with below-average performance to improve. Anonymity avoided embarrassing the participants. Before-and-after data showed that the efforts being made were improving the results.

The group voted to apply the process to improving the quality of physicians’ professional lives. Each physician listed factors that were negatively affecting the quality of his or her professional life. Telephone calls requesting test results were voted the factor most amenable to change.

Through the discussion process, participants decided that telephone calls might be reduced by reducing the number of nonrecommended tests ordered and thereby reducing the need for patients to call for results. Pertinent data were gathered to verify whether volume of calls received was related to volume of tests ordered.

The lecture phase of the process included data considered impartial, eg, data published by the United States Preventive Services Task Force,16 by the American Academy of Family Practice,17 and by the Joint National Commission VI (JNC)18 on treatment of hypertension; and a study from the Mayo Clinic on yield of positive results from commonly ordered tests.19 This activity was designed to reinforce the fact that when previously known true positives, false-positives, and duplicative test results were excluded, the yield of positive results from administering nonrecommended tests would be very low. Norms were discussed, but application was at each physician’s discretion without penalty for nonconformance.

Results

Raw data for each physician in 1997 showed substantial variation in amount of time physicians spent delivering outpatient care. To make the data comparable, actual data on test volume for each physician was multiplied by a ratio (mean number of patients seen per physician in 1997 divided by number of patients seen by that physician in 1997), yielding volume of tests each physician would probably order had they spent the same number of hours delivering outpatient care in 1997. Similar corrections were made for all data, thereafter referred to as adjusted data.

High correlation was found between adjusted test volume and adjusted telephone volume (Table 1), convincing the group that reducing test volume would be a way to affect call volume.

The group named potential impediments to individual acceptance of group norms. These impediments included differences in size or complexity of patient panel, attentiveness to quality of care, interest in promoting patient satisfaction, and individual practice patterns which result from training, ability to tolerate ambiguity, and experience. A coefficient of correlation between each factor and test volume was calculated to find any evidence justifying a high rate of tests or calls.

The mean adjusted panel size was 2099 and ranged from 1331 to 2578.

Complexity of patient panel was measured by determining percentage of patients in the panel who had diabetes or congestive heart failure.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Correlation Coefficient</th>
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<td>Number of telephone calls</td>
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<tr>
<td>Panel size</td>
<td>0.03</td>
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<tr>
<td>Panel complexity</td>
<td></td>
</tr>
<tr>
<td>% with diabetes</td>
<td>0.23</td>
</tr>
<tr>
<td>% with congestive heart failure</td>
<td>0.25</td>
</tr>
<tr>
<td>Quality of care for diabetic patients</td>
<td></td>
</tr>
<tr>
<td>% with HgA1c level measured</td>
<td>0.02</td>
</tr>
<tr>
<td>% with cholesterol level measured</td>
<td>0.42</td>
</tr>
<tr>
<td>% with HgA1c &lt;8.0 % of total hemoglobin</td>
<td>0.23</td>
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<tr>
<td>Patient satisfaction</td>
<td>0.20</td>
</tr>
<tr>
<td>Practice pattern</td>
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</tbody>
</table>

Each physician listed factors that were negatively affecting the quality of his or her professional life.
Two measures of quality of care are reported here as representative of those examined: 1) percentage of diabetic patients whose HgA$_1c$ or cholesterol level was measured in 1997 (a measure of whether a physician was ordering recommended tests); and 2) percentage of diabetic patients with HgA$_1c$ level <8.0% of total hemoglobin (a measure of whether the physician was achieving high-quality results).

The mean percentage of diabetic patients with HgA$_1c$ level measured in 1997 was 58% (range, 51% to 74%); mean percentage of diabetic patients with cholesterol level measured in 1997 was 61% (range, 40% to 75%).

Patient satisfaction was determined by the 1997 score on 100 or more patient satisfaction surveys asking patients to rate their visit on a scale of 1 to 10 for eight indicators of patient satisfaction. Patient satisfaction scores ranged from 8.31 to 9.67.

Relation between practice patterns and laboratory test volume was evaluated by comparing laboratory test volume and diagnostic imaging volume. If pattern of practice determines volume of tests ordered, a physician who orders many laboratory tests would be likely to order many radiology procedures. The coefficient of correlation (0.82) showed that the pattern of practice was the only proposed factor that correlated with laboratory test volume.

Next, physicians were given feedback on their individual data and the blinded cost data for the group (Table 2). Adjusted cost comparisons for laboratory tests and radiology procedures ordered in 1997 (Figure 1) showed wide variation in costs of laboratory testing and diagnostic imaging. Laboratory costs ranged from $20,875 to $89,750 (mean cost, $40,576). Diagnostic imaging costs ranged from $20,480 to $100,904 (mean cost, $47,026).

To evaluate the possibility that changes in telephone or test volume at the study office might be part of a preexisting trend not due to the intervention, we compared volume in July, the baseline month, to volume in the month before the intervention. Neither number of laboratory tests nor number of calls were declining in the month before the study. Telephone calls per day averaged 1.58 calls in June vs 1.60 calls in July, and laboratory test volume per day averaged 46.8 tests per day in June vs 49.8 tests per day in July (range, 27.6 to 75.8 tests per day). Thus, no downward trend in tests or incoming calls was demonstrated before the study began.

### Table 2. Cost of laboratory tests and diagnostic imaging procedures ordered in 1997 adjusted to a 206-workday year for 15 physicians

<table>
<thead>
<tr>
<th></th>
<th>Cost of laboratory tests</th>
<th>Cost of diagnostic tests</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>$89,750</td>
<td>$100,904</td>
<td>$163,374</td>
</tr>
<tr>
<td>Mean</td>
<td>$40,578</td>
<td>$47,025</td>
<td>$87,603</td>
</tr>
<tr>
<td>Low</td>
<td>$20,875</td>
<td>$20,480</td>
<td>$43,775</td>
</tr>
<tr>
<td>Total</td>
<td>$608,645</td>
<td>$705,383</td>
<td>$1,314,028</td>
</tr>
</tbody>
</table>

Figure 1. Percentage change in volume of diagnostic tests ordered (adjusted to a 206-workday year) by 15 physicians five months after implementing a physician peer discussion group.
If the peer discussion process were shown to change behavior, control and study offices, would be expected to show a similar trend in utilization before the study, but only the study office would be expected to show a reduced number of incoming telephone calls and tests after the study.

After baseline measurements were taken, rates of testing and incoming telephone calls at the study office declined every month. During the five-month study period, physicians at the study office had a mean 34% fewer incoming telephone calls requesting test results—a reduction of 0.5 telephone calls per day. The physician with the highest number of calls had 77% fewer incoming telephone calls, a mean reduction of 2.4 telephone calls per day.

The 35% five-month decline in number of laboratory tests ordered was equivalent to a mean reduction of 16.4 tests per day. Even the physician with the lowest utilization rate, 27.6 tests per day, ordered 31% fewer laboratory tests, a mean 8.6 fewer tests per day. The physician with the highest utilization rate, 75.8 tests per day, ordered 55% fewer tests, a mean 41.7 fewer tests per day.

To evaluate the possibility of a general trend affecting volume, five-month data from the two control offices were examined. The data showed that the two control offices had 23% and 29% more incoming telephone calls (Figure 2) and ordered 13% and 19% more laboratory tests per day (Figure 1). These figures suggest that without the intervention, volume at the study office would have increased—as was occurring before the intervention and as continued to occur elsewhere during the study.

Comparing number of tests by clinic by month using the chi-square test of a contingency table shows that neither the observed change in test volume (chi-square = 1026.287, df = 2, p < 0.000001) nor the change in call volume (chi-square = 31.927, df = 2, p < 0.000001) was likely to have occurred by chance. However, comparing the observed number of calls to the expected number of calls using clinic-specific call-to-test ratios by using the chi-square goodness-of-fit test showed that these ratios did not significantly change (chi-square = 1.2027, df = 3, p = 0.75). Thus, reduced number of tests is the most likely explanation for the reduced number of calls.

Further validation of the 35% decrease in test volume being a result of the intervention is that the volume of radiologic procedures decreased by 30%. Because laboratory volume and radiology volume were highly correlated, these two volumes should increase or decrease together.

During the 12 months after discontinuing monthly
presentation of data to the study group, the rate of testing maintained a mean decline of 33.4% below baseline level. Mean number of incoming telephone calls maintained a decline of 33% in the ensuing year.

An eight-question survey distributed to participants in the study group rated their impression of effect of the intervention on their practices. Responses were scaled from 1 to 5, with 1 indicating complete disagreement and 5 indicating complete agreement with the statement. Results of the participant survey (Table 3) indicated strong support for the peer discussion process.

<table>
<thead>
<tr>
<th>The peer discussion process</th>
<th>Mean Response Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helped me manage my practice</td>
<td>4.8</td>
</tr>
<tr>
<td>Improved the quality and efficiency of my practice</td>
<td>4.5</td>
</tr>
<tr>
<td>Did not compromise the quality of care delivered</td>
<td>4.5</td>
</tr>
<tr>
<td>Improved my professional satisfaction</td>
<td>4.3</td>
</tr>
<tr>
<td>Cut costs without regard to quality of care</td>
<td>1.8</td>
</tr>
<tr>
<td>Pressured me to reduce necessary care</td>
<td>1.8</td>
</tr>
<tr>
<td>Hindered my freedom to order tests</td>
<td>1.3</td>
</tr>
</tbody>
</table>

*a on a scale of 1 to 5, where 1 = complete disagreement and 5 = complete agreement with statement.

Discussion

In this study to determine effectiveness of an educational process to improve the quality of care delivered in the medical offices, behavioral change was expected to increase by 1) using multiple educational techniques; 2) making the program peer-based (ie, not directed from the top downward); 3) identifying individual physicians’ reservations about change and addressing these reservations by presenting the physicians with coefficients of correlation to confirm or refute the validity of specific reservations; and 4) using monthly (instead of annual or quarterly) follow-up with group participants to reinforce their behavioral change.

Lectures and data presented by peers seemed to foster in the physicians a willingness to participate, to voice reservations about guidelines, and to work toward a group norm acceptable to the individual. The facilitator must be someone who can encourage group participation and who is comfortable with gathering data and making some simple calculations.

The group must experience the process of voicing reservations, discussing relevant issues, and considering data which verify or refute the issues raised by individual physicians.

Feedback of data to physicians serves several functions. First, baseline data confirm whether change is needed. Such feedback permits physicians to identify their practice patterns in relation to those of other physicians, a comparison which can encourage setting goals. Presenting follow-up data reminds physicians of the need to change and rewards them by documenting change.

The study achieved a statistically significant (p < 0.000001) reduction in number of incoming telephone calls requesting test results and in laboratory tests ordered in the study group but not in the control groups, where both number of telephone calls and number of tests increased. Moreover, 12 months after behavioral reinforcement was discontinued, the reduction both in call volume and in test volume was largely maintained. This result indicated that the observed change was permanent and not a temporary study effect. That the reduction was seen throughout the study group—even for the physician with the lowest test utilization rate—we interpret as indicating pervasive use of laboratory tests beyond necessary levels. A high rate of laboratory utilization had been previously defended as indicating quality of care, yet the data we collected before the study showed very low correlation between number of tests ordered and measures of quality of care.

Conclusions

High volume of tests is associated with high rate of incoming telephone calls from patients requesting test results. The institution of a peer discussion process was associated with a statistically significant reduction in laboratory utilization and call volume.

Physicians who ordered a high volume of laboratory tests did not do more appropriate testing, achieve better disease control, or produce a higher level of patient satisfaction. Physicians made aware of these facts in a peer discussion setting—even physicians who have a relatively low level of test utilization—can achieve long-lasting reduction in their overall utilization of tests. This reduction is possible even with simultaneous implementation of programs designed both to increase use of recommended tests.
and to improve quality of care. The authors attribute the success of this program to the emphasis on quality of care not quantity of tests. Physicians are likely to be more receptive to cost containment when they see that it does not affect quality of care.

Related Publication

References
5. Wones RG. Failure of low-cost audits with feedback to reduce laboratory test utilization. Med Care 1987;25:78-82.
8. Lundberg GD. Laboratory request forms (menus) that guide and teach. JAMA 1983;249:3075.
This sketch is based on Don Wissusik’s experiences while stationed at a small US Air Force medical clinic in the Mediterranean during the mid-1970s. During his duty stay, he experienced terrorist attacks, political turmoil, and war between Greece and Turkey. The drawing sums up his emotional journey through the life events that he witnessed during that period.
Business Basics for Kaiser Permanente Physician-Managers

Because your own strength is unequal to the task, do not assume that is beyond the power of man; but if anything is within the powers and province of man, believe that it is within your own compass also.

— Marcus Aurelius Antoninus

Introduction

When they joined Kaiser Permanente, most of our physicians might not have fully foresaw the present need to understand the basic business concepts necessary to help manage their medical practices. Over the years, the Permanente Medical Groups have realized that physician-leaders need certain skills to manage the business aspect of their medical groups more effectively. In the next decade, many Permanente physicians will increasingly be asked to use their managerial skills to improve the quality of care we provide our members. Indeed, Permanente physicians need basic business skills for several reasons:

• We are held accountable for developing and monitoring budgets.
• We are held accountable for exercising control over our business operations.
• We are held accountable to develop new ideas that will make us more competitive.
• We are held accountable for developing future leaders of our medical groups.

To supplement learnings from the didactic leadership courses developed by the Southern California Permanente Medical Group (SCPMG), this article presents for all Permanente physicians an overview of information not always specifically included in training seminars. The road to being a leader in any organization is not always easy, and many of the skills we acquire as leaders are handed down to us by our mentors—but mentors are not all equal, and variation in mentoring techniques may prevent some managers from acquiring knowledge that will help them become more effective as leaders. The cost of leadership is usually criticism, and many managers learn certain skills by trial and error. When Permanente physicians acquire business skills, they enable our medical groups to more effectively provide high-quality medicine at an affordable price while maintaining market strength.

The Economic Environment Outside the Permanente Medical Group

Look for the obvious which no one else has bothered with.

— Obvious Adams

The economic environment outside Kaiser Permanente is rapidly changing. Computer technology is changing the way we practice medicine and the way the nation does business. Many other health plans are struggling to provide high-quality medicine at an affordable cost. At Kaiser Permanente, we are recovering from recent financial losses by becoming a “leaner” organization.

In a sense, one of our biggest competitive threats is presented by the Internet. Like the rest of the economy, medical practice has entered an information age in which cashless, electronic financial transactions are common and in which, many economists believe, information is increasingly becoming as valuable as money. Many Internet companies are valued at billions of dollars (even if this value cannot be converted directly into cash). In addition, billion-dollar decisions in this highly competitive marketplace are made much more quickly than just a decade ago. As an indirect result of these technological advances, our major competitors in health care are not other physicians; instead, they are business managers skilled in developing new products and in marketing these products to consumers. Therefore, to maintain our competitive advantage in health care, we must learn to think like business managers and stay one step ahead in demonstrating knowledge and proficiency in business as well as in medicine. This way of conducting medical practice will require training different from that which we acquired in medical school.

Health care costs have risen dramatically over the past decade. As health care in our country shifts to a “managed care” model, efforts are increasingly being made to reduce costs, prevent fraud, and ensure consistently high quality of care. Undoubtedly, we will soon be using more Internet technology to simplify paperwork and improve documentation as a way to reduce the number of deaths that have been attributed to “medical errors.” Many health care providers are already looking carefully at new computer technology to help clinicians obtain information whenever, wherever, and however they want it. We also risk losing a market share to companies that with the assistance of this new computer technology, will focus on caring for members with such chronic illnesses as hypertension, asthma, and diabetes mellitus.

One of the SCPMG’s main assets is the information we provide to the Kaiser Foundation Health Plan. Because we belong to a prepaid health plan, the economic incentives for e-commerce have already been established. By providing information to our members over the Internet, we can effectively decrease our clinical costs of providing medical services; for example, members may schedule preventive studies, check test
results, and schedule appointments over the Internet. Another benefit of Internet technology for clinicians is easier access to patient information, a benefit that will further improve the quality of care we provide our members.

Because national economic changes may indirectly affect Health Plan membership, physicians should understand current events in our country from an economic perspective. Whereas increases in home sales or in retail sales are taken as signs of a robust economy (a situation that may lead to increased membership volume and increased revenue), indicators of a weakening economy may mean layoffs and lost membership for health plans. Monitoring these and similar economic indicators will help us to develop effective strategic plans and budgets and to determine the best time to hire additional health care practitioners.

The Economic Environment Inside the Southern California Permanente Medical Group

In battle, one engages with the orthodox and gains victory with the unorthodox.
— Sun Tzu

The economic environment inside SCPMG can be determined by understanding our net worth (ie, tangible and intangible assets minus liabilities). A company is doing well if its net worth increases over time. The net worth of our medical group is difficult to determine. Because we are not a corporation, our worth is determined by our contractual relationship with the Kaiser Foundation Health Plan and by our intangible assets (eg, trademarked or servicemarked programs developed within Permanente Medicine). Every year, our main tangible asset—the cash received from the Health Plan—is distributed entirely as income to our physicians and employees. Our liabilities are zero because the buildings that we use to help care for our members are owned by the Health Plan. Therefore, at the end of each year, our net worth (assets plus liabilities) on paper is zero.4,10

If our net worth is zero, how can we determine if our medical group is successful? Profitability ratios are used by corporations to measure a company’s earning power and management’s effectiveness in running operations.4,10,5 For SCPMG, this ratio would be computed as partner earnings divided by total revenue (ie, total cash received from the Health Plan). High profitability ratio thus indicates high effectiveness. Our profitability ratio may increase if we decrease outside medical costs. However, profitability ratio may not correlate with success; for example, if we do not hire an adequate number of physicians to meet member demand, profit ratios may increase—but member satisfaction may decrease, resulting in lost membership or in multiple complaints to the State of California Department of Corporations. A different measure, profitability, may be defined as the amount of cash dollars needed to meet our year-end projections and to allow us to hire and retain qualified physicians. If our costs were to exceed Health Plan receivables, then each partner would be at risk for paying to SCPMG that member’s share of the deficit. Fortunately, this situation has never occurred.

When membership declines, we can adjust our accounts payable by physician attrition (whether by death, voluntary resignation, or retirement) or by staff layoffs. In the California Division’s Southern California Region, annual attrition is about 100 providers, or about 2.5% of the Region’s physician pool. Because, on average, we employ about one physician per 700 Health Plan members, we could withstand loss of about 70,000 members before we would need to consider implementing layoffs. A 2% change in our membership volume would thus be problematic. In contrast, a 2% gain in membership would indicate difficulty meeting members’ access needs (Irwin P. Goldstein, MD, personal communication).9 Because our contract with the Health Plan is closely related to volume of membership and because our main asset is the cash we receive from the Health Plan, our net worth is vitally linked to membership volume.

Increased membership volume and high rates of member retention are key to the economic success of SCPMG. Every year, we lose thousands of members to other health care programs because we did not meet members’ expectations. By not retaining these members, the Health Plan loses thousands of dollars previously invested in adding these members to the KP team. In the future, if we retain most of our members from year to year, we will have a differential advantage over our competitors.

Membership can be increased by achieving high scores in both quality of care and member satisfaction. Overall health plan ratings obtained through satisfaction surveys and from quality indicators (eg, rates of administering Pap smear and mammographic examination, care for elderly members, and care for members with diabetes mellitus or asthma) are now widely published and certainly will allow further opportunity for the public to voice opinions about the health plans that have earned members’ business. If, as is hoped, the state-of-the-art quality of service delivered by Permanente Medicine will allow us to move from competitive pricing to value pricing, we will definitely gain another differential advantage over our competitors.

Thus, customers are the economic and motivational lifeblood of our medical group, and everyone working in our organization should be aware of this fact. Responding to customers’ needs can be difficult, but these customers often give us ideas for new products and may provide interesting insight into how our competitors may be doing something better than we do. Investing in today’s members will go a long way toward guaranteeing our future as a successful health care organization.
The road to being a leader is not easy.

How to be An Effective Permanente Physician-Manager

Every little deed counts, every word has power, everyone in the organization understands the meaning of life is to build life.

— Robert K Greenleaf, Servant Leadership

The road to being a leader is not easy. The price of leadership is usually criticism and a multitude of problems. To borrow a financial analogy, leaders are the “bottom line.” Few individuals are born to be leaders. In the Information Age, leaders must develop many skills that are not always described in manuals. Whereas most Permanente physicians have mastered—and regularly receive the rewards of—the multitask training required to care for our patients, effective managers reap rewards only after months or years of planning. As part of this planning, physicians may become more effective as managers by developing seven skills on which to focus:

• effective time management;
• matching performance to results (access, satisfaction, and budget);
• effective communication (eg, in presentations and in meetings);
• development of strengths (“feed opportunities and starve problems”);
• development of ideas;
• career development;
• caring for themselves so they can take care of others.

Some Principles of Time Management for Physician-Managers

To be effective as managers, physicians must effectively manage their time. Managers who are always in the office and who do not take time to talk to their employees or customers risk losing their focus and risk becoming isolated from the real problems facing the organization. Ineffective time management also depletes important personal time (eg, time spent with family). Over the long run, insufficient personal time affects managers’ overall mood and individual effectiveness. As part of effective time management, physician-managers are well advised to prioritize decisions on the basis of saving the organization money or developing important strategic goals. Some helpful hints are listed below:

• touch each piece of paper only once: trash it, refer it, answer it, or file it;
• write replies or memos directly on existing memos;
• do not open junk mail, and complete necessary forms promptly;
• minimize the number of copies of reports kept in the office (clip and file articles);
• minimize telephone voice mail and length of telephone greetings;
• eliminate nonproductive time;
• to eliminate overstaffing, identify jobs that can be done by others;
• prevent recurrent crises.

Access, Satisfaction, and Budget: Focusing on Results

Every accomplished Permanente physician-manager should agree that the success of SCPMG depends on developing ways to allow our members to see their own health care practitioners and to be satisfied with that experience. As stated earlier, adding and retaining members is the lifeline of our growth and cash flow. By providing access to our members and by maintaining high satisfaction scores, we will increase our membership by word of mouth and will retain our members. We have found that two indicators are particularly useful in monitoring access to our health care practitioners:

• “percent match”: percentage of visits a member has with primary care practitioner equals number of visits with primary care practitioner divided by number of primary care visits;
• supply/demand ratio: availability of health care practitioners divided by empaneled members’ demand for these practitioners’ services.

The percent match is useful because it tells us what percentage of the time a member sees his or her primary care practitioner when that member comes to the clinic. That is, the percent match measures the efficiency of the appointment center in obtaining for the member an appointment with that member’s primary care practitioner. We feel strongly that the higher the percent match, the more likely members will be satisfied with their health care experience. When members see practitioners other than their own primary care practitioner, they are less likely to have all their needs met and thus may become frustrated—for example, when they are sent back to their provider for follow-up. Indeed, this procedure results in duplication of services, a phenomenon that makes us less effective as an organization. We have also seen that urgent care visits do not substitute for clinic visits with members’ own primary care practitioner; traditionally, satisfaction scores for urgent care visits are much lower than scores for visits with members’ own primary care practitioner.

The supply/demand ratio allows managers to determine if the number of providers in a clinic creates enough appointments to meet overall member demand for appointments. In the past few years, on average, our Health Plan members have generated about three visits per year. Therefore, a population of 100,000 members can be estimated to generate 300,000 visits in one year. The key to success is controlling demand, and the difficulty of this task lies in meeting member demand for appropriate appointments (in contrast with demand for inappropriate appointments). The three-visits-per-member-per-year statistic was calculated by using prospective and retrospective data from our Health Plan clinic in a three-year period and represents the actual number of patients seen in the clinic. The statistic does not estimate unmet demand (ie, patients who wanted an appointment but did not come to the clinic).

Available supply of appointments—number of appoint-
ments practitioners have available per year to see their patients—is usually calculated by multiplying full-time equivalents (FTE) in a clinic by number of appointments per FTE. For example, a practitioner who works in the clinic 46 weeks per year and sees 22 patients per day generates about 5060 appointments in a 12-month period. The supply/demand ratio indicates the ability of primary care practitioners to see their patients when these members come into the clinic. For example, if a practitioner has assigned 2550 members and has 5060 appointments available during the year, that practitioner’s supply/demand ratio is computed as:

\[
\text{supply/demand ratio} = \frac{5060 \text{ appointments}}{7590 \text{ visits per year}} = 0.66
\]

A supply/demand ratio of <1 indicates that a practitioner lacks enough available appointments to meet the predicted demand for appointments by that practitioner’s empaneled member population. A supply/demand ratio of >1 indicates that the practitioner has more available appointments than the practitioner’s empaneled population is expected to generate. Traditionally, this ratio would indicate that this provider panel is open to new patients. For supply to equal demand, a manager may wish to consider closing a practitioner’s patient panel when the supply/demand ratio approaches a value of 1.

- Member satisfaction is measured routinely by most Kaiser Permanente Regions. Satisfaction scores indicate our success in meeting the needs of our members and in increasing our ability to grow. Unhappy customers are not good for business and can cause unhappiness among our employees. Over time, this situation could demoralize the medical groups, create disinterest in developing new programs, and cause physicians to leave a medical group. Undoubtedly, improved access for our members will improve member satisfaction as well as member retention.

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**To be effective, managers must experience frontline customer interaction**

Effective change and customer-centered growth will be at the center of our economic success as a medical group. Companies that excel in customer-centered growth focus on being the best in their business and on establishing a responsive customer interaction process. To be effective, managers must experience frontline customer interaction: Several times per day, a manager should leave his or her office just to walk around the clinic and “put an ear to the wall.” Another useful technique is to listen carefully to the complaints of unhappy customers: These customers can give us valuable information that tells us what is wrong with our medical group. The stories these customers tell should not be undervalued: they can give managers important new ideas and insight.

The general rule in the business world is “never go over budget.” You may go under budget or meet budget, but you must avoid going over budget. To stay financially solvent, a company must consistently meet its budget. To managers, therefore, cost is the enemy. Although managers are paid to manage budgets, various factors cause departments to go over budget (examples include unexpected costs of chemotherapeutic drugs or unexpected increases in the number of evening clinics required during flu season to meet appointment demand). These factors are known as explained variances; managers should try to avoid unexplained variances because they may reflect on the manager’s ability to manage the department.

As physician-managers, our major budgetary components are salaries (for physicians and for other employees), supplies, and outside medical costs. Cost-benefit analysis of these components underlies almost every decision we make during the budget year. The supply/demand ratio model can help us predict future need for practitioners on the basis of member enrollment. If a department’s supply/demand ratio is <1, budgetary goals will not be met, and unmet demand will add a costly expense: overtime clinics. Departments go over budget for several reasons:

- poor prediction (supply/demand ratio much lower than 1);
- excessive overtime or sick call when a department lacks enough nurses to cover on-call clinics or sick call (overtime pay for nurses can be as high as two times their normal pay);
- unexpected outside medical costs, often explained by poor repatriation of members from community hospitals (outside medical costs can be as much as 12 times the cost of care provided at our own medical centers).

Skilled physician-managers have learned ways to effectively develop budgets so as to prevent crises and unexplained variances during the upcoming year. By planning carefully and by working closely with their departments, managers can help their departments to be successful and to avoid going over budget.

**The Importance of Good Communication**

In this Information Age, impersonal communication pervades daily business life: Every day, we are inundated with messages from e-mail, fax machines, voicemail, and pager systems. Managers should therefore try to combat this impersonality. When someone does something special in the department, reward him or her with a handwritten note on special stationery. The employee will probably treasure this note and keep it for future reference. Do not undervalue the importance of recognizing and praising good behavior. Acknowledging good performance encourages similar behavior. Bad behavior also should be addressed quickly, discussed, and documented. In general, praise physicians in public and deliver necessary criticism in private.

In addition, good presentations and good meetings help managers to run their departments effectively. In addition,
managers should consider and delivering presentations, port growth. When preparing as the funding necessary to sup-
port programs that bring their de-
vices, and observe facial ges-
tures and body movements. As clinicians with years of experi-
ence, many of us acquire a “sixth sense” that helps us know when someone is not healthy. This gift can be helpful to us also in busi-
ness negotiations. (The older I get, the more I look and listen!)

One of the more difficult parts of a manager’s job is to develop other leaders …

How Physician-Managers Can Develop Their Strengths and the Strengths of Others

Working on budgets and develop-
ing new programs can be both fun and exciting for managers who have gained experience in these tasks. One of the more dif-
ficult parts of a manager’s job is to develop other leaders, recruit new health care practitioners, and respond effectively to prob-
lem employees. By far the most difficult part of my job has been to terminate a practitioner from service at SCPMG.

Interviewing new practitioners is time-consuming but can save time and headaches if done properly. When interviewing candidates, managers should ask themselves two important questions: 1) whether the candidate can do the job, and 2) whether the candidate will do the job. When asking questions, managers should remember to listen carefully for the response; and if the answer is not complete, candidates should be asked to be more spec-
cific. Responses should be moni-
tored closely for inconsistencies.

Letters of reference can be inval-
uable for determining the candidate’s performance record and potential for doing good work in the department. Im-
possible questions include those pertaining to the candidate’s health, religion, marital status, family plans, and age.45

Problem employees must be treated with great care. A manager’s inappropriate judgment in this area can attract legal action both to the manager and to the organization. The first step in avoiding problems in this area is to evaluate practitioners annually and to take these appraisals seriously. Practitioners should never be rated highly if they do not deserve this rating. To assist documentation of improvement or lack of improvement, manag-
ers should outline for each practi-
tioner clear goals for the up-
coming year. Evaluation forms must be signed by the person being evaluated. When a practi-
tioner needs counseling, the manager should document these discussions and place a copy into the practitioner’s personal file. If the manager decides to place a practitioner on probation either for performing a job improperly or for disruptive behavior, the manager should document these discussions and place a copy into the practitioner’s personal file. If the manager threatens to institute legal pro-
cceedings against the manager, the manager should respond with a phrase such as “you have to pro-
cceed the way that is best for you.” Having the terminated practitio-
er leave the property prevents an angry employee from inappropri-
ately taking valuable information or destroying property. Such behavior would not be expected of a trained physician.46

The nuances of solving prob-
lems encountered in practice are too numerous to be discussed thoroughly in this paper. None-
theless, some general advice may suffice for many situations:

• think of what is right and true;
• practice and cultivate the science;
• become acquainted with the art;
• know the principles of the craft;
• understand the harm and benefit in everything;
• become aware of what is not obvious;
• be careful even in small matters;
• do no useless activity.9

Processes and Advantages of Developing New Ideas

Developing new ideas helps every organization gain a differen-
tial advantage over its com-
petitors. New ideas help us to use technologic change to do our job faster and more efficiently. Ideas can be generated by listening to our customers or by observing our competition (and we should remember that our competition is usually watching us).

Examples of new ideas generated within our Permanente Medical Groups nationally include development of population-based care management programs (designed to effectively care for our members with chronic disease) and our hospitalist programs (that have been shown to improve utilization of hospital resources).

Once generated, an idea must be developed. Proper planning prevents both poor performance and waste of valuable resources. Managerial skill lies in focusing not on who generates the idea but on the idea itself and how it can best be executed. Some factors involved in planning a successful project include assembling the right team, developing measurable outcomes of the planning process, and carefully considering the resources available to the team. Leaders should remember that their departments depend on them to manage practitioners’ time and money wisely. Managers can—and should—delegate responsibility without losing oversight of “the big picture.” Project development also presents an opportunity for training others to be effective managers: They will learn by the manager’s example. Moreover, a new project will be implemented easily if the planning phase has been well thought out; in this regard, measurable outcomes for the project will help managers demonstrate success to their peers. As managers in the health care industry, we should remember that the only barriers to meeting our goals are self-imposed; we should focus not on the status quo but on the way things should be.

How to Develop a Career as a Physician-Manager

Many physician-managers erroneously believe that the Medical Group will construct a career path for them. To the contrary, job advancement is not preordained. Although some physicians are groomed, most leaders develop skills and make substantial contributions to the Medical Group that allow promotion within the corporation. These contributions are as beneficial to the organization as to the physician-manager making the contribution: If all managers constantly work to improve a medical group, then that medical group will easily become (and remain) a leader in the health care industry.

As a general rule, therefore, health care managers must plan their own career. In business generally these days, employees are told not to expect to retire from the same company they currently work for, and economists estimate that the future of management may involve working for several companies before retirement. Most leadership books agree that promotion within a company involves following three simple rules.

1. Actively contribute to the company’s financial—and other types—of success; if the company succeeds, you too will succeed. Remember that as one individual, you cannot do all the work yourself and must therefore develop others and encourage teamwork. This strategy often involves hard work, constant monitoring of the department’s progress, and much patience. However, as programs in the physician-manager’s department gain visibility, the physician-manager too will gain visibility. My experience as a manager has taught me, for example, that because SCPMG wants to be successful, it identifies leaders and places them into positions that will help them develop the skills necessary for becoming successful managers. In any given Kaiser Permanente Region at any given time, several individuals are being groomed to become leaders. Successful leaders spend a lot of time developing and mastering the skills that will help them lead their departments, medical centers, or local service areas.

2. Be sure to learn the business thoroughly. Great leaders understand not only the internal business environment but also the external business environment. Great leaders understand not only the internal business environment—but also the external business environment—in our case, the health care environment outside the Permanente Medical Groups. To be successful, our managers need to understand the threats as well as the opportunities challenging Permanente Medicine—for example, Internet companies may be developing care management programs. Especially important for SCPMG is that we know how to measure our success and must understand the importance of our history in making business decisions. This understanding is crucial if, for example, we are to develop ways of integrating represented employees into our long-term strategic planning. Leaders in our medical group also need definitive knowledge of the regulatory bodies that oversee our Health Plan, because these regulatory bodies are crucial in determining how insured persons view existing health care models. By thoroughly learning these aspects of the health care industry, health plans that provide high-quality care can capture market share and can charge more for services provided.

3. Have a positive outlook toward solving problems, and focus more on solving big problems than on solving small ones. Related personality habits of effective managers include emotional control, honesty, and the ability to refrain from complaining. Managers can demonstrate their effectiveness by trying to resolve for the company a difficult, longstanding problem such as inadequate access to care, low member satisfaction, and needs for improved care management. In solving problems, managers should formulate contingency plans and should never write nasty memoranda.

Unfortunately, Permanente managers sooner or later must make decisions that may affect liability of a medical group. Even though SCPMG has always had excellent legal counsel, legal procedures such as depositions can provoke much anxiety. Nonetheless, some simple guidelines can be helpful. For example, a manager who foresees being involved in legal pro-
To Care for Others, Physician-Managers Must First Care for Themselves

Our brains help us generate ideas that help our members, but our bodies need nutrients to nourish our brains—and many physicians are in less-than-optimal physical condition. Frequently, we hear that physicians die young and that consumers should therefore think twice before listening to the advice of health care practitioners who do not care for themselves. Whether or not this admonition is correct, being in good physical condition helps physicians-managers to work harder and for longer periods and provides them the extra energy needed when working late in the office.  

As a leader of other physicians, you must set an example in this area, usually by arriving early and leaving just a little bit late.  

Physician-managers who arrive late to work—or who leave for home early—send the message that they really do not like their jobs. Nonetheless, staying in the office until 10 pm is also not a sign of an effective leader, because it sends the message that the manager either cannot keep up with the workload or else has poor quality of personal life. Leaving 15 minutes late helps the physician-manager to be available for physicians who may have questions at the end of the day—and also allows enough time to arrive home in time to spend quality time with family members.

When physician-managers arrive home, they should take time to listen to their families’ needs and stop thinking of work. As we see with many of our patients, not spending time with our families early in our careers creates problems later in life that affect our ability to be fully effective as physician-managers; giving our families first priority will also help bring us success as physician-managers. In addition, failing to take our earned vacations prevents our departments from learning how to function in our absence; future departmental leaders must experience firsthand the challenges we face every day. Taking vacations can also strengthen our careers by providing us the opportunity to meet people who may someday be helpful to us professionally or personally. In addition, vacations may even give us an opportunity to observe the way other businesses (even hotels and cruise ships) provide excellent service.

Conclusion

This review of some basic business skills may help physicians to become more efficient managers as well as more efficient physicians. Being a manager is not necessarily fun and is often a thankless job; criticism can far outweigh praise. So why invest the time to become a good manager? Because we want to do what is best for patients—and because the success of Permanente Medicine depends on our effectiveness in developing future leaders.

As managers, we have the opportunity to develop new programs that will benefit many members. For example, SCPMG’s work on care management programs for asthma will improve the care we provide to more than 100,000 asthmatic members. (If I saw 5000 patients per year in my office, I would need more than 20 years to reach that many people!) Successful care management programs as well as successful hospital and clinics programs require managers who have daily contact with Health Plan members and who interact effectively with other health care practitioners as well as with the members we serve.

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Acknowledgments

Irwin P Goldstein, MD, Administrator, provided advice in preparing the manuscipt.
In the Fall of 1933, a young Dr Sidney Garfield and his friend and partner, Dr Gene Morris, had just taken a big chance. In the middle of the Depression, they opened a small hospital at a remote construction site in the Southern California desert.

Garfield and Morris had set out to meet the medical needs of 5000 Colorado River Aqueduct construction workers digging a man-made river across the desert and through mountains to connect the thirsty Los Angeles with the abundant water of the Colorado River more than two hundred miles away.

Dr Morris was already in practice in Indio, the nearest town of any size. As part of his contribution to the hospital start-up, he promised Dr Garfield that he would find and hire a suitable local nurse for their hospital. The name on the top of his list was 21-year-old Betty Runyen. Occasionally, she worked for him when his regular nurse needed time off for illness or vacation. He'd been impressed with both her professionalism and her charm. Betty had another advantage—she'd grown up in the area. Desert weather would be familiar to her.

Reached by phone in Los Angeles, where she was working at Methodist Hospital, Betty was excited by Dr Morris' offer of a full-time job at Contractors General Hospital. He said she would be working for his partner, Sidney Garfield, in what he described as the rough conditions of a desert construction camp—a challenge that appealed to Betty's adventurous spirit. Two days later, she reported for work at Contractors General Hospital. It was the day she met Dr Sidney Garfield.

Clearly, Garfield was glad to see her. In addition to being the only physician, he'd been trying to handle the nursing chores too. He needed help.

Playing the good host, Garfield eagerly showed Betty around the hospital he had personally financed, designed, and helped build. It consisted of 12 patient beds—ten beds in a ward and two beds in a semiprivate room—plus an exam room, a well-equipped OR, and a few rooms for the live-in physician and staff, including a married couple who were the hospital's orderly, ambulance driver, and housekeeping team. There was also a kitchen, a laundry, and a tiny bedroom for Betty. All of this was packed into a 2000-square-foot wood-frame building, set down among cactus and cholla bushes, on the edge of a construction camp about six miles west of the aptly named town of Desert Center. This little oasis of healing—the only hospital in the area—was to be Betty's home for the next five years.

Before long, Betty adjusted to the pace of life and work at Contractors General. Most mornings, she stayed in bed until she heard the orderly and his wife in the kitchen preparing breakfast. Then, she'd knock on Dr Garfield's door to wake him. Garfield slept in the combination office and apartment just inside the hospital's front door. This area was where the staff met for breakfast every morning. While Dr Garfield took his morning shower, the orderly set up breakfast on a folding card table.

There were no special dispensary hours for the aqueduct workers. They would just walk in the back

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**STEVE GILFORD** is a filmmaker, writer and historian who specializes in the history of Kaiser Permanente as well as in the life and times of Henry Kaiser. E-mail: Sageprod@aya.yale.edu.
door, go to the Treatment Room, and wait for someone. They didn’t have to wait long because Betty or Dr Garfield would have heard the screen door slam and gone to help them. Broken arms, legs, and fingers were fairly common, as were back injuries. Another common malady was “Powder Headache”: It was caused by getting a little too close to dynamite explosions, especially in the miles of hard-rock tunnels where they were blasting through mountain ranges to complete the aqueduct.

Although Betty often doubled as an ambulance driver, only once did she go out to pick up a patient by herself. It happened on an afternoon when Dr Garfield was in Indio, leaving Betty as the only medical person at the hospital. She was dreading that an emergency call might come in, and that is exactly what happened. A worker at a nearby construction camp had fainted from the heat.

When Betty reached the patient, she started an IV of normal saline for him, and the patient immediately began recovering. This procedure may seem routine today, but in 1933, nurses didn’t start IVs; that was solely a function of the physician. However, it was typical of Dr Garfield that he had trained her to act in just this sort of emergency. Forty years later, when Nurse Practitioner training was introduced in Kaiser Permanente, Dr Garfield, along with the enthusiastic cooperation of a group of Permanente physicians, including the late Steven Taller, MD, helped the Medical Care Program demonstrate nationally that the Nurse Practitioner could be an important part of the health care delivery team.

In addition to satisfying her taste for adventure, the desert years with Dr Garfield gave Betty an opportunity to experience first hand some milestone events in health care history. She recalled that after nearly a year of struggling with underwriters to get full payment for treatment they were providing, Dr Garfield was running out of money. One day, she said, he did something very unusual: He invited her to join him for a glass of wine—in fact, for a couple of glasses. He had something unpleasant to say, but first he had to loosen up a little.

When he was ready, he told Betty that he was not going to be able to meet the next payroll. Then he blurted out, “I’ve got to cut your salary, and if you don’t like it, you can quit.” Coming straight out like that, it sounded almost like an ultimatum, but she understood that it really came from his discomfort.

Betty was shocked and surprised; but when Dr Garfield explained the problem, she and the housekeeping couple volunteered to work without pay until the hospital became more financially stable. During the next few months, with the help of Harold Hatch, an executive with an insurance company partially owned by Henry J Kaiser, the still-revolutionary concept of prepayment was introduced at Contractors General, covering up to 5000 workers. Within months, the hospital was on its way to becoming a financial success, and Betty and her coworkers received their back pay.

Dr Garfield and Betty Runyen thus were among the first to see how prepayment could change the whole economics of medical practice—a subject that Dr Garfield would promote for the rest of his life. Soon, with the proper incentive in place, Dr Garfield and Betty Runyen were out in the work camps, encouraging preventive care—safely shoring up tunnels, banging down nails, and reminding the men of the importance of wearing hard hats and keeping the workplace clear of dangerous, discarded objects. With Betty Runyen’s help, the principles of what would become Permanente Medicine were being hammered into the historical record.

Editor’s Note: Steve Gilford is an independent contractor who serves as Kaiser Permanente historian and archivist. He located and interviewed Betty Runyen (Baeker) eight years ago in Grass Valley, CA, where she was living in a retirement community near her son. At the time, she had not spoken to anyone from Kaiser Permanente (including Dr Garfield, who died in 1984) in more than 50 years. Delighted at being “found,” Ms Runyen donated a large volume of photographs taken at Contractors General Hospital in the 1930s to Kaiser Permanente. Ms Runyen died in May of 1999. This article is an edited version of a three-part feature that Gilford produced as part of an ongoing historical series sponsored by The Permanente Medical Group.
“Yellow Orchid”
by Roland Tcheng, MD

More of Dr Tcheng’s artwork can be seen on the cover and on page 41.
Update on Surgeon’s Quest to Raise Funds for Cancer Research

When you’ve raised $25 million for the cause of your choice, nobody would mind if you rested on your laurels. With one brilliant idea—a fundraising postage stamp—Dr. Balazs “Ernie” Bodai has created an ongoing source of money to support breast cancer research at centers throughout the country.

“I’m always looking for another project,” said Bodai, 49, a breast cancer surgeon at Kaiser’s Sacramento facility. “I’ve got ADHD [attention deficit hyperactivity disorder] really bad. I can never relax.”

From Stamps to License Plates

Dr. Bodai is channeling his positive energy into an idea for specialty license plates in California, where motorists register 28 million vehicles per year. A former California Assemblyman asked Bodai to help with the project, which will raise money for uninsured women diagnosed with breast cancer. The license plate would contain the same image from the postage stamp: the goddess Diana, huntress and patroness of women in childbirth, reaching behind her head to pull an arrow from her quiver.

Cure Breast Cancer Inc, Bodai’s nonprofit organization, must collect 7500 paid applications for the license plates by the end of 2001 before the Department of Motor Vehicles (DMV) will authorize them. In early Spring 2001, Bodai was beginning to organize events to publicize the license plates. Kaiser Permanente was planning to place promotional materials about the license plates in all of its California facilities and to mention the project in its newsletters. Of each $50 license plate fee collected, about $34 would be contributed to the breast cancer treatment fund for low-income women, a fund administered by the State of California Department of Health Services.

“This is a very difficult task,” Bodai said. “There are so many specialty plates. But once you sell your 7500, you’ve got it made. The DMV sends out about 28 million license renewals every year with a brochure advertising each of the plates.”

Bodai says he paid the $150,000 start-up costs for the breast cancer stamp out of his own pocket but that he doesn’t have that kind of money to spare for the license plates. Fortunately, though, he now has a well-developed network of contacts in breast cancer support groups and in women’s groups—two communities likely to show substantial natural enthusiasm for the project.

“A lot of people have been suspicious of my motives, but I think it has to be because they’re jealous,” Bodai said. “I have gained nothing from this. Every cent has gone to the cause. Do you have any idea how cutthroat the world of fundraising is?”

Meanwhile, Bodai has been battling his own medical problem—the diagnosis of prostate cancer last June. He received brachytherapy (a radioactive implant), and his prostate serum antigen (PSA) level has dropped from 20 to 1—a very positive sign.

One Cause Helping Another: A Plan to Stamp Out Prostate Cancer

Not surprisingly, Bodai’s experience with prostate cancer has spawned yet another awareness project. He has both created and obtained trademark protection for a slogan—“Screen Together, Live Together”—and for a logo that incorporates the images of two first-class postage stamps: the breast cancer stamp and a 33¢ prostate cancer stamp. His idea is twofold: to encourage women to come in for annual mammograms and to bring along their husbands or boyfriends to have their PSA levels checked.

PAM KING is a freelance writer based in the San Francisco Bay Area. She has been a staff writer for the Los Angeles Herald Examiner, the San Francisco Chronicle and the Contra Costa Times, and regularly writes profiles for Diablo magazine. She and her husband, TPMG physician Albert Falitz, have three children.
“Contrary to what some people say, the PSA test is very accurate,” he said. “There’s a zone, between readings of 4 and 10, in which it’s not clear whether there’s infection or cancer, but another test (the free PSA test) answers that question. It’s actually even better than mammography for detecting cancer.”

In the wake of success of the 2-1/2-year-old breast cancer stamp—(whose sales of $300 million rank second only to sales of the Elvis Presley stamp, which has been for sale for more than a decade), the US Postal Service has authorized issuance of five more such “semipostal” stamps. By definition, semipostal stamps sell for a maximum of 25% more than their face value, with the excess money going to a designated cause. Bodai would like to see prostate cancer research (and awareness of the condition, its detection, and its treatment) as one of the beneficiaries, and he dreams of seeing his “Screen Together, Live Together” slogan on a stamp. The numbers of new cases of breast cancer and prostate cancer diagnosed annually are comparable, as are the survival rates—patients whose diseases are detected early.

“What happened with the breast cancer stamp exceeded my wildest expectations,” Bodai said. “The way I figure it, if you consider each person who bought them, each person who delivered them, and each person who received them, 900 million eyes have seen those stamps!”

To order breast cancer stamps or for more information on Dr Bodai’s activities, visit his Web site (www.curebreastcancer.org). For information or to place an order for a California breast cancer license plate, call toll-free 1-877-834-HOPE (4673).

References

Our Deeds
Our deeds determine us as much as we determine our deeds.
George Eliot, née Mary Anne Evans, 1818-1880, 19th century English author
In 1998, Kaiser Permanente (KP) entered into the Labor-Management Partnership with the Coalition of Kaiser Permanente Unions to unite around common purposes, to work together to most effectively deliver high-quality medical care, and to prevail in a fiercely competitive health care environment. The Coalition of Kaiser Permanente Unions includes eight international union partners and 25 local union partners; together, these unions represent about 65,000 KP employees in most KP Regions. Labor-management partnership organizational structures—where management and unions work together to address operational issues—have been established in a number of facilities, most notably the new Regional Laboratory in the Northwest Region, the new openings of KP Baldwin Park and Roseville Hospitals in California, and The Permanente Medical Group’s Northern California Optical Laboratory, which has moved from the brink of inefficiency-related closure to new highs in both productivity and revenue. Last year, for the first time, the partners negotiated common issues nationally across KP Regions and unions. Both the partnership and the negotiation process have been popularly described as the largest and most complex labor-management partnership effort in the country. This effort is currently led by the Labor-Management Partnership Strategy Group and the National Partnership Council.

To discuss the Labor-Management Partnership, TPJ sat down with three key members of the Partnership’s Strategy Group: Peter diCicco, Executive Director of the Coalition of Kaiser Permanente Unions; Oliver Goldsmith, MD, Medical Director of the Southern California Permanente Medical Group; and Leslie Margolin, Senior Vice President for Workforce Development. The text of the interview is presented here.

**Annette Bremner for The Permanente Journal (TPJ):** Although the Labor-Management Partnership is entering its fourth year, not everyone is clear on what it is or why we entered into it. Would you comment on the benefits, and challenges, of the Partnership?

**Oliver Goldsmith, MD:** To me it is very simple: the improvement in KP’s performance can only go so far unless everybody is engaged equally in trying to improve the organization. We’ve made some significant progress through a variety of initiatives, but in my opinion we’re still performing at maybe 70% of our potential. Perhaps we can bump that percentage up a few points through efforts similar to the ones we have initiated in the past. But we can’t reach our full potential unless our employees are participating much more energetically in these efforts. To accomplish that, we must involve them and bring their leadership and their unions on board. By working in a partnership model, we will more clearly understand their needs, and they will have a better understanding of our needs as physicians and managers. It is similar to the way that we in the medical groups work in collaborative partnership with our Health Plan and hospitals.

**Peter diCicco:** I think what Oliver has said is absolutely correct and is underlying the whole premise around what the Labor-Management Partnership is about. We have known for years that the best way to get quality of care and improved financial performance and improved safety and improved overall morale is for people to feel that they are fully engaged and are making a contribution that’s meaningful to the process. That’s what the partnership is about. That’s what our objectives are.

**Leslie Margolin:** A slightly different observation about it is that in my judgment, people come to KP—or most people come to KP, because they believe in our mission and our values and our purpose. The opportunity that’s presented by the partnership is to really give us the opportunity to capitalize on that in terms of engaging people’s hearts, in terms of asking for their opinions and help, in terms of how we can improve our performance and valuing our employees for the contributions that they make.

**TPJ:** All of that sounds wonderful. So why is the partnership still looked at with skepticism by some and not known or understood at all by others?

**Leslie Margolin:** Our greatest challenge has been what we call capacity building—that the Labor-Management Partnership engages management and frontline workers across the organization, that it’s understood by and felt by our physicians and by union leaders. You can’t just throw people into new working relationships and expect them to behave differently. So a lot of the effort up until now has been invested in making certain that employees and union leaders who are participating in our governing structure, and some of our decision making models, are in fact knowledgeable of our business, and business fundamentals. And that the management people become more knowledgeable of union needs and issues, so that all of us are familiar with and comfortable with the principles of partnership. How far this has rolled out in the organization varies by KP Region and Service Area because they all started at different levels of understanding and had various experiences in trying to work together.
Oliver Goldsmith, MD: Leslie is quite correct about the behind-the-scenes efforts. In ’97 and ’98—when the Labor-Management Partnership was being launched—I didn’t spend a lot of time talking to the physicians about the Labor-Management Partnership. To me, it was a senior-level thing going on then in terms of my own activity, so except mentioning it to our medical group board now and then, I wasn’t out beating the drums about it. Quite frankly, I know physicians find flavor-of-the-month programs tedious, and I wanted to wait until there was more tangible progress to talk about rather than attempt to sell concepts to some would sound like motherhood-and-apple-pie wishful thinking. Physicians generally expect new concepts to be accompanied by supporting data. We now have successes and supporting data to point to.

Peter diCicco: While we’re not there yet, we’re sharing a common objective to get it into each and every facility so that everybody in the organization is participating.

TPJ: So you believe there are tangible results to point to now?

Peter diCicco: I think the national bargaining last year—the first-ever effort at concurrent negotiations on 33 contracts with 25 unions and in most KP Regions—was a watershed, where we moved from one environment where people were really waiting to see if this was going to be a longstanding success to one in which we now see an awful lot of progress.

Leslie Margolin: I would agree—and when I say that I think Peter would agree with me—that it is not because of the contract itself but the process that got us there.

Peter diCicco: Absolutely, because it was during the national bargaining and the work of the bargaining task groups we found out that there are a whole series of areas where union and management, frontline worker and manager, have mutual interests. Areas to examine that go beyond just simply financial improvement as a single focus but include mutual desires to improve quality of care, quality of service, workplace safety.

Oliver Goldsmith, MD: I think the initiatives rolling out of the Health & Safety Bargaining Task Group are most likely to capture our physicians’ attention. When you start talking about improving retention and availability of experienced support staff, reducing the risks of being needle stuck with hepatitis or HIV, and reducing the loss of RNs during the current nursing shortage—these are issues that are very real to physicians, because these issues affect their ability to practice medicine and the smooth operations of their practices.

When you start talking about improving retention and availability of experienced support staff, reducing the risks of being needle stuck with hepatitis or HIV, and reducing the loss of RNs during the current nursing shortage—these are issues that are very real to physicians, because these issues affect their ability to practice medicine and the smooth operations of their practices.

As I mentioned earlier, part of the big breakthrough in the national bargaining was that the bargaining task groups—frontline employees, managers, and union leaders working side by side—began to discover they had some mutual interests above and beyond the normal “money” issues of traditional bargaining. And once they started identifying the end results they really wanted to achieve, they found they weren’t too different and that there was room to be creative. So, for example, rather than talking about how to save money around workers’ comp, the challenge became to prevent injuries in the first place. So now there is a clearer focus on the ultimate goal, and we’re initiating a major initiative this year around workplace safety—safety for employees, for physicians, and for patients. And it’s not just a matter of focusing on the financing but on how we actually prevent injuries. What can we do to assist injured employees to return to the workplace quicker—for their own economic and physical well-being but also to improve continuity of service and support.

Leslie Margolin: The data the Health & Safety Bargaining Task Group put together indicated that one employee in eight will have an industrial injury or illness requiring more than first aid, and 1 in 20 will sustain some level of disability as a result. Nationally, large companies are spending more than 14% of their payroll on disability costs. We think KP’s experience is similar, which would amount to approximately $500 million a year.

Oliver Goldsmith, MD: But of equal importance is the ability to retain caregiving teams by preventing injuries and by expediting the return of employees from disability. Data presented by the Bargaining Task Groups indicated The Permanente Medical Group in Northern California has been able to increase work hours of their clinical support staff by 10,000 hours annually through an improved approach to integrating workers’ comp services alone. To me, that translates into more efficient clinic operations, better patient care, and happier physicians.

Leslie Margolin: The program Dr Goldsmith is talking about also resulted in an annual cost savings of $5 million. In KP Northern California, The Permanente Medical Group’s
Average Indemnity Claim Cost appears to have remained flat while it was rising by about $8000 statewide in California. The Health & Safety Bargaining Task Groups estimated that 1000 more employees could be returned to work by working with them to accommodate their work limitations. And $50 million annually could be saved—and services improved—by eliminating redundancies in our disability system, as Northern California did.

TPJ: Is this the primary thrust of the initiative on workplace safety then, or are there others?

Leslie Margolin: It is only one aspect. Another focus is back injuries. The single most common and expensive workplace injury is overexertion of upper extremities, including back injuries. And we will be rolling out a three-pronged program to reduce them, including improved training in patient handling, development of patient-handling lift teams to assure adequate staff on hand, and purchase of additional vertical lifting devices where appropriate. We are projecting reductions of 10% to 70% in back injuries over the next three years.

Peter diCicco: I believe the whole area of “needle sticks” is another good example of where some creative thinking complemented existing efforts and is being broadened under this initiative. There was a “Sharps Committee” as an offspring of the KP National Purchasing Council, to make recommendations on what types of needles to buy. But the needle itself is only one aspect of the risk. So the “Sharps Committee” has been reconstituted as a partnership committee, and will be kicking off later this month. In fact, by the time this publication comes out, I think the initial training and meetings will have already taken place. The scope has been broadened in terms of participation programwide and from management, employees, and the unions. It’s a whole new approach, and coupled with the workplace safety initiative, we can see that there is really a major thrust on the part of the organization to seek significant improvement in this area.

TPJ: Is there physician involvement in these Labor-Management Partnership committees and task forces?

Oliver Goldsmith, MD: I, and other medical directors, have not put physicians on many regular committees. That is not due to a lack of interest, nor a feeling that we haven’t anything to contribute. It is simply the reality that patient care has to come first. We don’t have the luxury of physician time to put into many of these positions, because then there are some 30 patient appointments a day being canceled. There are paid medical group administrative staff participating, a few physicians in key roles, and of course the Permanente Medical Group Medical Directors are involved nationally at the senior partnership level.

Leslie Margolin: Let me just echo a point we made earlier in that it is not just the time of the meetings itself. All the members of a committee or task force must go through partnership training to learn how better to work together to resolve issues, reach common understandings on fundamental business and union practices, etc. It is a major time commitment.

TPJ: Are there other aspects of the workplace safety initiative you would like to address?

Oliver Goldsmith, MD: We have alluded to the element of patient safety, but I would like to be a little more explicit. We physicians all took an oath: “primum non nocere,” or “first, do no harm.” You may not be able to help the patient, but do no harm. Yet there is no physician in America or in the world who hasn’t seen harm done to an employee, a physician, or a patient through something that happened that shouldn’t have happened. We need to address how we can improve patient safety as well and eliminate anything that places a patient at risk. Physicians sometimes react against such an initiative, because it has a bureaucratic ring to it. But it doesn’t have to be looked at negatively. The safety of our patients requires optimal performance, eg, the arrival of a surgical kit on time, the availability of a room, the availability of an appointment. It’s much broader than just giving the wrong medication or something that has a negative connotation. And so all of these [aspects] require the focus of everybody in the organization. That’s kind of the sense I give to it. We need to find a way to engage everyone in that effort.

Peter diCicco: What we’re doing through the Labor-Management Partnership is to create one or two pilots in place that will begin to encourage those types of input from physicians and nonphysicians. The intention is to look for full input from people and that they give it uninhibitedly—where the goal is not finger pointing but creating an environment where people really feel comfortable in being able to come forward, and be open and candid in how we correct problems. And I think where we have tried it, we’ve been able to demonstrate that, in many cases, the problems are systemic and are easily corrected.

That’s not to say that, if we have negligence, the individual responsible for negligence shouldn’t be scrutinized and, in fact, action taken. But in many cases, we find out that there are systemic problems.

Oliver Goldsmith, MD: At the risk of heresy, I think we physicians need to acknowledge that we don’t know it all—that there are many things happening around patient safety that simply are beyond our horizon of activity. Physicians see you in the office, then go to the next patient. Their minds are focused on that, and very little else. So, physicians need to encourage employees to come to them and say, “You know, I know you want this to happen, but it doesn’t happen—because when the patient goes to the second floor, the railings aren’t up”; or “the beds aren’t made correctly”; or whatever it may be. So the physician has to be alerted to a broader dimension to quality of care. It is more than, “You take this pill and you will be better.” The challenge is much broader than that.

Peter diCicco: Right, and they [these employees] are the ones who can contribute most signifi-
significantly to creating the environment for people to come forward and provide leadership in systemic improvements. They set the tone, so it is a nonpunitive approach to correcting systemic problems rather than bickering and finger pointing.

**Oliver Goldsmith, MD:** I can see a physician at a meeting saying, “Look, here’s what we want to happen. Is everybody comfortable that this is what’s going to happen? When I discharge a patient from the hospital, to get them into their car, does this happen smoothly?” And then, instead of obsequious head nodding and muttering behind physicians’ backs, there is an outpouring of “No, there’s not enough this, that, or the other thing,” with constructive ideas for how to make it work. Then we will have achieved partnership, and I sincerely believe all of our jobs will be easier.

**Leslie Margolin:** If only it were that simple. But one thing we’ve learned over the past four years is that everyone has to invest time and energy into really listening to and understanding one’s partner. It takes a while to set aside past suspicions and skepticism and learn to listen with open ears. But the payoff can be immense, as we’ve seen in the KP Regional Clinical Laboratory in Northern California. Although the workers were initially skeptical about how talking about safety would accomplish much, they reduced lost days by 90% last year once they got into the safety program. And the safety program only cost 10% of the workers’ comp costs. That is the kind of win-win that the Labor-Management Partnership is all about—improved health for our employees; increased efficiency and production for our patients and members.

**TPJ:** Thank you all for your time and insights.

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**Acknowledgment**

Robert A Hughes, BA, Retired Associate Director of Public Affairs for Kaiser Permanente Northern California, edited the contributions.

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**One Day at a Time**

The best thing about the future is that it only comes one day at a time.

*Abraham Lincoln, 1809-1865, politician and statesman, 16th President of the United States*
The Garfield Memorial Fund
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For more information go to:
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510-450-2200 or Alison.Truman@kp.org

Dates Summary:
Issue Date: June 22, 2001
Two Page Preliminary Proposal Due Date: July 30, 2001
Responses to Preliminary Proposal: September 4, 2001
Full Proposal Due Date: October 15, 2001
Funding Decision: December 3, 2001

¹All proposals are required to have a Kaiser Permanente Principal Investigator.
Announcements

11th Annual
National Kaiser Permanente
Emergency Medicine Conference

*September 13–15, 2001*
*Radisson Hotel, Berkeley, CA*

This year’s material includes information pertinent to providers of Hospital-Based Medicine, Internal Medicine, and Family Practice. An added special feature this year is a program of Nursing Education with special emphasis for Emergency Nurses. This will include presentations on ACLS Guidelines, AHA Guidelines on the evaluation of chest pain in the ED, and a Pediatric Emergency Medicine Challenge Bowl.

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3rd Annual
National Kaiser Permanente
Hospital Medicine Conference

*Monday & Tuesday*
*October 8–9, 2001*
*Hotel Nikko, San Francisco*

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Announcements

2001 National Cardiovascular Medicine and Surgery Conference
September 14–16, 2001
Renaissance Parc 55 Hotel
55 Cyril Magnin Street
San Francisco, CA 94102
415-392-8000

For conference information contact
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Conference Coordinator
Kaiser Permanente–CV Anesthesia
2425 Geary Blvd.
San Francisco, CA 94115
phone: 415-202-3495 (8-435-3495)
fax: 415-202-3310 (8-435-3310)

ERRATUM

In Lauer MR. Clinical management for survivors of sudden cardiac death. Permanente J 2001 Winter; 5(1):18-32, the credit for Figure 3 should read:

Adapted and reproduced with the permission of the publishers, Excerpta Medica Inc, and the author from: Randomized antiarrhythmic drug therapy in survivors of cardiac arrest (the Cascade Study). The CASCADE Investigators. Am J Cardiol 1993 Aug 1;72(3):280-7, Figure 3.

In Krall MA. Clinician champions and leaders for electronic medical record innovations. Permanente J 2001 Winter; 5(1):40-5, the credit for Table 1 should read:


The Lighter Side of Medicine

THE HUMERUS ZONE

Cartoon submitted by Don Wissusik, MA, MS, a Clinical Supervisor in the Department of Addiction Medicine at Cascade Park Medical Center, Vancouver, WA.
Can Physicians Manage the Quality and Costs of Health Care?  
The Story of The Permanente Medical Group  
by John G Smillie, MD  

**Book Review by Morris F Collen, MD**

Every book of history tends to be influenced by the viewpoint of its author. In this case, the author, John “Jack” Smillie, lived through most of the history he wrote about: He held major professional and administrative positions within Kaiser Permanente and was a key participant in its growth and development. Accordingly, this book provides as reliable and as firsthand a story of our organization’s history as could ever be written.

Now in its second printing, Smillie’s comprehensive, engaging book presents considerable factual detail about the key people originally involved in forming the organization. Further, the book recalls the wartime and postwar conditions under which the Kaiser Permanente Medical Care Program evolved. Smillie’s entertaining and informative book should be required reading for every Permanente physician and is sure to be of interest to many others—both within and outside our organization.

**A Surgeon’s Journey: Mojave Desert to Permanente Creek**

The first chapter appropriately begins the story in the 1930s in the Mojave Desert of Southern California, where Henry J Kaiser was building an aqueduct to deliver water from the Colorado River to Los Angeles. A young surgeon, Sidney Roy Garfield, had recently completed his residency training at the Los Angeles County General Hospital and had assumed the responsibility of providing industrial care for the workers on the aqueduct project.

There, in his first medical practice, Garfield discovered the power of prepayment capitation when he negotiated with the industrial insurance corporation to pay him a nickel per worker per day for providing industrial care. There he also discovered the importance of preventive medicine, and he strove to remove potential health hazards for the workers—although it is only legend that Garfield would go to the construction sites and pound down any protruding nails himself (p 13). Soon he negotiated payment of another nickel per worker per day, this time for providing nonindustrial care. Thus began Garfield’s first prepaid, comprehensive medical care program as well as his close, productive, lifelong association with Henry Kaiser.

In the book’s second chapter, Smillie describes the years 1938 to 1941, when Garfield moved to the State of Washington to establish his second medical care program for Kaiser workers: These workers were building the Grand Coulee Dam. Then, in early 1942—soon after the bombing of Pearl Harbor—Kaiser opened the Kaiser-Todd Shipyards in Richmond, California, to build “liberty ships” for use by the Allied troops fighting in Europe.

During this dramatic wartime period (described well in Smillie’s third chapter), Garfield and the other county hospital physicians prepared to be shipped out for duty in India—but Henry Kaiser arranged to have Garfield pulled out of uniform and assigned to provide medical care to the Kaiser-Todd shipyard workers. Thus, in 1942, Sidney R Garfield and Associates began to provide comprehensive industrial and nonindustrial care on a prepayment-capitation basis to all the shipyard workers. By 1944, approximately 100 of Garfield’s physicians were providing care to about 90,000 Richmond shipyard workers.

Chapters 4 and 5 review how, at the war’s end in 1945, the program of prepaid medical care was reorganized to form Kaiser Permanente. Accompanied by 13 physicians who stayed with him after the war, Garfield opened the Health Plan to the community, beginning with only about 14,000 members. In 1947-48, Garfield relinquished his sole proprietorship of the program to establish as nonprofit trusts the Permanente Foundation Health Plan and the Permanente Foundation Hospitals. The physicians employed by Garfield then established a partnership, The Permanente Medical Group. Kaiser had named his earliest companies “Permanente” after the “ever-flowing” Permanente Creek that ran near his cement and gravel plant in Los Altos, California (The Permanente Journal Vol
In 1952, the trusts were renamed Kaiser Foundation Health Plan and Kaiser Foundation Hospitals, but The Permanente Medical Group retained its name to signify they were not Kaiser employees but were instead a separate and independent partnership. The book also recalls the decade of harassment which ensued when the organized medical establishment realized—with overt displeasure—that Kaiser Permanente was set to continue beyond the war's end. During this period, Permanente physicians were verbally attacked in various attempts to declare them unethical. Although the attempts failed, they are important not only in our own organization's history but also in the development of modern US health care.

Roots of Permanente Medicine: Founding Principles

Beginning in 1945, Garfield advocated the importance of providing good-quality patient care at a cost health plan members could afford. He defined six basic principles that would govern his program: prepayment capitation, group medical practice, adequate integrated facilities, preventive care, voluntary enrollment of members and their dual choice of health plans, and physician responsibility for patient care.

Evolution and Growth of the Program

In Chapters 6, 7, and 8, Smillie describes in some detail a dramatic period of confrontation between The Permanente Medical Group and the Permanente Foundation Health Plan and Hospitals. Henry J Kaiser had begun to show an increasing interest in taking personal control of the medical care program, beginning with administration of the new medical center built in Walnut Creek, California. After a long series of stressful negotiations that included a three-day session held at the Kaiser estate at Lake Tahoe, the participants formed the 1955 “Tahoe Agreement,” a document that defined the responsibilities of each of these three entities as well as the contractual relationships between them.

Chapters, 9, 10, and 11 review the growth of the Program through the 1960s. The final chapters (12 and 13) outline the challenges and accomplishments of the Program during the 1970s and 1980s. In 1973, Kaiser Permanente became the model for the federal Health Maintenance Organization (HMO) Act, legislation that encouraged formation of similar programs.

A Modern Health Care Legacy

Although later modifications of Garfield's basic principles led to the appearance of “managed care” programs that control the quality of care by strictly managing its costs, the program pioneered by Garfield and Kaiser would leave a permanent legacy for health care in the United States. The founder of many organizations, Henry J Kaiser died in 1967, having often predicted that he would be remembered best for his health plan and hospitals. His prediction became reality.

Sidney R Garfield died in 1984, having received much well-earned recognition for his extraordinary contributions to health care in this country. In 1977, Garfield received the prestigious Lyndon Baines Johnson Award for Humanitarian Service from Mrs Lyndon “Ladybird” Johnson, former First Lady of the United States. In 1986, the University of Southern California dedicated the S R Garfield Chair in Health Services. In 1988, Garfield was posthumously inducted into the Modern Health Care Hall of Fame. John G Smillie died on September 6, 2000, leaving us this memorable history and many other substantive contributions to Kaiser Permanente. This review is written with the greatest respect for the memory of Jack Smillie, who was for so long my good friend and esteemed professional colleague.

Morris F Collen, MD, FACP, was one of Dr Garfield’s earliest associates when he joined The Permanente Medical Group in 1942 as Chief of Medicine. He founded Medical Methods Research, now the Division of Research. Dr Collen is a member of the Institute of Medicine and is a scholar-in-residence at the National Library of Medicine.
Personal Journaling: Writing About Your Life

Reviewed by Karen Cangialosi, MFA, MA

In the April 14, 1999 issue of JAMA, David Spiegel, MD, said, “… Smyth and colleagues demonstrate that merely writing about past stressful life experiences results in symptom reduction among patients with asthma or rheumatoid arthritis. Patients wrote … following a method developed by Pennebaker et al, who showed that such an experience improves immune function.”

How to Keep a Journal—And Why

For many years, “journaling,” or keeping a journal, has been a way for people to process and reflect on what gives meaning to their lives and thus act as a healing agent. Numerous workshops and workbooks teach people how to journal. Through writing, people are often led to the deeper recesses of who they are and sometimes discover things they have yet to understand. The healing power of this reflection is well documented and is used extensively in all forms of the healing arts—especially psychotherapy—but more recently has been used by people affected by diseases such as asthma or rheumatoid arthritis.

Personal Journaling: Writing About Your Life is a bimonthly publication from Writer’s Digest that began with the Winter 1999 issue and focuses each issue on a different topic. Selected articles from past issues of the magazine are available from www.journalingmagazine.com.

As the editor of Personal Journaling says, “Your life is like no one else’s.” With this introduction, the magazine concentrates on helping people to write about their lives. For example, in her “Dream Journal” column in the October 2000 issue, psychotherapist-author Joan Mazza discusses the answer to the common question, “What does this dream mean?”

So why does autobiographical writing work? In his book, Opening Up, James W Pennebaker explains: “Like other stressors, inhibition can affect immune function, the action of the heart and vascular systems, and even the biochemical workings of the brain and nervous systems. Auto-biographical writing releases patients’ inhibitions.

Articles about the benefits of keeping a journal, writing about their own anger, getting to know themselves better through “self-acquaintance journaling,” or balancing their lives by using a mind-body journal are just a few examples of the ways this publication can help patients get in closer touch with important issues of life and health. Although established workshops that teach people to journal have obvious value—people can sit back and learn the process of journaling by listening to someone else—Personal Journaling gives people the tools they need to begin keeping a journal on their own.

The beauty of this magazine is that it serves as a handy reference guide as well as a source of inspiration and motivation. Keeping a journal might be as easy for patients as picking up pen and paper and starting to write, but to get the real healing value out of the writing process, clinicians will find Personal Journaling useful for deepening and broadening their scope of work with patients and for helping patients to work through the inhibitions that function as stressors in their bodies.

References

Karen Cangialosi, MFA, MA, is a Lifestyle Educator in SCPMG’s Department of Preventive Medicine in San Diego, California. Previously she was a project manager for Microsoft Corporation.
CD-ROM Reviews

Low Back Problems, Version 1.0
by Barry Miller, MD; David H Levy, MD; and David Wagoner
CD-ROM review by Albert Ray, MD

This CD-ROM-based tutorial was developed for primary care physicians and staff of Kaiser Permanente (KP) by a team of multimedia designers of the KP California Division to facilitate effective diagnosis and treatment of patients with low back problems. The program combines audio, video, text, and other visual elements in eight modules accessed anytime (by clicking on representative icons located on the left side of the screen): Introduction; Basics; History; Physical Examination; Diagnostic Studies; Diagnosis and Management; When to Refer; and a Case Study of a Patient with a Herniated Disk.

A graphical interface permits users to navigate easily through extensive content to select only the information desired. Program content was developed after scholarly review of recent literature and founded on evidence-based guidelines for best practices as well as on consultation with local and national experts within KP.

Users of this excellent CD-ROM will be better able to describe the essential anatomy of the lumbar spine; appropriately obtain the medical history and conduct a physical examination for a patient with low back problems; diagnose several common causes of low back problems; arrange appropriate treatment for low back problems of various origins; and refer patients appropriately to specialists. The program’s approach addresses not only the physical causes of low back pain but also the psychosocial causes that so often affect patients who are seen for acute and chronic low back pain.

The CD-ROM disc is accompanied by easily followed instructions written for various platforms—Windows ’95, Windows ’98, Windows NT, and Macintosh—and provides an enjoyable and most worthwhile learning experience. Clinicians who frequently see patients for low back problems will benefit from the outstanding, clearly presented, comprehensive review of the subject matter. The Kaiser Permanente National CME Program has assigned to this educational activity a maximum of three hours of Category 1 credit toward the AMA Physician’s Recognition Award.

Albert Ray, MD, is Assistant Chief of the Department of Family Practice at Kaiser Permanente in San Diego and is an elected Director of the Southern California Permanente Medical Group.

Our Vehicle
Your body is precious. It is our vehicle for awakening. Treat it with care.
The Buddha, Siddhartha Gautama, sixth century BC Nepalese philosopher
Instructions to Authors

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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.

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Types of Papers

There is no required length, although concise, readable, and practical articles within the ranges listed 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 (word count range is 725-2500)
  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.

• Original Research (word count range is 725-2500)
  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.

• Health Systems (word count range is 725-2500)
  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.

• External Affairs (word count range is 725-2500)
  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.

• Medical Legal Update (word count range is 725-1400)
  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.

• Soul of the Healer (word count range is 725-1400)
  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.

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

• Abstracts
  Abstracts from articles published in other journals, preferentially featuring the work of Permanente physicians.

• Announcements
  Significant achievements related to the practice or management of medicine by Permanente physicians or Permanente Medical Groups. Also posted will be upcoming courses, meetings, and conferences sponsored by the Permanente Medical Groups or Kaiser Permanente.

• 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.

Cover Letter

In a cover letter, please give a concise statement of the authors’ view of the importance and uniqueness of the article. Also provide several names and addresses of non-Kaiser Permanente experts who could provide informed, objective reviews of the work. The names of any persons considered unlikely by the authors to supply nonbiased reviews may also be submitted; this request will be honored. It is important that the cover letter also include the names, addresses, phone numbers, and fax numbers of all coauthors.

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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 2”×3” or larger than 5”×7.”) If more than four authors, submit the authors’ profiles only—no photographs.

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Illustrations and tables are desirable and highly encouraged because they expand the value of the article. Tables and illustrations must be cited in order in the text using Arabic numerals. Submit one complete set as glossy prints or high-quality laser prints, and include electronic files on disk for each illustration and/or table. 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.

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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 six authors

Journal article, more than six authors

Journal article in press

(Note: A copy of the manuscript must be included.)

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**Section A.**

*Article 1. Peer Discussion in a Family Practice (page 54)*

The quantity of lab tests ordered by the physicians has been shown to correlate with:

a. Quality of care  
b. Satisfaction of the patients (MAPPs scores)  
c. Size of the patient panel  
d. None of the above  
e. All of the above

The most effective way to change the physicians’ practice is (one best answer):

a. Mandate from the Medical Director or Chief  
b. Provision guidelines  
c. CME  
d. Peer discussions, lectures, and data feedback regularly


A surgeon in 1942 could administer Sulfa drugs in the treatment of complicated appendicitis by which of the following routes?

a. Intravenous  
b. Oral  
c. Local application to wound and peritoneal cavity  
d. All of the above

Diagnostic accuracy in appendicitis has been enhanced in the second half of the twentieth century by:

a. Radioassay of the abdomen demonstrating tagged inflammatory cells in the region of the appendix  
b. Barium enema demonstrating a mass near the cecum  
c. CT scan of the right lower quadrant showing inflammation  
d. None of the above

*Article 3. Reporting Anesthesia-Related Critical Incidents: The Kaiser Permanente Northwest Region’s Experience. (page 9)*

In the NW, Peer Review for Anesthesia Critical Incident Reporting …

1. Examines “near miss” events, in which no patient harm occurs.  
2. Assumes the clinician is responsible for adverse events.  
3. Treats all physicians fairly.  
4. Considers a narrow range of departmental activities on the basis of which charts are reviewed.

True statements are:

a. 1 and 3  
b. 2 and 4  
c. 1, 2, and 4  
d. All true

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Critical Incident Reporting …
1. Relies on “self-reporting.”
2. Provides an opportunity to examine “near miss” events.
3. Does not seek to blame individual practitioners.
4. May identify system problems that isolated chart review overlook.

True statements are:

a. 1 and 3
b. 2 and 4
c. 1, 2, and 4
d. All true

Article 4. Culture, Systems, and Human Factors: Two Tales of Patient Safety (page 46)
What percentage of medical errors are seen to be system-derived?

a. 20%
b. 30%
c. 50%
d. 80%

Choose all of the following human factors topics that have application in medical care.

a. Conflict resolution
b. Fatigue
c. Hierarchy and power distances
d. Effective communication
e. All of the above

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

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<tr>
<th>Article 1</th>
<th>Article 2</th>
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<td>5</td>
<td>4</td>
<td>3</td>
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</table>

The article covered the stated objectives.
I learned something new that was important.
I plan to use this information as appropriate.
I plan to seek more information on this topic.
I understood what the author was trying to say.

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

___________________________________________________________________________________________________________
___________________________________________________________________________________________________________

Section D. (Please print)
Name: ____________________________________________  E-mail Address: ____________________________________________
Address: ______________________________________________________________________________________________
___________________________________________________________________________________________________________

Signature: ____________________________________________  Date: ____________________________________________
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* KFHP - Kaiser Foundation Health Plan, TPMP - The Permanente Medical Group, Inc.; NWP - Northwest Permanente, Physicians and Surgeons; CPMG - Colorado Permanente Medical Group, PC; PMGofMA - Permanente Medical Group of Mid-America, PA; TPF - The Permanente Federation, PermcO - The Permanente Company; OPMG - Ohio Permanente Medical Group, Inc.; TSPMG - The Southeast Permanente Medical Group, Inc.; MAPMG - Mid-Atlantic Permanente Medical Group, HPMG - Hawaii Permanente Medical Group, Inc.; SCPMG - Southern California Permanente Medical Group

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