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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 4”x5” and no larger than 8”x10”.
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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Complete this form to receive Category 1 credit.
Advances in medical research inevitably bring new technologies to market. With both physicians and patients expecting better diagnostic and treatment tools for medical conditions, new technologies have become more prominent in medical practice. These technologies—such as diagnostic ductal lavage, proton beam radiation therapy, laparoscopic surgical procedures, positron emission tomography imaging devices, and stem cell medical therapies—are initially marketed as more promising cures—more effective, faster, less injurious, and easier to use, although they are not proven to be safe or effective. It is difficult for clinicians to keep up with the technology applications, expanding benefits, or developing complications. Consumers read about these new and promising technologies in the lay press, which seeks to advise on the latest and best in medicine. More than that the lay press, which seeks to advise on the latest and best in medicine, is a marketing strategy to gain market position and dominance. These assertions don’t reliably predict the best in medical care.

The dilemma then is what to do in the interim between a “new” technology receiving approval for use and initial benefit coverage and that new technology becoming an “effective” technology in medical practice. We are first aware of new technologies as experimental and under investigation in federal Food and Drug Administration (FDA) studies. This is the first of several FDA approval phases, including phased clinical trials. As new technology evolves toward common use in medical practice, there are also governmental and health plan coverage decisions that affect their availability and affordability.

A new technology that is approved by the FDA as safe for use and is approved by the government for coverage doesn’t, however, mean that the technology has long-term safety or safety across wide populations. FDA trials do not define how effective the technology is or necessarily compare it to other current technologies or alternative technologies. Even after randomized, controlled clinical trials (RCTs) have been completed, the question of the technology’s ultimate effectiveness is not answered. It may be an effective new practice but may not be a best practice—widespread in use, safe in the short and long term, the range of side effects understood, clinically efficacious, and well integrated into the general clinical practice of medicine.

Permanente Medicine clinicians strive to practice within the “effective” to “best practices” phases of this evolution (Figure 1). Other practitioners may utilize new technologies early on before long-term safety and widespread effectiveness are achieved. They may also abandon proven agents in favor of the new agent. A pharmaceutical example is that the proven benefit of reducing post myocardial infarction readmissions by using standard beta-blockers is ignored when new agents are substituted. This pattern of using the newest agents creates a component of the variation in medical practice that is now being assailed by the Institute of Medicine as resulting in not only high-cost medicine but also in potentially unsafe medicine and unnecessary medicine. Hospitals, physicians, and health plans may tout the latest in new technology as the best in the science of medicine—in part as a marketing strategy to gain market position and dominance. These assertions don’t reliably predict the best in medical care.

The dilemma then is what to do in the interim between a “new” technology receiving approval for use and initial benefit coverage and that new technology becoming an “effective” technology in medical practice. In the early phase of evolution, a new technology is “potentially useful” (Figure 2), then it becomes “selectively useful,” then “generally beneficial,” and finally “valuable.” It is potentially useful.
when first deemed safe enough for clinical use with FDA approval. But the questions remain: useful for whom, in what conditions, and for how long a term of use? When a technology evolves to “selectively useful,” the questions remain: how safe, and how widely effective? When evolution to “generally beneficial” occurs, there should be data to prove benefit through scientific evidence and expert opinion based on experience. Finally, when a technology becomes “valuable,” we can say that its safety is time-tested, that it is highly efficacious, and that it is well integrated into routine medical practice and into guidelines for both individual and population-based use.

Focusing on the period from when a technology is new until it is effective, what are the options for physicians? Use of the technology in practice could occur: only within the research protocols of clinical trials; in the widely variant use of physicians as they apply their individual criteria; or use, outside trials, could be restrained until evidence exists from RCTs, consecutive case series, or expert opinion.

I would propose another option: use of a new technology within a “registry.” The information collected could simultaneously begin to define a “new practice guideline” (Figure 3). This process would be similar to the Pharmacy and Therapeutics Committee permitting use of a new nonformulary drug. In Northwest Permanente Medical Group, with the benefit of the electronic medical record embedded in a regional clinical information system, a reminder automatically appears when the physician orders a nonformulary drug questioning the rationale for its use. The registry for a new technology would be used far less often, but all would benefit from an electronic reminder and electronic capture of patient and procedural information and outcome data. A registry (Figure 4) would request certain information: 1) statement of need, 2) practice/procedure description, 3) patient identification, 4) log of sequential use, 5) effects of use, 6) safety profile, 7) quality of life measurement. This documentation of clinical experience would build evidence for the specific region, and for other regions, in the ongoing assessment of safety and efficacy within our national Permanente Medicine practice and integrated delivery systems. Collection of data within a registry would also begin to build a new practice protocol, which could be updated and enhanced with increased clinical experience of the new technology.

This registry process would aid a department in better understanding its members’ use of the new technology within its departmental practice. The department would be the owner of the registry, with the Regional New Technology Committee reviewing all registry practices at appropriate intervals to assess these new practices and update other departments. The Interregional New Technology Committee would be updated annually, or sooner based on important findings of the new practice, and would aid in the decision to reassess that new technology. Sharing practice findings among regions would accelerate national knowledge and experience (Figure 4).

In order to reduce the burden of documentation
of case use, the electronic medical record could provide a template for completion as part of the routine creation of a medical note for treatment. It could be customized so that the information required would be automatically extracted from the medical note. Until the electronic record technology is available in every KP region, the registry information would have to be manually recorded at the expense of efficiency.

Several questions to be answered include: Would the new technology registry require a standardized set of data? Should registries be standardized across the KP regions? Who would provide analysis of the data? What area would fund the time, technical, and system support? Who would own the process? Who would manage the patient notification system?

Although new processing and evaluation may appear daunting, the benefit would be large if widespread variant use of an unsafe, or only marginally effective, new technology is avoided. Equally important, highly efficacious new technologies would be more quickly integrated into Permanente clinical practice with the outcome for patients being the safest, most effective, most affordable health care.

Reference

Figure 4

New Technology Registry

Requirements:
1. Statement of need
2. Practice description
3. Patient ID
4. Sequential use
5. Effects of use
6. Safety profile
7. Quality of Life measures

* Stratify (fast track) by:
great to little potential

Department Review

Review by Regional New Technology Committee

Review by Interregional New Technology Committee

The Future

As for the future, your task is not to foresee it, but to enable it.
The Wisdom of the Sands, Antoine de Saint-Exupery, 1900-1944, French pilot, novelist and poet
You take a break from lawnwork one Saturday afternoon to discuss the sad state of the US health care system with your neighbor, and are caught a little off guard when he asks you what is unique about being a Permanente physician …

On a return flight from a Continuing Medical Education (CME) meeting you are asked by the woman sitting next to you to tell her what is special about Permanente practitioners …

In the few short years of its existence, a major accomplishment of The Permanente Journal has been to present in each issue the values of the Permanente physician. Just as a perusal of a person’s checkbook reflects what he or she really values in life, the Table of Contents of each issue reflects the characteristics of what it is to be Permanente. The Permanente Journal regularly highlights our core values (eg, physician-directed care), along with other values that have been woven over time into the fabric of Permanente.

The diverse articles found in this Fall edition of The Permanente Journal are no exception with many of the values defining Permanente being represented.

The Clinical Contributions and the Permanente Abstracts sections are always presented first, a reflection that providing high-quality care is a fundamental Permanente value. I believe that, in the future, as population-based and evidence-based care becomes even more integrated into our daily Permanente practices, you will see the content of our research articles becoming even more divergent from the non-Permanente research community. While these values have been present since Dr Garfield’s early days in the desert, we can expect to see them even more evident in our practices in the future because of the ongoing efforts of Permanente’s Care Management Institute and contributions of outstanding CME courses such as the annual Permanente Primary Care Conference.

This edition also includes a contribution by Vivian Nagy from Southern California in the Clinician-Patient Communication (CPC) Corner, underscoring how highly Permanente values good patient communication skills. At times, we may take this value for granted and mistakenly assume that this emphasis is also inherent in community physicians’ practices. We may also not be aware of Permanente’s organizational competency for developing and implementing highly effective CME endeavors in CPC.

I have to tell you, the Permanente Medical Groups are on the cutting edge of clinician-patient communication strategies. An obsession with improving our patient communication skills is a critical and distinguishing value of Permanente.

Teamwork—a value that has always been evident as Permanente care has traditionally been organized around several disciplines and with the patient, not the physician, being the center of focus. However, over the recent years, teamwork has been taken to the next level as Permanente Medical Groups have come to realize that care organized around teams will alleviate much of the daily stress of practice while enhancing both care and service. My editorial on teams in the recent Summer edition of The Permanente Journal stimulated a response from our readers that is well represented by an excellent letter on health care teams in this edition from Dr Ben Tamura, the Hawaii Permanente Medical Group Chief of Medicine.

This edition also includes a section on the community service involvement of Permanente physicians—a fundamental hallmark of the Permanente person and a reflection of the rich heritage of Kaiser Permanente. This article, championed by Jon Stewart of The Permanente Federation and a member of The Journal’s editorial team, is an exciting testimony to the community spirit of Permanente. While this value is certainly not uniquely Permanente, the breadth of involvement of the individual Permanente physicians is eye-opening. As you read this article, I’m sure you will be impressed with how rewarding it is to be involved in such activity. Interestingly, many Permanente physicians are involved in countries that have a population half that of the membership of Kaiser Permanente! It has been my experience that leaders of these countries wish to replicate how Permanente organizes care so that they can spend their limited resources in areas where they will derive the most impact.

So next time your neighbor asks you about the uniqueness of being Permanente or when a conversation on a plane trip evolves to the question of why being Permanente is so special, you may want to cite examples of people living out the values of Permanente in any one of your recent Permanente Journals.

The Permanente Journal—telling the story of the unique Permanente person. ♦
Physician Leadership and Health Care Teams

July 21, 2001

Dr Jacobs:

Your Editorial in the Spring 2001 Permanente Journal was excellent. Health Care Teams (HCTs) need not be a complex concept nor a radical departure from the principles of quality care and caring.

A few months ago, I sat in on a discussion about HCTs—and someone said that we have a ways to go yet (and we do)—we currently have Health Care “Groups,” not Health Care “Teams.” I realized that perhaps we should have paid more attention to mentoring new leaders about team building and personal accountability.

The Hawaii Region approached HCTs with a purposefully flat administrative structure. The intent was to allow staff direct exposure to, and influence on, the HCT development and implementation process. We were purposefully vague with our vision because we did not feel we had a successful model to endorse. Thus, instead of a clear operational vision, we used behavioral principles as a conceptual framework that HCTs could build on, and we encouraged operational variation in search of a best practice.

It’s been almost four years now, and I think it is safe to say that we have buy-in from most of our staff. What we have seen is that the best predictor of an HCT’s overall success (defined arbitrarily with a mix of patient satisfaction, clinical outcome, and operational measurements) seems to be who the physician leader is. We have found no correlation of an HCT’s performance to panel size, appointment utilization or walk-in volume, medical acuity, or the socioeconomic status of the community it serves. No matter how we slice it, it all seems to boil down to accountable physician leadership and their team building skills; individuals who lead because they want to (not because they have to); who take the time to understand, communicate, and give feedback; and who sincerely care about the welfare of their staff.

There is a difference in being “held” accountable versus “being” accountable: the successful MD leaders I’ve seen are MD leaders who are accountable to their own values. They do not respond to administrative oversight (ie, being held accountable); they respond to their values (ie, being accountable). Success is achieved because we got lucky and their values are aligned with the organization’s mission.

To improve what we have for the future, some of the things the Hawaii Region will focus on include:

1. Team dynamics, turning “groups” of professionals into a “team” (easier said than done).
2. Shift our HCT focus from discussions and meetings about operational flow to clinical issues.
   Operational efficiency falls into place easier if one addresses it in the context of a clinical issue. Physicians also relate to a clinical perspective better than they do to an operational one.
3. Continue to refine what process and outcome measurements we feed back to our HCTs.
4. Emphasize the HCT physician’s role in the continuing education of nonphysician staff.
5. Improve alignment by getting in place a “Values-Based Leadership” philosophy. Many regions including ours, have defined “Core Values.” How to keep those Core Values front of mind and consistently applied to the work environment is what we have been wrestling with.

One of the key leadership values we hope to improve and emphasize is that patient satisfaction is directly related to staff satisfaction: an enabled, satisfied staff is capable of delivering a higher level of care and service. Staff satisfaction is thus as much a strategic differentiator as any operational/business initiative we pursue.

HCTs are basically interdisciplinary medical care integrated under the guidance of the PCP where everyone is utilized to their fullest potential. Leadership, team dynamics, and accountability to core values are, in my opinion, the most important factors for success.

Ben Tamura, MD
Chief of Medicine, Hawaii Permanente Medical Group
To *TPJ*:

**Why the current generation of handheld computing devices will not have a significant impact on clinical computing**

I am not a neo-Luddite. I am a true fan and user of the current generation of handheld computers. Because clinical computing is about communication among members of the clinical team, I do not think that this generation of handheld computing devices will have any significant impact on the field of clinical computing. To achieve this seemingly simple goal of clinical communication requires a tremendous amount of data input and output. Any hardware designed to facilitate this goal should be easy to use (ie, easy to enter data as well as retrieve and review it) and able to send and receive information throughout the health care delivery network. Because very few health care providers have ever seen such extensive networks (ie, the Latter Day Saints Hospital in Salt Lake City, UT or the Brigham & Women's Hospital in Boston, MA) in operation, many are now assuming that the current generation of handheld computers is capable of performing these tasks and hence transforming the field of clinical computing. They are wrong!

The current generation of handheld computing devices is best suited to replace the small reference books (eg, drug dosage and interaction guides and therapeutic guidelines) and index cards containing current patient lists which clinicians routinely carry in their pockets. Consolidating all of these paper-based information resources into a small, searchable, and upgradable device is a great idea, but such a device cannot make the leap from a single user information resource to an integrated clinical computing device for all of the following reasons:

1. **Difficulties in entering data**

   Over the past 50 years data input has consistently been the most difficult obstacle for all clinical computing system developers. The ease and accuracy with which the user can enter data often decide whether an application will be used or not. Even though the “graffiti” interface was a significant improvement over previous character recognition solutions, it is still much slower than using a keyboard to enter anything more than a few characters. In addition, the extremely small screen space available for data display makes the use of checklists or any other kind of list subject to extensive vertical scrolling, a known thorn in the side of any user interface designer. While portable keyboards exist, if the user is going to take the time and space to connect such a device, I believe that a small laptop computer with a larger display screen and normal keyboard is more useful. For specific applications with low data entry requirements like the error prone medication administration process in hospitals, a dedicated device with a wireless connection to a LAN and a barcode reader could be developed to help nurses keep an automated medication administration record.

2. **Difficulties in reviewing data**

   When asked what data they need to make clinical decisions, most clinicians say, “I want to see EVERYTHING on ONE SCREEN.” It is unthinkable that one could design an acceptable clinical data display for the 160x160-pixel displays currently available. The extremely limited space available for data entry and the difficulties in entering more than a few characters make looking up information from a list of 50 or more entries very difficult. On the other hand, if someone were to develop an ultra micro LCD projector that could be incorporated into the handheld (perhaps as a “springboard” accessory to a Handspring computer), allowing the device to project a large image on any flat surface, then the data review problems could be solved.

3. **Lack of security of data on the device**

   If one of these handheld devices is lost or stolen, the data can often be read by whomever obtains the device. Although it is possible to protect the “desktop” of the device with a password, such a password significantly reduces the utility of the device for rapid “lookup” of information and is therefore not routinely used by clinicians. In addition to password protection, the PalmOS offers a “private” designator for files stored on the handheld. This rudimentary password protection scheme offers little protection against savvy
thieves because most private data can be simply uploaded to a PC and then read using any standard text reader. Finally, although there are many contenders, there is no cryptographic standard for the transmission of handheld computer data to a central network. Therefore, applications that transmit data (via LAN or WAN) as unencrypted packets of information are vulnerable to “sniffers” that can capture these packets and expose their contents. Additionally, system administrators, who may not be authorized to view sensitive patient data, can access data stored on the local servers.

4. Difficulties in connecting to a central data repository

Because the key concept in clinical computing is communication of information among the members of the clinical team, a handheld device that is not in real-time contact with a central data repository is by definition not capable of displaying the most recent clinical data available (eg, lab results or the current medication list). Therefore, any solution based on the idea that clinicians will “sync” their devices with a central data repository is doomed to failure. Although there exist several “wireless” networking solutions for handheld devices, these are still in relative infancy and do not meet the complex needs (ie, bandwidth, security, reliability) of the clinical computing environment. On the other hand, if a clinician is out of the office and answering a patient-related call, having to wait 10-15 seconds for each screen of data to appear and then slowly scrolling through it before answering the question could save both the patient’s life and the family outing.

5. Basic hardware constraints

a. Limited battery life

A clinician using a handheld device with a color display and a wireless networking solution would need to recharge or replace the batteries more than once a week.

b. Subject to breakage

Most commercially available handheld devices have not been toughened for routine use in the somewhat hostile clinical environment. Although there are handheld devices capable of withstanding drops of up to 4 ft (1.2 m) onto concrete, they are not the ones routinely seen in the hands, and certainly not in the shirt pockets, of clinicians. In addition, very few of the current handheld devices meet the IP54 standards (International Protection) for protection against water splashes and dust.

c. Expense and challenges associated with implementing robust wireless networks

Setting up structured wireless LANs is a challenge. These networks consist of access points (AP) spread around a building, and connected to each other or onto the wired LAN using copper cable. Mobile users in range of an AP can connect to other wireless users or to network resources. As a user moves around the building, the AP hands off responsibility for that user to the next AP. Ensuring elimination of collisions, which occur when two or more nodes sharing a communication medium transmit data together, is difficult.

Conclusion

Although the current generation of handheld computing devices is appealing for a variety of reasons (eg, low cost, small size, portability, “instant on”) and useful in limited ways, these devices are not capable of facing the challenges posed by the current clinical computing environment.

Dean F Sittig, PhD
NW Center for Health Research

Reference

1. Ned Ludd was a workman in 19th-century England. He and others destroyed labor-saving machinery as protest. Hence the term Luddite has come to represent anyone who is opposed to technological progress, especially those who resort to violence to illustrate their point. Those who are against the most recent advances have been referred to as Neo-Luddites.
As Robert Aquinas McNally mentions in his article “Something in the Genes,” p 15, when Henry Kaiser and Sidney Garfield, MD, created what is today Kaiser Permanente (KP), their vision “… extended to bridging the institutional gap separating medical research from clinical medicine.” As our founders recognized the importance of independent research, and as KP continues this legacy today, The Permanente Journal has recognized the important work of Permanente researchers and promotes this work by reprinting abstracts in each issue. To further bridge this gap, we are now inviting the authors to briefly describe how his or her research can be embedded into daily practice. Beginning with this issue there will be a number of “Clinical Implications” boxes adjoining the related abstract from which you can glean the basic relevance of the abstract to your practice.

From Northern California:
Glycemic control and heart failure among adult patients with diabetes

BACKGROUND: Glycemic control is associated with microvascular events, but its effect on the risk of heart failure is not well understood. We examined the association between hemoglobin (HbA1c) and the risk of heart failure hospitalization and/or death in a population-based sample of adult patients with diabetes and assessed whether this association differed by patient sex, heart failure pathogenesis, and hypertension status.

METHODS AND RESULTS: A cohort design was used with baseline between January 1, 1995, and June 30, 1996, and follow-up through December 31, 1997 (median 2.2 years). Participants were 25,958 men and 22,900 women with (predominantly type 2) diabetes, ≥19 years old, with no known history of heart failure. There were a total of 935 events (516 among men; 419 among women). After adjustment for age, sex, race/ethnicity, education level, cigarette smoking, alcohol consumption, hypertension, obesity, use of beta-blockers and ACE inhibitors, type and duration of diabetes, and incidence of interim myocardial infarction, each 1% increase in HbA1c was associated with an 8% increased risk of heart failure (95% CI 5% to 12%). An HbA1c ≥10, relative to HbA1c <7, was associated with a 1.56-fold (95% CI 1.26 to 1.93) greater risk of heart failure. Although the association was stronger in men than in women, no differences existed by heart failure pathogenesis or hypertension status.

CONCLUSIONS: These results confirm previous evidence that poor glycemic control may be associated with an increased risk of heart failure among adult patients with diabetes.

CLINICAL IMPLICATIONS: These data show apparently linearly progressive increase in the risk of heart failure with progressively worse glycemic control (8% increased heart failure risk for each 1% increase in HbA1c). The 22% of the cohort judged to have poor glycemic control had a 56% higher risk of heart failure than subjects who had the best glycemic control. Thus, I hope that our study increases the awareness of potential cardiac complications of diabetes at the macro- and microvascular levels and emphasizes the importance of tight glycemic control. In order to encourage patients to maintain glycemic control, I would first stress behavioral modifications such as losing weight through exercise and a healthy diet appropriate for diabetes. Second, I would suggest compliance with instructions for home self-monitoring of blood glucose level. And third, I would recommend adherence to the prescribed insulin and/or oral hypoglycemic therapy. —CI

From Northern California:
Self-monitoring of blood glucose levels and glycemic control: the Northern California Kaiser Permanente Diabetes Registry

PURPOSE: We sought to evaluate the effectiveness of self-monitoring blood glucose levels to improve glycemic control.

SUBJECTS AND METHODS: A cohort design was used to assess the relation between self-monitoring frequency (1996 average daily glucometer strip utilization) and the first glycosylated hemoglobin (HbA1c) level measured in 1997. The study sample included 24,312 adult patients with diabetes who were members of a large, group model, managed care organization. We estimated the difference between HbA1c levels in patients who self-monitored at frequencies recommended by the American Diabetes Association compared with those who monitored less frequently or not at all. Models were adjusted for age, sex, race, education, occupation, income, duration of diabetes, medication refill adherence, clinic appointment “no show” rate, annual eye exam attendance, use of nonpharmacological (diet and exercise) diabetes therapy, smoking, alcohol consumption, hospitalization and emergency room visits, and the number of daily insulin injections.

RESULTS: Self-monitoring among patients with type 1 diabetes (≥3 times daily) and pharmacologically treated type 2 diabetes (at least daily) was associated with lower HbA1c levels (1.0 percentage points lower in type 1 diabetes and 0.6 points lower in type 2 diabetes) than was less frequent monitoring (p < 0.0001). Although there are no specific recommendations for patients with nonpharmacologically treated type 2 diabetes, those who practiced self-monitoring (at any frequency) had a 0.4 point lower HbA1c level than those not practicing at all (p < 0.0001).

CONCLUSION: More frequent self-monitoring of blood glucose levels was associated with clinically and statistically better glycemic control regardless of diabetes type or therapy. These findings support the clinical recommendations suggested by the American Diabetes Association.

From Georgia:
**Prevalence of clinical and isolated subclinical cardiovascular disease in older adults with glucose disorders: the Cardiovascular Health Study**

**OBJECTIVE:** Clinical cardiovascular disease (CVD) is highly prevalent among people with diabetes. However, there is little information regarding the prevalence of subclinical CVD and its relation to clinical CVD in diabetes and in the glucose disorders that precede diabetes.

**RESEARCH DESIGN AND METHODS:** Participants in the Cardiovascular Health Study, aged 65 years (n = 5888), underwent vascular and metabolic testing. Individuals with known disease in the coronary, cerebral, or peripheral circulations were considered to have clinical disease. Those without any clinical disease in whom CVD was detected by ultrasonography, electrocardiography, or ankle arm index in any of the three vascular beds were considered to have isolated subclinical disease.

**RESULTS:** Approximately 30% of the cohort had clinical disease, and approximately 60% of the remainder had isolated subclinical disease. In those with normal glucose status, isolated subclinical disease made up most of the total CVD. With increasing glucose severity, the proportion of total CVD that was clinical disease increased; 75% of men and 66% of women with normal fasting glucose status had either clinical or subclinical CVD. Among those with known diabetes, the prevalence was approximately 88% (odds ratio [OR] 2.46 for men and 4.22 for women, p < 0.0001). There were intermediate prevalences and ORs for those with impaired fasting glucose status and newly diagnosed diabetes.

**CONCLUSIONS:** Isolated subclinical CVD is common among older adults. Glucose disorders are associated with an increased prevalence of total CVD and an increased proportion of clinical disease relative to subclinical disease.

From Northern California:
**Emergency department right upper quadrant ultrasound is associated with a reduced time to diagnosis and treatment of ruptured ectopic pregnancies**
Rodgerson JD, Heggaard WG, Plummer D, Hicks J, Clinton J, Sterner S. Acad Emerg Med 2001 Apr;8(4):331-6

**OBJECTIVE:** To determine whether the time to diagnosis and treatment of patients with ruptured ectopic pregnancy is significantly less for patients who had emergency department (ED) right upper quadrant (RUQ) ultrasound (US) compared with those who had US in the radiology department.

**METHODS:** The authors conducted a retrospective review of eligible patients presenting to an urban ED between January 1990 and December 1998. Patients were included in the study if they were seen in the ED, had a discharge diagnosis of ruptured ectopic pregnancy, who were selected to have RUQ US in the radiology department. The ED, hospital, radiology, and operating room were reviewed to determine the time to diagnosis, time to treatment, and type of US performed.

**RESULTS:** There were 37 patients enrolled; 16 received ED RUQ US (group I) and 21 had a formal US in radiology (group II). The ages, pulses, systolic blood pressures, and volumes of hemoperitoneum were similar between the two groups. The average time to diagnosis from ED arrival was 58 minutes for group I (SD = 57; 95% CI = 28 to 87) and 197 minutes for group II (SD = 82; 95% CI = 162 to 232) (p ≤ 0.0001). The average time to operative treatment was 111 minutes (group I) (SD = 86; 95% CI = 69 to 153) and 322 minutes (group II) (SD = 107; 95% CI = 270 to 364) (p ≤ 0.0001), respectively.

**CONCLUSIONS:** Patients with ruptured ectopic pregnancy, who were selected to have RUQ US performed in the ED by emergency physicians, had an average decrease in time to diagnosis of two and a quarter hours, and an average decrease in time to treatment of three and a half hours, compared with those having a formal pelvic US in the radiology department. Further prospective investigation is needed to determine whether ED RUQ US can safely expedite care of patients with suspected ectopic pregnancy.

From Northern California:
**Prevalence and determinants of osteoporosis drug prescription among patients with high exposure to glucocorticoid drugs**

**OBJECTIVE:** To investigate use of osteoporosis drugs among patients with high exposure to glucocorticoid drugs.

**STUDY DESIGN:** Retrospective review of pharmacy records.

**METHODS:** We identified patients aged ≥ 20 years who received prescriptions for ≥ 2 g of prednisone (or equivalent) during any 12-month period between January 1, 1998, and December 31, 1999, and who initiated use of osteoporosis-specific drugs (alendronate sodium, etidronate disodium, and calcitonin) during that period.

**RESULTS:** Among 8807 patients who met study criteria, 772 (8.8%) received prescriptions for osteoporosis drugs. Prevalence of osteoporosis drug prescriptions increased linearly during the study and differed markedly by patient sex, age, and exposure to glucocorticoid drugs. Osteoporosis drugs were prescribed for 16.3% of women aged ≥ 65 years, for 6.1% of women aged < 50 years, and for 9.3% of men aged ≥ 65 years.
years, for 6.5% of men aged ≥65 years, and for 2.2% of men aged <50 years. Higher glucocorticoid exposure was also associated with higher rate of osteoporosis drug prescription (11.2% of patients exposed to >4 g/year and 5.6% exposed to 2 to 3 g/year received such therapies). Osteoporosis drugs were 50% more likely to be prescribed by clinicians who prescribed glucocorticoid drugs to >18 patients than by providers who prescribed glucocorticoid drugs to <4 patients.

CONCLUSIONS: Despite ready availability of bone-specific osteoporosis drugs, few patients with high exposure to glucocorticoid drugs received such therapy. Likelihood of an osteoporosis drug being prescribed for such patients strongly depends on patient sex, age, and exposure to glucocorticoid drugs and on level of practitioner experience in prescribing glucocorticoid drugs.

From Northern California: Variation in clinician recommendations for multiple injections during adoption of inactivated polio vaccine


OBJECTIVES: To describe variation in clinician recommendations for multiple injections during the adoption of inactivated poliovirus vaccine (IPV) in two large health maintenance organizations (HMOs), and to test the hypothesis that variation in recommendations would be associated with variation in immunization coverage rates.

DESIGN: Cross-sectional study based on a survey of clinician practices one year after IPV was recommended and computerized immunization data from these clinicians’ patients.

STUDY SETTINGS: Two large West Coast HMOs: Kaiser Permanente in Northern California and Group Health Cooperative of Puget Sound.

OUTCOME MEASURES: Immunization status of 8-month-olds and 24-month-olds cared for by the clinicians during the study.

RESULTS: More clinicians at Group Health (82%), where a central guideline was issued, had adopted the IPV/oral poliovirus vaccine (OPV) sequential schedule than at Kaiser (65%), where no central guideline was issued. Clinicians at both HMOs said that if multiple injections fell due at a visit and they elected to defer some vaccines, they would be most likely to defer the hepatitis B vaccine (HBV) for infants (40%). At Kaiser, IPV users were more likely than OPV users to recommend the first HBV at birth (64% vs 28%) or if they did not, to defer the third HBV to eight months or later (62% vs 39%). In multivariate analyses, patients whose clinicians used IPV were as likely to be fully immunized at eight months old as those whose clinicians used all OPV. At Kaiser, where there was variability in the maximum number of injections clinicians recommended at infant visits, providers who routinely recommended three or four injections at a visit had similar immunization coverage rates as those who recommended one or two. At both HMOs, clinicians who strongly recommended all possible injections at a visit had higher immunization coverage rates at eight months than those who offered parents the choice of deferring some vaccines to a subsequent visit (at Kaiser, odds ratio [OR]: 1.2; 95% confidence interval [CI]: 1.0-1.5; at Group Health, OR: 1.8; 95% CI: 1.1-2.8).

CONCLUSIONS: Neither IPV adoption nor the use of multiple injections at infant visits were associated with reductions in immunization coverage. However, at the HMO without centralized immunization guidelines, IPV adoption was associated with changes in the timing of the first and third HBV. Clinical policymakers should continue to monitor practice variation as future vaccines are added to the infant immunization schedule.

From The Northwest: Variations in pharmacotherapy for attention deficit hyperactivity disorder in managed care


The purpose of this study was to identify the patterns of pharmacotherapy in the treatment of children diagnosed with attention deficit hyperactivity disorder (ADHD) in a large, non-profit, group-model managed care organization from January 1997 through July 1998. We sought to determine whether children with uncomplicated ADHD use different drug therapies when compared to children with ADHD and psychiatric comorbidity. We also examined the relationships between the use of specialty mental health services and the use of various psychotropic medications for treatment of ADHD. We found that children with ADHD and psychiatric comorbidity were less likely to use psychostimulants (odds ratio [OR] = 0.71, 95% confidence interval [CI] = 0.55-0.93, p = 0.01) but more likely to use antidepressants (OR = 2.74, 95% CI = 1.95-3.86, p < 0.01), alpha adrenergic agonists (OR = 2.63, 95% CI = 1.93-3.57, p < 0.01), and other psychotropic medications (OR = 2.40, 95% CI = 1.27-4.50, p < 0.01) than children with uncomplicated ADHD (who were more likely to use stimulants only). Additionally, children with psychiatric comorbidity were more likely to use multiple psychotropic drugs (p < 0.01). The results of this study indicate that children with potentially more complex mental health needs are being treated with more varied drug therapy and/or specialty mental health care services.

From Northern California and Group Health, Northwest: Targeted testing of children for tuberculosis: validation of a risk assessment questionnaire


OBJECTIVE: Given the directive of the American Academy of Pediatrics to test children for tuberculosis (TB) only if they are at high risk for the disease, we sought to determine how well a risk assessment questionnaire can predict a positive tuberculin skin test (TST) result among children seen in a medical office setting.

METHODS: In a prospective observational study, we identified 31,926 children who received well-child care in 18 pediatric offices of the Kaiser Permanente Northern California Region from August 1996 through July 2000. We used a risk assessment questionnaire to determine which children were at high risk for tuberculosis. We defined high risk children as those who received a TST with a positive result.

RESULTS: Of the 31,926 children seen, 10,171 (32%) were at high risk for tuberculosis, and 544 (5.4%) of these children had a positive TST. The risk assessment questionnaire correctly identified 479 (88%) of the high risk children and 269 (83%) of the children with a positive TST. The sensitivity of the questionnaire was 90% and the specificity was 81%.

CONCLUSIONS: The risk assessment questionnaire is a useful tool for identifying children at high risk for tuberculosis.
November 1998 and who were due to receive a routine TST (Mantoux method) as part of universal screening. Parents were asked to complete a questionnaire about risk factors for TB infection that included demographic information. The TST result at 48 to 72 hours was compared with questionnaire responses to identify responses that were most highly associated with a positive TST result at both the 10-mm and 15-mm cutoffs. A concurrent study was conducted to determine whether parents can recognize induration.

**RESULTS:** This population was diverse in age (range: 0-18 years), race/ethnicity (white: 37%; Hispanic: 26.4%; Asian: 15.0%; black: 11.8%; other: 8.4% not stated by parent: 1.6%), and household annual income (range: $10,524-$175,282). Overall incidence of positive TST results was 1.0% at the 10-mm cutoff and 0.5% at the 15-mm cutoff. Positive predictive value of selected individual risk factors at the 10-mm cutoff were: child born outside the United States, 10.4%; history of receiving bacille Calmette-Guerin vaccine, 5.5%; and child having lived outside the United States, 5.3%. Using multivariate analysis, we selected a subset of risk factors that were independently and significantly associated with a positive TST result ≥ 10 mm: history of receiving bacille Calmette-Guerin vaccine (odds ratio [OR]: 2.31; 95% confidence interval [CI]: 1.70-3.13); household member with history of positive TST result or TB disease (OR: 1.53; 95% CI: 1.14-2.04); child born outside the United States (OR: 8.63; 95% CI: 6.16-12.09); child having lived outside the United States (OR: 2.06; 95% CI: 1.49-2.85); and race/ethnicity reported by parent as Asian (OR: 2.28; 95% CI: 1.59-3.27) or Hispanic (OR: 1.57; 95% CI: 1.09-2.26). Several factors were not statistically significant predictors of a positive TST result: age, sex, household annual income, household member infected with human immunodeficiency virus or who had stayed in a homeless shelter, and being an adopted or foster child. Overall sensitivity of the nine main items on the questionnaire was 80.9%; when a subset of four of these questions plus the race/ethnicity questions were used, sensitivity of responses was 83.5%. Parents failed to recognize positive TST results at a rate of 9.9% (for the 10-mm cutoff) and 5.9% (at the 15-mm cutoff).

**CONCLUSION:** A five-question risk assessment questionnaire completed by parents can be used to accurately identify risk factors associated with TB infection in children. In our population, some risk factors suggested by the American Academy of Pediatrics could not be validated. Parents cannot be relied on to read TST results accurately. Screening for TB can be enabled by using a standardized, validated questionnaire to identify children who should be given tuberculin skin testing.

**From Ohio:**

**Osteoporosis screening outreach trial: the role of the primary care physician**


**OBJECTIVE:** Screening and treatment rates for osteoporosis are low despite high prevalence and morbidity. The purpose of this study was to determine the impact of primary care physician (PCP) review and signature on a letter outreach campaign to promote densitometry (DXA) in a group of high-risk postmenopausal females.

**METHODS:** Computerized records of more than 35,000 women aged 55 years and older were obtained. Inclusion criteria were weight less than 127 pounds and current cigarette smoking. Exclusion criteria were prior DXA or having received a bone-protective drug during the past three months. Women with an odd record number had their letter sent to their PCP to review for clinical appropriateness and signature. Those with an even record number had their letter sent despite not having DXA.

**RESULTS:** DXA was done in 10% (37/364) of the PCP group and 20% (67/339) of the non-PCP group. Among patients with osteopenia, treatment was dispensed to 36% of the PCP patients versus 42% of the non-PCP patients. Thirty-seven patients in both groups were dispensed bone-protective drugs (almost exclusively estrogen) despite not undergoing DXA.

**CONCLUSION:** Screening rates were low but consistent with prior outreach campaigns. Involving the PCP substantially reduced the response rate. Treatment rates were low in both groups, but higher in the non-PCP group. Many women in both groups began bone-protective drug therapy following the letter despite not having DXA.


**From Northern California:**

**Prevalence of diagnosed atrial fibrillation in adults: national implications for rhythm management and stroke prevention: the Anticoagulation and Risk Factors in Atrial Fibrillation (ATRIA) Study**


**CONTEXT:** Atrial fibrillation is the most common arrhythmia in elderly persons and a potent risk factor for stroke. However, recent prevalence and projected future numbers of persons with atrial fibrillation are not well described.

**OBJECTIVE:** To estimate prevalence of atrial fibrillation and US national projections of the numbers of persons with atrial fibrillation through the year 2050.

**DESIGN, SETTING, AND PATIENTS:** Cross-sectional study of adults aged 20 years or older who were enrolled in a large health maintenance organization in California and who had atrial fibrillation diagnosed between July 1, 1996, and December 31, 1997.

**MAIN OUTCOME MEASURES:** Prevalence of atrial fibrillation in the study population of 1.89 million; projected number of persons in the United States with atrial fibrillation between 1995-2050.

**RESULTS:** A total of 17,974 adults with diagnosed atrial fibrillation were identified during the study period; 45% were aged 75...
years or older. The prevalence of atrial fibrillation was 0.95% (95% confidence interval, 0.94%-0.96%). Atrial fibrillation was more common in men than in women (1.1% vs 0.8%; p < .001). Prevalence increased from 0.1% among adults younger than 55 years to 9.0% in persons aged 80 years or older. Among persons aged 50 years or older, prevalence of atrial fibrillation was higher in whites than in blacks (2.2% vs 1.5%; p < .001). We estimate approximately 2.3 million US adults currently have atrial fibrillation. We project that this will increase to more than 5.6 million (lower bound, 5.0; upper bound, 6.3) by the year 2050, with more than 50% of affected individuals aged 80 years or older.

CONCLUSIONS: Our study confirms that atrial fibrillation is common among older adults and provides a contemporary basis for estimates of prevalence in the United States. The number of patients with atrial fibrillation is likely to increase 2.5-fold during the next 50 years, reflecting the growing proportion of elderly individuals. Coordinated efforts are needed to face the increasing challenge of optimal stroke prevention and rhythm management in patients with atrial fibrillation.

From Northern California: Comparison of quality and cost-effectiveness in the evaluation of symptomatic cholelithiasis with different approaches to ultrasound availability in the ED


Ultrasound is the imaging study of choice for the detection of gallstones, but ultrasound through medical imaging departments (MI Sono) is not readily available on an immediate basis in many emergency departments (EDs). Several studies have shown that emergency physicians can perform ultrasound themselves (ED Sono) to rule out gallstones with acceptable accuracy after relatively brief training periods, but there have been no studies to date specifically addressing the effect of ED Sono of the gallbladder on quality and cost-effectiveness in the ED. In this study, we investigated measures of quality and cost-effectiveness in evaluating patients with suspected symptomatic cholelithiasis during three different years with distinctly different approaches to ultrasound availability. The study retrospectively identified a total of 418 patients who were admitted for cholecystectomy or for a complication of cholelithiasis within six months of an ED visit for possible biliary colic. The percentage of patients who had gallstones documented at the first ED visit improved from 28% in 1993, when there was limited availability of ultrasound through the Medical Imaging Department (MI Sono), to 56% in 1995, when MI Sono was readily available, to 70% in 1997, when both MI Sono and ED Sono were readily available (p < .001). There were also significant differences over the three years in the mean number of days from the first ED visit to documentation of gallstones (19.7 in 1993, 10.7 in 1995, 7.4 in 1997, p < .001); the mean number of return visits for possible biliary colic before documentation of gallstones (1.67 in 1993, 1.24 in 1995, and 1.25 in 1997, p < .001); and the incidence of complications of cholelithiasis in the interval between the first ED visit for possible biliary colic and the date of documentation of cholelithiasis (6.8% in 1993, 5.9% in 1995, 1.5% in 1997, p = .049). The number of MI Sonos ordered by emergency physicians per case of symptomatic cholelithiasis identified increased from 1.7 in 1993 to 2.5 in 1995 and dropped back to 1.7 in 1997, when 4.2 ED Sonos per study case were also done. The cost of ED Sonos was more than offset by savings in avoiding calling in ultrasound technicians after regular Medical Imaging Department hours. The indeterminate rate for ED Sono was 18%. Excluding indeterminates, the sensitivity of ED Sono for detection of gallstones was 88.6% (95% CI 83.1-92.8%), the specificity 98.2% (95% CI 96.0-99.3%), and the accuracy 94.8% (95% CI 92.5-96.5%). We conclude that greater availability of MI Sono in the ED was associated with improved quality in the evaluation of patients with suspected symptomatic cholelithiasis but also with increased ultrasound costs. The availability of ED Sono in addition to readily available MI Sono was associated with further improved quality and decreased costs. The indeterminate rate for ED Sono was relatively high, but excluding indeterminates, the accuracy of ED Sono was comparable with published reports of MI Sono.

CLINICAL IMPLICATIONS: Clinicians should recognize that the burden of atrial fibrillation and associated complications of ischemic stroke, arrhythmia-related symptoms, and effects on cardiac function are substantial now but will grow rapidly over the coming decades as the US population ages. Our study demonstrates that the occurrence of atrial fibrillation is tightly linked with increasing age, with about 1 in 25 patients age 60 years or older and 1 in 10 patients age 80 years or older having this arrhythmia, often without overt symptoms. Atrial fibrillation increases the annual risk of stroke fivefold, and this effect persists throughout older age. In particular, early identification and risk stratification of older patients with atrial fibrillation would facilitate better targeting of persons who are most likely to benefit from chronic anticoagulation with warfarin therapy to prevent ischemic stroke and other systemic thromboembolism. —AG
Research in Kaiser Permanente: A Historical Commitment and A Future Imperative

At Kaiser Permanente, research means applying the scientific method to solving the problems and challenges we face as physicians. Through clinical, epidemiological and basic scientific research, we are continually finding ways to improve both quality and service for our members. Moreover, for more than half a century, our research and publications have helped to define both the newest clinical approaches and the standard for medical care.

Throughout my career, I have enjoyed the challenge of identifying a problem, developing hypotheses, devising approaches to explore the validity of each theory, and reaching a conclusion. Clinical research is best done in conjunction with colleagues committed to openness and honesty. This is why Kaiser Permanente is the ideal environment to pursue these research efforts regardless of whether the problems are medical or administrative, and it has stimulated me to publish or present more than 100 articles and talks.

Outside of a university setting, two organizations have been able to embed the scientific method into their daily activities—the Mayo Clinic and Kaiser Permanente. This is no accident but reflects the commitment of each organization’s founders to research and teaching. Next year, we will celebrate 60 years of Permanente research. When Permanente Hospital, the predecessor of the Oakland Medical Center in California, was opened by the founders of The Permanente Medical Group in 1942, the keynote speaker at the dedication was William F Knowland, later long-time United States Senator from California. He reminded the dignitaries who were gathered that research and teaching would be among the cornerstones of the then-new medical care program created by Sidney R Garfield, MD, and Henry J Kaiser. Within that year, these principles also were embedded into the medical care program at Kaiser’s World War II shipyards in the Pacific Northwest and at the hospital opened at Fontana in Southern California. Today, our clinicians and researchers continue that tradition in every KP region across the country.

The first person to publicly link Kaiser Permanente with the Mayo Clinic was Paul De Kruif, the 20th Century medical writer best known for his landmark book Microbe Hunters. After observing the work of Dr Garfield and his colleagues firsthand, along with hearing Henry Kaiser describe his vision for spreading their ideas to medical centers across the nation, De Kruif was impressed by the fact that these physicians “can be scientifically independent and can plan and do their own research. Here they can begin a new assault upon those great diseases that yet remain inscrutable and enigmatic.”

Now, 60 years later, the power of Kaiser Permanente research across America is enormous. Jeffrey Harris, MD, Director of the Division of Prevention Research at the Centers for Disease Control, has observed that among health care organizations working to improve medical care, Kaiser Permanente “is clearly at the top of that list.”

At present, we are attracting the caliber of physicians who in the past might have selected an academic setting for a career. They are attracted to our medical groups because we provide a collaborative, multispecialty environment in which they have the opportunity both to teach and pursue research interests. At a time when some research findings are being questioned because of pharmaceutical industry funding, it is even more important that we assure that research expertise is embedded in Kaiser Permanente. Our research efforts allow us to examine questions and reach independent conclusions through a more systematic approach and with greater confidence in the outcomes rather than solely depending on others.

One of the most exciting opportunities a physician has at Kaiser Permanente is the ability to participate in research projects that can have a national, even international, impact on medical practice. Research is time-consuming and requires intense personal commitment. For many, the work is harder than the reward. But for those who are driven by a love to pursue the unknown, the thrill of solving a problem that has vexed them makes the many hours worthwhile. And that reward is enhanced so much more when we see our hard work improve the care and save the lives of our patients.

Throughout our history, we have valued research as a core principle of Kaiser Permanente’s very existence. As the market leader in quality outcomes, it is imperative for our future that we continue to support research as part of the core of Permanente Medicine. As medicine becomes more complex, it will be essential to nurture that ideal as we move into the 21st Century. Through publications and presentations, we can shape both present clinical standards and future possibilities.

References
When Henry J. Kaiser and Sidney R. Garfield, MD, joined their considerable forces to found what would become Kaiser Permanente (KP), they understood the creative power of stepping outside traditional boundaries. That vision extended to bridging the institutional gap separating medical research from clinical medicine.

On August 21, 1942, when the Permanente Foundation Hospital (old Fabiola) was dedicated, Henry Kaiser enumerated the goals of the health plan. One, he said, was “to provide funds for research” in industrial medicine.1

Later that same year, in an address to a meeting of the National Association of Manufacturers in New York City, Kaiser took this idea further. He challenged manufacturers to provide “essential medical care” to working people. “Will the manufacturers,” he continued, “now dare to organize, finance, and manage medical centers in every industrial community … which would bring not only skill and facilities, but all of the advantages of research, within the reach of the common man?”

Dr. Garfield was already working to deliver on this bold vision. In 1943, he requested funds from the Permanente Foundation to study new methods of curing syphilis and to launch a research journal. In his first annual report on the Permanente Foundation Hospital (published in the following year), Dr. Garfield characterized the new organization as “a plan which can … provide its own research …”.2

KP Research During the Early Days

In 1943, the Permanente Foundation Medical Bulletin,3 which was funded by the money Dr. Garfield had requested, made its first appearance with the help of editorial support from the Department of Scientific Publication (now the Department of Medical Editing). An article in the inaugural issue characterized the research effort that would follow. Titled “The Management of Pneumonia: A Review of 517 Cases,”4 the paper was written by Morris Collen, MD, who was then a young internist.

During the Second World War, Dr. Collen and his colleagues found themselves operating the largest pneumonia service in the country. “It was cold and damp in the shipyards, and they [the workers] would get pneumococcal pneumonia, and they would die,” Dr. Collen told an interviewer, Steve Gifford, in the Fall of 2000 (Morris Collen, MD; Steve Gifford, BA).5 Because use of horse serum caused serum sickness, Kaiser Permanente’s physicians opted instead for aggressive doses of sulfonamides, and they became adept at treating the urologic problems that complicated this protocol. The approach was so successful—and was made so well known by publication6 of the clinical results—that internists from the University of Cincinnati and the University of California San Francisco trained in pneumonia treatment under Dr. Collen.

At the end of the war, Kaiser Permanente was following two research tracks. One track began because Henry J. Kaiser’s son, Henry Jr., was diagnosed with multiple sclerosis (MS). Paul De Kruif, best-selling author of Microbe Hunters,7 directed the senior Kaiser to Herman Kabat, MD, a physical medicine specialist who was developing a new approach to treating MS. In 1946, the industrialist and the doctor together established the Kabat-Kaiser Institute, whose purpose—among others—was to conduct medical research in neuromuscular disorders. A series of Permanente Foundation Medical Bulletin research articles began in 1947.

The other effort centered on the newly founded Department of Medical Research, which published its first paper8 in 1946—a study of the effect of acetylsalicylic acid in induced pain. This study initiated Kaiser Permanente’s foray into basic science. During the next several years, working first in a facility across from the Richmond Field Hospital and then on what had been the grounds of the Belmont Country Club, researchers pursued projects that included studies of nematodes, carotene, the nitrogen-fixing abilities of marine organisms, biting insects, the basic mechanisms of the allergic response, cockroaches, and animal models of cancer. By 1958, the Kaiser Foundation Research Institute was established as the medical group’s nonprofit arm for seeking funding from foundation and governmental sources. About the same time, however, basic research was abandoned.

A fundamental issue was at stake: “... the organization made a decision that medical schools were better fitted and more suitable for...
that type of research, and that we would not do basic animal research …,” Dr Morris Collen told a University of California interviewer later.8,201 “Our unique capabilities for research are that we have a defined population of people. Therefore, given a specific number of people that we take care of, we have a denominator that permits us to measure rates of illness and rates of cure … which ordinarily are not available.”8,201

**The Multiphasic Health Checkup and Medical Methods Research**

Even before the basic research effort ceased, an initiative had begun that drew on the very strengths Dr Collen pointed to. After a pilot project conducted at Longshoreman’s Hall on the San Francisco waterfront confirmed the feasibility of multiphasic testing, multiphasic centers were opened in Oakland and San Francisco in the winter of 1951-52.9,87,8 At the time, all records were kept in the standard paper-and-pencil fashion. With computers still bulky, expensive, and slow, no one had yet thought of automating the multiphasic testing procedure.

That event happened several years later, after Drs Garfield and Cutting asked Dr Collen—who holds an undergraduate degree in electrical engineering—to attend a national congress on medical electronics. Dr Collen reported back that medical computing was entering a time of diffusion and innovation and that Kaiser Permanente should take advantage of the coming ferment. As a result, the Medical Methods Research (MMR) department—named by Dr Cutting—who saw its charge as developing better methods of care—was established in 1961. Dr Collen became the department’s first director.

MMR’s initial outside grant came from the United States Public Health Service, which provided money to computerize multiphasic testing, both to evaluate the efficiency of this screening method and to determine whether annual physical examinations affected rates of morbidity and mortality in adults. A randomized trial designed by MMR and involving 10,000 new Oakland and San Francisco members9,10-13 showed that multiphasic testing substantially lowered rates of mortality from postponable conditions.

This research led to subsequent grants to develop a pilot computerized medical information system. According to Dr Collen8, the result was the most comprehensive inpatient and outpatient medical information system in the world, a program that demonstrated what computers could do for medicine …

**Charting the Course for Health Services Research**

As part of the medical group, MMR concerned itself primarily with research on clinical innovation. Just as MMR was automating multiphasic testing, Kaiser Permanente’s Oregon (now Northwest) Region was launching a different approach. Ernest Saward, MD, that region’s medical director, envisioned prepaid group practice as a social experiment. As much as he loved the theory, however, too little was known about the practice.

“… [W]e really didn’t know in any real way enough about the effects of such an organization,” Dr Saward told a University of California interviewer years later.14,15 “We didn’t know its demography, its epidemiology, the costing of various kinds of services, the costing of various kinds of morbidities, and so forth …” Little effort had been focused on bridging this knowledge gap; research “was not basically looking at the organizations and how they were performing …”14,15

Dr Saward committed 5% of hospital revenue to creating an institute of health services research, one that would answer these unanswered questions. He sought a director for the effort and found Merwyn R Greenlick, who was finishing his doctorate in health services research at the University of Michigan. Dr Greenlick came aboard in September 1964 as the first director of what was then known as the Medical Care Research Unit.9,16

“Dr Saward felt that to be a successful social experiment, Kaiser Permanente needed to make itself available for doing health services research in the public domain,” Dr Greenlick relayed. “The public domain was our original intention. Because we were part of the community services activity of Kaiser Foundation Hospitals, we reported our results to the nation, not only to the doctors” (Merwyn R Greenlick, PhD, personal communication, June 21, 2001).16

Dr Greenlick was also drawn to the nascent center because it provided a known population (the denominator), access to medical records (the numerator), and a commitment from Dr Saward that the KP system could be changed experimentally to evaluate outcomes.

The Medical Care Research Unit’s initial efforts focused on health care utilization: specifically, on an effort to gather complete data on 5% of the member population over a 30-year period. That effort led to more than 200 published papers on fac-
 tors affecting use of health services. Other studies examined predictors of posthospitalization need, established a demonstration project on utilization of skilled nursing and home health services by members under 65 years of age, and used a grant from the US Office of Economic Opportunity to show how poor people could be brought into group care—a project that led directly to the prepaid Medicare program. Clinical trials [initially the Multiple Risk Factor Intervention Trial (MRFIT) study], epidemiologic studies, and behavioral intervention for smoking, weight loss, and improved diet and nutrition were later added to the Unit’s research agenda.

In 1968, with selection of the Medical Care Research Unit as one of the health services research centers funded by the US Department of Health, Education and Welfare (HEW), the group’s name was changed to Health Services Research Center. That name was retained until 1984, the twentieth anniversary of the program, when the current name—Center for Health Research (CHR)—was adopted.

A Joining of Paths

Meanwhile, MMR—which by the early 1970s was increasingly becoming a public-domain research organization—was forced into a different avenue of research when the Nixon Administration abruptly canceled MMR’s funding for medical informatics. The loss of $500,000 per year led to shutdown of the hospital computer system in San Francisco and eventually to discontinuation of research in computer applications to medicine. In time, the computer effort shifted over to Information Technology.

In 1979, Edmund Van Brunt, MD, succeeded Dr Collen as director of MMR, and he later changed the name of the research group to the Division of Research (DOR). “Medical Methods Research didn’t really mean anything inside or outside Kaiser Permanente, while the Division of Research had an obvious meaning,” Dr Van Brunt said. “I saw research as the face Kaiser Permanente presented to important people all over the country—in academia, government, the media, and other health care systems” (Edmund Van Brunt, MD, personal communication, June 5, 2001).

During his tenure at DOR, Dr Van Brunt focused on building the databases and staff needed to support a major research operation in epidemiology and health services research. This fundamental research agenda has both continued and grown under Dr Van Brunt’s successors at DOR—first Gary D Friedman, MD, and currently Joseph V Selby, MD, MPH.

Research Throughout KP: Sharing the Wealth

To this day, DOR and CHR remain Kaiser Permanente’s flagship research organizations. They are, however, only the longest chapters in the book, not the whole story. Today every Kaiser Permanente region mounts a research effort that advances the organization’s overall goal of research for the common good.

Division of Research
(Oakland, California)

DOR is currently focusing on the behavioral, environmental, and medical care factors affecting health; evaluating effectiveness of patient and provider education programs; assessing new models of health care delivery; developing improved methods of outcome measurement; evaluating screening procedures; and studying clinical management strategies. Currently, DOR has about 45 investigators as well as a large number of clinician-researchers across Northern California who produce more than 100 papers annually. DOR’s annual budget totals $27 million in direct costs.

Center for Health Research
(Portland, Oregon; and Honolulu, Hawaii)

The Center for Health Research (CHR) is the only Kaiser Permanente research organization with two sites: one in Oregon, and the other in Hawaii. Mary Durham, PhD, is CHR’s director, and Thomas M Vogt, MD, MPH, serves both as director of the Hawaii program and as an associate director. In addition to a long-standing focus on health services research, epidemiology, clinical trials, and behavioral interventions, CHR has in the past several years added programs in dental research, complementary and alternative medicine, genetics, mental health, medical informatics, clinical trials coordinating centers, and data warehousing. CHR has 31 investigators with PhD or MD degrees (or both) and a $25 million budget for 2001.

Because we were part of the community services activity of Kaiser Foundation Hospitals, we reported our results to the nation, not only to the doctors.

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Dr Van Brunt said, “I saw research as the face Kaiser Permanente presented to important people all over the country—in academia, government, the media, and other health care systems.”
Kaiser Permanente Vaccine Study Center  
(Oakland, California)

Founded in 1985 by current codirectors Stephen Black, MD, and Henry Shinefield, MD, the Kaiser Permanente Vaccine Study Center began as a way of responding to numerous requests to use Kaiser Permanente’s large population for vaccine efficacy studies. “We have the ability to do phase III and phase IV studies probably better than anybody in the country, and as well as anybody in the world,” Dr Shinefield said (Henry Shinefield, MD, personal communication, June 18, 2001). Key studies have focused on Haemophilus influenza, type B (Hib), chickenpox, pneumococcus, rotavirus, and flu vaccines. The center operates 31 sites and collaborates with Kaiser Permanente’s Georgia, Hawaii, and Colorado Regions and with Group Health Cooperative in Seattle.

Department of Research and Evaluation (Pasadena, California)

The Southern California Region has been conducting research since the late 1970s. This function was formalized in 1987 and later became a department with the appointment of its current director, Diana Petitti, MD. Organized explicitly to foster physician involvement in research and to coordinate knowledge used to formulate that region’s clinical and organizational goals, the Department of Research and Evaluation is focusing on cancer clinical trials, prevention of birth defects, detection of cognitive impairment, evaluation of cancer screening methods, development of diabetes management programs, and determining effectiveness of testing for coronary artery disease. Having grown from 17 federal and other governmental grants (in 1994) to 77 (in 2000), the department has nine full-time investigators and a 2000 budget of $7.6 million in expenditures for 560 active projects.

Clinical Research Unit  
(Denver, Colorado)

The Clinical Research Unit (CRU) was founded in 1990 by Arne Beck, PhD, and Paul Barrett, MD, MSPH, who remain CRU’s codirectors. CRU’s original purpose was to provide research funding and support to clinicians, and it has since enlarged its mission by conducting applied health services research and by securing federal funding. Research has focused primarily on new models of care for chronic illness, pediatrics and pediatric immunization, diabetes, mental health services, geriatrics, emergency services, and asthma. CRU has 40 ongoing grants and contracts, had an expenditures budget of $1.9 million in 2000, and published 27 articles in peer-reviewed journals during 2000.

Division of Clinical Innovation  
(Brooklyn Heights, Ohio)

The Division of Clinical Innovation is headed by Allan Khoury, MD, PhD, who also serves as associate medical director. Founded in 1995 as a way to manage projects in quality improvement and medical informatics, the division focuses on applied research on outreach and follow-up—and, in Dr Khoury’s words, “occasionally does things worthy of publication” (Allan Khoury, MD, PhD, personal communication, June 15, 2001). Current investigations are looking into ways of improving asthma care, determining the best antihypertensive agents to prevent renal deterioration in minority patients, and developing an automated intervention system for people suspected of alcohol abuse. Research began approximately ten years ago in the Mid-Atlantic Region, where Mark H Snyder, MD, has headed the Research and Information Management program since 1998. Driven primarily by the research interests of participating clinicians and supported by a small staff for grant administration and data access, the program’s current agenda includes therapy for hepatitis C; the relation between congestive heart failure, lipids, and antiarrhythmic and antihypertensive drugs; collaboration with the University of Maryland on ways of helping physicians to communicate with adolescents about drugs, alcohol, and sexual activity; HIV; and collaboration with Johns Hopkins University on screening for sexually transmitted diseases (STDs), particularly chlamydia.

A Debt of Gratitude to KP’s Founders

Given the myriad changes in medicine and the extraordinary success of the Kaiser Permanente program since the 1940s, the re-
The research effort envisioned by Henry J Kaiser in his Fabiola dedication speech and promised by Dr Garfield in his first annual report has expanded in directions neither founder could have prophesied. Nonetheless, the core values underlying that commitment keep research at the heart of Kaiser Permanente’s mission.

“By publishing the data gained from Kaiser Permanente members, we offer knowledge to the world,” says DOR’s Dr Joseph V Selby. “We see ourselves leveraging the wonderful data and resources of this organization for the public good. By putting our work in the public domain, we are bettering the health, health status, and access to care of the population at large” (Joseph V Selby, MD, personal communication, June 4, 2001).

Dr Greenlick of CHR agrees, and he points out the efficacy of the research effort. “We really did things that changed the way health care was delivered in the state and the nation. That was the social mission,” he says (Merwyn R Greenlick, PhD, personal communication, June 21, 2001).

Possibly, this social mission is even more of a reason for Kaiser Permanente’s success in research than the organization’s extraordinary database or the statistical benefits of a known denominator.

“Databases are important, but they are very much overemphasized,” says Diana Petitti, MD. “What we really capitalize on is our members’ trust. In my opinion, the real reason why we get such good research is that when we ask people to do something, they believe that we are doing it for the good of the world, and they are very cooperative” (Diana Petitti, MD, personal communication, June 19, 2001).
“Traffic Circle, Budapest”
by Stu Levy, MD

Dr Levy is a family practice physician for Northwest Permanente, PC, and studied photography with Ansel Adams. He teaches photography workshops every summer on the Oregon Coast and has had over 20 one-person shows of his work.
Vagus Nerve Stimulation for Refractory Epilepsy

Abstract

Context: Vagus nerve stimulation (VNS) is a relatively new treatment for epilepsy. Past studies have proposed that the antiepileptic action is related to the effect on the brainstem reticular activating system, and is mediated largely by the widespread release of two inhibitory agents (gamma aminobutyric acid [GABA] and glycine).

Objective: To confirm the safety and efficacy of vagus nerve stimulation in postmarketing clinical practice.

Design: Prospective case series.

Intervention: Implantation of a device for vagus nerve stimulation (the NeuroCybernetic Prosthesis (NCP) system) in 24 patients with refractory epilepsy and monitoring their condition for six months.

Main outcome measures: Frequency and type of postoperative seizures.

Methods: Under general anesthesia, the NeuroCybernetic Prosthesis was implanted in subcutaneous tissue on the upper left side of the chest by a neurosurgeon. Antiepileptic drug dosages were stable before patients entered the study and were not changed or adjusted during the six-month study period. The patients were evaluated with the Quality of Life in Epilepsy Inventory (QOLIE-10).

Results: During the six-month study period, 14 patients had partial seizures with and without generalized seizures; 10 patients had multiple types of generalized seizures. Of the 24 patients, 15 (62.5%) had >50% reduction in seizure frequency after NCP implantation; eight of those 15 patients had >90% reduction in seizure frequency. Nine (37.5%) of the original 24 patients showed no clinically significant benefit. The seizure types that responded best to VNS were atonic, tonic, and generalized tonic-clonic. Partial seizure showed moderate response. Partial complex seizure showed the least response to VNS. No patients were completely without seizures at the six-month follow-up period. In general, the patients were more alert, in a better mood, and better able to concentrate. Two patients had vocal cord paralysis during NCP implantation but gradually recovered vocal function within a few months.

Conclusion: This study in a large HMO, with an integrated delivery system, supports the safety and demonstrates significant efficacy of vagus nerve stimulation for treatment of medically refractory epilepsy.

Introduction

Although vagus nerve stimulation (VNS) is a relatively new therapy for epilepsy, the effects of VNS on brain activity have been studied since the 1930s. More than 80% of cervical vagus nerve fibers are afferent, and these afferent fibers terminate in diffuse areas of the central nervous system after traversing the nucleus of the solitary tract. These afferent fibers project to the cerebellum, hypothalamus, amygdala, hippocampus, medial reticular formation, dorsal raphe, locus ceruleus, nucleus ambiguous, thalamus, insular cortex and other areas of the brain.1-3 Many studies in the biomedical literature2-5,8-10 have proposed that the antiepileptic action of VNS is related to effects on the brainstem reticular activating system, which extends to numerous forebrain structures; most studies suggest that the antiepileptic action of VNS is mediated largely by the widespread release of two inhibitory agents, gamma aminobutyric acid (GABA) and glycine, throughout the brainstem and cerebral cortex.

The antiepileptic effect of VNS has been confirmed in multiple animal models of epilepsy. VNS terminates strychnine-induced seizures in dogs5,6 and inhibits pentylenetetrazole-induced seizures in rats.5,7 The observation that VNS used with alumina gel foci reduces frequency of recurrent spontaneous seizures in monkeys8 led to development of a device called the Neurocybernetic Prosthesis (NCP) system, which, in 1988, was first used for clinical trials in humans.9 Since that time, clinical trials in the United States and Europe have studied placement of the NCP system in humans. On July 16, 1997, the US Food and Drug Administration (FDA) approved use of VNS as adjunctive therapy for refractory partial-onset seizures in adults and in adolescents aged 12 years and older.
Epileptic patients were selected for implantation of the NCP system on the basis of four criteria...

**Methods**

Epileptic patients were selected for implantation of the NCP system on the basis of four criteria: 1) refractory response to antiepileptic drugs given alone or in various combinations. Patients or family must have recorded at least six seizures per month (four weeks considered as 28 days) in a diary or on a calendar at the time of seizure; diaries are distributed to all patients in the practice at routine neurology visits; diaries for the study patients were reviewed during the six-month postoperative study period; 2) unsuitability as a candidate for epilepsy surgery; 3) no evidence of nonepileptic seizures; and 4) no previous left cervical vagotomy.

Patients who met these selection criteria received routine laboratory tests: complete blood count; levels of serum electrolytes, blood urea creatinine, glucose, blood urea nitrogen, and antiepileptic drugs; prothrombin time; partial thromboplastin time; electrocardiography; and chest x-ray examination. Patients were admitted to the hospital on the morning of the operation. NCP implantation was completed in less than two hours with the patient under general anesthesia. The NCP system was implanted by our neurosur-

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**Table 1. Clinical data for 24 patients treated with vagus nerve stimulation at Kaiser Permanente Orange County and Los Angeles Medical Centers**

<table>
<thead>
<tr>
<th>Patient no.</th>
<th>Sex</th>
<th>Age at device implantation (years)</th>
<th>Age at onset of Epilepsy</th>
<th>Etiology/Syndrome</th>
<th>Type of seizure</th>
<th>Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>43</td>
<td>8 years</td>
<td>encephalitis</td>
<td>PS, PCS, GS</td>
<td>CBZ, PRM</td>
</tr>
<tr>
<td>2*</td>
<td>M</td>
<td>24</td>
<td>6 months</td>
<td>Lennox-Gastaut syndrome</td>
<td>AB, AS, GS, MS, TS</td>
<td>CBZ, VPA</td>
</tr>
<tr>
<td>3*</td>
<td>M</td>
<td>11</td>
<td>2 months</td>
<td>Lennox-Gastaut syndrome</td>
<td>AB, AS, GS, MS, TS</td>
<td>VPA</td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>22</td>
<td>2 years</td>
<td>oligodendroglionoma</td>
<td>PS, PCS, GS</td>
<td>CBZ, PRM</td>
</tr>
<tr>
<td>5</td>
<td>M</td>
<td>54</td>
<td>12 years</td>
<td>unknown</td>
<td>PS, PCS, GS</td>
<td>CBZ, PRM</td>
</tr>
<tr>
<td>6</td>
<td>M</td>
<td>18</td>
<td>12 years</td>
<td>head injury</td>
<td>PS, PCS, GS</td>
<td>CBZ, TGB</td>
</tr>
<tr>
<td>7</td>
<td>F</td>
<td>45</td>
<td>5 years</td>
<td>unknown</td>
<td>PS, PCS</td>
<td>CBZ, TGB</td>
</tr>
<tr>
<td>8*</td>
<td>M</td>
<td>16</td>
<td>2 months</td>
<td>meningogencephalitis</td>
<td>PS, GS</td>
<td>CBZ, VPA</td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>70</td>
<td>17 years</td>
<td>unknown</td>
<td>PCS, GS</td>
<td>PHT, TGB</td>
</tr>
<tr>
<td>10*</td>
<td>M</td>
<td>9</td>
<td>8 years</td>
<td>encephalitis</td>
<td>PS, GS</td>
<td>VPA</td>
</tr>
<tr>
<td>11*</td>
<td>F</td>
<td>10</td>
<td>2 years</td>
<td>tuberous sclerosis</td>
<td>AB, AS, GS, MS, TS</td>
<td>PHT, VPA</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
<td>23</td>
<td>18 years</td>
<td>head injury</td>
<td>PS, PCS, S</td>
<td>ETT, LTG</td>
</tr>
<tr>
<td>13*</td>
<td>F</td>
<td>12</td>
<td>1 day</td>
<td>tuberous sclerosis</td>
<td>AB, AS, GS, MS, TS</td>
<td>PRM, TPM, TGB</td>
</tr>
<tr>
<td>14</td>
<td>M</td>
<td>41</td>
<td>7 years</td>
<td>unknown</td>
<td>AB, GS</td>
<td>VPA</td>
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<tr>
<td>15</td>
<td>F</td>
<td>45</td>
<td>31 years</td>
<td>epidermoid tumor</td>
<td>PS, PCS</td>
<td>CBZ</td>
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<tr>
<td>16</td>
<td>M</td>
<td>32</td>
<td>15 years</td>
<td>cavernous angiomia</td>
<td>PS, PCS, GS</td>
<td>CBZ, TPM</td>
</tr>
<tr>
<td>17*</td>
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<td>13</td>
<td>11 months</td>
<td>Lennox-Gastaut syndrome</td>
<td>AB, AS, GS, MS, TS</td>
<td>CBZ, VPA</td>
</tr>
<tr>
<td>18*</td>
<td>M</td>
<td>27</td>
<td>3 months</td>
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<td>AB, AS, GS, TS</td>
<td>PB, VPA</td>
</tr>
<tr>
<td>19</td>
<td>F</td>
<td>46</td>
<td>27 years</td>
<td>unknown</td>
<td>PCS, GS</td>
<td>CNZ, GBP</td>
</tr>
<tr>
<td>20*</td>
<td>M</td>
<td>14</td>
<td>11 months</td>
<td>Lennox-Gastaut syndrome</td>
<td>TS, GS</td>
<td>VPA, TPM</td>
</tr>
<tr>
<td>21</td>
<td>M</td>
<td>43</td>
<td>1 day</td>
<td>porencephaly</td>
<td>PS, GS</td>
<td>PRM, LTG, TGB</td>
</tr>
<tr>
<td>22*</td>
<td>M</td>
<td>6</td>
<td>2 years</td>
<td>Lennox-Gastaut syndrome</td>
<td>AG, AS, GS, MS, TS</td>
<td>LEV</td>
</tr>
<tr>
<td>23</td>
<td>F</td>
<td>15</td>
<td>6 months</td>
<td>prenatal encephalopathy</td>
<td>PS, GS</td>
<td>PHT, TPM, LEV</td>
</tr>
<tr>
<td>24*</td>
<td>F</td>
<td>12</td>
<td>2 months</td>
<td>tuberous sclerosis</td>
<td>AB, GS</td>
<td>CBZ, VPA</td>
</tr>
</tbody>
</table>

*mentally retarded
AB = absence; AS = atonic seizure; GS = generalized tonic-clonic seizures; MS = myoclonic seizure; PS = partial seizure; PCS = partial complex seizure; TS = tonic seizure; CBZ = carbamazepine; CNZ = clonazepam; ETT = ethotoin; GBP = gabapentin; LEV = levetiracetam; LTG = lamotrigine; PB = phenobarbital; PHT = phenytoin; PRM = primidone; TGB = tiagabine; TPM = topiramate; VPA = valproate.
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The NCP system consisted of a programmable pulse generator (Cyberonics’ Model 100 NCP Pulse Generator), which was implanted in subcutaneous tissue on the upper left side of the chest. The signal from the generator was conducted via a unified lead to a bifurcated stimulating coil electrode (Cyberonics’ Model 300 NCP Bipolar Lead); this electrode was applied to the cervical trunk of the left vagus nerve. The generator was tested during the procedure by using a magnetic field induced by a programming wand connected to an IBM-compatible microcomputer. Additional electrodiagnostic examination was also done to measure impedance, to appraise the coupling of all connections, and to verify the overall integrity of the system.

After the operation, patients were monitored in the hospital overnight for any sign of vocal cord dysfunction, dysphagia, respiratory compromise, or seizures. Administration of prophylactic antibiotics began preoperatively and was continued for 24 hours postoperatively. Cervical and chest x-ray films were obtained to confirm proper placement of the device and electrodes before patients were discharged from the hospital.

To allow wound healing, the NCP system was not activated until one week postoperatively. Output current was gradually increased in 0.25 mA increments once per week at six weekly visits to the epilepsy clinic at the medical centers, at six subsequent biweekly visits to the clinic, and then at each of three monthly visits to the clinic. Output current was adjusted on the basis of patients’ subjective sensation and tolerance to the electrical stimulation. Maximum output current applied was 3.5 mA. All other VNS parameters were kept constant during the six-month study period. Antiepileptic drug dosages were stable before patients entered the study and were not changed or adjusted during the six-month study period.

Efficacy of VNS was analyzed by calculating mean change in seizure frequency during the last two months (eight weeks considered as 56 days) of the six-month study period and by comparing this mean number with the baseline mean number of seizures in the month (four weeks considered as 28 days) before patients received VNS. We also examined postoperative adverse events, side effects, and tolerability of both the surgical implantation procedure and the NCP device.

The patients who had no mental retardation as part of their clinical syndrome were evaluated with a quality-of-life questionnaire preoperatively and during the postoperative period. We used the standard Quality of Life in Epilepsy Inventory (QOLIE-10)10 to evaluate overall disposition, physical energy, mental concentration, and school work performance. The parents of the patients with mental retardation were asked similar questions about alertness, mood, and behavior of those patients.

Results

Between September 1998 and December 1999, 24 patients (14 male, 10 female) met the selection criteria and received NCP implantation. Ages of patients ranged from 6 years to 70 years (mean age, 27 years). Clinical data for the patients are summarized (Table 1).

Electrical current settings, treatment duration, and effects of VNS on seizure frequency for each patient are summarized (Table 2). The current used for treatment ranged from 1.75 mA to 3.5 mA (median setting, 2.77 mA); duration of activation, 30 seconds; interval between activation sessions, five minutes; duration of pulse, 500 milliseconds; pulse frequency, 30 Hz. In seven patients, VNS began to be effective at the low output current, 0.5 mA. Seven patients had seizure aura; for four (57%) of these patients (patients 4, 5, 12, and 15) activation of NCP by handheld magnet passing over the implanted generator could abort the seizures at the onset of aura. Fifteen (62.5%) of the 24 patients had more than 50% reduction in seizure frequency; eight of those 15 patients had more than 90% reduction. Nine (37.5%) patients showed no clinically significant benefit.

Among those 24 patients, 14 patients had partial seizures with and without secondarily generalized seizures, and 10 patients had multiple types of generalized seizures. Eight (57.1%) of those 14 patients with partial seizures showed more than 50% reduction of seizure frequency. Seven (70.0%) of those ten patients with multiple type of generalized seizures showed more than 50% reduction of seizure frequency. No patients were completely without seizures at the six-month follow-up period.

We also analyzed six patients who were 12 years old and under; three patients had tuberous sclerosis, two Lennox-Gastaut syndrome, and one encephalitis. Five patients (three tuberous sclerosis and two Lennox-Gastaut syndrome) or 83.3% showed more than 50% reduction of seizure frequency.

All side effects were well tolerated and did not precipitate discontinuation of the treatment. Hoarseness...
developed in two (8.3%) of the 24 patients (patients 4 and 7) because of left vocal cord paralysis. Both patients regained normal voice within three months. Twelve (50%) of the 24 patients had intermittent hoarseness which developed during VNS; other transient events during VNS included paresthesia in the left side of the neck. Vital signs and electrocardiographic findings showed no clinically significant change after VNS.

Among the 13 patients who had no mental retardation, nine patients (patients 1, 4, 5, 7, 9, 14, 15; 16; 23; 69.2%) reported being more alert and better able

<table>
<thead>
<tr>
<th>Patient no.</th>
<th>Current settings (mA)</th>
<th>Type and baseline no. of seizures per month</th>
<th>Mean no. of seizures at six-month follow-up</th>
<th>% Decrease in frequency of seizures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.75</td>
<td>PCS 127</td>
<td>PCS 122</td>
<td>3.9</td>
</tr>
<tr>
<td>2</td>
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</tr>
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<td>3</td>
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<td>PCS 4</td>
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</tr>
<tr>
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<td>AB 66</td>
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</tr>
<tr>
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<td>3.25</td>
<td>MS 60</td>
<td>MS 56</td>
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<tr>
<td>24</td>
<td>3.25</td>
<td>AB 71</td>
<td>AB 5</td>
<td>93.0</td>
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</table>

AB = absence; AS = atonic seizure; GS = generalized tonic-clonic seizure; MS = myoclonic seizure; PS = partial seizure; PCS = partial complex seizure; TS = tonic seizure.
to concentrate at six-month follow-up; two patients (patients 1 and 5; 15.4%) reported having better mood; and one patient (patient 4; 7.7%) reported having better memory and work performance. The families of nine mentally retarded patients (patients 2, 3, 8, 11, 13, 17, 18, 22, 24) reported that the patients were more mentally alert. Two mentally retarded patients (patients 3 and 8) were reported to have occasional nocturnal wakefulness and required sedation to relieve this symptom.

Discussion
Our study agrees with others showing that intermittent VNS reduces frequency of seizures in patients with medically refractory epilepsy. Some patients started to show the effect of VNS at the low output current of 0.5 mA. High-output current (2.5 mA to 3.5 mA) was associated with greater degree of seizure reduction. In our limited experience, VNS appears to have a broad spectrum of antiepileptic effects on both generalized seizures and partial seizures. The seizure types that respond best to VNS are atonic seizures and complex absence seizures. Generalized tonic-clonic seizures and partial seizures show moderate response to VNS. Separately analyzing patients who are 12 years old and under yields even greater seizure reduction. The reason is that patients in this age group present with multiple types of generalized seizures, particularly atonic seizures and complex absence seizures. Atonic seizures and complex absence seizures are common seizure types in patients with Lennox-Gastaut syndrome and tuberous sclerosis. We agree with previous studies showing that children with Lennox-Gastaut syndrome demonstrated the best response to VNS. This factor may have contributed to better results in our study.

Our study results do not completely support the contention of other studies, which found that higher baseline frequency of seizures predicts a more favorable response to VNS.

Adverse events can occur during NCP implantation and during VNS therapy. One obvious surgical complication of NCP implantation is dysphonia caused by left vocal cord paralysis. The dysphonia gradually disappears in a few months. Direct manipulation of the vagus nerve must be avoided as much as possible to minimize incidence of surgical complications during VNS therapy. Cough and pharyngeal paresthesia are common during VNS therapy. Voice alteration occurs in most patients during the stimulation but does not require any lowering of current setting.

VNS appears to be safe and effective as adjunctive treatment for epilepsy. In our comprehensive epilepsy program, we recommend that VNS be limited to patients with epilepsy intractable to most commercially available medications, who are not candidates for epilepsy surgery, and whose epilepsy impacts on their quality of life to such an extent that the risks and the expense of the VNS are justifiable.

These adverse events can be minimized by postponing VNS therapy until one week after surgery, when the surgical wounds are completely dry. The stimulation should be increased at 0.25 mA increments to avoid adverse effects. Voice alteration occurs in most patients during the stimulation but does not require any lowering of current setting.

VNS appears to be safe and effective as adjunctive treatment for epilepsy. In our comprehensive epilepsy program, we recommend that VNS be limited to patients with epilepsy intractable to most commercially available medications, who are not candidates for epilepsy surgery, and whose epilepsy impacts on their quality of life to such an extent that the risks and the expense of the VNS are justifiable.

From the Comprehensive Epilepsy Program, Southern California Permanente Medical Group.

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• Cyberonics, Houston, Texas.

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

Gloria Acuña, RN, and John Ramirez, BS, clinical specialists from Cyberonics Devices for Epilepsy, Houston, Texas, assisted with technical support during surgery.

References
2. Rutecki P. Anatomical, physiological, and theoretical basis for the antiepileptic effect of vagus nerve stimulation.

Practice Tips
- Consider vagus nerve stimulation in patients with medically refractory epilepsy with significant impact of their quality of life.
- In general, the patients were more alert, in a better mood, and better able to concentrate.
- The Quality of Life in Epilepsy Inventory (QOLIE-10) is useful to evaluate adult and adolescent patients overall disposition, physical energy, mental concentration and school work performance.

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Pleasure
To learn
And from time to time
To apply what one has learned—
Isn’t that a pleasure?
Confucius, 551-479 BC, Chinese philosopher
This image was made at the Bear River Migratory Bird Refuge in Brigham City, UT. This bird is in breeding plumage. The early morning light makes the image warm and golden. When not in breeding, plumage the Avocet's head is gray and the black color on the body is gray. More of Dr Mittleman's artwork can be seen on the cover and on pages 34, 54 and 66.
Evidence-Based Clinical Vignettes from the Care Management Institute: Asthma

Introduction
More than 17 million Americans—young and old alike—have asthma,1 a condition that is both common and expensive: In 1998, direct medical costs for asthma treatment exceeded $11 billion.1 Despite availability of effective therapy for controlling asthma, its incidence is increasing;2 nonetheless, asthma continues to be underdiagnosed and undertreated. Appropriate management of asthma requires:
• correct diagnosis;
• assessment of severity;
• proper management, including appropriate medication, patient education, and a written action plan;
• ongoing monitoring;
• appropriate follow-up; and
• specialty referral where appropriate.2,3

This article, the first in a series highlighting key aspects of guidelines and care programs from the Care Management Institute (CMI), is a brief overview of the recently revised physician guidelines for asthma care.

Case Example
A 32-year-old female smoker presents with a seven-day history of “bronchitis.” She states that she experiences a harsh, rattling, nonproductive cough with chest tightness three to four times each day. She requests a prescription for guaifenesin with codeine and either erythromycin or azithromycin, which was prescribed for her in the past and which usually takes effect after about seven to ten days. She is afebrile and has had scant clear nasal discharge for the past three days. She has no chest pain, tightness, or heaviness.

Physical examination shows that she has a harsh-sounding, paroxysmal cough without nasal flaring, cyanosis, or retractions. Her respiratory rate is 16 breaths/minute, and pulse oximetry shows 96% saturation on room air. Pulmonary examination shows slight expiratory wheezing and occasional bibasilar ronchi that clear with coughing. Results of cardiac examination are normal, and no ankle edema is present.

What is the patient’s diagnosis? What additional history would be helpful? What additional testing would you perform? How severe is her condition? How do you explain the diagnosis to her? What is the appropriate treatment? What information does the patient need to help prevent recurrence? What is the appropriate follow-up?

Definition of Asthma
Kaiser Permanente’s CMI Asthma Guidelines2 defines asthma: Asthma is a chronic inflammatory disorder of the airways in which many cells and cellular elements play a role (in particular mast cells, eosinophils, T-lymphocytes, neutrophils, and epithelial cells). In susceptible individuals, the inflammation causes recurrent symptoms of breathlessness, wheezing, chest tightness, and cough. There is usually widespread airflow obstruction with these episodic symptoms which is reversible to varying degrees either spontaneously, or with treatment. The inflammation appears to be linked to an increase in airway hyperresponsiveness to a variety of stimuli.2–8

Table 1. Differential diagnosis of asthma

<table>
<thead>
<tr>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestive heart failure</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease (COPD)</td>
</tr>
<tr>
<td>Cystic fibrosis</td>
</tr>
<tr>
<td>Drug reactions (eg, angiotensin-converting enzyme (ACE) inhibitor)</td>
</tr>
<tr>
<td>Foreign body aspiration</td>
</tr>
<tr>
<td>Hypersensitivity pneumonitis</td>
</tr>
<tr>
<td>Hyperventilation syndrome</td>
</tr>
<tr>
<td>Ischemic heart disease</td>
</tr>
<tr>
<td>Occupational lung disease</td>
</tr>
<tr>
<td>Panic attacks</td>
</tr>
<tr>
<td>Pneumonia</td>
</tr>
<tr>
<td>Pneumothorax</td>
</tr>
<tr>
<td>Postviral cough</td>
</tr>
<tr>
<td>Pulmonary emboli</td>
</tr>
<tr>
<td>Restrictive lung disease</td>
</tr>
<tr>
<td>Upper airway obstruction</td>
</tr>
<tr>
<td>Vocal cord dysfunction</td>
</tr>
<tr>
<td>Vasculitis</td>
</tr>
</tbody>
</table>

Adapted and reproduced by permission of the publisher and author from: National Heart, Lung, and Blood Institute, National Asthma Education and Prevention Program. Expert Panel Report 2: Guidelines for the diagnosis and management of asthma. [Bethesda, MD: National Institutes of Health, National Heart, Lung, and Blood Institute; 1997. (NIH Publication No. 97-4051), Figure 1-5, p 22.3

Diagnostic Procedure
The same Guidelines advise:
To establish the diagnosis of asthma, the clinician must determine that:
• episodic symptoms of airflow obstruction are present;
• airflow obstruction is at least partially reversible;
• alternative diagnoses are excluded.2,8

The diagnosis is usually derived from the patient’s medical history and results of physical examina-
Performing spirometry before and after use of a bronchodilator is essential for diagnosis and ongoing monitoring of asthma. Often underutilized, spirometry is a reliable way to confirm presence, variability, and reversibility of airflow obstruction as well as to measure change in airflow obstruction as changes are made in therapy and as changes occur in the patient’s condition over time. Spirometry is also useful to help exclude other diagnoses frequently confused with asthma (Table 1). Asthma is diagnosed when spirometry shows a clinically significant response to bronchodilator use (>15%), frequently with normalization of values. In the patient above, spirometry would be useful to differentiate asthma from bronchitis, a disease with either fixed or no airflow obstruction. A methacholine challenge test may be useful in patients who have normal spirometry results despite symptoms suggesting asthma. Comorbid conditions such as sinusitis, allergy, gastroesophageal reflux disease (GERD), and hypothyroidism may worsen asthma. A smoking history of more than 20 pack-years, even in a patient who has clearly had asthma in the past, should raise suspicion of chronic obstructive pulmonary disease (COPD). Dyspnea alone or exertional chest pain should suggest another diagnosis than asthma—in particular, a diagnosis of cardiac or thromboembolic disease. For patients who comply with recommended therapy, poor response to treatment should also raise suspicion as to the correct diagnosis. Stridor (squeaky sounds over the larynx, especially on inspiration) should suggest vocal cord dysfunction.

### Assessment of Asthma Severity

All asthmatic patients should be categorized as having either intermittent or persistent asthma. Persistent asthma can be further classified as mild, moderate, or severe (Table 2), although treatment is more strongly related to response to medication than to initial severity of disease. The classification system presented in Table 2 should be based on the patient’s status before treatment; the classification should.

#### Table 2. Classification of asthma

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Nighttime symptoms</th>
<th>Lung function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild, intermittent</td>
<td>Symptoms ≤2 times per week</td>
<td>• FEV₁ or PEF ≥80% predicted</td>
</tr>
<tr>
<td></td>
<td>Asymptomatic and normal</td>
<td>• PEF variability &lt;20%</td>
</tr>
<tr>
<td></td>
<td>PEF between exacerbations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exacerbations brief (from a few hours to a few days); intensity may vary</td>
<td></td>
</tr>
<tr>
<td>Mild, persistent</td>
<td>Symptoms &gt;2 times per week but &lt;1 time per day</td>
<td>• FEV₁ or PEF &gt;80% predicted</td>
</tr>
<tr>
<td></td>
<td>Exacerbations may affect activity</td>
<td>• PEF variability 20-30%</td>
</tr>
<tr>
<td>Moderate, persistent</td>
<td>Daily symptoms</td>
<td>• FEV₁ or PEF &gt;60%&lt;80% predicted</td>
</tr>
<tr>
<td></td>
<td>Daily use of inhaled short-acting beta-2-agonist</td>
<td>• PEF variability &gt;30%</td>
</tr>
<tr>
<td></td>
<td>Exacerbations affect activity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exacerbations ≥2 times per week; may last days</td>
<td></td>
</tr>
<tr>
<td>Severe, persistent</td>
<td>Continual symptoms</td>
<td>• FEV₁ or PEF &lt;60% predicted</td>
</tr>
<tr>
<td></td>
<td>Limited physical activity</td>
<td>• PEF variability &gt;30%</td>
</tr>
<tr>
<td></td>
<td>Frequent exacerbations</td>
<td></td>
</tr>
</tbody>
</table>

Adapted and reproduced by permission of the publisher and author from: National Heart, Lung, and Blood Institute, National Asthma Education and Prevention Program. Expert Panel Report 2: Guidelines for the diagnosis and management of asthma. [Bethesda, MD: National Institutes of Health, National Heart, Lung, and Blood Institute; 1997. (NIH Publication No. 97-4051), Figure 1-3, p 20.³
system is more difficult to use in asthmatic patients already receiving treatment. For that reason, the classification system is appropriately used as a guide. Presence of any symptom in a higher classification places the patient at that higher level. Patients often under-report their nighttime symptoms, so these symptoms must be specifically sought out by clinicians. Patients are at high risk for hospitalization, emergency department visits, and unscheduled medical care if they meet any of the following criteria:  
- hospitalization for asthma within the prior 12 months;  
- baseline forced expiratory volume in one second (FEV₁), forced vital capacity (FVC), or FEV₁/FVC <60% of predicted value;  
- four or more canisters of short-acting beta-agonists dispensed in 12 months and any use of a systemic corticosteroid agent in the same 12-month period;  
- 12 or more canisters of short-acting beta-agonists (or six or more prescriptions for these drugs) dispensed in a 12-month period.

Exposure in the KP Northern California, Southern California, Northwest, and Hawaii Regions has shown that aggressive intervention in this group of asthmatic patients can improve clinical outcome and reduce cost.

Asthma Control
Goals of asthma management are listed in Table 3.2

Management
Asthma management includes both drug therapy and patient education13 and should also include a written action plan.8

Drug Therapy
For all asthmatic patients, short-acting beta-agonists, such as albuterol, should be available as “rescue medication.” A metered-dose inhaler (MDI) is the most convenient and effective way to deliver albuterol. MDIs are preferred over air-powered nebulizers for ambulatory patients, including those seen in the emergency department as long as they do not potentially need intubation. Use of MDIs is more cost-effective than use of nebulizers, and MDIs use a much lower dose of medication to achieve results equal to those of nebulizers. Short-acting beta-agonists should be used only as needed. Regular dosing—except before exercise in those with exercise-induced bronchospasm—should be avoided. Someone who can teach this skill and who has experience observing patients using MDIs should instruct the patient in proper MDI technique. Experts recommend reviewing MDI technique with patients at least yearly. Use of one or more canisters a month should be recognized as a marker of poor asthma control.23

The cornerstone of drug therapy is use of inhaled corticosteroids.24 These “controller medications” can be given either by MDI or by dry powder inhaler (DPI). Newer MDIs deliver corticosteroid agents to the bronchial tree more effectively and use newer chemical propellants that are less harmful to the environment.9 All patients other than those with solely exercise-induced or mild, intermittent asthma need controller medication. Patients with moderate or severe persistent asthma should preferably use inhaled corticosteroid agents. Patients with mild, persistent asthma may respond well to cromolyn or nedocromil, but many of this subset of asthmatic patients will need inhaled corticosteroid agents. Patients should use the least amount that leads to absence of nocturnal cough and that eliminates the need for rescue medication or reduction in physical activity due to asthma. Most asthma experts recommend that patients begin therapy at a moderate or high dosage to gain

### Table 3. Goals of asthma management

| • Prevent chronic, troublesome symptoms | • Maintain chronic, troublesome symptoms |
| • Maintain pulmonary function as closely as possible to normal or personal best | • Maintain normal activity levels (including exercise and other physical activity) |
| • Prevent recurrent exacerbations of asthma and minimize need for emergency visits or hospitalization | • Provide optimal pharmacotherapy with minimal or no adverse effects |
| • Meet patients’ and families’ expectations of and satisfaction with asthma care | |
control of symptoms, then taper to the lowest dosage needed to maintain asthma control.

Patients with moderate or severe persistent asthma should have oral prednisone available for emergencies.

Other Asthma Medications

In patients using inhaled corticosteroids with breakthrough symptoms after four weeks of therapy, a long-acting beta-agonist, salmeterol (two puffs twice daily or two puffs only at bedtime if the only breakthrough symptoms are nocturnal), is added to the inhaled corticosteroid agent. This approach is more effective than increasing the steroid dosage (an alternative approach).10

Leukotriene antagonists and theophylline have limited roles in treating asthma. In general, these medications are reserved for patients in whom asthma cannot be controlled by high dosages of inhaled corticosteroid agents and salmeterol. When these medications are used, their effect should be carefully measured to reduce both cost and potential toxicity. Specialty consultation should be strongly considered for patients who need these medications.2

Education

**Smoking cessation** is especially crucial for asthmatic patients. Smoking increases risk for development of emphysema in asthmatic patients and reduces efficacy of controller medications.11

All patients with persistent asthma should have a **written asthma action plan**.2,3,9 This plan should list signs and symptoms of worsening asthma and should recommend changes patients can make on their own to address moderate as well as severe exacerbations. Examples of written asthma action plans are available from several sources.3,4

**Monitoring**

As in many chronic diseases, patients may not fully comply with their treatment plans.11 The clinician should be alert to signs of noncompliance, such as an increasing number of requests to refill prescriptions for beta-agonists; poor asthma control; and hospitalization or need for urgent medical care. Clinicians who detect noncompliance should work with the patient in a nonjudgmental way to help improve compliance.

All patients with asthma should actively monitor their condition. Monitoring can be based on symptoms or on peak flow measurement. A peak flow-based plan may be more effective for patients who reliably measure peak flow daily. Patients monitoring peak flow should be instructed when and how to initiate and adjust their medication and when to visit their physicians or the emergency department.

**Follow-up Care**

All patients with asthma need regular monitoring by their medical practitioners.6 Although studies have not determined the optimum frequency of this follow-up care, CMI and other expert panels have concluded that **annual visits** are appropriate for patients with well-controlled asthma and that more frequent visits are needed for patients with uncontrolled asthma. Follow-up care should be given within a week after an emergency department visit or hospitalization.

### Table 4. Criteria for specialty consultation for patients with asthma

<table>
<thead>
<tr>
<th><strong>Criteria for specialty consultation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Life-threatening asthma exacerbation</td>
</tr>
<tr>
<td>• Goals of asthma therapy not met despite three to six months of treatment</td>
</tr>
<tr>
<td>• Lack of response to therapy</td>
</tr>
<tr>
<td>• Atypical signs and symptoms</td>
</tr>
<tr>
<td>• Unclear diagnosis</td>
</tr>
<tr>
<td>• Diagnosis or treatment of asthma complicated by comorbid conditions (eg, sinusitis, nasal polyps, aspergillosis, severe rhinitis, vocal cord dysfunction, gastroesophageal reflux, chronic obstructive pulmonary disease)</td>
</tr>
<tr>
<td>• Additional diagnostic testing indicated (eg, allergy skin testing, rhinoscopy, complete pulmonary function studies, provocative challenge, bronchoscopy)</td>
</tr>
<tr>
<td>• Additional patient education on complications of therapy, problems with adherence, or allergen avoidance</td>
</tr>
<tr>
<td>• Possible need for immunotherapy</td>
</tr>
<tr>
<td>• Severe, persistent asthma requiring high-dosage therapy with inhaled corticosteroid agents for a prolonged period</td>
</tr>
<tr>
<td>• Continuous oral corticosteroid therapy or high-dosage therapy with inhaled corticosteroid agents</td>
</tr>
<tr>
<td>• More than two bursts of oral corticosteroid usage in one year</td>
</tr>
</tbody>
</table>


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**Smoking cessation is especially crucial for asthmatic patients.** Smoking increases risk for development of emphysema in asthmatic patients and reduces efficacy of controller medications.
**Specialty referral**

Specialty referral should be considered for any asthmatic patient who meets the criteria listed in Table 4.

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**Case Example: Treatment Approach**

For the patient described earlier, the correct diagnosis is probably either chronic bronchitis or asthma. At 32 years of age, the patient is somewhat more likely to have asthma. Her medical history suggests episodic disease that resolves within a couple of weeks, but the clinician should seek confirmation of this diagnosis by seeking additional information about the patient’s medical history. A history of nocturnal cough (even between exacerbations), other milder episodes of asthma, and history of allergy, rhinitis, and exposure to substances that precipitate these conditions would lend support to the diagnosis of asthma. Spirometry would be a very important test for confirming the presence of airflow obstruction and properly assessing asthma severity in this patient. A history of ongoing and nocturnal symptoms also would be used to establish asthma severity.

Once a diagnosis of asthma is established and severity is estimated, the patient will need additional information explaining:

- the chronic nature of this disease;
- the importance of asthma control;
- the importance of ongoing monitoring, possibly including peak flow monitoring;
- the need to identify and control exacerbating factors such as dust mites, animal fur and dander, and exposure to pollen; and
- the importance of regular follow-up visits with a single primary care physician.

The patient also needs to receive a firm message relaying the critical importance of smoking cessation to improve medication effectiveness, prevent recurrence, and decrease risk for emphysema. Appropriate support should be given in these smoking cessation efforts. If allergies seem to be a major contributor to asthma, referral for allergy testing should be considered.

For persistent asthma, the patient will need several years of treatment (or lifelong treatment) with a controller medication, the choice of which depends on disease severity. If an inhaled form of corticosteroid agent is given, the patient will need to use a spacer device in addition to rescue medication, typically albuterol, for use only as needed. Demonstration of proper MDI technique and reassessment of technique at the first follow-up visit are critical. The patient will benefit from following a written asthma action plan. This plan may be simple for intermittent asthma but more detailed for persistent asthma, especially if moderate or severe.

The patient must understand the importance of avoiding or eliminating exposure to substances that precipitate asthma flare-ups, and compliance with the treatment plan should be emphasized. Initial follow-up should occur after no more than four to six weeks.

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**Conclusion**

Asthma is an important chronic disease resulting in clinically significant morbidity, missed days of work or school, substantial costs for emergency care and hospitalization, and, sometimes, death. Current therapy can control asthma and may prevent development of irreversible airway changes in asthmatic patients. Key points for diagnosis and treatment of asthma are summarized in Practice Tips.

CMI has recently completed an extensive, evidence-based revision of the adult asthma guideline that provides up-to-date, useful information on asthma diagnosis, prognosis, and treatment. The guidelines also summarize current best practice and present detailed information about a wide variety of issues, including acute care, alternative types of therapy, and ineffective types of therapy. The guidelines include sections for special situations such as exercise-induced asthma and pregnancy. The full

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**Practice Tips**

- Asthma should be strongly suspected in any patient with recurrent or persisting cough or wheezing.
- Spirometry should be used to diagnose and categorize asthma.
- Patients with persistent asthma require controller medications, usually inhaled corticosteroid agents.
- All asthmatic patients who smoke should be strongly encouraged to quit.
- Asthmatic patients should have patient education, including a written action plan.
- Asthmatic patients should receive regular follow-up care.
- Specialty consultation should be considered for all patients with complicated asthma.

Acknowledgment
We acknowledge the CMI Asthma Guideline Development Group and the CMI Asthma Advisory Group.

References

Brain Breathes Mind
Brain breathes mind
like lungs breathe air.
Forgotten Truth, Huston Smith, PhD
"Black Skimmer"
by Richard Mittleman, MD

This image was made at the San Joaquin Sanctuary in Irvine, CA. The Black Skimmer is the only bird whose lower bill is longer than the upper. It skims over the water with the longer, lower bill feeling for fish. This image is backlit, which gives it a unique feel.

More of Dr Mittleman's artwork can be seen on the cover and on pages 27, 54 and 66.
Medical Hypnosis: An Underutilized Treatment Approach

Abstract
Context: Use of hypnosis in medical practice has long been controversial, but recent developments in medical hypnosis—in particular, the understanding that the power of hypnosis resides mainly in the patient—have profound implications for treatment.

Objective: To illustrate and explain the therapeutically useful application of hypnosis in medical practice.

Design: Case series.

Setting: Department of Preventive Medicine at Kaiser Permanente Medical Center, San Diego.

Patients: Five outpatient Health Plan members referred to a department of preventive medicine for alleviation of physical, emotional, or behavioral symptoms.

Main outcome measures: Extent and duration of clinical recovery.

Results: Patients in all five cases had dramatically successful clinical outcomes after three or fewer intensive hypnotherapeutic sessions.

Conclusions: Medical hypnosis is an underutilized therapeutic modality which can be learned easily for everyday use in medical practice, especially when taking the medical history. In this era of emphasis on cost-effectiveness, both medical hypnosis and certain parahypnotic techniques (eg, closed-eye history taking) may be of special interest to physicians.

Introduction
Hypnosis is a state of high focused attention (trance) in which external stimuli are disattended and suggestions becomes far more effective than usual. The fundamental usefulness of hypnosis in medicine and healing has been controversial for more than 200 years, ie, since Anton Mesmer produced the body of work now recognized as the beginning of clinical hypnosis. Does medical hypnosis work? If so, how? Does it produce real bodily healing at the physiologic level, or is its therapeutic effect merely the result of imagined components in the mind only? These questions are reasonable and can be addressed by clinical observation aided by modern technology.

The most clinically significant recent development in medical hypnosis is our understanding that the power of hypnosis actually resides in the patient and not in the doctor. This simple statement has profound implications because it implies existence of useful potential within each patient. The goal of modern medical hypnosis is to help patients use this unconscious potential—a revolutionary shift from the direction-focused, authoritarian therapeutic techniques of the past. By contrast, modern medicine involves a highly rational belief system that minimizes the importance of autonomous therapeutic processes. This belief system has created an expectation that everything can be accomplished on a conscious and voluntary level, even though such voluntary efforts can sometimes obstruct natural healing processes. Notwithstanding this possible obstruction, a cumulative effect can be attained by simultaneously using the opposing concept that underlies modern medicine with medical hypnosis.

To support these statements and to illustrate the range of possible treatments, this article describes five patients who were treated with medical hypnosis after being referred to me from the Kaiser Permanente (KP) Department of Preventive Medicine in San Diego. Focusing on these five clinical examples presents the opportunity to answer three questions:

- What is medical hypnosis?
- How does medical hypnosis work, especially when no specific directions or suggestions are given?
- When should medical hypnosis be used?

Case Examples
Case 1
Cerebral angiography showed mild thrombosis in the right posteroinferior cerebellar artery of a 57-year-old male physician. Intractable hiccups ensued as a recognized complication of a brain lesion; the hiccups did not respond to therapeutic trials of several medications. Two weeks after the condition began, a 1.5-hour hypnotherapy session was conducted, immediately after which the hiccups permanently ceased. Although the patient did not believe he had been hypnotized, he described several psychophysiological changes that he had never experienced before the hypnotherapy session: a complex visual hallucination, brief but pronounced sialorrhea, and brief periods of marked acoustic and olfactory hyperacuity. Three months after the hypnotherapy session, the patient suddenly realized that he no longer used the bronchodilator and steroid inhalers that he had previ-
Medical hypnosis is quite different from the “command performance” of stage hypnosis ...

A 51-year-old successful professional woman who had a highly abusive childhood was seen on an emergency basis because she was concerned that her plan for suicide that day would interfere with her obligation to give the keynote address at a national meeting later that afternoon. Suicide was not her problem—it was her solution—but it interfered with her sense of responsibility. A 90-minute hypnotherapy session enabled the patient to fulfill her obligations. A few follow-up sessions conducted during the next 18 months relieved her depression substantially. An interview was conducted with the patient 18 months later and was videotaped. The videotape, titled “I’ll Be Polite Before I Die,” is available from the KP San Diego Department of Preventive Medicine. (Contact Vincent.J.Felitti-MD@kp.org.)

Case 5
A middle-aged woman with demyelinating disease was seen for treatment of depression that responded poorly to antidepressant medication. Unexpectedly after a session of hypnotherapy, the patient almost immediately had marked improvement in gait that enabled her to give up using Canadian crutches; in addition, her dysarthric speech improved noticeably, and her depression became less severe. Her physician believes that these improvements occurred far too abruptly to be attributable to remission of illness. The improvement persisted at a two-year follow-up.

Discussion
Historically, medical hypnosis was identified with surgical anesthesia and with removal of symptoms. Medical hypnosis was defined as a state of heightened suggestibility in which something is done to a patient. From this interpretation—one in which hypnosis commands away the symptom—our definition has evolved to a subtler form that more effectively brings basic, long-lasting change. Because this description may seem undramatic to those who are familiar only with the commands of stage hypnosis—or with its often magical depiction in motion pictures—the distinction bears some elaboration.

Medical hypnosis is quite different from the “command performance” of stage hypnosis, an activity that depends heavily on the practitioner’s ability to quickly select from an audience those subjects who can be readily hypnotized. Stage hypnosis is also highly directed as to outcome (“You will quack like a duck,” etc.). This directiveness can be dramatic and engaging, but it has limited utility. Unlike practitioners of stage hypnosis, physicians do not have the luxury of selecting...
subjects on the basis of perceived ease of outcome. In fact, for many patients, the problem is so complex that its resolution requires total dependence on unconscious processes occurring within the patient. For example, in none of the cases described were outcomes suggested; indeed, some outcomes were unanticipated. Research has shown that attempts to cure by specific direction and command have a high failure rate because of the unrecognized complexity underlying many patient problems.

When we speak of medical hypnosis, we refer to a special type of interchange between two people—an interchange that involves trance. Trance can occur at many levels ranging from rapt attention with eyes open (entranced) to deep states that resemble somnolence. Whatever its depth, hypnotic trance has consistently been determined to have no relation to the state of sleep; hypnotic trance is physiologically a type of waking state. Moreover, just as an abdominal incision is itself not treatment but is instead the means through which surgical treatment may be done, hypnotic trance is not a treatment per se; instead, hypnotic trance is the framework in which treatment can more effectively be carried out. The goal is not to hypnotize someone; the goal is to accomplish a therapeutically valuable result during hypnotic trance.

For clarity, I have selected examples of dramatically successful hypnotherapeutic outcomes. Cases 1 and 5 in particular show that certain important aspects of organic disease are poorly understood and that they evidently are sometimes altered by processes that indicate possible existence of involuntary neural or neurochemical control (other processes about which we know little). Indeed, important or difficult human problems are likely to have complex and covert underpinnings that resist change and that thus require the hypnotherapist to avoid the patient’s rejection of suggestions. Two common ways of avoiding this rejection are 1) to offer the patient several choices and 2) to provide the suggestion as a metaphor. Metaphor is the language of the unconscious and thus may often be accepted when direct suggestion would be rejected. Another helpful observation is that, in trance states, we sometimes allow our unconscious to solve complex problems or gain a fresh perspective. A famous example of the power of the unconscious is the example of the great German chemist Kekule, who conceived the structure of the benzene ring after dreaming of a snake swallowing its own tail.

Foundational Theories of Medical Hypnosis

Dr Milton Erickson—physician, psychotherapist, teacher, and arguably the consummate medical hypnotherapist of the 20th century—emphasized the need for practitioners to individualize their approach to hypnosis. Erickson believed that the hypnotherapist must understand, evaluate, accept, and use the unique aspects of each patient. Erickson’s often-extraordinary results occurred precisely because they activated and further developed what was already within the patient instead of trying to impose from the outside an element that might be unacceptable for that individual’s personality. Although easy to describe, this process is difficult to accomplish without extensive practice. To understand what can be accomplished in medical hypnosis—and to obtain a detailed explanation of the underlying concepts—I suggest you read “The February Man.” This monograph provides a verbatim transcript and detailed explanation of one remarkable case in which Dr Erickson definitively treated the patient in four sessions, during which the patient believed that she was merely providing background information as the prelude to treatment.

In Dr Erickson’s approach, all symptoms are viewed as signals. In this approach, the hypnotherapist asks, “What is this patient trying to tell us with a headache, chronic fatigue, or recurring, stress-related skin disorder?” Some patients may present through their own imagery a metaphor about their emotions that ultimately helps expand the patient’s conscious understanding.

How Hypnosis Works

That medical hypnosis works is clear from the case examples given and from extensive clinical and experimental literature. However, the mechanisms of hypnosis and reasons for its effectiveness raise vastly more complex questions. Nonetheless, this situation is not different from that of aspirin, which was used effectively for more than half a century without anyone understanding how or why it worked. Like uses of hypnosis, some of aspirin’s uses have been discovered only recently—and more may well be found. The five cases described in this article illustrate only our current understanding that the power of hypnosis resides in the patient. The power of hypnosis certainly need not originate in commands; indeed, none were given to our patients. Moreover, enhanced physiologic function (as in Case 1) must be interpreted as resulting from release phenomena, because biologic functions cannot be inserted. This interpretation implies existence of a wealth of material in the
One of the great surprises of medical hypnosis is that beneficial change can be effected without the patient’s awareness.

Trance induction is relatively simple, but becoming accomplished in medical hypnosis requires interest, training, and experience.

Use of Hypnosis in Medical Practice

As these case examples suggest, medical hypnosis differs from most forms of psychotherapy, particularly those that are insight-based. This difference is an advantage when treating patients who are not introspective, who are amnesic, or who refuse to consider the psychologic impact of particular events in their lives. Their lack of insight is of small matter; insight has been shown to have poor correlation with outcomes. One of the great surprises of medical hypnosis is that beneficial change can be effected without the patient’s awareness; indeed, Cases 1, 2, and 5 illustrate benefit without understanding or insight. However, medical hypnosis can also be used as an adjunct to conventional psychotherapy.

Medical hypnosis (therapeutic trance) involves careful planning that places significant demands on the hypnotherapist and initially requires an allocation of uninterrupted time. This fact, combined with the need for experience and the unfamiliar therapeutic use of metaphor, probably explains the infrequent use of hypnosis in medicine today—despite many physicians being trained in its use. Nonetheless, when such treatment plans are well made and executed, substantial change can occur through hypnotherapy. As shown in Case 3, the initial investment of time can save much physician time later on.

Become a Practitioner of Medical Hypnosis

Trance induction is relatively simple, but becoming accomplished in medical hypnosis requires interest, training, and experience. Interest in the practice is typically an outgrowth of awareness and exposure to what can be accomplished with medical hypnosis. Training may be obtained from the American Society of Clinical Hypnosis (ASCH) or from the Milton Erickson Foundation, but practice is totally up to you.

Clinicians who instead choose to refer their patients for treatment can contact the referral desk at the ASCH to locate local physicians, psychologists, and dentists who are experienced in medical hypnosis. Clinicians may reasonably assume that some patients will fear hypnosis, anticipating a loss of control. This situation is particularly true for people who have been raped or otherwise sexually abused. For these people, the issue is present—not past—loss of control over part of their lives; the clinician may properly point this out to the patient and note that hypnosis will return this control to them. For patients who claim that they cannot be hypnotized, the clinician may simply point out that this is not their problem but that of the treating doctor.

My hope is that the examples provided here will enable you to identify patients for whom medical hypnosis would be a prime treatment option and whom...
you might consider referring to a consultant experienced in these techniques. Hypnosis is useful in medicine when patients have physical or emotional problems that are due at least in part to the patients’ own unconscious limitation of their capacities: Medical hypnosis helps these patients break through their limitations to free their unconscious potential for solving problems.\(^2\)\(^,\)\(^26\) Although responsiveness to hypnotherapy cannot always be predicted, referral will most likely be suitable for patients with certain medical conditions—e.g., chronic headache, chronic back pain, psychogenic weakness or paralysis, chronic constipation, and irritable bowel syndrome—that typically respond well to medical hypnosis. Panic attacks and phobias often lessen substantially in response to hypnosis as do conditions associated with amnesia. Seemingly straightforward organic conditions may improve unexpectedly, as the cases described here illustrate. Identifying underlying issues during trance and removing some stumbling blocks to success can help intractably obese patients. As is true for the addictions, the problems underlying obesity are usually so complex that seeking definitive cure through hypnosis or through any other single approach is not realistic; nonetheless, hypnosis can be a key technique for preparing patients to accept change and to refrain from thwarting their own success.

Related Treatment Tips

This article discusses heterohypnosis only; a variant of this technique is self-hypnosis, which involves the same processes but is done at the patient’s own direction.\(^2\)\(^,\)\(^26\) Self-hypnosis may be facilitated initially through heterohypnosis. I teach self-hypnosis to most of my patients as a way to provide affordable daily reinforcement. In this respect, self-hypnosis bears some similarity to meditation.\(^27\)

Even if you later decide to learn hypnosis, one simple skill—“closed-eye history taking”—can be helpful for diagnosis right now.\(^2\)\(^,\)\(^28\) For difficult cases, this technique can be a powerful adjunct to the traditional method of obtaining the medical history. Closed-eye history taking is a simple, effective technique that involves only one activity: asking the patient to close his or her eyes while the medical history is being obtained, “… the better to focus on things.” Dr Albert Ray describes his experience with this technique in “Closed-eye History Taking,”\(^29\) a videotape available from KP San Diego’s Department of Preventive Medicine. (Contact Vincent.J.Felitti-MD@kp.org.) Dr Ray was bold enough to try this approach for the first time in the urgent appointment clinic. This videotape includes long-term follow-up of his patient so you can see the often-profound results of this small change in practice.

Whether using medical hypnosis or parahypnotic techniques such as closed-eye history taking, you should understand that a unique treatment approach is necessary for each patient and for each situation.\(^2\)\(^,\)\(^30\) Recognize that the patient’s condition will naturally improve when unconscious obstacles within the patient are removed.\(^3\)\(^,\)\(^31\) Expect change to be not only possible but inevitable. Emphasize the positive, including the effort to discover what is right about that person’s life. Have your patients tell you their own story with eyes closed so that they convey experiential recollections instead of intellectualizations. Understand that whatever you do, you will influence each patient; the question is how to ensure that the influence is beneficial.\(^3\)\(^2\) Offer patients an alternative to their symptoms—an alternative more positive than the patient’s current belief. Use metaphors and stories to plant the right suggestion, and then be willing to give each patient supportive follow-up by telephone and e-mail. I use a computer-driven system of automated telephone calls that pose questions and that record the patient’s answers while interposing supportive responses.\(^3\)\(^3\)

Summary

Medical hypnosis offers physicians the ability to effect beneficial change even in difficult cases. Often this change occurs quickly, and sometimes it appears in unexpectedly beneficial ways. To the disadvantage of patients as well as physicians, medical hypnosis is underutilized as

Practice Tips

- Important or difficult human problems are likely to have complex and covert underpinnings that resist change and that require practitioners to avoid the patient’s rejection of suggestions. Two common ways to avoid rejection are 1) to offer the patient several choices, and 2) to provide the suggestion as a metaphor.
- Simple reassurance from a doctor can greatly mitigate the stress induced aspects of an emergency by attenuating the sympathetic alarm reaction and substituting the calming effects of the parasympathetic system.
- Hypnosis is suitable for patients with the following medical conditions: chronic headache, chronic back pain, psychogenic weakness or paralysis, chronic constipation, irritable bowel syndrome, panic attacks and phobias.
- “Closed-eye history taking”: Have your patients tell you their own story with their eyes closed so that they convey experiential recollections instead of intellectualizations.

Recognize that the patient’s condition will naturally improve when unconscious obstacles within the patient are removed.

... self-hypnosis bears some similarity to meditation.
a therapeutic modality. In addition, certain parahypnotic techniques are simple to learn and can be readily used in everyday medical practice, especially in taking the medical history. Especially in this era of emphasis on cost-effectiveness, both medical hypnosis and certain parahypnotic techniques (eg, closed-eye history taking) may be of special interest to physicians.

References

In 1993, biologist Dr Anne Fausto-Sterling published in the journal *The Sciences* a provocative and somewhat tongue-in-cheek essay, “The Five Sexes,” that challenged the traditional dichotomous model of human sex and sexuality. In addition to the existence of females and males, she proposed that there existed “herms” (named after true hermaphrodites, who have both a testis and an ovary), “ferms” (female pseudohermaphrodites—people born with ovaries and some expression of male genitalia), and “merms” (male pseudohermaphrodites, people with testes and some expression of female genitalia). In addition, she calculated that about 1.7% of all births were, in some form, intersexual (i.e., characterized by various interminglings of male and female sex characteristics) and that genital surgery was performed on approximately 2000 children in the US each year.

Dr Fausto-Sterling’s challenge to the traditional binary sex and gender system stimulated extensive controversy and disturbed entrenched medical values and social norms. Besides forcing the issue of intersex into medical and public discussion, she also recommended a radical reconceptualization of the way the medical establishment should and could treat intersexed children. The customary approach had been surgical since the 1970s: operative removal of gonads and genitalia attributed to one of the two traditional sexes; and surgical and hormonal enhancement of those attributed to the opposite sex. Usually, the choice of sexual phenotype promotion was made according to the appearance of the child’s extant genitalia. At a minimum, it was thought that a boy should have a penis at least one inch long in stretched length at birth, and a girl should not have a clitoris longer than 3/8 inch. Body “normalizing” also generally included as-needed surgical provision of a vagina suitable for future intercourse for girls, and, for boys, a urethral opening at the tip of the penis.

During recent years, segments of the medical and intersex communities have questioned the practice of surgical genitoplasties and sexual assignment of intersexed infants. Modern-day medical opinion is now divided. The American Academy of Pediatrics’ 2000 guidelines for evaluation and management of intersex infants with “ambiguous genitalia” call for early surgery in selected cases; they also include the following statement: “Although newborns with ambiguous genitalia are encountered rarely in a primary care pediatrician’s practice, their diagnosis and prompt treatment require urgent medical attention.”

But challenges to conventional surgical approaches and views of intersexed conditions as “medical emergencies” have arisen largely because of the increasing visibility of intersex persons who have reached adulthood and who offer us their experiences. These experiences are critical in that they are told by subjects of surgical procedures that are performed as standard practice despite the absence of scientific data supporting benefits. To this date, there exist no comprehensive, retrospective studies that establish a therapeutic benefit from surgery.

What we are learning anew from the intersex community is that sexual and gender identifications are more complex than any surgical decision that purports to divide human experience of it into two neat classifications. Indeed, many intersex children later suffer their surgical assignment because of strong identification with the “excluded” sex or lessened sexual sensitivity of their modified organs. Thus, there is cause to consider a moratorium on surgical interventions performed on intersex infants until some evidence supports its benefit.

Seven years after the appearance of her essay, Dr Fausto-Sterling published “The Five Sexes—Revisited” in the same journal. In this revisitation, she noted that since 1993, “modern society has moved beyond five sexes to the recognition that gender variation is normal.” She also acceded to a view of gender attribution that gave less signifying power to genital makeup and more weight to both gender performance and self-determination of sexual and gender identity. She proposed: “It might seem natural to regard intersexual and transgendered people as living midway between the poles of male and female. But male and female, masculine and feminine cannot be parsed as some kind of continuum. Rather, sex and gender are best conceptualized as points in a multidimensional space.”

As intersexed people clearly demonstrate, strict sexual dimorphism does not exist in nature. And as human nature does not abide by cultural rules, rigid and anatomically based conceptualizations of gender identity do not suffice to account for the authentic experiences of human beings being human.

It is a simple truth that intersex children are born, and this fact can serve as an elegant reminder about...
We don’t really know how gender identity develops, but we do know that mistakes in gender assignment occur—ie, the doctor’s “best guess” about future gender identity sometimes turns out to be wrong.

the diversity of sex and the human body at a cellular level. At a cultural level, we have been learning much about the wide spectrum of sexual and gender identities that defy binary classification systems. And we have witnessed the changing and fluid “boundaries” imperfectly separating male and female societal roles as well as feminine and masculine traits and behaviors. Recognizing the myriad ways that human lives are born into the world in all their various shapes and sizes, sexes, and degrees of health may reflect and foster a respectful acceptance of humanity at the level of “what is.”

Case Study: When an Intersex Child is Born

Ira and Karen were shocked when doctors informed them that their newborn child, Jamie, was a hermaphrodite. The doctors offered to perform “sexual assignment surgery” for Jamie’s “correctable deformity” in order to protect the child and parents from any sense of ambiguity. They summarized Jamie’s “ambiguous genitalia” as one undescended testicle; a phallus longer than a clitoris but lacking the definitive features of a penis; an absent vaginal opening; and a rudimentary intra-abdominal ovary and uterus. They explained that they surgically assigned most intersexed babies as female because the surgical techniques were more successful, and they could not create a functioning penis. Female hormones and surgical construction of a vagina could be delayed until Jamie was sexually active.

Ira and Karen brought Jamie home and argued about the decision. Ira insisted that the surgery be performed so Jamie could experience a “basic human need for a sexual identity.” Karen disagreed, echoing advice she received from both a psychologist and a counselor at an intersex support agency. She said that Jamie could be raised with a regular gender identity without genital reconstruction but with a sex-stereotypical name and clothing. She insisted that Jamie should decide whether to have sexual assignment surgery upon reaching adulthood.

At medical follow-up, the pediatrician and urologist informed Ira and Karen that Jamie’s intersexuality was caused by chromosomal mosaicism—an XY/XO pattern. They recommended removing Jamie’s intra-abdominal gonad and undescended testicle to reduce cancer risks, minimize and move the enlarged urethral opening to make space for future vaginal construction, create labia from foreskin and scrotal skin, and perform clitoroplasty by reducing Jamie’s phallus to the size of a clitoris. They were concerned that, without imminent surgery, hormonal exposure would further masculinize the brain, gender-imprinting Jamie, and thus result in a male identity.

When doctors inquired whether a decision had been reached on sexual assignment surgery, Ira broke down and voiced his fears that, without surgery, Jamie would face constant derision and alienation, embarrassment in the locker room, and hesitation initiating a sexual life in adulthood. But Karen was just as fearful that a clitoroplasty would diminish Jamie’s future sexual sensitivity and that if Jamie were already gender-imprinted to identify as male, the proposed surgery would leave Jamie sexually damaged.

What should Jamie’s parents do?
What ethical principles are raised in this case?
Is sexual assignment surgery cosmetic or medical?
What are the doctors’ obligations to Jamie?
Whose opinion prevails when the parents disagree about medical procedures for their children?

Case Commentary

Anne Fausto-Sterling, PhD, Brown University Medical School

In making management decisions about a complex case of intersexuality, the first step should be a frank admission of uncertainty. Even the basic facts of the matter here are unclear. Is the gonad an ovary, as suggested at first, or a testicle? Is either of the gonads making hormones, which might be especially important for subsequent growth and bone development? How much of the body is mosaic? Will puberty be masculinizing or feminizing? And, most important of all, what will the child’s gender identity be as he/she reaches conscious expression in the first decade of life? Neither the doctors nor the parents have reliable answers to any of these questions, no matter what they claim. Thus, I think the most conservative approach should be taken—don’t cut out anything that you may later decide you wish the patient still had.

But what are the medical and emotional concerns? The cancer question is the easiest: In these cases, an increased risk of cancer emerges after puberty, so
there is no need to remove the gonads earlier. Furthermore, either a functional testis or ovary can aid bone development, reducing the risk of osteoporosis that results from gonadectomy. If the testis is functional and if Jamie adopts a male gender identity, it might even be possible to use spermatogonial nuclei for in vitro fertilization—thus permitting the possibility of fatherhood later in life. If the testis does not make its own hormones but the child develops a male gender identity, then leaving the phallus intact will give the pediatric endocrinologist the possibility of using exogenous testosterone to induce growth.

What of Ira’s fears about life in the locker room? With proper and practical counseling, the anticipated teasing can be minimized or avoided. Parents can arrange for their children to have privacy while dressing and undressing in schools. There is nothing visibly odd about such children as long as they are wearing clothes. Proper counseling can also help family members talk with each other, developing an atmosphere in which sexual development can be explained to the child and in which all matters relating to Jamie’s development can be openly discussed.

Finally, Karen is concerned that gender imprinting might have already occurred and that surgery could leave Jamie without the requisite parts needed to carry out that imprinting. Karen could be right, and that is the point. We don’t really know how gender identity develops, but we do know that mistakes in gender assignment occur—ie, the doctors’ “best guess” about future gender identity sometimes turns out to be wrong. Again, this fact strongly suggests that the best course is to postpone surgery and provide maximum counseling to the family—including advice about how to protect Jamie from teasing by his/her peers. Close observation and discussions with Jamie should enable some clarity about gender identity within the first five years, and the child’s voice should be heard.

Physical Concepts

Physical concepts are free creations of the human mind, and are not, however it may seem, uniquely determined by the external world.

Albert Einstein, 1879-1955, Winner of the Nobel Prize in Physics, 1921
Stress

A definition, friends, of stress:
Your own reaction to a mess
Stresses may be large or small
Sometimes they're not perceived at all
Examples: Say a lack of cash;
A just-avoided freeway crash;
An allergen that's in the air;
The barber says you're losing hair;
Fifty on a spavined horse;
Attorney's letter re divorce;
Wetness, dryness, heat or cold;
Callow youth or getting old
Stress from pains to pleasures range
The common element is change
Adapt or die, and that's a fact
And so our bodies must react:
The heart speeds up, the gut slows down
Facial muscles snarl or frown
Bronchial tubes expand and then
The blood absorbs more oxygen
Widened pupils search the void
Adrenal glands secrete steroid
Serum glucose starts to climb
More insulin works overtime
Stressed physically or mentally
Muscles tense to fight or flee
The midbrain boils with rage and fear
While cortex plans to save your rear
The point is, stress is not unique
It doesn't mean you're dumb or weak
A part of mankind's constitution
Bequeathed to us by evolution
Common both to man and beast
It proves you're still alive, at least.

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Clinician-Patient Communication: Its Big Impact on Health

“We aspire to be the world leader in improving health …”
This is the first phrase of the Mission Statement for Kaiser Permanente (KP) of California. We seek to improve health outcomes for our members—and clinician-patient communication contributes to that effort in a big way.

With all our other concerns, we can easily lose our focus on improving health. Indeed, good clinician-patient communication is often emphasized not because it is related to health outcomes but because communication skills are related to higher patient satisfaction scores, less malpractice litigation, lower rates of voluntary termination from Health Plan membership, and increased clinician satisfaction. Although we often conduct our efforts to improve communication between clinicians and patients in the context of these outcomes—and rightly so—we must not lose sight of the important link between effective communication and patient health behavior.

This article summarizes the published evidence linking communication and health outcomes and discusses how components of good communication affect patients’ perception of the medical encounter as well as their subsequent health behavior.

Communication and Health Outcomes
Research clearly shows that effective clinician-patient communication is correlated with desired health outcomes. Major review studies have systematically examined the body of evidence accumulated over the past several decades. In most of these studies, interventions were designed to improve clinician-patient communication and thus improve health outcomes such as symptom resolution (e.g., control of headaches), functioning (e.g., asthma functioning), physiologic measures (e.g., blood pressure, blood sugar level), pain control (e.g., cancer pain, dental pain), or emotional status (e.g., mood, anxiety). More than half the studies showed a link between effective clinician-patient communication and improved health outcomes.

In addition, other studies documented that poor communication between a clinician and a patient during a clinical encounter fails to elicit important health-related information from the patient and causes both clinician and patient to misunderstand the health situation. As a result of incomplete or inaccurate information, opportunities for improving health are missed (see Sidebar next page).

What do clinicians with good communication skills do that influences health behavior and improves health outcomes? According to research findings, skilled clinicians 1) elicit the patient’s point of view, 2) involve the patient in decisions related to treatment and management, and 3) develop the clinician-patient relationship.

Elicit the Patient’s Point of View
In an effective interview, the clinician gathers not only objective information about a patient’s health condition but also understanding of the patient’s own perspective regarding her or his health. In any situation, the appropriate course of treatment may be clear from the medical perspective of the clinician; nonetheless, for the patient, other considerations are also important. Patients weigh the perceived advantages of prescribed therapy against such factors as potential risks or side effects and anticipated limitations on daily habits or preferences.

The need for more research on clinician-patient communication
A recent editorial in the Annals of Internal Medicine emphasized that clinicians want information that regularly helps them take better care of their patients. The editorial called for more research aimed at improving communication between doctors and patients.

This focus on research in clinician-patient communication is echoed here at KP. This year, the Garfield Memorial Fund released a Request for Applications for research addressing clinician-patient communication and will award grants to projects that hold promise for improving clinician-patient communication throughout the KP Program.

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Results of poor communication in the clinical interview\textsuperscript{3,6,10}

- Clinician does not elicit patient’s complaints and concerns
- Clinician misses patient’s psychosocial and psychiatric problems
- Patient does not clearly communicate main presenting problem to clinician
- Patient does not understand or remember information about the diagnosis and treatment
- Cultural issues are not addressed

How communication affects health outcomes\textsuperscript{3}

- Clinician gathers information from patient
- Clinician and patient discuss care management plan
- Clinician provides emotional support
- Clinician and patient share in making treatment-related decisions

During the interview, the clinician has an opportunity to discover a patient’s perspective by asking questions: What type of person is the patient? How does the patient experience the illness or health condition in question? What is the patient’s understanding of the health situation? (See Practice Tips box.) A patient-centered interview such as this uncovers information that leads the clinician and patient to discuss treatment alternatives and choose the approach most acceptable to the patient.\textsuperscript{6,12} In contrast, failure to identify and effectively address a patient’s understanding and feelings about his or her health situation is likely to lead to a poor outcome.\textsuperscript{3,6}

Involve the Patient in Care Management Decisions

Considerable evidence shows that a patient who is involved in determining the treatment approach is most likely to comply with treatment.\textsuperscript{5,7,15,16,18} Participation of the patient helps clinicians to determine how various treatment options fit the patient’s goals and preferences and enables the patient and clinician to reach a mutually agreeable decision.\textsuperscript{10} A patient who is involved in treatment discussions or who engages in shared decision making has a greater sense of personal control as well as lower levels of concern about her or his condition and a better outcome,\textsuperscript{13,19} whereas a patient who does not participate in the consultation is more likely to be noncompliant with treatment.\textsuperscript{3,7}

Develop the Clinician-Patient Relationship

Perhaps the strongest relationships between a patient and a clinician are established over time. In primary care, continuity of the clinical relationship is important; indeed, the definition of primary care set forth by the Institute of Medicine (IOM), in 1996, includes “a sustained partnership with patients.”\textsuperscript{20,21} The continuity fostered by primary care provides opportunities for the clinician and patient to become familiar with each other, develop effective communication patterns, and establish mutual trust.

Developing the clinician-patient relationship establishes fertile conditions for primary care clinicians to provide health behavior education and health screening. Indeed, interpersonal communication between a provider and a patient—and the clinician’s knowledge of the patient—have been measured in primary care settings and have been associated with desired health behaviors such as up-to-date delivery of screening services, delivery of messages about preventive health behavior, up-to-date immunizations, and modification of high-risk health behavior.\textsuperscript{9,22}

Programs for Improving Clinical Communication at Kaiser Permanente

How can we improve our KP clinicians’ ability to elicit a patient’s point of view, involve a patient in making decisions related to treatment and care management, and develop the clinician-patient relationship? The KP Interregional Clinician-Patient Communication (IRPC) Leadership Group has developed a variety of educational workshops and programs that are available in all KP regions to address these critical components of

Practice Tips

- **Discover the person:** “Can you tell me a little bit about yourself—your home, your work, what’s important to you?”
- **Elicit experience:** “I imagine this illness is very hard for you. What has it been like?”
- **Elicit understanding:** “What do you think is causing your condition? Why right now?”
- **Elicit concerns:** “Some people have concerns about this—what are your concerns about this?” “How do you feel about this?”
- **Elicit feedback:** “Does this make sense to you, or is it still somewhat unclear?”
- **Elicit preferences** (especially where there are real options for patients): “What option would you prefer?”
- **Elicit expectations** (especially about treatment): “How much improvement do you expect from this?”
communication.22,23 (See Practice Tips box.) For more information about these programs, contact Geoff Galbraith, MD, (Geoff.Galbraith@kp.org) or Elizabeth Wu (Elizabeth.X.Wu@kp.org) (cochair of the IRCPC Leadership Group).

Summary
The clinician-patient communication process in any medical encounter affects health behavior and health outcomes.

- An effective medical interview elicits information about the patient’s point of view regarding her or his health situation—including problems, concerns, preferences, and expectations.
- A patient’s participation in discussing treatment alternatives leads to treatment decisions that best meet the patient’s needs and preferences.
- When a clinician and patient share understanding about the patient’s health situation and decide on a mutually agreeable treatment approach, compliance is likely to be high, and health outcomes improve.
- A clinician-patient relationship built on good communication and on trust established over time—a situation typical of many primary care encounters—is associated with better health screening behavior and more effective delivery of preventive health care services.

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References

Abstract
The Emergency Prospective Review Program (EPRP), a part of Kaiser Permanente (KP), has responsibility for KP Health Plan members who present to non-KP emergency departments. By telephone, EPRP helps non-KP physicians who care for these patients. Then EPRP expedites the safe return of these patients to the KP system. EPRP serves more than six million KP and Group Health Cooperative members throughout California and part of Washington State.
This article outlines EPRP's history, current operating statistics, and day-to-day function. The author also describes some of his personal experience while working at the EPRP office, located in Pasadena.

Introduction
A patient at a remote community hospital in Northern California has a rupturing abdominal aortic aneurysm and must be rushed to a larger medical center for emergency surgery. A woman visiting Guam has medical complications during the second trimester of pregnancy; the doctors on Guam believe that the woman needs treatment at a more advanced hospital than exists on the island. A man with emphysema who is vacationing in the mountains has an acute exacerbation when a forest fire occurs nearby. The physician treating this patient at a small hospital wants him transferred out of the smoky area immediately.

What do these three people have in common? The answer is that all are Kaiser Permanente (KP) Health Plan members who have benefited from KP’s Emergency Prospective Review Program (EPRP). EPRP, where I work periodically, has responsibility for KP Health Plan members who present to non-KP emergency departments. By telephone, EPRP helps non-KP emergency physicians who care for these patients. Then EPRP expedites the safe return of these patients to the KP system.

History of EPRP
EPRP is the brainchild of Jeffrey Selevan, MD, Assistant Medical Director, Operations, who formerly worked as a Southern California Permanente Medical Group (SCPMG) emergency physician. In the early 1980s, Dr Selevan recognized the opportunity to improve the quality of care received by KP members in non-KP emergency departments while conserving KP resources spent on non-KP services. Dr Selevan realized that non-KP physicians treating these patients lacked access to existing clinical information and that many expensive claims for outside services began when KP members made non-KP emergency department visits.

Under EPRP, Dr Selevan created a program in which outside providers are expected to contact EPRP soon after the initial medical evaluation of the patient and stabilization of the patient’s condition. As emphasized by the program’s name, EPRP and non-KP health care providers jointly review these cases prospectively or concurrently. In addition to this timely, coordinated review, EPRP offers non-KP physicians real-time access to existing clinical information about the patient. These EPRP activities assist in the care of KP members at non-KP facilities and expedite the members’ safe return to the KP system. In this way, EPRP also enhances continuity of care provided to KP Health Plan members.

Expansion to Northern California
EPRP originally served only Southern California, and physician staffing consisted entirely of SCPMG emergency physicians. When Northern California joined the program in 1997, emergency physicians in The Permanente Medical Group (TPMG) had the opportunity to participate. Dr Selevan felt that having Northern California physicians participate would increase acceptance of EPRP throughout Northern California and would provide valuable input to the other EPRP staff members.

Dr Selevan and Dr John Shohfi (Regional Coordinating Chief of EPRP, SCPMG) recruited an original group of about 40 TPMG physicians, many of whom remain active in the program. Dr Chip Rath became Regional Coordinator for TPMG. EPRP is structured to include three physician shifts daily; EPRP allot one 24-hour shift to TPMG. The TPMG physician typically flies down in the morning from Northern California and returns home after work the next day.

Current Statistics
EPRP began in 1989 and served only the San Diego area. Now EPRP encompasses all of California and part of Washington State. Two or three physicians and six or seven nurses are on duty at any time to answer incoming calls about California and Washington KP members. All the physicians and nurses who manage EPRP cases have extensive emergency department experience. EPRP is responsible for well over six million plan members. EPRP occupies 1000 square feet at Walnut Center in Pasadena, employs 39 people on a full-time basis, and handles almost 90,000 cases per year. The program has an annual budget of $5.3 million. Twenty-four hours per day EPRP is able to supply a wide range of clinical information about any California KP member and about many members of the Group Health Cooperative. This material includes:
- History and physical examinations
- Discharge summaries
- Consultations
- Medications
- Allergies
- Immunizations
- Laboratory results

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• Radiology reports
• Electrocardiograms (ECGs)
• Cardiac catheterization reports.

Also important to the success of EPRP are the Critical Care Transport (CCT) and Allied Intensivists Network (AIN) programs. In CCT, a physician or nurse accompanies the patient in an ambulance to a KP facility. CCT has performed more than 34,000 safe interfacility transfers since 1989. A case-control study compared more than 3200 matched pairs of cardiac patients with patients who were not transported and found no increase in adverse outcomes for the patients transported at this high level of care.\(^1\)

KP created the AIN program in 1998 to provide an alternative to direct admission to non-KP hospitals for some patients. Through AIN, EPRP dispatches to the non-KP emergency department a non-KP physician with privileges at the non-KP hospital. The AIN physician evaluates the patient and assumes responsibility for care, which includes possible discharge, transfer, or admission to the non-KP hospital. Both CCT and AIN began in Southern California but have since been expanded to parts of Northern California as these programs proved effective. CCT also operates in the Seattle area.

**Overview of an EPRP Case**

How does an EPRP case work (Figure 1)? Things typically start with a call to the EPRP 800-number from the non-KP emergency department. EPRP has asked the non-KP emergency departments to notify EPRP only after the Medical Screening Examination and stabilization of the patient. This sequence ensures the patient’s safety and satisfies legal requirements, including those encouraged and monitored by national regulatory agencies and the California Chapter of the American College of Emergency Physicians (CAL/ACEP) to protect patients without placing undue burden on health maintenance organizations.\(^2,3\)

An EPRP nurse answers all initial calls, records demographic and preliminary medical data about the patient, and enters the case into EPRP’s computer tracking system. The EPRP nurse may independently handle simple cases resulting in discharge of the patient from the non-KP emergency department. In any more complex situation, an EPRP physician takes over as soon as the treating physician at the outside hospital is ready to discuss the case with an EPRP doctor. At this point, several possibilities exist:

- Discharge patient from the non-KP emergency department
- Further evaluate or treat patient at the non-KP emergency department
- Admit patient to the non-KP hospital
- Transfer patient to a KP (includes KP-affiliated) facility
- Transfer patient to another non-KP facility.

Within this framework, further variations are possible. For example, the non-KP physician may agree to a transfer only if a physician accompanies the patient, an arrangement that EPRP may be able to provide. In other cases, EPRP calls for an AIN physician to go to the non-KP hospital and assume care of the patient.

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**Figure 1.** Summary Overview of Emergency Prospective Review Program (EPRP) Program.
Figure 2. Decision flow chart shows EPRP transfer process: decision whether or not to admit patient from non-KP facility; location of bed and receiving KP or KP-affiliated physician to receive patient. AIN = Allied Intensivists Network.
The diagram outlines a decision-making process for patient transport and acceptance in a health system. The process involves multiple decision points, with each node leading to a question or action depending on the previous outcome. Here is a summary of the key steps:

1. **Patient likely to need reserved inpatient bed at this KP facility?**
   - **Y**: EPRP RN calls KP Bed Control
   - **N**: The next steps depend on the KP ED MD's acceptance.

2. **Bed available for patient?**
   - **Y**: Potential accepting KP MD might accept patient?
   - **N**: EPRP RN calls KP Bed Control.

3. **May patient go to ED without reserved inpatient bed?**
   - **Y**: EPRP RN advises non-KP MD that patient should remain at non-KP facility.
   - **N**: The process continues based on the next steps.

4. **Any other way to accommodate patient at this facility?**
   - **Y**: Patient likely to need reserved inpatient bed at this KP facility?
   - **N**: The process continues based on the next steps.

5. **Potential accepting KP MD feels patient is not stable for transfer?**
   - **Y**: Patient transported to inpatient bed at KP
   - **N**: Potential accepting KP MD feels patient needs different accepting MD?

6. **Admit patient to KP facility?**
   - **Y**: EPRP MD notifies non-KP MD that KP accepts patient
   - **N**: Potential accepting KP MD that KP accepts patient

7. **Patient discharged from KP ED**
   - **Y**: EPRP MD notifies KP ED MD of patient accepted by other MD for evaluation in ED
   - **N**: EPRP MD, KP ED MD, and potential KP admitting MD renegotiate.

The flowchart includes several additional decision points and actions that are not fully detailed in the summary. Each step is connected by arrows indicating the flow of the decision process.
EPRP staff members have several ways to help a non-KP physician:

- Discuss clinical information about the patient from available records
- Fax ECGs or other requested material
- Make direct contact with the patient’s regular physician
- Provide phone numbers for patients to use in arranging follow-up care
- Leave messages for KP physicians about their patients’ non-KP visits
- Make a follow-up appointment for the patient at a KP facility

Discussions with the non-KP emergency physicians tend to be collegial and knowledgeable. Both sides wish to assure good care and prompt care for the patient while obeying all relevant laws concerning transfer of patients between facilities.

Once the non-KP and EPRP physicians agree that transfer of the patient to a KP facility is appropriate, EPRP must make it happen. We identify the likely level of care the patient will need if admitted, begin a search among nearby KP facilities for that type of bed, and secure approval of a receiving physician. Sometimes the whole process is as simple as a single phone call to a KP emergency physician, who may say, “Fine, send the patient.” But the experience often requires multiple calls and numerous pages among EPRP, bed control staff, nursing supervisors, and one or more KP physicians (Figure 2). Sometimes we must repeat the process at a second or even third KP facility, for example, the right bed or the right consultant may not be available. Or a potential receiving physician may ask the non-KP emergency department to perform one or more additional tests to ensure that the patient’s condition is stable before any transfer takes place.

Finally, EPRP must arrange the transport itself. This process may entail delay if the required level of ambulance (eg, CCT) is not readily available. Meanwhile, as time passes, the non-KP emergency department will be calling back, wondering what is taking so long, and urging faster disposition of the case.

My Personal Experience at EPRP

Staffing the phones at EPRP once per month provides a nice break from my usual routine of seeing patients in the KP Vallejo emergency department. I arise in the East Bay at 7 am, arrive at Oakland International Airport by 9 am, and board the one-hour flight to Burbank. After a 20-minute cab ride to Pasadena, I’m usually just in time to start the 24-hour shift. During the course of a recent slower-than-average stint there, I spoke to a total of 83 physicians regarding 49 patients. Much as in an actual ED, the work pace can be highly irregular: In the busiest two-hour period, I made and received a total of 26 phone calls; in the slowest two-hour period, I had only six.

In the case of the man whose aortic aneurysm ruptured, I received a desperate call late one evening from a general surgeon at a small community hospital in Willets, California. The patient was hypotensive, and the surgeon and his facility were unable to accommodate the patient, a doctor, and a nurse. The patient could receive whatever intravenous medications she needed en route. This option was entirely acceptable to the patient and to her treating physicians on Guam. The transfer occurred uneventfully for a total cost under $10,000.

The man with exacerbation of chronic lung disease during smoky conditions in the mountains presented a different problem. The doctor called from the scene to demand immediate transfer at night by air, saying that the patient would only worsen while in that area. However, the patient’s current condition was actually stable, and the treatment he had received so far was appropriate. After conversations with the internist at the patient’s home KP facility, we decided that subjecting the patient to a rushed and potentially hazardous air transport was unnecessary. The patient stayed at the non-KP facility overnight and was later transferred under better conditions.

The Challenges of the Job

What are the tough parts of working at EPRP? Sometimes the physician at a non-KP facility unreasonably insists that a patient be directly admitted to that facility although we believe we could safely transfer the patient to a KP facility. Or a potential...
receiving physician at KP may throw up roadblocks to a transfer. There’s no getting around the fact that for a Permanente physician on duty in the emergency department or taking admissions, a call from EPRP invariably means more work. Thus, the inclination to say “No” may be strong. At other times, when I must call a colleague who I already know is very busy, I regret having to ask, “Can you take one more patient?”

Even harder are cases of patients whose condition is highly unstable, for example, the man with the aneurysm. The physician on the scene understandably has great anxiety and pleads for rapid transfer of the patient. Every moment of delay then feels endless.

Finally, frustrations arise when our carefully constructed plan to repatriate a patient—an arrangement involving perhaps a dozen or more phone calls and several hours of work—falls apart because of a last-minute glitch. Much of the challenge of the job is to anticipate and forestall all the obstacles and pitfalls that a given case presents.

A Look to the Future
EPRP has several current goals:
- Further enhance computer hardware and software.
- Expand the CCT physician and AIN programs in Northern California.
- Improve quality of care provided to KP Health Plan members seen in non-KP emergency departments.
- Maintain a high level of patient satisfaction.

All these goals require considerable cooperation among many parties, including physicians and administrators in the non-KP hospitals as well as in the KP organization. EPRP is already a success story. According to Loren Johnson, MD, President of CAL/ACEP, “EPRP continues to be America’s foremost example of a well-managed emergency poststabilization case management program” (written communication, July 21, 2001). Nonetheless, we expect to deliver even more benefits to KP patients and to the KP organization. EPRP will continue to refine its role in providing quality patient care to our Health Plan members.

The author gratefully acknowledges the assistance of Jeffrey Selevan, MD, who provided historical, statistical, and other background information.

References
“Brown Pelican”  
by Richard Mittleman, MD

This image was made on the cliffs at La Jolla, CA. When not in breeding plumage Brown Pelicans are just that, pretty much brown. This bird is in prime breeding plumage with the sky blue eye (eye color often changes when a bird is in breeding plumage), red throat pouch and yellow head.

More of Dr Mittleman’s artwork can be seen on the cover and on pages 27, 34, and 66.
The Reality of Transplantation: Clinical and Operational Issues for Kaiser Permanente

Historical Insight

Clinical transplantation of organs became a reality in 1954, when the first renal transplant between identical twins was successfully performed in Boston. Kidney transplantation provided the foundation necessary to proceed with other types of extrarenal transplants. Since that time, many have contributed to transplantation advances, although during the 1960s and 1970s, transplantation was considered experimental and “taboo” in both public and private sectors. Spending time and money on this research was considered inappropriate when its efficacy and outcomes had yet to be established.

Traveling fast forward through the 1980s and into the present, we find that organ transplants have become the preferred option for treating thousands of patients suffering from end-stage failure of vital organs. Growth of transplantation has paralleled development of increasingly potent and effective immunosuppressive agents, improved methods of organ preservation, and great innovation in surgical techniques. Miraculous advances have made it possible to successfully engraft in humans all the vital vascular organs as well as bone marrow and stem cells. Hundreds of thousands of lives have been touched by this gift of life.

Change and Challenges

Change comes fast as researchers continue to explore newer, more effective strategies for providing organs to a population segment which relies on technology to endow each person with new life. That same change impacts the strategy necessary to wage war on cancer and to provide lifesaving bone marrow (BMT) and peripheral blood stem cell (PBSC) transplantation. The rapidly evolving state of the art and the growing pains experienced by all segments of the health care industry continue to pose a unique challenge to health plans providing transplant services to members.

The challenge for transplantation is not yet over; in a way, organ transplantation has become a victim of its own success as the demand for donor organs continues to drastically outweigh the supply. The United Network for Organ Sharing (UNOS) Scientific Registry data, as of August 31, 2001, reflected that more than 78,189 men, women, and children are on the UNOS national transplant waiting list and that every 18 minutes, a new name is added.1 This crisis has caused the transplant community to push the outer limits of the potential donor pool, including performing living unrelated or stranger transplants. The ethical and financial implications for society of this type of live donation have yet to be sorted out. Additional information and statistics on the National Organ Transplant Wait List can be found on the UNOS Web site at: www.unos.org.

Kaiser Permanente Accepts the Challenge

In response to both solid organ and BMT/PBSC transplants becoming a community standard of care, Kaiser Permanente (KP) modified its benefit structure to move transplantation from experimental to the standard of care for many disease-specific diagnoses. The clinical and consumer demand for transplant services continues to rise, seemingly unabated. With this move came the reality that this patient population requires a more advanced system of case management to ensure access, to provide oversight of clinical care, to ensure internalization of pre- and post-transplant services whenever possible, to develop and deliver patient education, and to develop lines of communication with Centers of Excellence (COE), many of which are outside KP service areas. The confluence of both clinical and financial forces drives the need for case management of transplant services.

Because quality and access remain a priority, KP has elected a more efficient use of the health care resources dedicated to transplant services and has developed a single delivery system designed to improve the standard of care for members.

Centers of Excellence in the national community are defined by Kaiser Permanente (KP) National Transplant Network (NTN)’s Quality, Resource, and Risk Management Program as facilities and medical professionals specializing in specific types of organ or bone marrow/stem cell transplant.

Because quality and access remain a priority, KP has elected a more efficient use of the health care resources dedicated to transplant services and has developed a single delivery system designed to improve the standard of care for members. This move from multiple delivery systems to a single system was a new direction for KP which required alignment of both financial incentives and administrative capabilities to improve health outcomes.

By Christy A Edwards
Deborah Maurer, RN, MBA(c), CPTC, CCRN

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DEBORAH MAURER, RN, MBA(c), CPTC, CCRN, (not pictured), is currently working for CIGNA Health Plan as an assistant vice president with oversight for their transplant network. Previously, Deborah spent two years with Kaiser Permanente as the operations manager for the National Transplant Network.
The value that NTN brings to KP is the ability to operate as one entity with national providers and integrated systems, by which adequate volume can be offered to leverage opportunities.

The goal of NTN is to provide members with access to a network of transplant programs located at premier medical centers ...

Some benefits attributed to moving from multiple contracting systems to a single system have been increased access to quality providers, improved outcomes through reduction of variability, and ability to track performance change in utilization and outcomes coupled with reduction in expenses related to transplant services (primarily due to ability to negotiate cost-saving contracts). In addition, savings have been realized in administrative support systems and by consolidating strategic planning efforts.

Administrative Leadership
Administrative oversight of KP’s NTN is accomplished through the National Transplant and Contracting Services (NTACS) department. NTACS provides leadership, coordination, and oversight to NTN and its provision of transplant services programwide to ensure exemplary performance is achieved.

The value that NTN brings to KP is the ability to operate as one entity with national providers and integrated systems, by which adequate volume can be offered to leverage opportunities. Realizing a long-term vision of common business processes, performance metrics, and technology support where multiple systems existed previously was, and is, a challenge which continues to confront KP as it moves to integrate best practices and uniformity into its national network.

The goal of NTN is to provide members with access to a network of transplant programs located at premier medical centers, where successful outcomes are predictably high. NTN is dedicated to assuring continued access to premier transplant programs which meet or exceed NTN’s stringent site selection criteria and which are known nationally for their respective transplant expertise. To ensure that this goal is continually achieved and exceeded, NTN has developed national standards, policies, and benchmarks to oversee the quality monitoring process, to monitor access to services, and to formally review and adopt new technology recommendations.

NTN currently consists of 23 transplant COE and 83 transplant programs for solid organ and bone marrow or stem cell transplantation for both adult and pediatric patients, excluding kidney transplantation which is not within the scope of NTN.

Service Delivery
NTN has implemented a transplant support structure based on assigning transplant nurse coordinators affiliated in three regional hubs to achieve economy of scale for transplant case management. These hubs are the nucleus of case management experienced by KP members receiving transplant-related services. Case managers located at these hubs deliver services consistently and thoroughly, an accomplishment which avoids service duplication and inappropriate medical services delivery while ensuring effective communication for monitoring patient progress and data coordination. As KP’s transplant patients have been more mobile in seeking transplant services, NTN’s case management model has transformed to successfully provide, often by telephone, an interregional model for clinical management and care coordination.

A KP member identified as a potential candidate for transplant services is referred by his or her local Permanente Medical Group (PMG) through an NTN hub to a contracted COE for evaluation. The referral and case management of the patient starts when the patient’s care path at the COE begins until they return home to the care of the local PMG physician. The hubs also are responsible for identifying and reporting on quality issues of morbidity, mortality, and service delivery for KP members throughout the transplant experience.

KP National Governance
NTN is governed by a national advisory board which sets policies, standards, and criteria. This advisory board is multidisciplinary and includes KP multiregional physician representation. Clinical management is provided by clinical management subcommittees according to transplant type and consists of PMG physician specialists from across the program who establish and regularly review patient and site selection criteria as well as COE outcomes data for NTN. Many dedicated PMG physicians believe in the value that NTN brings to the program and to KP members. These physicians continue to spend many hours improving the level of NTN’s performance by developing quality review programs as well as patient and site selection criteria and by being available daily to ensure that KP members receive the highest quality of transplant care available.

Quality: The Core Programs
NTN’s quality program is its foundation. The first national quality program within KP, NTN’s quality program sets extremely high standards for other programs to follow. The Quality Improvement Committee (QIC) is both multidisciplinary and multiregional in reporting both to the Quality Health Improvement Committee (QHIC) and the Medical Directors’ Quality Committee (MDQC). The NTN
quality program’s objectives are to provide a quality care experience to KP members and to improve the clinical outcomes and health status of KP membership through ensuring that contracted providers meet all necessary requirements of the NTN program. NTN’s interregional model for clinical management and care coordination has been successful in decreasing variation in practices, improving levels of performance at COE, and lowering costs associated with transplantation.

The quality program consists of eight separate and distinct programs:

- Site selection process, criteria and site visits;
- Quality, Resource, and Risk Management (QRRM) Screening Program;
- Significant events management;
- Annual COE outcomes survey, Quality Review Corrective Action Plan (QRCAP) and COE inactivity policy;
- Utilization management;
- Satisfaction surveys;
- Patient performance status; and
- Internal performance monitors.

**Current Transplant Referral Census**

Table 1 represents the number of KP members referred for both solid organ and for BMT/PBSC transplantation, number of actual transplants, and number of KP members still on the UNOS organ wait list as of December 31, 2000. Also shown is a breakdown of the solid organ census by organ type. These statistics represent only members who were referred through and managed by an NTN hub. Data have not been captured for members who were not managed through a hub.

KP experienced a 32% increase in solid organ transplant referrals in 2000, compared with 1997, and only a 5% increase in number of members actually receiving transplants. The increase in referrals for transplant is directly related to advances in technology, increase in indications, and decrease in contraindications. This relation is important to KP because the need for services required to care for this specific patient population having transplants continues to increase with the number of patients requiring transplantation both before and after the transplant event. This increasing need will continue to require additional physician, nursing, and administrative staff to care for and provide services to this segment of our membership.

**What is Unique About NTN?**

The health care marketplace is currently an arena of intense competition based on quality of care, case-specific volume and outcomes, and cost. Identifying quality measures among programs instead of selecting solely on pricing is evidence of the injection of

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**Table 1. KP members referred for solid organ and bone marrow/peripheral blood stem cell (BMT/PBSC) transplantation, organs transplanted, and number of KP members waiting**

<table>
<thead>
<tr>
<th>Transplant Type</th>
<th>Referrals</th>
<th>UNOS listed</th>
<th>Transplanted</th>
<th>Died waiting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SCAL</td>
<td>NCAL</td>
<td>CEAST</td>
<td>SCAL</td>
</tr>
<tr>
<td>Heart</td>
<td>55</td>
<td>95</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>Heart/Lung</td>
<td>2</td>
<td>6</td>
<td>63</td>
<td>1</td>
</tr>
<tr>
<td>Liver</td>
<td>190</td>
<td>178</td>
<td>63</td>
<td>136</td>
</tr>
<tr>
<td>Liver/LDLT</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Liver/Kidney</td>
<td>21</td>
<td>11</td>
<td>20</td>
<td>16</td>
</tr>
<tr>
<td>PAK/PTA</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SPK</td>
<td>17</td>
<td>21</td>
<td>17</td>
<td>N/A</td>
</tr>
<tr>
<td>Small Bowel</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>286</td>
<td>314</td>
<td>124</td>
<td>171</td>
</tr>
</tbody>
</table>

**Table 1 continued.**

<table>
<thead>
<tr>
<th>Referrals</th>
<th>Transplants</th>
<th>UNOS wait list</th>
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</thead>
<tbody>
<tr>
<td>BMT/PBSC</td>
<td>479</td>
<td>218</td>
</tr>
<tr>
<td>Solid Organ</td>
<td>724</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NA</td>
</tr>
</tbody>
</table>

SCAL means KP Southern California Service area; NCAL means Northern California service area; CEAST = all regions outside California. LDLT = Living donor liver transplant; PAK/PTA = pancreas after kidney transplant or pancreas transplant alone; SPK = simultaneous pancreas/kidney transplant; UNOS = United Network for Organ Sharing.
Permanente Medicine into NTN’s contracting efforts and network of providers.

NTN has shared with the program performance measurement results and improvement data through annual outcomes surveys and the development of long-term relationships for transplant services. The Network produces annual report cards, which are annually distributed to all contracted COE. An additional note here is that the COE have stated that all of their contracted payers require them to provide data; however, KP is the only payer which provides them with a report card. Figure 1 represents a sample blinded report card provided to a COE.

Annual statistical surveys of volumes and survival outcomes are measured for all COE participating in NTN, and results are compared with national data provided by UNOS, the International Bone Marrow Transplant Registry (IBMTR), and the Autologous Bone Marrow Transplant Registry (ABMTR). Under the umbrella of NTN Quality, Resource, and Risk Management programs, statistical survey results as well as any quality issues are identified, and action is taken. In addition, regular transplant program reviews, including site visits when indicated, are completed by hub medical directors, transplant coordinators, PMG physician specialists, and contract administrators. However, fragmentation of KP’s clinical and cost data systems presents a challenge to developing programwide reporting and predicting trends to accurately assess KP’s transplant experience.

### Advances in Technology — Where Do We Go from Here?

**Small Bowel Transplantation**

The tremendous strides made in transplantation since the 1950s provide excitement for what the

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Figure 1. Kaiser Permanente (KP) National Transplant Network (NTN) survey results from each participating center of excellence’s liver program show 1996-1999 liver transplant outcomes measured against KP minimum criteria (horizontal line, graph) and against criterion established by United Network for Organ Sharing (UNOS). (Reproduced with permission of the author and publisher from: Kaiser Permanente of California. National Transplant and Contracting Services. National Transplant Network (NTW); annual Centers of Excellence (COE) outcomes report, 1998-1999. [Oakland (CA): National Transplant and Contracting Services, Kaiser Permanente of California; [2000].)
future of transplantation will look like. Recent advances in transplant procedures include small bowel and small bowel-liver transplants in which patients with intestinal failure are treated with a therapy which has demonstrated improved quality of life. More than 80% of these patients have been able to discontinue their use of total parenteral nutrition and to resume unrestricted oral diets.

Pancreas Transplantation

Another area of advancement is seen in pancreas transplantation, performed either simultaneously with a kidney, after the kidney, or alone, which has demonstrated success in achieving insulin independence for patients. Early financial analysis is demonstrating the cost benefits of these procedures. The attractive option of transplanting a kidney (from a living donor) followed by a cadaver pancreas (pancreas after kidney, or PAK) is now a reality and is an option for certain uremic, diabetic patients. NTACS is currently negotiating with two renowned centers in developing a contractual relationship to make this service available to our members. Several KP members have already received this procedure.

Islet Cells

KP has also been introduced to an alternative treatment for Type 1 diabetes—transplantation of pancreatic islets: transplanting only the insulin-producing islet cells from the pancreas. In addition, PMG physicians have reviewed the possibility of referring a pediatric, non-diabetic patient with severe, chronic pancreatitis for islet cell extraction and reinfusion (islet autograft). The potential advantages with islet cell transplants include a less invasive procedure, less immunosuppression required, fewer complications, overall lower costs, and wider application.

Heart Transplantation

The future of heart transplantation may be the total artificial heart. Mechanical cardiac support technology, specifically ventricular assist devices (VAD), have been used as a bridge to transplantation. Clinical trials have been initiated to evaluate VAD as destination therapy. VAD has advanced to the point where patients can be ambulatory and managed from home while they wait for their transplant. To date, KP has only supported VAD as a bridge to transplant, but as clinical trials progress, we may need to rethink the long-term viability of VAD. Until the organ donor crisis is resolved, about one fourth of patients waiting for a heart transplant will die before an organ is available.

Liver Transplantation

Although the number of liver transplant procedures performed annually remains small compared with most other types of transplant procedures, advances in technology continue. Within the past five years, living lobar transplants have been successfully performed with survival outcomes similar to those with cadaveric transplants. This transplant is primarily performed for patients with cystic fibrosis, although other diagnoses are being considered. The procedure requires two living donors, each of whom donates a lobe of his or her lung, thus providing enough tissue mass for the recipient. This procedure was originally considered because of the critical shortage of available donor organs.

Liver Transplantation

In the past two years, an intense national controversy has occurred about distribution and allocation of donor livers. UNOS has implemented some policy changes to address the issue of providing livers to the sickest patients, but opportunities for improvement still exist. Numerous advances in liver transplantation have been made in the past few years to address the donor shortage. These include living-related transplants (adult donor to pediatric recipient), reduced size grafts, and cadaveric split transplants. In the split procedures, the donor liver is separated to perform two transplants, one for an adult patient and one for a pediatric patient. In the past 18 months, living donor adult-to-adult liver transplant procedures also have been performed. To date, limited data are available to evaluate efficacy and to monitor donor complications, but a registry has been established by the American Society of Transplant Surgeons (ASTS) to track the increasing number of these liver transplant procedures.

Bone Marrow Transplant or Peripheral Blood Stem Cell Replacement

BMT/PBSC has developed extensively in the past two decades. Both autologous and allogenic transplants have experienced increased application because of improving rates of long-term disease-free survival, an increase in availability of donors, and improved medications. Currently, there is a shift from marrow to PBSC. One of the benefits to PBSC is that general anesthesia is not required during harvesting. Because of success of the National Marrow Donor Program (NMDP),
more than four million persons are registered as volunteer donors. Although minority donors are still needed, patient population requiring BMT is not faced with the critical issue of donor availability, which faces patients awaiting solid organ transplantation.

Within the past year, one of the newest protocols in this field has surfaced—the nonmyeloablative transplant regimen. This regimen is a form of allogenic transplant designed to exploit a graft vs tumor effect without using intensive toxic conditioning regimens. This mode has enabled older patients or those with comorbidity to be considered as potential transplant candidates. The future of BMT/PBSC may include protocols for the treatment of autoimmune diseases such as multiple sclerosis and rheumatoid arthritis. Monitoring these clinical trials will be necessary to assess safety and efficacy.

Live Donation

With the increasing number of KP members who will be referred for transplant services comes the creation of a donor patient population made up of both KP and non-KP persons. As we monitor the technological advances in the area of living donations, we realize a new set of issues to be resolved and managed, ie, defining benefits for the living donor—both in length of time and breadth of coverage. Currently there are five types of living organ donors: genetically related, emotionally related, Good Samaritan donors, donors-at-large, and vendors. We have much to learn about the psychosocial aspects surrounding the decision to become a living donor. We may find it prudent to study donor outcomes on a psychosocial as well as a medical level.

Conclusion

We are faced with the issue of determining what these advances mean to KP and to NTN, especially because we are already experiencing an increased number of referrals for all types of transplantation. Traditionally, KP has focused on protecting patients’ interests and ensuring the delivery of quality patient care. Through the development of national programs such as NTN, KP continues to advance further toward providing health care quality. Through continued dissemination of information and with collaboration among clinicians and nonclinicians, we will all gain a better understanding of the wide range of both clinical and operational issues now injected into the complex reality of transplantation.

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Support Good Quality Care

Our goal is to provide the best quality care our members can afford, and to support good quality care by conducting medical research and teaching.

Sidney R Garfield, MD, founder The Kaiser Permanente Health Plan.
This "Moment in History" quote collected by Steve Callord, KP Historian
“Serene Lake”
by Stan Eskin

Mr Eskin has been a member of Kaiser Permanente for 30 years and a volunteer at Irvine for the past six years.
Medical Errors Due to Patient Profiling

“In order to think about the world relatively accurately, one should avoid prejudices, or preconceptions about the traits of certain people and things—for example, that red-headed women are untrustworthy.”

A few years ago, while attending a nonmedical conference, I was called to the aid of a somewhat overweight, middle-aged woman, who was sitting on the ladies’ room floor. She was leaning against the wall, complaining of chest pain. I took a brief history, and I felt that the severity of her pain called for more thorough investigation; I recommended calling an ambulance. Another physician at the conference offered to help me. Her first comment was: “Oh, she’s Jewish; she’s probably just emotionally upset and hysterical, like most Jewish people get.” Based on her preconceptions of Jewish people, this doctor did not think evaluation for coronary artery heart disease was needed. The patient might have suffered severe consequences, even death, because of the physician’s generalizations about Jewish people. The doctor ignored the instructions in the literature: “Don’t make assumptions about MI risk based on the patient’s gender or race.”

Being Jewish, I was not only shocked at the danger to which the patient was exposed but also by the realization that it could have been me who had chest pain, which would have been attributed to my religiously related hysteria. This experience made me reexamine my own preconceived notions in an effort to be more acutely aware that my “profiling” might endanger my patients.

Racial Profiling is Humiliating

“Racial profiling,” drawing conclusions about people by observing their appearance, is not only dangerous for law enforcement officers but also for physicians. While police officers may arrest the wrong person, doctors can make the wrong diagnosis by attributing certain characteristics to an individual on the basis of generalizations about his or her sex, color, dress, or religion.

When my African-American son was in medical school in Chicago, he went into a drugstore to buy toothpaste. While he was deciding which brand to buy, the Caucasian security guard approached him and accused him of stealing film. Before allowing him to leave, the guard inspected his briefcase and frisked him. This humiliating assault was precipitated by the law enforcement officer, not because he had any evidence of wrongdoing but because he expected certain behaviors from young African-American men. “The deep-seated problem(s) of racial profiling, especially for men of color,” is “ingrained in history.”

Unexamined Opinions Lead to Unintended Errors

If a physician holds unexamined opinions about a group of people and then applies them to an individual patient, he or she can make unintended errors that can lead to serious illness. Even if the description of the group is based on statistics, it is not wise to apply these to an individual group member without further investigation. As Sherlock Holmes put it so aptly: “While the individual man is an insoluble puzzle, in the aggregate he becomes a mathematical certainty.” It is difficult to estimate how often patient profiling causes errors in diagnosis and treatment. However, if patient safety is to improve, profiling should be considered along with all the other factors cited for causing mistakes, such as fatigue due to excess workload, inexperience, ignorance, and negligence as well as to lack of communication between various areas of the health care system. The doctor’s unconscious characterization of a patient profoundly influences the data that lead to a diagnosis. This bias also determines the patient’s access to health care and affects communication between doctor and patient.

… if patient safety is to improve, profiling should be considered along with all the other factors cited for causing mistakes …

In our country, women were and are often invested with the characteristics attributed to the Jewish woman with chest pain: emotional lability and dysphoria. Dysmenorrhea, including menstrual cramps, for a long time was thought to be caused by a woman’s poor emotional adjustment expressed in exaggerated, hysterical reaction patterns to pain, by low pain threshold, and by sexual fears. When I was in medical school, my roommate endured severe pain every month and could not even make it to classes on the days of her menses. Her gynecologist sent her to a psychiatrist for her monthly attacks of “insanity.” No severe emotional problems surfaced, and she underwent a presacral neurectomy. Her suffering was not relieved until hormones became generally available. Her life then took on a more predictable rhythm, and no one questioned her mental equilibrium any longer. Now that there is a medication that eliminates menstrual cramps, all these strange dysthymic females no longer need psychoanalysis. Physicians, because of ignorance and sexual profiling, inflicted treatments that were ineffective and erroneously attributed personality traits to half of the human race, which it did not own.

RENA TE G JUSTIN, MD, was in family practice with her daughter Ingrid Justin, MD, until both joined Kaiser Permanente. Dr Justin is now retired, after 45 years of practicing medicine.
Conclusions Based on Economic Status

Health care workers often draw conclusions based on the economic status of patients, which causes a breakdown in communication. For example, we would be surprised to find an apparently destitute individual who holds a PhD in anthropology. Similarly, an apparently upper-income patient would be expected to have at least average intelligence. This kind of expectation, linking intelligence to economic status, can lead to poor clinician-patient communication. The clinician may “talk down” to one patient and fail to fully explain scientific terminology to another. This can arouse anger in patients, which will interfere with the doctor-patient relationship and the healing process.

Economic status can also engender preconceptions about emotional attachment. Years ago, I observed a Peace Corps nurse in Nicaragua severely scolding a disheveled woman for not bringing her baby, who had diarrhea and dehydration, to the hospital sooner. The nurse implied that this malnourished, poverty-stricken mother did not care about her baby. In spite of the language barrier, the mother burst into tears at the nurse’s harangue and clutched her child, reluctant to give it to the health care personnel. What the nurse failed to appreciate, in her own frustration about the serious condition of the child, is that poor as well as rich people love their children and must be respected for what they are able to do for them. Neither the poverty nor wealth surrounding a child are indicators of the love that child receives. The nurse made a mistake by basing her judgment about the parent’s emotional attachment to the child on the destitute condition of the mother.

That health care providers expect certain behaviors to be related to the economic status of a patient is confirmed in an article in which the authors show that the majority of patients screened by their physicians for ‘partner violence’ during pregnancy are those on Medicaid and attending free clinics. Among other explanations for this observation they write: “This may reflect a perception among providers that poorer women, even outside the public provider setting, are more likely to experience partner violence. The clinician may ‘talk down’ to one patient and fail to fully explain scientific terminology to another. This can arouse anger in patients, which will interfere with the doctor-patient relationship and the healing process.

Assumptions About Older People

We also make assumptions about older people that may be statistically valid but not individually relevant. One of my patients, facing a mastectomy, said: “I am 82 and naïvely assumed that I wouldn’t care if I had a mastectomy. I am really surprised at how sad and angry I am.” Before her surgery she told me: “I really like my breasts, they are part of me; John likes them. I feel lopsided already.” I thought, as my elderly patient did, that when her breast was removed, she would not experience the same feelings of loss and mourning that younger women who are subjected to mastectomy experience. I made an age-related assumption that turned out to be false for this particular patient.

Gypsies

Gypsies, because of their reputation for stealing, lying, and not paying their bills, are frequently denied access to office medical care. They used to camp in the community where I practiced and found their way to my office. They did not conform to the picture both the medical and lay community associated with them. They paid their bills slowly but they paid as well as other economically strapped patients. There was never anything missing after their visits, and they were as truthful as the rest of us. However, their reputation made it difficult for them to get appointments at doctors’ offices for both their children and for sick adults.

Doctors have the same prejudices as others in society …

prediction, however reliable in the aggregate, is notoriously uncertain at the individual level.

Prostitutes

Prostitutes have an image of being hardened, noncaring people, whose trade is the lowest on the rank of professions. After the Second World War, I became acquainted with several girls who survived the war years by prostituting. They were little girls who played, laughed, and cried as their peers did but who had desensitized a part of their body and the emotions associated with it in order to stay alive. They were caring youngsters, who did not fit the picture painted of prostitutes in our society. It was my responsibility to take them to a physician’s office. We were treated with disrespect and discourtesy. The girls were not asked how they happened to acquire their trade; they were automatically put in a category of sluts and harlots who deserve to be rejected and to live outside the human community. In this instance, the particular doctor we saw did not take time to look at each girl as an individual. Doctors have the same prejudices as others in society.

Medicine, as law enforcement, must examine how conclusions about individuals are reached. Are facts or preconceived notions used in the reasoning process? “… [T]he drive to improve patient safety is requiring us to unlearn a set of assumptions and behaviors and increase attentiveness to the individual’s needs and characteristics. We are fallible as human beings, and all carry group pictures in our minds; but when we peruse the group, we must analyze the individual carefully and not attribute traits to one person that we think the group as a whole may possess; “prediction, however reliable in the aggregate, is notoriously uncertain at the individual level.” Further, we must be careful that the group picture is not based on rumor, hearsay, and fear. A physician especially must be willing to become acquainted with each patient, listen to the entire story that unravels, and write notes and impressions on a blank page. This is difficult because doctors, as law
enforcement officers, bring with them family and learned cultural concepts about any individual who can be labeled as part of a stereotyped group. To reexamine these concepts is hard and needs to be a lifelong process. It involves combating the daily exposure to political and societal stereotypes in the media and elsewhere. Usually these turn out to be exaggerated or false, based on fear and ignorance, but are difficult to erase from our thinking once established. To avoid errors, a physician needs to exercise great caution and not fall into the trap of basing medical diagnosis on prejudicial judgments and patient profiling.

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Work
Work in the invisible world
at least as hard
as you do in the visible
One-handed Basket Weaving, Rumi, 13th century Sufi mystic, trans Coleman Barks,
quoted in The Reinvention of Work, by Matthew Fox
This image was made on Coronado Island, CA. The reason for making this image was not the bird, but the reflections of color in the water. The color reflections are from kayaks that were stacked near the water. There was just a brief period of time when the sun was in the right position to cause this effect. More of Dr. Mittleman's artwork can be seen on the cover and on pages 27, 34, and 54.
Twenty-two years ago, on June 24, 1979, Dr Morris Collen retired from The Permanente Medical Group’s Executive Committee, where he had served for 30 years, 24 of them as Chairman. Dr Collen was one of the most renowned of the handful of Permanente pioneer physicians who founded The Permanente Medical Group (TPMG), 37 years ago. Today he is still receiving some of medicine’s most prestigious awards; the most recent being the Cummings Psyche Award from the Nicholas & Dorothy Cummings Foundation.

In his nearly four decades with TPMG, Dr Collen was a trailblazer in the areas of medicine, cybernetics, automation, and computerization of clinical and research data. Best known as the “father” of multiphasic health checkups in the early 1950s, he later leveraged on his early training as an electrical engineer to lead a vast, early initiative to computerize the multiphasic data for preventive and research purposes, thereby creating one of the largest, richest clinical databases in American medical research. As the first director of the Medical Methods Research department (which became the Department of Research), he utilized the data for a series of groundbreaking research studies and more than 100 scientific articles.

In the years that followed his retirement, Dr Collen’s already formidable reputation has only increased as he has taken on leadership roles and responsibilities with numerous organizations committed to improving the practice, professions, and delivery of high-quality health care in America. Those organizations range from the Institute of Medicine and the National Library of Medicine to the American Medical Informatics Association (which gives out an annual Morris Collen Prize) and the International Health Evaluation Association, which awarded him the prestigious Morgan Prize.

This year, Dr Collen was named to receive the distinguished Cummings Psyche Award, considered the most prestigious in the field of mental health. The award is given “in recognition of the pioneers who have in some significant way furthered integrated, collaborative practice...” Awardees are recognized for their significant and enduring contributions to behavioral health care practice, especially for pioneering efforts that have made possible the new organized systems of behavioral/primary health care.”

According to Nicholas Cummings, MD, of the Nicholas & Dorothy Cummings Foundation, Dr Collen was selected for “providing the first venue for the integration of psychotherapy into primary care” back in the 1950s and ‘60s. Dr Cummings, who also practiced with TPMG in the early days, recalled in an interview that Dr Collen could always be counted on for sound advice: “Whenever I was stuck, I would go to him. He would always say, ‘Stand on your head and look at it upside down, and it’ll come.’”

The award, including a bronze statue and a check for $50,000, tax free, was presented on October 24, 2001 at the National Managed Health Care Congress in Boston.

In recognition of Dr Collen’s ongoing achievements and contributions to Permanente Medicine, we reprint here some advice he offered to the TPMG Executive Committee on the occasion of his retirement 22 years ago—advice that has grown even more relevant to the success of Permanente Medicine with each passing year. As he wrote at the time: “I feel some obligation to pass on basic concepts and lessons, which I have learned in this committee during these eventful years. Accordingly, I have prepared guidelines, which I believe in and try to practice. I call them the ‘Ten Commandments for a PMG Executive Committee Member.’”

[We have taken the liberty to tweak the title.]

Ten Commandments for Permanente Medical Group Physician Leaders

1. Firstly, represent PMG as a whole; and secondly your local area.
2. Be proud of your organization’s heritage and accomplishments, and be humble in the knowledge of your organization’s deficiencies and problems; in this context, work together to defend and support The PMG for it’s a unique medical care organization, since if you do not, others surely will work to destroy it.
3. Respect outside competition since it will keep you humble; monopoly is power which breeds arrogance.
4. Always vote what in your heart you believe to be best and right for PMG even though others speak to the contrary, thus the organization shall endure even though politics, personal fame and fortune are fleeting (as exemplified by our annual voting for officers); thus you will not be tempted to sacrifice honor and integrity for personal gain or ambition, and be willing to eat crow if necessary to achieve a worthy organizational goal since you will be respected by all for self-sacrifice.
5. Respect one another as coworkers in a private service organization, remembering that you are not a democracy supported by public taxes.
6. Respect your superior but do not withhold dissent; since silence implies assent, then if you disagree, silent assent is a disservice to both.
7. Acquire the best personnel who know more than you, since they will become our future leaders and thus preserve and improve the quality of the organization.
8. Dedicate yourself to the patients’ welfare and medical care services, but always remember that good quality care depends upon continuing supportive education and research.
9. Never abrogate the physician’s time-honored responsibility for the care of the sick (sick care) and the prevention of disease in the well (well care), neither to non-physicians nor to non-PMG entities.
10. Set an example of good leadership; by judicious balance of quality versus costs of care, remembering that poor quality care is expensive; by perceiving problems as opportunities; by studying and practicing management science as a supplement to medical science; and by using group percentiles for management analyses rather than reporting averages, which automatically will make fifty percent of our partners feel below average. — Morris Collen, MD
Kaiser Permanente’s 50-year commitment to medical education has led to the development of excellent graduate medical education, continuing medical education, and research programs. With guidance from an advisory council, composed of experienced educators and administrators from both the community and the organization and with the assistance of members of the Los Angeles Medical Center Graduate Medical Education (GME) and Continuing Medical Education (CME) committees, the Center for Medical Education was founded in Los Angeles in October 1999.

The Center’s 18 residency and fellowship programs provide training for 165 residents and fellows. Additionally, the Center for Medical Education provides rotations for residents and fellows from nearby medical schools. The Center is also the site for medical school clerkship rotations where third- and fourth- year medical students, residents, and fellows are taught by a talented faculty of physicians from the Southern California Permanente Medical Group.

Center for Medical Education Dedicated
On July 25, 2001, the Center for Medical Education was dedicated in a ceremony which became a celebration of Kaiser Permanente’s (KP) long commitment to medical education. Many local dignitaries, as well as the Surgeon General of the United States, came to celebrate and honor the efforts of KP in promoting medical education. California Assemblyman Paul Koretz praised KP for its leadership and great contributions to the practice of medicine. He recounted his own very positive personal experience as a Health Plan member, including being born at the Los Angeles Medical Center. He stated that KP is very well known for its tremendous quality of patient care but probably not well known “for the good work they do in training doctors.” In addition, he pointed out that “Kaiser has probably the most significant labor/management partnership that one can find in the state. It’s one that is quite remarkable, and I know it is truly successful because I’ve been told that both by labor and management.” It is a model Assemblyman Koretz plans to point to for similar programs in the State of California.

Dr. Oliver Goldsmith, Southern California Permanente Medical Group’s Regional Medical Director joined in the recognitions, stating that the inherent value of KP is that it is an organization where “physicians, administrators, hospital administrators, health planners, and labor unions are aligned and dedicated to the individual patient, our members, and the communities.”

Keynote address given by Surgeon General of the United States
The celebration was highlighted by a keynote address given by the Surgeon General of the United States, David Satcher, MD. Dr. Satcher commended KP, saying, “The dedication of this Center for Medical Education and your commitment to graduate medical education and continuing medical education is so important [for it allows the physician to] use evidence-based medicine and the latest information… in your treatment.” He also challenged the audience to consider “How do a few make

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M RUDOLPH BRODY, MD, is the Director of the Center for Medical Education at the Kaiser Foundation Hospital in Los Angeles and is an elected member of the Board of Directors of SCPMG. He helped create and develop their Pediatric Residency Program, and was their first Pediatric Residency Program Director (1973-1990). He was the Regional Coordinator for all the Southern California Residency Programs from 1983-1992. E-mail: rudolph.m.brody@IREmail.
Dr. Satcher addressed current issues in health care, averring, “What is really needed in this country, and what you have said that we really need, is a balanced community health system—one that balances health promotion, disease prevention, early detection, and universal access to care. That is what we need and what we should all be committed to … if managed health care is to survive and if it is to be affordable, we must invest more in prevention and health promotion. So, we need a balanced community health system, and we need to make a commitment to universal access. We need to work out the systems and to make that commitment real.”

Dr. Satcher closed with a quote from Benjamin Elijah Mays, the president of Morehouse College at the time when he was a student. “It must be borne in mind that the great tragedy in life is not in failing to reach all of your goals—it is in having no goals for which you are reaching. It is not a calamity if somehow you die with dreams unfulfilled but it is a calamity not to dream. It is not a disgrace if you fail to reach the stars, but it is a disgrace if you have no stars for which you are reaching. It is not a disaster if you fail to achieve your highest ideals, but it is a disaster if you have no high ideals for which you are striving. Not failure, but lower aim is sin.” Dr. Satcher then concluded, “As we dedicate this Center for Medical Education, it has got to be about high aims and setting lofty goals and then working together to achieve them for ourselves and for America.”

Los Angeles and California Representatives commend KP

Throughout the dedication ceremony, public officials presented commendations for KP’s commitment and accomplishments in health care and medical education.

Los Angeles County Supervisor Zev Yaroslavsky concurred by stating that “the outstanding staff doesn’t just treat diseases but treats the people,” telling the audience about his fond memories of the medical center and the staff’s compassionate care given to his mother. He stated “I want to salute all of you who are part of the Kaiser family here and elsewhere.” Richard Cordova, Senior Vice President and Chief Operating Officer of the Southern California Kaiser Foundation Hospital/Health Plan, congratulated SCPMG for bringing to the forefront our medical education programs and for creating the Center for Medical Education.

Los Angeles City Councilman Eric Garcetti stated that he was a “proud member of the Kaiser family” and owed the lives of both his parents to KP for successful cancer treatment.

Judy Boggs, Representative for State Senator Jack Scott, presented a commendation on behalf of the California State Senate which stated, in part, “I congratulate you for your contributions to the health care and well-being of our communities and for your commitment to quality medical education and patient care. You have demonstrated a commitment to quality education for physicians.” She also commended KP for its residency and fellowship programs, including the outstanding research program.

The ceremony concluded with the Manager of the Center, Denise Lenore, unveiling a commemorative plaque that will be displayed in the Center for Medical Education.

Jan Perry and Eric Garcetti (left) present letter of commendation from the City of Los Angeles to Thomas Godfrey, MD, Area Associate Medical Director, LAMC (center).

Zev Yaroslavsky presents Thomas Godfrey, MD, with a Certificate of Recognition from the County of Los Angeles.

Oliver Goldsmith, MD; M Rudolph Brody, MD; David Satcher, MD, PhD; Thomas F Godfrey, MD; and Denise Lenore display dedication plaque.
Dr. James Yu is one of those people who thinks quickly on his feet. As rescue helicopters, unable to land in the darkness, hovered over the devastation wrought by a 7.6 earthquake in Taiwan, the Woodland Hills (CA) Permanente anesthesiologist quickly conferred with his associates to rally everyone with a car to park around the field, their headlights glowing in the pitch dark.

Within hours of the deadly 1999 earthquake, Dr. Yu, a native Taiwanese, organized five medical teams, including Permanente co-workers: Dr. Chiu I Tan, an emergency services physician; Dr. Kuan-Cheng Yeh, a family practitioner; and Dr. Chun-Chick Chiu, an emergency services physician in West Los Angeles. In that instant, The Taiwan Earthquake Medical Mission was born.

"It was like a war zone, pulling people out of the rubble," he recalls. "The hospital had collapsed and there wasn't enough equipment, so we had to constantly re-sterilize supplies."

Dr. Yu is one of many Permanente physicians who have come to the rescue in remote parts of the world in recent years. Volunteering is not new to Kaiser Permanente (KP) physicians, but traveling halfway around the world to do it takes a special commitment. It also takes flexibility, family support, empathy, and a love of airplanes and rustic conditions.

An informal survey conducted recently found that hundreds of Permanente physicians have traveled to more than 20 locations around the world to bring medical care and health services to populations in need. It's a virtual Permanente foreign legion.

“KP is fundamentally a community benefit organization structured to deliver high-quality health care,” says Jay Crosson, MD, Executive Director, The Permanente Federation. “Permanente physicians believe strongly in benefiting the community and extend that same idea globally.”

“As a leader in health care, KP attracts the best physicians—those that are interested in all aspects of medicine, such as education and research, but also in international humanitarian efforts. [The volunteer work being done] is a tribute to our organization and to all of the Permanente physicians,” adds Robert Pearl, MD, Executive Director and CEO, The Permanente Medical Group, Inc, who has also worked with volunteer organizations.

This article profiles a representative sample of globetrotting volunteers from different regions and a variety of specialties. They have contributed time, energy, and medi-
cal expertise to those in need in countries from Romania to Kyrgyzstan to the highland villages of Guatemala.

**Southern California Permanente Medical Group**

**James Yu, MD, Anesthesiology, Woodland Hills Medical Center**

Dr Yu’s lifesaving trip to Taiwan is just one of many overseas humanitarian efforts logged by the anesthesiologist, who started his global missions in 1986, a year before joining the Southern California Medical Group (SCPMG). Since then, under the auspices of Operation Smile (see Sidebar), he has been to Israel, the Gaza Strip, Romania, China, Thailand, Peru, Vietnam, and Brazil, where, in the last two years, he has reached out to children with facial deformities.

During the first week of Dr Yu’s two-week missions, the medical team prepares the operating room, screens potential patients, and determines how many surgeries to perform. It’s not unusual to hear singing and guitars allaying the patients’ fears—often led by Dr Yu’s wife, Mary, a social worker and musician.

With everything in place, the operating team—usually a reconstructive surgeon, an anesthesiologist, scrubbing and circulating nurses—arrives supported by speech therapists, oral surgeons, and nonmedical volunteers. Over a five-day period, six surgical teams operate on as many as 200 children. A postmedical team assures there are no complications and then passes the baton to a local medical team.

Training local physicians is a high priority for the team. “We modify what we do at home in one stage and, once we leave, we feel confident putting the children in the hands of a local surgeon and scrubbing nurse,” Dr Yu explains. “They participate in the operation and by the third day can operate with our assistance.” Dr Yu credits the Woodland Hills Research and Education Department for preparing handouts and slide shows used to train foreign doctors.

Dr Yu feels his experiences are “give and take”: “When I return from each mission, I realize how much I have learned—how the local clinicians are able to create an operating room with the most primitive equipment and limited supplies,” he says in awe. “Chinese nurses painstakingly soak surgical gloves in antiseptic, sprinkle them with powder, and rinse them out for reuse. It’s so touching to see this.” Operating arenas run the gamut from a MASH unit-like tent in Africa to primitive regional medical centers with rusty equipment and wobbly operating tables put to right with a brick under one leg.

Although the language barrier is often overcome by local translators or occasionally by American volunteers, such as a group of young, Portuguese-speaking Mormon missionaries who accompanied Dr Yu to Brazil, the cultural mores often present more of a problem—especially in Muslim countries. “You can’t touch a female patient unless someone is there to explain what is going on—or a young girl without her parent’s permission. It’s just not appropriate,” he explains.

Dr Yu has seen it all—embarrassed kids draping their faces with towels to hide their defects in public, others ridiculed by their classmates or passed over for adoption. “But they always have a smiling inner soul despite the defect,” he says. “What really makes it all worthwhile is when the kids wake up from the anesthesia and we hand them back to their mothers. The reaction is always tears of appreciation.”

**Stefanie Feldman, MD, Plastic Surgery, Woodland Hills Medical Center**

Over the past 15 years, Stefanie Feldman, MD, a plastic surgeon with the SCPMG, has crisscrossed the globe numerous times, under the auspices of Operation Smile and Interplast, in order to give impoverished children the most precious gift imaginable—a new smile.

In Africa, Peru, the Philippines, Vietnam, China, Russian, Morocco, Thailand, and most recently Nepal, Dr Feldman has used her clinical skills to operate on infants, children and teenagers with cleft lip and palate abnormalities. She has also worked with severe burn victims.

“After the first surgery done in one of these developing countries, I knew I’d made a difference and changed a life forever,” said Dr

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**They have contributed time, energy, and medical expertise to those in need in countries from Romania to Kyrgyzstan to the highland villages of Guatemala.**

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Dr Stefanie Feldman performs cleft palate surgery on a patient.
Robert Pearl, MD, adds, "It’s a spiritual experience that crosses political and social boundaries and gives you a whole new outlook on life. These experiences give me the opportunity to practice basic medicine. It’s appealing and refreshing."

Through Interplast in Mountain View, CA, for whom she also volunteers, Dr Feldman helps train physicians. She and a group of 10 to 15 people set up incubator sites where local physicians are taught how to care for their own people. "Our goal is to someday not be needed," says Dr Feldman. "Education of physicians worldwide is important." She adds that while most countries have more primitive hospitals than in the United States, the surgeons she has trained end up with skills similar to their American counterparts and with even greater experiences because of the higher volume of cases in their country.

Dr Feldman was moved on a recent trip to Morocco, where her team operated on a 17-year-old boy who almost didn’t reach her in time. He and his father had walked for several days and took two buses to arrive at the hospital just as the screening process was ending. "When you see older children, it’s a very emotional experience," she said. "This boy lived in a very remote area; his clothing was primitive, and who knows exactly how far he and his father had traveled. But somehow word reached them that the American doctors who could “fix” him were coming, and they found us. It was a miracle. Now he’ll go and lead a more normal life."

Dr Feldman feels her work has been a rewarding experience personally. "I’ve seen each country and its people as an insider and have had a whole cultural, emotional, and medically fulfilling experience I otherwise would have never had."

Terry Mendelson, MD, Orthopedic Surgeon, Panorama City Medical Center; Robert Zane, MD, General Surgeon, Harbor City Medical Center; and Walfrido (Wally) Castelo, MD, Radiologist, Harbor City Medical Center

One person’s medicine is another’s poison. That axiom makes it possible for Drs Terry Mendelson, Robert Zane, and Wally Castelo to send medical supplies worth thousands of dollars to Third World countries.

The three physicians collect syringes, latex gloves, surgical gowns, sutures, drapes, and IV materials. Most of what they collect has been opened, so it is no longer sterile but is unused and clean; some has been discontinued or is outdated. These are deemed unsuitable by US hospital and manufacturers’ standards.

"In other parts of the world, they will use these items ‘as is;’ nothing is unclean or unsafe," Dr Mendelson explains. "They will take what they can get. What are bread-and-butter items to us are luxuries to them."

"We think nothing of using gloves once and throwing them away," adds Dr Zane.

Four years ago, Dr Mendelson read about REMEDY, a medical donation project started at Yale University that sends treasured supplies to clinics and small hospitals in Macedonia, Bulgaria, and Albania. The volunteer program piqued his interest, allowing him to devote his time and energy on a flexible schedule without having to travel. "I could still help others while maintaining a balance between my professional life and my family," he says.

Kaiser Permanente Shares Overseas (KPSOS), dedicated to sending supplies to underdeveloped countries, has evolved out of Dr Mendelson’s efforts. The supplies are sorely needed in the Third World, where patients bring their own food, bedding, and dressings to the hospital and their families serve as nurses.

Dr Mendelson wasted little time marshalling the efforts of his wife Lindy, his children Lauren and Brian, now 19 and 17, and many of his coworkers, who devote as much as 16 hours a month gathering supplies and storing them in a dedicated room at the medical center. Once word about KPSOS trickled down through the clinic, supplies began miraculously appearing from the operating room, day surgery, ob/gyn, the pain clinic, infusion therapy, and pharmacy as did walkers, wheelchairs, and crutches no longer needed by patients.

The makeshift collection team sorts and labels supplies every six to eight weeks and sends them a few times a year. REMEDY, in conjunction with the Albert Schweitzer Institute for the Humanities in Wallingford, CT, arranges for the shipping, funded by private and corporate donations. Orbis, an international eye relief organization, and Operation Smile (see Sidebar) are also recipients of the Panorama City’s efforts.

Dr Mendelson shared his experiences with other Southern California KP physicians and rallied the support of Drs Zane and Castelo in 1998. "You need a physician champion to get this kind of program going," he says.

"Terry got me excited," says Dr Zane. "I always wanted to go overseas and help, and this is the next best thing." He collects about 20 pallets two or three times a year.
with the help of colleagues.

Dr Castelo readily jumped on board when he realized he could help physicians and patients in his hometown of Cabanatuan in the Philippines. Besides collecting supplies for KPSOS, he sends boxes of goods at his own expense to the governor of the province to ensure the items are directed where needed. Taking his humanitarian efforts one step further, for the past three years, Dr Castelo has joined a four-day medical mission to Ilagan, also in his native country, where he uses his skills as a radiologist, interpreting x-rays. “The situation there is so sad it makes you want to cry,” he relates.

For these three doctors and their helpers, volunteering is all in a day’s work. Dr Mendelson puts it simply: “When my wife, kids, and I finish a hard day of sorting, we feel great; and when we send the supplies off, we feel like we have accomplished something worthwhile.

Colorado Permanente Medical Group

Ted Palen, MD, Preventive Medicine

When Ted Palen, MD, an internist in the department of preventive medicine, first went to Guatemala last year, he thought he was outside his element—not just because he was in a foreign country but because he knew little about tropical medicine. “I thought I’d be alone out there, but I felt right at home after the first day. There were fewer diagnostic dilemmas than I expected. Problems were similar to here but in a different setting,” he says. And quite a different setting it is—the highlands at 9000-foot altitude.

Dr Palen attributes much of his instant comfort level to Hugo Gomez, MD, Area Administrator for Central America for Medical Ambassadors International (MAI). MAI is a missionary group with which Dr Palen’s church, Mission Hills in Littleton, CO, has been affiliated for ten years. Living in Quezaltenango, a town in the northwest highlands, Dr Gomez became an integral part of Dr Palen’s small medical team, along with a physician’s assistant and a registered nurse.

With the word out, hundreds from four villages lined up for hours—long before Dr Palen’s arrival—in front of a multipurpose building and patiently awaited treatment for diarrhea, dysentery, eye infections, musculoskeletal aches, and postpartum uterine infections. Over a four-day period, Dr Palen and his team treated 300 villagers, some in the glow of a flashlight when the skittish electricity went out.

Although the Guatemalan government has established prevention programs and clinics, they are usually in large cities—a far trek for residents of isolated highland villages without access to a four-wheel-drive vehicle.

Dr Palen did not arrive empty-handed. Raising $12,000 from friends, he brought packs of medical supplies and medications—Tums, Prilosec, vitamins, pain relievers, antibiotics, and antiparasitic drugs—that were provided by the Medical Assistance Program (MAP), based in Atlanta. And working in the remote highlands of Guatemala did not stop him from bringing along modern medical technology—a handheld computer to generate dosage information for antibiotics for children and to access medical references for treating tropical diseases.

Although superstition and local customs were somewhat bewildering, they did not get in the way of Dr Palen’s ministrations. He said that one patient taught him the meaning of loyalty: He treated a recently widowed elderly woman for bursitis, a condition prompted by sleeping on her late husband’s side of the bed—a set of boards—in the same position for four months in deference to him.

Neck and back strains were as common as colds—no surprise since women balance heavy loads on their heads, often while transporting babies in a wrapped shawl slung from front to back. “You wonder why they don’t use carts or wheelbarrows, but those are only for men. It’s a learned behavior,” he says.

Dr Palen’s mission also challenged his creative instincts. He devised a corn stalk splint for a woman with classic carpal tunnel syndrome, acquired from grinding stones. Wrapping it around her wrist with rags before going to bed greatly relieved her discomfort.

As for the language, it became almost a game of telephone tag—translations going from English to Spanish to Quiche, a native Indian dialect. Nevertheless, important information finally hit its mark.

Dr Palen had thought about volunteering since entering medical school in the late 1980s. “MAI offered the perfect opportunity through a church mission, and I had the capabilities to do it,” he says. Although he brought his expertise in primary care to Guatemala, he took home much more. He still holds a picture clearly in his mind—one of a woman with a child on each knee and sitting in the courtyard of her house—what he calls “the classic view of someone devoted to giving care.” He will make the trip again this November.
“My son Eric’s analogy sums up our experience,” Dr Palen says.
“Certain times during the year, the tides bring starfish ashore who are floundering on the sands, and a boy throws one back in the ocean to save its life. A bystander asks, ‘Why bother?’ ‘It matters to that one,’ the boys responds.” Eric, 16, his sister Nicole, 13, and their mother Karen accompanied Dr Palen and helped build a church in one of the highland villages.
“And that’s just the point. We look at everyone who is in need and deliver care one patient at a time because it matters to that person,” Dr Palen concludes.

The Southeast Permanente Medical Group
Lee Jacobs, MD, Infectious Disease; Associate Medical Director

When Lee Jacobs, MD, first visited Kyrgyzstan, a former member of the Soviet Union located on the western border of China, he wasn’t exactly received with open arms. “The Soviets had spent many years convincing its people that Americans were evil and wanted to take over their country. But after they got to know us, it wasn’t uncomnon to hear, ‘You are just like us,’” says Dr Jacobs, an infectious disease specialist and The Southeast Permanente Medical Group (TSPMG) Associate Medical Director.

He got his first taste of global volunteer work when he and his wife, Deb, joined members of their church, Johnson Ferry Baptist Church in Marietta, GA, on a sojourn to the Dominican Republic in 1988. They treated 500 people a day, primarily for malnutrition and ear infections.

Under the auspices of Central Asian Partners (CAP), a group of American medical and business volunteers he organized, Dr Jacobs has made many trips since then to offer medical attention, train local clinicians, and strategize with the government of Kyrgyzstan. His timing could not have been better—he met with the country’s president and minister of health during what would be Kyrgyzstan’s formative years, the period following its declaration of independence in 1991.

Dr Jacobs and his fellow volunteers butted heads with the tradition of institutionalized thinking ingrained by the Communist regime. “The country had no idea how to think and plan,” he says. “We were shocked.” With perseverance, however, Dr Jacobs was instrumental in shifting the medical school curricula toward family practice training and away from nuclear war medicine—quite a change in mindset.

Government officials were impressed by Dr Jacobs’ broad experience with KP and its eight million members, more than double the total population of their country. The fall of the Soviet Union had brought the health care system to its knees. Although the somewhat reserved, hospitable Kyrgyz people warmed up to the Americans—the first they had ever met—that did not instantly open the door of acceptance for American ways of doing things. The US clinicians had to tread softly when turning certain superstitions on their head for the benefit of patients—myths such as not eating fruit during pregnancy or wrapping oneself in clothing during the hot summer to avoid viruses and colds. “Despite differences, people are people; they just want to be listened to and respected,” Dr Jacobs says. “As Americans, we have to make sure that we give them an opportunity to see themselves as smart.”

Despite the culture gap, Dr Jacobs organized teams of clinicians in the remote mountain villages of Kyrgyzstan, where most of the population resides, to focus on a few diseases using only a small number of drugs—blood sugar, blood pressure, and prenatal medications.

Prenatal and baby care has become a priority for Dr Jacobs in his training efforts. CAP has developed and piloted an intense, two-day emergency obstetric teaching program, which he feels could
have a major impact on the country’s infant mortality rate, now one of the highest in Central Asia. There is, however, a challenge in continuing this program because it requires a large number of volunteer obstetric personnel.

In addition, with assistance from the US State Department, he helped equip a maternity hospital built and abandoned by the Japanese. “There is a lot of humanitarian care that is hit-and-miss, but we are trying to create a focused approach,” he explains.

Dr Jacobs has made some of his trips into a family affair. His youngest daughter, Julie, has accompanied him to Kyrgyzstan, working closely with KP nurse, Marian Sweeney. His wife, Deb, a pilot working on her commercial license, has met with the minister of aviation to devise a process for air transport of medical equipment and supplies. “She blew his mind because she is a woman, but he still offered her old Russian fighter planes to accomplish her mission,” said Dr Jacobs.

And finally, thanks to CAP and a member of the organization who played matchmaker, his eldest daughter Beth married this summer. Dr Jacobs only wishes that Kyrgyzstan were a bit closer. From Georgia, it’s a 22-hour flight and then a long and grueling drive to reach the mountain villages. “That only leaves a small window of opportunity to share our skills, not to mention the fatigue from such a long trip,” he says.

To Dr Jacobs, volunteering is a spiritual mission, a sense of calling. “If you have the urge to volunteer, step forward and do it,” he says.

Northwest Permanente Medical Group
Judy Wick, RN, Health Research Interventionist; Center For Health Research

The only thing that Judy Wick, RN, Health Behavior Research Interventionist with the Kaiser Center for Health Research, could see as her team’s four-wheel-drive vehicle approached the home of the Mixtec people in Oaxaca, Mexico, was what appeared to be small clusters of one-room adobe houses dotting a craggy, almost vertical hillside. For Wick and the other five members of the “Mountain Water Team,” it was an awakening, because they only had one more chance to rest before beginning to work. Over the course of the next week, they dug trenches, laid water lines, and worked alongside the native people to help supply the 250 villagers with a fundamental necessity for both physical and mental health—“clean” water.

“Our project mission,” explained Wick, “was to figure out a way to get the water flowing out of a small spring at the top of the mountain into a pipeline that pours into a sanitary retaining tank.” In its natural state, the water trickles down from house to house picking up water-borne diseases along the way and threatening the health of the men, women, and children that must use the spring for their wash and daily meals.

“The people in the villages are economically very, very poor,” says Wick. “They want more for their children, but it’s difficult to move in that direction. That’s where we can act as catalysts to make change happen. We also let them know that others care about their well-being.”

Sponsored by Northwest Medical Teams International, a nonprofit humanitarian group in Portland, OR, Wick and her team began their efforts in 1992 and have traveled to three different regions in Oaxaca to provide similar services.

“We work right alongside the village men, digging trenches and carrying pipe beneath the hot sun,” says Wick. “None of us really speak Mixtec or fluent Spanish, so during breaks we had a good time pantomiming conversation back
and forth with the villagers to get to know each other.”

For Wick, the personal connections are one of the greatest rewards—the cultural barriers are only there if you allow them. She is quick to tell stories of teaching the village school children to play games, grinding corn with the village women for the next day’s meal, and rocking a child to sleep by firelight. “It’s all so incredibly humbling,” says Wick. “During the last trip, we were lucky enough to be able to sleep on the schoolroom floor. Previously, we slept on the dirt floor of a toolshed or outside on the ground.”

At the end of the trip, something as simple as water housed in a clean environment and a community water faucet installed at the village school are the rewards for Wick, her team, and the villagers. “Seeing the pride, daily hard work, warmth, and generosity of people who have so very little is so inspiring,” she says. “When I look back, I feel that we’ve made the world better in our own small way.”

Wick and her team plan to expand their efforts to Romania next spring.

### Volunteer Opportunities

For more information on volunteer opportunities:

- **Médecins Sans Frontières**
  Web site: www.msf.org or www.doctorswithoutborders.org. There is an “Urgently need volunteers” button for immediate needs. E-mail: field_volunteers@newyork.msf.org or call: HR Dept. 212-679-6800.

- **American Red Cross**
  Web site: www.redcross.org/donate/volunteer or contact your local chapter, available on Web site or in your local phone book.

- **Operation Smile**

- **KP Share**
  If you are interested in either contributing or creating a similar group in your region, you may contact Terry Mendelson, E-mail: terry.a.mendelson@kp.org.

- **Northwest Medical Teams**
  Web site: www.nwmedicalteams.org or 1-800-959-HEAL (4325). Go to the volunteer section of the Web site to see how you can become a part of the team.

- **Interplast**

If you are interested in more information, you may contact Ronnie Chriss, E-mail: ronnie.l.chriss@kp.org.

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### Rejoice

Always rejoice in the good work that you do.

*Thomas Aquinas, 13th century philosopher and Catholic theologian*
Announcements

Upcoming Events in CME:

**Orthopedics Symposium**
Saturday, January 26, 2002
Grand Californian Hotel, Anaheim, CA

**Optometry Symposium**
Saturday, February 9, 2002
Hyatt Hotel, Long Beach, CA

**Pulmonary/Rheumatology Symposium**
Thursday & Friday, March 7 & 8, 2002
Grand Californian Hotel, Anaheim, CA

**Nuclear Medicine Symposium**
Saturday, March 9, 2002
Hilton Hotel, Pasadena, CA

**Sports Medicine Symposium**
Fri, Sat, and Sun, March 15-17, 2002
Northwoods Resort, Big Bear, CA

For more information or to receive a brochure, you may contact: Physician Education 626-564-5360. Or you may visit the Physician Education Web site at: http://www.kaiserpermanente.org/locations/california/symposia/.

Book Available:
Can Physicians Manage the Quality and Costs of Health Care? The Story of the Permanente Medical Group, by John G Smilie, MD. This book can be purchased at the minimal cost of $2 per copy from Jon Stewart at 510-271-5955.

ERRATUM
In issue Volume 5, No. 3, we published a photograph of Dr Sidney Garfield and his nurse, Betty Runyen, with the caption “Dr Steve Garfield and…” The error in the name resulted from a most unfortunate misjuxtaposition of Dr Garfield’s name with that of the journal’s History consultant, Steve Gilford. Given Steve’s long dedication to Permanente history, we believe Dr Garfield would be honored by the error. We hope that, in like fashion, Steve could take a certain satisfaction in having his own name joined (however inadvertently) with that of his hero, Dr Garfield.

Calling All Artists

**ARTISTS**: Are you an “undercover” artist? Please consider uncovering your talent and sharing it with your peers. The Permanente Journal is now accepting artwork submissions for future covers and text pages. Why not submit a photograph of your work today?

Send us a high-quality color photograph of your artwork no smaller than 4”x5” and no larger than 8”x10”. Portrait orientation is preferred. Slides and digital images may also be submitted.

**WE WANT TO HEAR FROM YOU**: Send all artwork samples to Merry Parker, Managing Editor, The Permanente Journal, 300 NE Multnomah St, Suite 100, Portland, OR 97232. E-mail Merry.E.Parker@kp.org if you have any questions.
Announcements

Announcements

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The Lighter Side of Medicine

**THE HUMERUS ZONE**

You may be the man of steel, but at your age,
No MORE leaping tall buildings in a single bound!

Cartoon submitted by Don Wissusik, MA, MS, a Clinical Supervisor in the Department of Addiction Medicine at Cascade Park Medical Center, Vancouver, WA.
Book Reviews

**COUNTY**

The perennial training ground for interns and residents

Marcus Magallanes, M.D.

another Denlinger book


Arnold N Singer, MD, has been a staff general internist at the Escondido MOB since November 1999. Prior to that, he was a staff general internist at Panorama City for 23 years. His interests include medical inpatient care delivery and humor.

**County**

by Marcus Magallanes, MD

Review by Arnold N Singer, MD

This recently published book gives a semifictional account of the author’s internal medicine internship and residency at Harbor-UCLA Medical Center, a county hospital in Los Angeles. The author takes us from the first through the last days of residency but focuses primarily on two events: the first 36 hours of internship and the experience of caring for the author’s former residency colleague through the latter’s terminal hospitalization. This difficult experience occurred during the author’s second year of residency and is presented as the signal event of his training.

The first 36 hours of the author’s internship—spent on-call—is described in detail as a descent from being a confident, top medical student to the nadir of medical training: the uncomfortable experience of being a beginning intern who realizes that he knows very little about the real world of caring for sick patients. The types of patients described are familiar; they typify the spectrum of patients seen at a county hospital. The fear, frustration, and sense of being overwhelmed are also familiar to anyone who has been a medical intern at a county facility. Indeed, these feelings brought back quite a few memories to me.

What the author fails to capture, however, is the rascal humor that develops—especially at 2 am—when a night on the ward seems like a scene from *Dante’s Inferno* and the sublime becomes ridiculous. I recall that some of the funniest moments of my life arose from my desperate terror that I might either inadvertently kill a patient through ineptitude or that every illness was so perplexing that no amount of reading *Harrison’s Principles of Internal Medicine* could help delineate the problem. Our only salvation was the laughter shared in the early morning hours with fellow interns and other medical staff. Surviving a three-year ordeal without humor would have been nearly impossible.

In the author’s second year of residency, he was faced with the challenge of having to take care of a beloved former resident dying of complications from AIDS. The long, protracted course of the illness is detailed here in a way that brings out the deep and difficult feelings of all physicians in training when they care for a patient who is more than just another admission, one of hundreds seen by residents throughout their training. Medical practice is accurately described, as is the travail experienced by the unfortunate patient, to whom the author feels emotionally attached—a circumstance which adds even more difficulty to the task of providing care.

Because the events of the book are limited primarily to these two major events, little else in the book is available to give the reader a sense of the rhythm and flow of the three-year training process or the experience of working in subspecialty units. Moreover, the main characters in the book are weakly drawn, and we know little of their backgrounds; thus, they seem stiff and difficult to visualize as people to whom we can relate or whom we have known in our own training. The story includes too few of the many anecdotes that we all can remember either as moments of epiphany for us in our developing careers or which made us change our career direction to other fields of medicine. Little is noted about the sexual tension felt by many interns and residents as they interact with other medical and ancillary personnel.

The book offers little description of a major hardship experienced by all county physicians: the chronic shortage of both money and supplies needed for taking care of the sickest patients. Nor does the book mention the medical politics that have engulfed hospitals, especially in the past decade.

In summary, although written earnestly, the book does not adequately depict the experiences it purports to cover, and it leaves the reader wondering about the training and travails of medical interns and residents working in county hospitals. Reading this book cannot fail to prompt reflection on the vast superiority of another book, the reference standard for this genre: *The House of God. A Novel* by Samuel Shem, MD, PhD. *County* pales in comparison with this superb, fabled story (first published in 1978), and the reader’s time would be better spent rereading *House of God*—even for the umpteenth time.

References

Handbook for Mortals: Guidance for People Facing Serious Illness
by Joanne Lynn, MD, Joan Harrold, MD, and The Center to Improve Care of the Dying.

Review by Richard D Della Penna, MD

“Am I dead yet?” he asked the nurse. “No,” she replied. He thought for a moment. “How will I know?”

—Patient with a serious illness

Handbook for Mortals is a “must read”—not only for all individuals and families facing serious illness but also for all clinicians. To be sure, it is a book about dying—but it is also a book about living and about managing the kind of problems faced regularly by people with serious illness. The book is a guide for people journeying through a maze of experiencing serious chronic illness and helps answer typical questions such as “What do I do now?” or “What will happen next?”

Indeed, the importance of this book will only increase along with a trend already being seen throughout our modern, scientifically advanced society: Instead of dying quickly from acute illness, more people are dying slowly from chronic disease. Moreover, the book is a guide that can help people and their families to make the often-imperceptible transition from living with a chronic condition to dying from it. In our era of high technology, clinicians typically think of few chronic conditions as fatal. We have lulled ourselves into the false belief that we will always find one more test, one more pill, or one more intervention that will make a difference and delay death.

The poignant verbal exchange between patient and nurse that introduces this review stirred my memory and reminded me of how physicians and other clinicians tend to assume too much about our patients and about the people who love them. Several years ago, I was preparing to make a return home visit to a hospice patient I had met for the first time a few weeks earlier. She was then in her mid-sixties, single, had pancreatic cancer, and was living the rest of her life with her sister and brother-in-law. When I first visited her, she was independent in her self-care but ate little and slept much of the day. A month later, I called to see if a visit would be convenient. Her brother-in-law, the daytime caregiver, answered the phone and said how grateful he was that I had called at that very moment. “I think she may be dead,” he said. “Can you come right away?” I said I could.

I arrived within a few minutes and climbed the three or four steps to the front door. Through the screen door, I could see my patient lying dead in the hospice-supplied hospital bed that had been set up in the living room. Bob opened the door and anxiously restated his gratitude that I was there. He looked puzzled and frightened. As much for purposes of ritual as for clinical diagnosis, I approached the bed, felt for a pulse, and listened for a heartbeat with my stethoscope. I then turned to Bob and asked whether he had called the mortuary.

“Is she dead?” he responded anxiously.

I replied that she was, and he began to weep. I had assumed that the average layman could recognize death. I was wrong.

Handbooks and layperson guides have been written to inform the public about almost any subject imaginable in the areas of health care and healthy living: Books on diet, chronic fatigue, arthritis, diabetes, Alzheimer’s disease, vitamins, headaches, and depression are only a few of these subjects. Until recently, information about death and dying was conspicuously lacking. Handbook for Mortals fills this gaping void and meets some real needs of people whose lives are likely to end in a few months or a couple of years. The book provides much practical information on the effects of serious illness and how patients and families can make the progression toward death less frightening. The book also recognizes the inner strength and common sense that so many people have, even when they are faced with something as mysterious, inexorable, and strange as dying. Handbook for Mortals is also written using a clean, conversational style that makes the book highly readable. Short vignettes introduce topics and are used throughout each chapter to provide
vivid, memorable emphasis and to give a strong sense that the authors write from their actual experience caring for patients and families who face serious illness. Quotations from Emily Dickinson, William Shakespeare, Nathaniel Hawthorne, Henry David Thoreau, Leo Tolstoy—as well as from individual patients—add both richness and timeless relevance to the subjects discussed.

Chapters cover general topics such as how to cope with the changes and losses that accompany progressive illness; how to communicate with physicians to get needed information and help; how to cope with and accommodate changes in physical appearance; and how to take control of future treatment by planning for needs and by making advance care directives. Chapters also discuss specific health problems, including pain, nausea, vomiting, shortness of breath, constipation, and diarrhea. One chapter describes specific challenges which patients and their families can expect as they confront death resulting from any of a number of causes: heart failure, liver failure, kidney failure, cancer, lung disease, HIV/AIDS, dementia, and advanced age. A chapter addresses sudden death and the particular difficulties that it presents to survivors facing this situation. The section entitled “Enduring Loss” discusses grief and bereavement in a way that is helpful not only to survivors of people who die but also to people who themselves are approaching the end of life. The book concludes with a chapter on additional resources ranging from obtaining community services and caregiver information to arranging funerals and memorials.

Handbook for Mortals is excellent reading for anyone involved with people who have progressive, serious illness. Clinicians are likely to learn about aspects of illness they have never thought about. Patients and families will obtain information that they cannot find elsewhere. The book gently provides frank answers that will calm many fears, and it is a guide for all of us: patients, their friends and family members, and practicing clinicians. ❖

Reference


A Falling Star

Watching a peaceful death of a human being reminds us of a falling star; one of a million lights in a vast sky that flares up for a brief moment only to disappear into the endless night forever.

On Death and Dying, Elisabeth Kübler-Ross, 1969
The Unexpected Legacy of Divorce: A Twenty-Five-Year Landmark Study
By Judith S Wallerstein, Julia M Lewis, and Sandra Blakeslee

Review by Dixie Lea, PhD

“Since 1970, at least a million children have seen their parents divorce—building a generation of Americans that has come of age. It bears repeating that a quarter of adults in this country under the age of 44 had their parents divorce during childhood. Demographers also report that 40% of all married adults in the 1990s have already been divorced.”

To put it another way, we in the United States live in a divorce culture. The question is, how does divorce affect people’s mental, emotional, and physical health? How do the effects of divorce show up in doctors’ offices?

To focus on the impact of divorce on children as they grow up, Judith Wallerstein’s book *The Unexpected Legacy of Divorce* compares children of divorced parents with a matched control group of childhood friends whose parents often had substantial marital problems but who decided not to divorce. For more than a quarter century, the author has examined the subsequent life experiences of these two carefully studied groups. Personal, in-depth interviews with study participants and controls were administered during childhood, teenage years, and young adulthood. Wallerstein reported that the effects of divorce on children are more far-reaching than we ever imagined, and she described in careful detail how children and their parents differ in their view of divorce.

For parents, divorce is a way to escape a bad relationship and is a solution that promises hope for a better future. For children, however, divorce is a tragic ending of the secure, predictable family structure they’ve known. For children, divorce represents an abrupt, forced end to childhood. Wallerstein points out that even though most adults insist to children that their lives will be better as a result of the divorce, children cannot accept the adult rationale.

At every developmental stage, children seem to experience their parents’ divorce anew. The book features five young adults with compelling stories about how divorce affected the way they grew up. Divorce of their parents caused the children to feel afraid, to assume adult responsibilities at an early age, and to feel abandoned by the parent who “moved away” from the family. Other experiences included living with a mother who was “emotionally unavailable” while she struggled to cope with the massive changes of divorce and was often depressed. Divorce also left the children without key role models or models for being in relationships. These grown children of divorce described themselves as adults who lack critical life skills, are unable to cope with change, are unable to build long-term relationships, and are unable to identify and communicate their desires, feelings, and needs.

Wallerstein points out that children who grow up in families where parents have troubled relationships (without violence toward the mother or children) fare better than children of divorce, because they feel secure, feel wanted, and have appropriate role models.

What does all this mean to Kaiser Permanente? As children of divorce move into adulthood, we can expect to see increasing numbers of patients with coping behaviors like smoking, drug use, alcohol use, and overeating. Less obvious coping behaviors include promiscuity, “workaholic” behavior, abnormal sleep patterns, chronic overspending, unrestrained compulsive gambling, and mild chronic depression.

The Adverse Childhood Experiences (ACE) Study² found strong, irrefutable correlations between family dysfunction during childhood and both high-risk health behavior and chronic disease during adulthood. Overeating, smoking, and drinking alcohol are coping behaviors people use to ease feelings of pain, fear, anger, frustration.³ Foege³ reminded us that 40% of deaths in the United States result from three factors alone: tobacco use, poor dietary habits, and alcohol abuse.

Taking a detailed psychosocial and medical history of the patient and family is key to identifying patients who are at risk. This type of examination means asking questions that may have deeply...
disquieting answers. Such questions include several that appear in the Southern California Permanente Medical Group’s Health Assessment Questionnaire used in San Diego:  

1. I often feel hopeless or down in the dumps Y N  
2. I often feel suicidal Y N  
3. I am having serious problems with my marriage Y N  
4. I have been physically abused as a child Y N  
5. I have been sexually molested as a child or adolescent Y N  
6. I have been raped Y N  
7. Has your partner ever threatened, pushed, or shoved you? Y N  
8. Was there ever a time when you had five or more drinks a day of any kind of alcoholic beverage? Y N  

By asking tough questions and by listening carefully to patients’ responses, we gain valuable insight about why they need to smoke, drink too much, or eat enough to become chronically obese. We can refer them to community groups designed to help them understand and cope with the real problem. Indeed, helping patients to connect with appropriate risk abatement programs can substantially improve quality of life and can save millions of dollars in health care costs long into the future. If Judith Wallerstein is correct, by asking patients and their children “personal” questions about divorce, we can invite discussion about critical emotional support that the entire family needs if they are to avoid spending long, painful years moving from one destructive coping behavior to another and from the doctor’s office to another. ❖

References

Time for Loving
There isn’t time—so brief is life—for bickerings, apologies, heartburnings, callings to account. There is only time for loving—and but an instant, so to speak, for that.

Mark Twain, 19th century American author, Letter to Clara Spaulding, 8/20/1886
Instructions to Authors

Send all manuscripts to:
Merry Parker, Managing Editor
The Permanente Journal
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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.

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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”x3” or larger than 5”x7”.) If more than four authors, submit the authors’ profiles only—no photographs.

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The first page of the manuscript should contain the following information: 1) title of paper; 2) authors' names; 3) name(s) of Kaiser Permanente Division and medical office in which work was done; 4) name and address of author to whom communications regarding the manuscript should be directed; 5) telephone and fax number of the communicating author; 6) word count.

The second page of an Article (Clinical or Nonclinical) should contain an Abstract (limit: 250 words). The abstract for Clinical Articles should use these headings: Context, Objective, Design, Main Outcome Measure(s), Results, and Conclusion(s). Also list key words and terms, in alphabetical order, under which you believe the article should be indexed.

Begin the text on a new page. Define all abbreviations except those that have been approved by the International System of Units for length, mass, time, electric current, temperature, luminous intensity, and amount of substance. Provide a footnote or box at the beginning of the article to define abbreviations when great numbers of abbreviations are used. Do not create abbreviations for drugs, procedures, or substrates. Use generic drug names. If a brand name is used, insert it in parentheses after the generic name.

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Section A.

Article 1. Evidence-Based Clinical Vignettes from the Care Management Institute: Asthma. (page 28)
A 48-year-old male smoker with hypertension and several past episodes of “bronchitis” presents with a three-day history of cough, especially at night but also with exertion. He has no history of fever. Which of the following is the least likely diagnosis?
- a. Chronic obstructive pulmonary disease (COPD)
- b. Congestive heart failure (CHF)
- c. Viral Bronchitis
- d. Asthma

The patient’s chest x-ray examination gives normal results. Which of the following tests would be the most helpful in making the correct diagnosis?
- a. Ventilation-perfusion (V/Q) scan
- b. Spirometry
- c. Methacholine challenge test
- d. Peak flow monitoring before and after administration of nebulized beta-agonist

Article 2. Engendering Differences. Ethical Issues about Intersex. (page 41)
What is the frequency of intersex conditions per all live births?
- a. One in a million
- b. 1 to 2 per hundred
- c. 1 to 2 per 10

Which of the following statements pertaining to intersex conditions is true?
- a. The increased risk of cancer in an undescended testicle arises before puberty
- b. Several comprehensive and evidence-based studies establish the therapeutic benefit of surgical sexual assignments at birth
- c. Customarily, surgical sexual assignment (to either male or female) has been based upon the length of the child’s phallus at birth

Clinicians with good communication skills influence health behavior and improve health outcomes in several ways. Which of the following is NOT typical of their communication behavior?
- a. Elicit the patient’s point of view
- b. Involve the patient in treatment decisions
- c. Spend more time with patients
- d. Develop the clinician-patient relationship
Why are patients who are involved in determining their treatment approach more likely to comply with treatment?

a. Patients are more likely to have a greater sense of personal control
b. Patients are more likely to accept the clinician’s advice
c. Patients better understand the reasoning behind the medically correct course of action
d. Patients receive more information about the importance of complying with treatment

The National Transplant Network’s interregional model for clinical management and care coordination has: (circle all that apply)

a. Decreasing variation in practice
b. Improved levels of performance at contracted centers of excellence
c. Managed patient expectations
d. Lowered costs associated with transplantation

With the current organ shortage, living organ donations have brought to the transplant arena a new set of clinical and ethical issues. Currently there are five types of living organ donors: (circle the five types of donors)

a. Emotionally related
b. Good Samaritan
c. Vendor
d. Categorical
e. Genetically related
f. Donors-at-large

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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?”

__________________________________________________________________________________________________________

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